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Cryptocurrency Impacts On Strategic Management

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Abstract

As an emerging technology, Blockchain deals with organizations, people and technology. This particular case shows us that the potentials and impacts of Blockchain cannot be ignored, especially by addressing the issues of trust, sharing and privacy in the context of interconnected business processes. Discussions that started with supply chain management seem to have reached organizational management. While there are researchers who think that such anonymity will harm the organizational structure, there are also researchers who think the opposite. In this study, the relationship between the use of cryptocurrencies and strategic management, which is almost never discussed in the literature, will be examined. This research, which is the first study on this subject, will also reveal in general terms what kind of changes the use of cryptocurrencies should bring in strategic management.

Keywords: Cryptocurrency, Strategic Management, Blockchain

1. Introduction

One of the most important reasons for technological developments and companies to grow together is innovation. Increasing innovation continues to be a key area of interest for both government and entrepreneurs. On the other hand, in order to increase their competitiveness and growth simultaneously, they need to have a culture that includes flexibility and fast action. This culture manifests itself as a culture of change. Technologies combined with the analysis of big data and artificial intelligence are changing the way a business communicates with stakeholders. Blockchain, on the other hand, is a decentralized distributed system that can record the source of a digital asset and increase the speed of large volumes of data inside and outside the organization. Modeling is programmed to process big data and it is a technique that changes the way it works, the way organizations work, and the lifecycle of businesses in general. The popularity of blockchain technology depends on the popularity of cryptocurrencies. With the inclusion of cryptocurrencies in the system, as distributed systems become more visible, its management and strategic structure will become more controversial. The cryptocurrency market can also interact with and affect other markets and variables. Indices, which are the indicator indices of the markets, are important in terms of examining the relationship between the markets (Kendirli et.al.,2022). Kendirli and Şenol (2021) told that discussions about crypto currencies, which have been mentioned frequently in recent years, bring the butterfly effect to our minds by looking at the state it has reached recently

2. Literature Review

Abrams (1972) found that 13% of coins and 42% of paper money were contaminated by potential pathogens by taking random sample cultures from coins and paper money. Angelakis et al. (2014) investigated the potential of banknotes and coins to be a source of pathogens, as they have the capacity to significantly expand the known bacterial and viral diversity on coins and fomites. Al Shehhi et al. (2014) examined the basis on which online users choose to use and adopt cryptocurrency. Ali et al. (2014) examined both the incentives of individuals and the economics of the schemes designed at the macroeconomic level, creating significant difficulties in their widespread adoption. Ali et al. (2014) examined how distributed ledgers reveal the possibility of transforming the financial system more generally. In their study, Savaşgümrük and Danacı (2014) examined how digital money or bitcoin, one of the most known in the market, emerged, with its advantages and disadvantages, and whether it can be used especially in international trade. Tasca (2015) extensively examined current trends in the field to gain a quantitative understanding of the potential opportunities and risks arising

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from the global adoption of digital currencies. Çarkacıoğlu (2016) examined in his study that bitcoin can be bought, sold and exchanged with other currencies. Bonaiuti (2016) mentioned in his study that technology innovation and habits of new consumers develop two interesting experiences in the payment landscape. Koçoğlu et al. (2016) examined the history of bitcoin, bitcoin system and how the protocol works. In their study, Gültekin and Bulut (2016) examined the new economy created by bitcoin and its related sectors. Bunjaku et al. (2017) examined in their study that it is not easy to predict the future of cryptocurrencies as there is much to be done in the field of official regulations.

In his study, Üzer (2017) examined that virtual currencies pose many risks for users, and despite all these risks, virtual currencies are becoming more and more preferred due to the benefits they provide compared to traditional payment instruments. Khalilov et al. (2017) examined the studies and regulations in the field of digital money in the world and in Turkey. In the study they carried out in Mendi and Çabuk (2018), the basic structure of blockchain, the advantages it offers and all its advantages, as well as the reason for the hesitations in the transition to implementation were examined. In Alpago's (2018) study, the structures, functions, and place and importance of bitcoin and similar cryptocurrencies in the current monetary system were examined. Atalay (2018) examined blockchain technology in his study. Since there is no central database, it has been concluded that the risk of loss or theft is eliminated. Kaplanhan (2018) examined how crypto money emerged, how it was produced, by whom it was managed and how it was used. In the study they carried out in Gümüş and Erkuş (2019), cryptocurrencies that emerged as a result of the use of blockchain technology were examined based on the history of money. Yıldırım (2019) examined the approaches of countries related to blockchain technology, crypto money and cryptocurrencies in the world in his study. Kamacı and Özden (2019) examined the relationship between tulip mania and crypto money in their study. Bondarenko et al. In their study in (2019), the international experience of various countries of the world in the application, use and economic and legal status of crypto currency was examined. In his study, Rice (2019) examined issues such as concerns about the level of trust required in cryptocurrency, low oversight and liquidity thinness to invest in the future, and uncertainty of the future. It has been concluded that the future of crypto currency also requires very economic forecasting. Corbet et al. In their study in (2020), the relationship between volatility and financial stress period between major Chinese stock markets and Bitcoin was examined. Chohan (2020) examined whether cryptocurrencies really provide a hedge against traditional instruments during market turmoil, using data from the first phase of the 2020 coronavirus recession. Erdem (2020) examined other groundbreaking innovations and technological developments that emerged after the crisis. Lemma (2020) examined the impact of the evolution of financial technology on the money market in his study. Chohan (2020) examined the scope and impact of virtual currency guidelines in his study. In his study in Oran (2020), he examined the effects of the economic crises that emerged in the past years on other countries in the history of the world and in the globalization process. Fama et al. In their study in (2020), it was examined that in the global crisis scenario, the inability of the official monetary system to provide solutions to serious problems affecting the society became more and more evident. In their study, Fry and Serbera (2020) aimed to develop new quantitative methods to predict the speculation level and long-term sustainability of Bitcoin and Blockchain. In his work in Ραμπατζής (2020), he investigated the origins of modern money and examined money as a tool.

Zhu and Fu (2020) examined the relationship between Blockchain and Bitcoin in their study. In their study, Jabotinsky and Sarel (2020) mentioned that people can respond to the threat of global instability by switching from traditional currencies to cryptocurrencies. Yarovaya et al. In their study in (2020), the analysis of the herds in the crypto money markets at the time of the COVID-19 epidemic was examined. Iron et al. In their study in (2020), the relationship between cryptocurrencies and COVID-19 cases was examined. In their study in Cheng and Yen (2020), the relationship between COVID-19, an infectious disease, and different financial assets was examined. Alpago et al. In their study conducted in (2020), it was examined how the epidemic will lead to changes and transformations in socioeconomic life, as well as in education, health and sociocultural fields. It has been concluded that this change and transformation process will gain weight in the direction of digitalization and online transactions. Dikmen et al. In their study in (2020), they mentioned that the COVID-19 pandemic still continues to be a serious public health problem. Aslan (2020) examined pandemics in his study.

3. Backround

Blockchain is the new era technology of our lives. It is a distributed, anonymous, transparent, encrypted and agglutinative database or shared registry that enables our transactions to be kept in digital environment, with the application area becoming widespread and accessible to everyone day by day. These data, which are recorded in blocks in a sequential manner, are produced when the block is full, so that they are linked together as chain rings and stored in a

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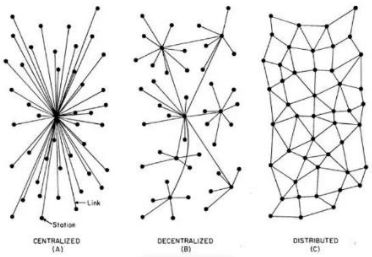
chronological order. The founder of the digital currency Ethereum, which emerged in 2013, Vitalik Buterin Blockchain definition is as follows:

"This is such a magical computer that anyone can install programs and leave them to run on their own; on this computer also all current and past states of each program are always visible to everyone; At the same time, this computer carries a crypto-economically secured guarantee that the programs on the chain will continue to function exactly as the Blockchain protocol specifies."

Figure 1. Centralized, Decentralized and Distributed Architectures



Source: http://icommunity.io

As shown in Figure 1, the blockchain database does not suffer from the vulnerability of central databases. (Gündüz and Tepeci, 2018)

Cryptography; It is all of the encryption methods that are used to transform the information contained in all kinds of data into a form that cannot be understood by undesirable parties and that ensures the integrity and security of the data.

Your main need is based on cryptographic evidence instead of trust, without the need for a third trusted person by both parties.

Digital Coins; digital currencies are fictitious currency represented in digital environment using the science of cryptography and they are encrypted based on mathematics. While producing these virtual currencies, it provides a digital level information exchange with a transaction that is possible thanks to certain level of cryptography rules. The purpose of using the science of cryptography here is to secure money transfer and transfer transactions. The first created virtual currency was Bitcoin (BTC), which was created by Satoshi Nakamoto in 2009. (Azman, 2018) Today, there are 2,953 virtual currencies with a total market value of $255,213,194.130.

Bitcoin was created in 2008 by a group or person named Satoshi Nakamoto, and block transfers started in January 2009. With Bitcoin, direct person-to-person (P2P) payments can be made securely and they can be bought, sold and exchanged for other currencies without the need for any middlemen or brokers.

Ethereum emerged after Bitcoin and is logically and systematically similar to Bitcoin. (Akcan, 2018) It is a digital cryptocurrency developed by Russian programmer Vitalik Buterin and created and released in 2015. Ethereum mining is done with the GPU, not the CPU. This is important in terms of decentralization. Since Ethereum mining uses home computers, not ASICs (which are done with graphics cards), ether production is highly decentralized. (Guven and Şahinöz, 2018)

The effects of digital currencies on the economy are related to how countries approach digital currencies. These currencies, which are used in the purchase of goods and services and money transfers, are also related to the digital legislation of the countries. For this reason, it has an impact on world economies. The ability to transfer digital currencies without the need for an intermediary eliminates the need for many intermediary institutions and individuals to know and trust each other, or the need for a government guarantee, without a third party. Studies show that studies on blockchain technology mainly focus on digital currencies, however, there is no technological obstacle in the adoption of digital currencies, and they will be diversified with political and legal regulations and will take place more in our lives.

Accelerating Digital Transformation After 2019

Historical pandemics and epidemics until today; epidemic diseases such as black plague, cholera, influenza and typhoid. Covid-19 is a pandemic caused by a new corona virus called SARS-CoV2, which started in December 2019 and originated in Wuhan, the capital of the Hubei region of China. The epidemic, which later spread to various countries, was declared a pandemic by the World Health Organization (WHO) on March 11, 2020 and affected the world. During the corona virus period, tourism comes to the forefront as a process that has a shocking effect on the economy and social life, especially on aviation and the stock market. (Alpago, 2020) In this period, digital services such as virtual meetings, the ability to work from home, remote health and distance education gain importance. In this process, it has become a necessity to go digital while thinking and producing.

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With the corona virus epidemic that started in China and affected the whole world, financial markets were affected by this. Crises such as the coronavirus pandemic increase the pressure on governments and businesses to maintain supply chains. In the news about the US congress held on March 23, 2020, a forward-looking item was included among the proposals in the corona virus aid package bill negotiations: issuing digital dollars and creating digital wallets. Within the scope of the bill, the digital dollar; Defined as “the balance in dollars made up of digital ledgers and recorded as a liability at any bank affiliated with the Fed (Federal Reserve Bank)” On April 28, 2020, the World Economic Forum's new digital FDI initiative suggested that using blockchain-based solutions, covid Published a report on how to address failures in supply chains affected by the-19 outbreak and blockchain guidance aimed at accelerating post-covid-19 economic recovery. While all this was going on, there were serious ups and downs in the values of digital currencies.

Figure 2. BTC/USD Price History Chart (September 2019-May 2020)

Source: https://www.buybitcoinworldwide.com/tr/fiyat/

In addition to financial markets, coronavirus digital currencies are also affecting Bitcoin prices, in particular. Bitcoin price had reached $10000 before the corona virus. This is due to the fact that investors are decentralized, not controlled by any government or third party, in times of global economic uncertainty, it has been considered reliable. However, it also faced the biggest daily drop in its history, falling from $7600 to $5300 in one day. On the other hand, since the transformation of decentralized currencies in the center of the whole world, which is protected by a solid foundation of blockchain and cryptography, is quite volatile due to the corona virus, it is necessary to control the prices by constantly conducting analysis and market monitoring.

Figure 3. ETH/USD Crypto Chart (September 2019-May 2020)

Souce: https://tr.tradingview.com/symbols/ETHUSD/

Ethereum, the second largest digital currency, has been trading between $180-$200 as of May. Digital currency analysts say that the value of Ethereum will increase fourfold this year, increase by 50% in June or end in volatility like Bitcoin. It is a necessity of the coin world to constantly control the prices by analyzing the conversions accurately and on the spot.

Strategic Management: Why is it necessary

It is an indisputable fact that most of the strategic plans have difficulties in realizing a company's potential values. If an investment is made in creating a plan, the company sees that it will not achieve the desired results over time, makes

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new plans and directs towards changes to achieve the targeted results. At this point, although the management alone is insufficient, it may not be a guide. Since the concept called strategic management is a dynamic process, it is an effective working order that gives the chance to intervene by considering the problems as existing obstacles before they arise. Especially in large enterprises with a distributed structure, it is very difficult to combine them around a common goal, as there are very different work groups and employee armies. The way to deal with such difficulties, which brings with it the problem of focus, often leads businesses to unpredictable processes. At this point, strategic management processes are needed and some requirements are determined beforehand.

At this point, it is essential to focus on the most important activity for an effective management process. Moreover, managers should know that there is no point in transforming and forcing the organization into something it is not. Companies should focus on existing competitive advantages and know how to take advantage of them. It must understand what drives its core business, its sales, its profitability, and work to extract more value from its core business without really moving away from its main focus. Communication is one of the most important fields of activity of strategic management. It is important that the entire company is aware of each other. It is important that employees contribute to the process and success and feel that they are involved. Considering that there may be rumors and false discourses within the institution, it is important that the personnel do not hinder each other's efforts internally. Informing human resources and encouraging them to ask questions by asking their opinions are also among the basic requirements of strategic management. It should be known that the orientation will be more when the benefits of strategic planning and strategic goals are explained to the personnel. In this sense, the business can make strategic management a part of life by organizing meetings that ensure the active participation of everyone involved as a part of communication. The most important difference on the human side of strategic management is that participation in the process increases and revitalizes the workforce.

Again, the most meaningful field of activity of strategic management is continuity and being a dynamic activity. The adaptability of processes is the result of dynamism and flexibility. Fluctuating competition is among the most important reasons for compliance with consumers and economic market conditions. In this sense, holding strategic meetings on a regular basis can help review progress and push the most important concerns to the agenda. Addressing the opportunities and seeing the threats in a timely manner is the most important reason why the strategic management approach is preferred from this perspective.

Objective channels and objective eyes are the most important variable that helps the management at points that cannot be seen. With a Strategic External Eye, the conformity assessment of the business's plans and strategies can be made easily. In this sense, instead of acting from assumptions, businesses have the opportunity to see themselves more objectively in the mirror by doing more grounded activities. The fact that businesses can answer difficult questions is an indication that strategic management fulfills its objectives.

Undoubtedly, strategy management is vital to the success of any business. It gives the plan for successful expansion. Success ultimately depends on top management's capacity to provide the necessary leadership to a) devise a well-thought-out, fact-based plan, and b) create an environment conducive to strategy implementation. This creates a sense of ownership and dedication that will ensure the success of the project.

Cryptocurrency Market and Strategic Management Relationship (Preliminary Evaluation)

Cryptocurrency markets have a direct impact on businesses. Starting from the board of directors, all management levels from top to bottom had to consider the consequences of the indirect effects of cryptocurrencies on their businesses after Covid 19. Cryptocurrencies have ceased to be a tool that can only be used in money and capital markets. Cryptocurrencies also have the power to change the rules of strategic business management. Financial services firms in various countries have started to see demand for cryptocurrencies from their customers, and at the same time, capital markets have faced significant developments regarding cryptocurrencies.

Due to the nature of capital markets, the business world, the speed of the money market created by crypto assets, has had an impact on the effectiveness of organizations working with each other. Managers who do not have knowledge of basic technology have had to deal with security, technological and risk factors while dealing with a new asset.

The point that needs to be understood here is this: Not only financial risks, but also shopping related to cryptocurrencies have brought operational risks to light. From this point of view, the boards of directors have to discuss and review the general strategies and approve the final issues related to the exchanges to be made using cryptocurrencies. At this point, it is important that the boards of directors have knowledge about crypto assets, in other words, it is important to ensure that people who have knowledge take part in the boards of directors.

The first thing to be done from an organizational point of view is for businesses that produce products or services to ask themselves whether they will be included in the crypto money market. It is a fact that businesses that will benefit from the crypto money market while evaluating their existing products or services have a technical aspect both in terms of

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payment systems and cash movements, potentially becoming eligible for the crypto money market. Organizational structuring needs to be completed in the departments formed by the people who will manage them. If a business that wants to take advantage of the opportunities in the crypto money market wants to exist in its own market, it has to review the management levels to join the crypto system.

Strategic decision making is necessary for strategic management. Some suggestions made by some researchers that is ti about management or governance (Ulusoy et. al., 2022). For strategic decisions, it is necessary to set goals and objectives. At this point, the business; It has to quickly adapt the decisions and targets to be made regarding its activities to the crypto money market. The reason for this can be explained as follows. If the contribution of the strategic goals to the company value and the contribution to the profitability of the company will be prioritized, it will put its strategic activities in the foreground within this scope and carry out its activities through the organization that it has strategically structured. Secondly, the business, which knows that the activity does not consist of giving and receiving payments in information exchanges about its customers, should know that a management structure that will operate in accordance with the crypto money market will directly affect the value of the company in business and transactions.

With the growth of the cryptocurrency market day by day, innovations such as the increase in cross-border transactions, real-time operating systems, NFT markets, decentralized finance (DeFi), identity management systems have come to the fore. If it is thought that crypto money systems belong to blockchain technologies, it would not be wrong to say that transactions will not be recorded by institutions such as banks. On the one hand, this means that both identity and financial data will be placed, on the other hand, it means that there should be some changes in the organizations to which the personnel carrying out the work belong. In other words, blockchain-enabled crypto transactions do not require a third central party, thus paving the way for more “decentralized” commercial transactions. In a transaction owned only by the sender and the receiver, it becomes necessary to define strategic business management policies again. Considering the ability to process suppliers in real-time, eliminate human errors in updating data, and use smart contracts for payments in blockchain-based applications, it will become clear that modeling that seems to be a zero-human model will not be possible in the near future. Although the reduction of personnel seems to be the first plan, the possibility of turning the qualified workforce into a workforce with more technical qualifications cannot be ignored.

Since the adoption of crypto money systems is still a new concept for businesses, it becomes more important for the stakeholders of the businesses to develop their core capabilities and make them applicable.

Strategic management is used by an organization to achieve its goals.

Discussions and Suggestions

If businesses want to increase access to their products, they must know how to receive and give crypto payments in order to open up to new global markets. In this sense, it is necessary to waive the strategies in which the products are overpriced while determining the strategies. Processing transactions using a currency such as Bitcoin is one way to trade seamlessly internationally. Starting off by accepting cryptocurrencies opens the way for the business to access more diverse markets. Reputation can pave the way for increasing sales and positively affecting profitability. Since cryptocurrencies facilitate both domestic and international trade, many of the international barriers and limitations can be forgotten. It can pave the way for a fairer pricing as it reduces costs. It has been stated in the previous paragraphs that the cyber security issue is one of the most important issues for Strategic Management. Cyber security is one of the most important obstacles to the digitization of a business. Since digital currencies are not tied to any country or currency, they can protect businesses from financial risks such as inflation or interest, even foreign exchange differences. Since privacy will not be at the forefront as a strategic goal, cyber security will no longer be a cost factor for businesses after this part, and cyber risks will be eliminated here.

The development of digital payment channels together with digitalization, which has a great contribution to Strategic Management, means improving payment capacity as it will pave the way for businesses more. The reduction in the costs of transactions with financial intermediaries helps to transfer the resource created here to other channels of the enterprise. The fact that businesses operating directly or indirectly in many countries of the world, such as firing, hiring and preparing payrolls of wages, are carried out over cryptocurrencies means that the costs of this are further reduced. Small businesses, on the other hand, can minimize their cost and security sensitivities by reducing their relational costs related to banks with cryptocurrencies.

By switching to cryptocurrency transactions, businesses can step into new technologies that use cryptocurrencies such as NFT. NFTs, as it is known, Qualified Intellectual Deed, or non-fungible token as it is popularly known in English, is a unit of data stored in a digital ledger called a blockchain, which confirms that a digital asset is unique and therefore not interchangeable. Therefore, businesses that switch to NFT technologies can also switch to this field by creating an online brand. The transition to NFT and the brand studies to be carried out in this area are the most effective ways that the

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company can develop in order to stand out from its competitors in the market where it is located. A branding that can be realized on NFT also paves the way for establishing relationships with different customer groups. An effective brand with a solid foundation in cryptocurrencies and mastering NFT technology is a factor that increases brand value by owning a certain consumer segment. It is easier for the business to describe what an NFT-based brand represents, and thus businesses have the chance to more easily eliminate incompatibilities with their customers. In this sense, NFTs are confronted with the ability to further increase strategic competition in today's innovative market with the intention of encouraging positive strategic actions that will benefit the business. Thus, businesses that use cryptocurrencies and create a marketing and brand strategy with NFT have the chance to prioritize the excitement, sincerity and robustness of their products in their products. In this sense, the sophistication brought by technology may pave the way for the product or the service to be given to the consumer to be more prestigious and even to be presented to the customer with technological elegance. Most of the time, branding and technology have acted independently of each other, and what the connection may be and the effect of technology on branding have been overlooked. In this sense, businesses that want to create a strategic brand policy may not be able to reach all customer touch points quickly and make their brands more memorable and consistent.

Conclusion

The cryptocurrency market will undoubtedly provide new opportunities for companies producing products and services of all sizes and types. It should not be only technically and financially that this can be adapted to the markets quickly. Organizations also have to adapt their organizational structures to crypto markets or, more broadly, blockchain structures. The rapid development of strategies and their inclusion in strategic management practices has become a necessity.

However, when it comes to developing a strategy, there is no single answer or way to approach all considerations. Rather than being distracted by scam or how other organizations are reacting, each organization should seize the opportunity based on its unique strengths, market position, legal situation and growth strategy.

While making the evaluation, the difficulties experienced in the adaptation processes to changes can be overcome with a quick but important review at all levels of management, especially the organizational structure of the institution, human resources.

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