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Bachelor Thesis

Case Study: Blockchain Technology in E-commerce Industry

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Blockchain Technology in E-commerce Industry

Objectives of thesis

The ultimate goal of the following bachelor thesis is to assess the potential impact of the integration of an advanced blockchain technology into a relatively small e-shop specializing on retail. The author seeks to assess the real impact – pecuniary and non-pecuniary caused by this integration. This will be achieved based on the questionnaire with e-commerce owners from the Russian Federation. In addition to that, the author also understand the main tendencies related to e-commerce among people belonging to different classifications.

Methodology

The author's main methodology is related to the quantitative method and to be more specific, it is represented by a hypothesis testing that will be based on a small illustrative questionnaire where answers of small e-commerce shops' owners were recorded. The author primarily uses chi-square testing in order to verify of variables are significantly related to each other.

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Declaration

I declare that I have worked on my bachelor thesis titled "Case Study: Blockchain Technology in E-commerce Industry" by myself and I have used only the sources mentioned at the end of the thesis. As the author of the bachelor thesis, I declare that the thesis does not break any copyrights.

In Prague on 15.03.2023 _____

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Case Study: Blockchain Technology in E-commerce Industry

Abstract

The ultimate goal of the following bachelor thesis is to assess the potential impact of the integration of an advanced blockchain technology into a relatively small e-shop specializing on retail. The author seeks to assess the real impact – pecuniary and non-pecuniary caused by this integration.

The author's main methodology is related to the quantitative method and to be more specific, it is represented by a hypothesis testing that will be based on a small illustrative questionnaire where answers of small e-commerce shops' owners were recorded. The author primarily uses chi-square testing in order to verify of variables are significantly related to each other.

In the conclusion, the author is able to suggest that it is not likely that an integration of cryptocurrency payment option into a small e-commerce platform will provide a long-term competitive advantage or anyhow boost its sales. The author draws such findings based on the hypothesis testing conducted on data collected from a small sample of Russian e-commerce business owners, where five out of six assumptions were eventually rejected.

Keywords: e-commerce, retail, blockchain, payoff, profit, business

Případová studie: technologie Blockchain v odvětví elektronického obchodu

Abstrakt

Konečným cílem následující bakalářské práce je posoudit potenciální dopad integrace pokročilé technologie blockchain do relativně malého e-shopu se specializací na maloobchod. Autor se snaží posoudit skutečný dopad-peněžitý a nepeněžitý způsobený touto integrací.

Hlavní metodika autora souvisí s kvantitativní metodou a konkrétněji ji představuje testování hypotéz, které bude založeno na malém ilustrativním dotazníku, kde byly zaznamenány odpovědi majitelů malých e-commerce obchodů. Autor primárně používá chí-kvadrát testování za účelem ověření, že proměnné jsou navzájem významně příbuzné.

V závěru je autor schopen naznačit, že není pravděpodobné, že integrace možnosti platby kryptoměnou do malé platformy elektronického obchodování poskytne dlouhodobou konkurenční výhodu nebo jakkoli zvýší její prodej. Autor čerpá taková zjištění na základě testování hypotéz prováděného na datech shromážděných z malého vzorku ruských vlastníků e-commerce, kde bylo nakonec odmítnuto pět ze šesti předpokladů.

Klíčová slova: e-commerce, maloobchod, blockchain, výplata, zisk, podnikání

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XRP … Ripple

USD … United States Dollar

COIN … Coinbase

1 Introduction

This topic was chosen because a significant number of individuals believe that, over the course of the next several years, cryptocurrencies will be a significant role in driving the expansion of the economy of all countries throughout the world. This conviction was the inspiration for the decision to focus on this subject area. As a direct consequence of this, it was decided that the topic in question needed more investigation and analysis.. While some people are discussing whether or not to participate in the cryptocurrency market, other people are actively trading cryptocurrencies and looking for ways to make a profit from cryptocurrencies and use it for e-commerce.

People have begun discussing other strategies for making money online as a direct result of the introduction of bitcoin, and as a consequence of this, they have been aware that there are other methods to make money online. This is a direct outcome of the fact that bitcoin was introduced. This discovery has provided a huge boost to the growth of online shopping and the expansion of e-commerce. Customers have reached the point where they can accept and, more importantly, grasp how the process of e-commerce works, as will be shown by the results of a research study presented below this line. This will indicate that customers have come to accept internet purchasing and have a fundamental comprehension of how it works.

The author has a dream of opening an e-commerce platform and in the light of recent circumstances related to cryptocurrencies, the author wants to evaluate the potential of using cryptocurrencies in e-commerce industry.

2 Objectives and Methodology

2.1 Objectives

The ultimate goal of the following bachelor thesis is to assess the potential impact of the integration of an advanced blockchain technology into a relatively small e-shop specializing on retail. The author seeks to assess the real impact – pecuniary and non-pecuniary caused by this integration. This will be achieved based on the questionnaire with e-commerce owners from the Russian Federation. In addition to that, the author also understand the main tendencies related to e-commerce among people belonging to different classifications.

2.2 Methodology

The author's main methodology is related to the quantitative method and to be more specific, it is represented by a hypothesis testing that will be based on a small illustrative questionnaire where answers of small e-commerce shops' owners were recorded. The author primarily uses chi-square testing in order to verify of variables are significantly related to each other.

3 Literature Review

3.1 Blockchain

Blockchain technology has the potential to make everything more transparent and understandable. It is essential to remember that the usage of the blockchain may be required in order to validate the legality and legitimacy of certain transactions. This is because it is critical to remember that the usage of the blockchain may be necessary. This is something that must be remembered at all times, so people have to be really careful about that. If, on the other hand, there is a possibility to make a transfer using online banking, only the bank will be able to know that a transaction has occurred on the senders account; no one else will be able to access this information. If people use online banking to make a transfer, the bank will be able to see that a transaction was made on their account. If people do not want the bank to be able to identify whether or not a transaction was completed using their account, they should avoid utilizing online banking. This is due to the fact that doing financial transactions via internet banking is often seen as a more secure technique. The fact that it is equivalent to doing financial transactions online is likely the aspect that piques people's interest the most and encourages more research on the subject (Zheng, 2019). When their bitcoin transfer, on the other hand, goes via each node in the network, the chain that it follows can be seen by everyone involved in the transaction, including the bank. This implies that anybody may check the chain's authenticity. This is feasible because the blockchain records every step of the transaction.

The vast majority of people, when they hear anything about blockchain, the first thing that springs to mind is cryptocurrencies. This is due to the fact that bitcoin was the first use of blockchain technology. This is owing to the fact that cryptocurrencies are the most well-known implementation of blockchain technology. The great majority of people do not have a thorough knowledge of this topic in their minds right now. After about a quarter-hour of inquiry, one may discover that blockchain contains a considerable number of additional bits of information. The reason for this is that users may record and verify transactions in a decentralized manner owing to the blockchain. Blockchain, a distributed ledger technology, is now used in practically all commercial and financial operations. Because a blockchain does not have the kind of popularity that one would expect, there are certainly some

individuals who are interested in what it is. This is due to the fact that blockchain does not have the kind of popularity that one would anticipate. It is particularly frequent among individuals who are working hard to improve their financial stability (Underwood, 2016). Because, as previously said, it is engaged in the great majority of business transactions, it is vital to emphasize this aspect.

1. Coinbase Global Inc. (COIN), which now has an annual revenue of $5.1 billion.

Coinbase is a global platform for buying, selling, and processing bitcoin payments. Coinbase, a financial platform, provides critical services. Coinbase is a globally operating decentralized digital asset exchange. Coinbase, in addition to its other responsibilities, serves as a payment processor for bitcoin transactions. Customers may use the service to buy bitcoins, store them, transfer them, gain bitcoins, and spend them. Customers may also use the service to transfer bitcoins amongst themselves. Additionally, customers may utilize the service to acquire and move bitcoins. They have access to this capability. Customers may now send and receive bitcoins in addition to transferring bitcoins, which is a relatively new phenomenon (Bobin, 2022).

Participants in the crypto-ecosystem may utilize the platform to create their own currencies and securely accept cryptocurrency payments inside their own applications. The platform enables this capability. Furthermore, it makes a significant amount of liquidity accessible for cryptocurrency trading.

2. Canaan Inc. (CAN) now produces a total yearly revenue of $947.5 million.

Canaan is a Chinese corporation headquartered in Beijing. It is largely in the business of providing services related to high-performance computing. The primary line of business for this firm is the design and development of high-performance processing chips that may be converted for a broad variety of various purposes based on the unique needs of each individual customer. In addition to the production of computers and other forms of information technology equipment, as well as the provision of software services, the company's primary commercial activities include the production of high-performance processor chips.

Furthermore, it is a forerunner in the creation of cutting-edge technologies such as system-on-a-chip integration, AI chips, and a number of other innovations that are similar to these. Furthermore, it provides a complete range of AI-related services (Riasanow, 2021).

3. Galaxy Digital Holdings Ltd (BRPHF) is now taking in a total of 457 million dollars in income.

People, corporations, and organizations are permitted access to Galaxy's cutting-edge blockchain technology and digital assets if they meet the qualifying standards specified by the company. Both of these technologies were developed by Galaxy. This article is a list of the conditions that must be completed before joining Galaxy. The galaxy may provide a broad range of financial services to the digital economy, including trading, asset management, investment banking, mining, and entrepreneurship (Saito, 2021). These are just a few of the services that Galaxy can provide. These are just a handful of the services that Galaxy may provide to its consumers.

4. Riot Blockchain Inc. (RIOT), popularly known by its ticker symbol "RIOT," now has an annual revenue of $289.9 million. This firm is represented by the ticker symbol RIOT.

Mining Bitcoin is one of the services Riot Blockchain provides to its clients as part of its business. The firm's mining operations in Rockdale, Texas are responsible for supplying 450 megawatts (MW) of the total 750 megawatts (MW) capacity that the business possesses. This distribution is the duty of the Rockdale, Texas-based facility. The Whinstone plant has a greater capacity to mine Bitcoin than any other site in North America, making it the clear winner in this battle.

5. Silvergate Capital Corp. (SI): $273.2 million in current revenue

One of the key goals of Silvergate Bank, a subsidiary of Silvergate Capital that offers a broad variety of financial goods and services, is to serve the requirements of consumers in the cryptocurrency business. Because Silvergate Capital owns all of the bank's shares,

Silvergate Bank is a wholly-owned subsidiary of Silvergate Capital. Silvergate has positioned itself as the foremost provider of innovative financial infrastructure solutions for the rapidly growing digital currency sector. As a result of this position, Silvergate has established itself as the foremost provider of innovative financial infrastructure solutions. As a consequence of attaining this position, Silvergate has been able to establish itself as the leading supplier of cutting-edge solutions for financial infrastructure. Silvergate has been able to establish itself as the leading provider of innovative solutions for financial infrastructure as a direct result of obtaining this position (Reiners, 2020). As a result, Silvergate has established itself as the leading supplier of innovative financial infrastructure solutions.

3.1.1 Concept

While building a blockchain, three key procedures must be completed. Completing these stages is required not just for the procedure to be completed successfully, but also for the blockchain to be operational. For the blockchain to really function, these steps must be completed in their totality. When considering the numerous advantages provided by this function, the first advantage that springs to mind is that the data is saved in a structure known as a "block" after each transaction. When considering the different advantages provided by this function, this is the first one that comes to mind. This feature gives its users access to a variety of advantages. Because of its prominence, this benefit is the first that comes to mind when considering the advantages of having this feature. Depending on the attributes that define it and the components that comprise it, this thing might be either a physical or an intangible property. These characteristics would serve as the foundation for reaching this judgment. These features would be the foundation around which this option would be formed in the future. The capacity of their block to store practically any data at all is without a doubt the attribute that offers it the most value out of all of the assets that it contains since it enables it to store almost any data at all. This is the characteristic that offers it the most value out of all of its assets.

Because each block in the blockchain is linked to the block before it as well as the block after it, the blockchain can be thought of as a chain of blocks. This is due to the fact that every block in the blockchain is linked to both the block before it and the block after it. This

is due to the fact that each block in the blockchain is linked to both the block before it and the block after it. This is due to the fact that every block on the blockchain is linked to both of these blocks. As a consequence, people are free to conceive of the blockchain as a series of blocks if they like it (Vujicic, 2018).

This is done to ensure that the blockchain continues to work correctly even after it has been put into use and that it can retain the state in which it was formed. This is done to guarantee that the blockchain's ownership chain remains unbroken. This is done to ensure that the blockchain's immutable state is preserved at all times. This phrase refers to the process of ensuring that data stored on a blockchain remains consistent even after it has been altered. Because this is the stage at which this conclusion is admissible, it is legitimate to conclude that the degree of progress attained by e-commerce has reached the point where every transaction is available to everyone. This is because e-commerce has advanced to the point where this conclusion is now conceivable. This is the obvious result of having reached the point where each and every transaction can be seen by anybody who is interested. Based on the facts supplied here, this conclusion seems to be one that can be supported by evidence. The fact that it is possible adds weight to the previously obtained conclusion. The data offered paves the door for the possibility of reaching this fair and reasonable conclusion, which is exactly what it accomplishes. Because the degree of security has been improved, the person who initiated the transaction is no longer anxious about whether or not it will be completed. This is because the transaction can now be more reliably secured, and the person no longer has to be concerned about whether or not it will be completed. Because of this breakthrough, the person who initiated the transaction no longer needs to be anxious about whether or not it would be completed. This is due to the adoption of increased security, which finally resulted in the outcome that people are witnessing today as a result of those efforts (Hassani, 2018). To get to this conclusion, it is important to do a study on each of the literary issues addressed in this article.

3.1.2 Modern Application

Important information (such as a business or medical contract) is typically kept secret when it is finalized utilizing blockchain technology. A contractual partnership is one kind of cooperation in the medical and business sectors. Such arrangements are often used in the commercial sector and the medical profession. The term "transactions of this sort" may be

used to refer to a wide variety of legal agreements, including but not limited to commercial contracts and healthcare agreements, depending on the context. The signing of healthcare agreements and the negotiation of business contracts fall under this category. Such understandings are quite widespread in the medical industry. Everything from the first appointment with a new doctor to the finalization of a corporate deal falls under this umbrella term. A legally binding agreement between two or more medical practitioners may be the most compelling evidence of the existence of such an arrangement. This affects the parties' ability to enter into legally binding contracts for the provision of medical services in the future and, by extension, the amount and timing of any monetary transactions between them. Almost all modern deals can take use of options that didn't exist before a certain technical development (Krichen, 2020). This technology might be used for many things, from monitoring diamond sales to facilitating the legal spread of drugs and music. The promotion of musical works is another use for it.

Figure 1, logos of popular coins

Source: Fantazinni, 2022

After a given amount of time has passed, something utterly unexpected can occur instead of what was expected. This is a possibility given the erratic nature of today's events. As more people grow acclimated to making purchases online, it's expected that the e-

commerce industry will boom. People will need some time to complete the task at hand. The customer is solely responsible for all activities relating to his or her account, including but not limited to billing, payment, and agreement signing. As a consequence of the adjustments required by these dislocations, the industry as everyone knows it will undergo profound changes. There will be instantaneous ramifications felt all around the firm as a direct result of these developments. Individual effort is not required for a person to meet up with others who chance to be at the same place and time as them (Wattana, 2019). Online commerce is gradually replacing conventional forms of commerce as a result of the numerous advantages it provides. That it is becoming more difficult to keep up with the newest technology breakthroughs is well shown by this. The future of business is online, and in the long run, nothing else will matter. This exemplifies the difficulty some people may have in keeping up with the lightning-fast pace of technological change. Consequently, it is getting increasingly difficult to maintain a foothold in the ever-evolving technological landscape. This is due to an increase in the frequency with which such discoveries have been made in recent years. This is due to the lightning-fast pace at which these innovations are being adopted.

3.1.3 Key Players

1. Bitcoin: By 2023, the concept of bitcoin as a kind of digital money will be fully recognized and understood by almost all individuals on the planet. It is not required to have any previous knowledge of cryptocurrencies to realize the core reality that Bitcoin has been the most significant cryptocurrency on the market since the beginning of this decade. This basic reality is understandable even if people have no previous knowledge of cryptocurrency, so don't be concerned about needing to brush up on their crypto jargon. Because this idea is relatively straightforward, people should be able to understand it even if they have no prior expertise or knowledge of cryptocurrencies (Vranken, 2021).

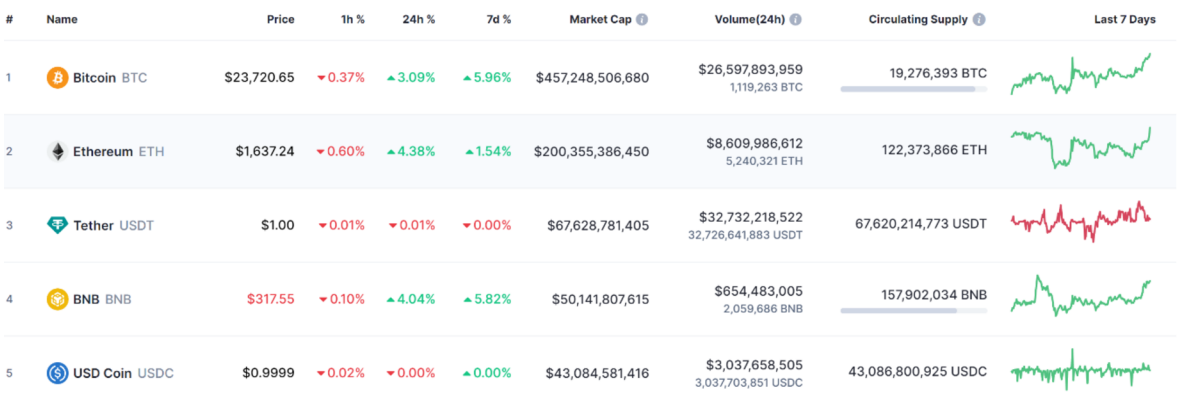
2. Ethereum: Ethereum is a technology that enables people to build apps and organizations, store assets, trade, and communicate without depending on a centralized authority.

3. Tether: Tether, according to the company's website, is a cryptocurrency stablecoin that is "100% backed by Tether's reserves" and is linked to the US dollar (Wei, 2022).

4. USD Coin: The fundamental asset for USD Coin, a digital stablecoin, is the US dollar. The Center Consortium, which also includes Coinbase, another cryptocurrency exchange, and Circle backer Bitmain, manages Circle's coin USD Coin (Mizrach, 2022)

5. XRP: Ripple is a cryptocurrency gross-settlement system, currency exchange, and remittance network that runs in real-time and was established by Ripple Labs Inc, an American technology business. The corporation launched the XRP cryptocurrency to simplify international transactions (Mauri, 2020).

Figure 2, top cryptocurrencies by market capitalization



#	Name	Price	1h %	24h %	7d %	Market Cap	Volume(24h)	Circulating Supply	Last 7 Days
1	Bitcoin BTC	$23,720.65	0.37%	3.09%	5.96%	$457,248,506,680	$26,597,893,959 1,119,263 BTC	19,276,393 BTC	
2	Ethereum ETH	$1,637.24	0.60%	4.38%	1.54%	$200,355,386,450	$8,609,986,612 5,240,321 ETH	122,373,866 ETH	
3	Tether USDT	$1.00	0.01%	0.01%	0.00%	$67,628,781,405	$32,732,218,522 32,726,641,883 USDT	67,620,214,773 USDT	
4	BNB BNB	$317.55	0.10%	4.04%	5.82%	$50,141,807,615	$654,483,005 2,059,686 BNB	157,902,034 BNB	
5	USD Coin USDC	$0.9999	0.02%	0.00%	0.00%	$43,084,581,416	$3,037,658,505 3,037,703,851 USDC	43,086,800,925 USDC	

Source: Coindesk, 2023

3.1.4 Disadvantages

A large loss of capital is possible and should always be kept in mind. Remembering that there is a serious risk involved, this is of paramount importance. While this book does provide a plethora of information on the advantages of cryptocurrencies, readers should be aware that their investment might be at danger. Investing wisely may help mitigate this danger. The inherent danger must always be kept in mind, regardless of the specifics. While it's true that bitcoin ownership comes with certain inconveniences, investors should be aware of the substantial possibility of experiencing a complete loss of capital. A large sum of

money might be at risk if they don't. The declining value of bitcoin is likely to blame for the price reduction (Jang, 2022). This threat must never be downplayed. It goes without saying that there are certain potential drawbacks to having Bitcoins in people's hands, but just in case: The following are some instances of things that are considered to have negative qualities and hence fall into this category. To make things easier, we've offered examples in the shape of the aforementioned goods. Paper currency is seldom utilized since it is inconvenient to handle and manage. The most common forms of currency are coins and paper bills. To this day, banknotes and coins remain the most popular types of currency in circulation. Coins are also used as a kind of money. Paper money, which comprises both bills and coins, is used much less often than other types of payment, such as coins and banknotes. This is because the usage of physical currency such as bills and coins has greatly decreased in favor of digital currency (Rachana, 2021). Consider the following scenario: a bitcoin holder wants to purchase a home and has enough of them to do so, but on the day of the transaction, bitcoin loses 15% of its value, showing that it is not as favorable as it looks. Although making a real estate purchase using bitcoin can seem like a good idea at first, this is not the case at the moment and is not going to change very soon. Some people have resorted to bribery using coins since authorities have no way of knowing who gave the coin to whom. This occurs because authorities are unable to trace the origin of any given money. This has led to widespread corruption in the system. This is the end result of authorities being unable to trace the money's origin or identify its benefactors. The stench of corruption is pervasive because of the aforementioned root reason (Li, 2021). This is because the authorities can't tell whose money was given to whom, making it impossible to trace the flow of funds. Since this is the case, they can't determine who gave what amount of money to whom. The result is that they can't trace the money or determine who received what. Since the government can't pinpoint the starting point of any given step in the process of creating the currency, this situation arises (Chao, 2021). It's possible that this is the case. This is only one of many factors that have contributed to the current state of affairs. If the user behaves in this way, they will be responsible for adhering to one of the many restrictions the system has set.

3.2 E-Commerce

3.2.1 History

The birth of electronic commerce may be traced back to the standardization of the electronic communication of commercial papers between business suppliers and their business clients. Customers are the businesses that make repeated purchases from us. Order forms and invoices are two instances of such paperwork. There were several telexed requests for supplies during the Berlin blockade and airlift in 1948-1949. That time period in history is when this strategy or technique was first used. The approach advanced throughout the subsequent two decades because of the relentless work of several businesses. The first global standard for this method was adopted the same year, 1975, marking a pivotal juncture in its development. The standard for sending digital information between computers is clearly flexible enough to accommodate most common digital transactions. Computer-mediated communication has provided us with this flexibility. The contribution of the computers was important in completing this task.

Many businesses moved their operations online as internet use became more widespread. In 1993, the first public web browser became available, allowing users to access the Internet for the first time. The development of the internet took a significant stride ahead with this. Due to the widespread availability of fast broadband Internet connections and the rising popularity of these gadgets, e-commerce has shifted to mobile devices like smartphones, tablets, laptops, and even wearable electronics like watches. Electronic gadgets that can be carried about easily include cellphones, tablets, and laptops. Smartphones, tablets, laptops, and even wristwatches are all examples of common mobile devices. The increased demand for a wide variety of technological goods is to blame for this trend (Stewart, 2020).

Online shopping's meteoric rise has had profound implications on people's day-to-day lives as well as the ways in which institutions like businesses and governments go about their work. Because of internet supply chains and marketplaces, business transactions are now a lot smoother. Consumer-centric marketplaces, for instance, include not just colossal virtual shopping centers but also peer-to-peer auction houses, multi-channel merchants, and millions of individual online vendors. Alibaba is only one of several companies that have

recently created massive B2B marketplaces. As part of the "sharing economy," of which Airbnb is a component, homeowners may earn extra money by renting out their homes online to travelers. One can obtain just about any kind of professional advice on the internet these days, from medical to legal. All products and services that use data processing or file storage on distant servers fall under this category. Internet shoppers increasingly value the option to customize the appearance of mass-produced goods. Although Bitcoin is the most well-known kind of digital money, others have emerged as innovations in payment processing have made it possible. Centralized businesses often form semi-permanent supply chains, allowing them to surround themselves with suppliers that can satisfy the great bulk of their production and supply needs. The business' productivity will increase as a result.

There is a vast range of possible interactions between Facebook users and those on comparable platforms. Social commerce, in which buyers and sellers interact in an online community, is made possible by such sites. Customers' reviews and ratings are given the same weight as those of the company's own workers in socially responsible businesses. This suggests traditional word-of-mouth promotion may be as successful as its digital counterpart in accomplishing the aims of social commerce. An online community is a great place to create contacts, share information, and learn about new things. Examples of projects that benefit tremendously from collaborative efforts include the development of open-source software and the upkeep and expansion of an online encyclopedia. The online encyclopedia and free, community-developed software are two shining examples (Szolnoki, 2021).

When utilized effectively, the Internet may complement or even replace more conventional means of communication by fostering closer relationships between people. The hypermedia features of the World Wide Web enable the production of cutting-edge media commodities, many of which are made freely available to consumers. Blogs, video aggregators, social media, and customized e-newspapers are all examples of new media platforms and applications. Because of its widespread user base, the Internet is an effective advertising and promotional tool. There are many different kinds of online advertising, such as banner ads on popular sites and text links in search engine results for specific searches. Pop-under windows, pop-up windows, and in-text links are just few of the various ad formats available. As the number of people with smartphones continues to grow, it's possible that mobile advertising may become the dominant type of marketing. Marketers' online behavior

may lead to in-depth profiles of individuals, giving them easy access to a wealth of personally identifiable information. As a result, businesses get a competitive edge in the marketplace. Because of the proliferation of mobile commerce, geotargeted advertisements are now within reach. If clients of one company utilize the website or app of another company, sales for both companies will increase. This is due to the fact that the first company benefits monetarily from the presence of adverts on the second company's website or app. Spending more time in the mobile app of a company whose services a client uses often results in spending more money on that app.

The proliferation of tools that make e-commerce easier to use has contributed to the industry's meteoric rise; these tools include digital authentication services that verify identities over the Internet, electronic directories and search engines that help users find information on the World Wide Web, software agents that can act autonomously to locate goods and services, product recommendation systems that take users' profiles into account, and so on. To attribute the exponential growth of the online retail sector to only a few technologies would be a gross simplification. One might probably find a lot of them that are really similar. Such intermediary services are important because they facilitate the global distribution of goods, the efficient functioning of global financial systems, and the development of novel educational and recreational possibilities in previously inaccessible locations. It is also because to the availability of these services that the financial markets can function efficiently.

Intranets are internal networks comparable to the Internet that are routinely created by businesses to encourage communication and collaboration among workers. Collaboration-heavy firms are more likely to use an extranet. This is because extranets improve the security of online interactions.

Buying anything on the internet carries a lot of risk. All communications and interactions must be protected from eavesdropping, and all users must be authenticated before access is granted. A "public key infrastructure" is a system of interconnected computer programs and authoritative bodies. The term "public key infrastructure" refers to a system of digital technologies and specialized organizations used to authenticate and protect data and financial transactions (Simakov, 2021). While the pursuit of absolute safety

is admirable, it is far from simple. The prevalence of those who deny the importance of data security while doing business online and the prevalence of high-profile data breaches are both indicative of this.

3.2.2 Current development

The epidemic has caused a substantial rise in both the number of new clients and the volume of online transactions. Our customer base has expanded to include more individuals. Our analysis suggests that this is a positive turn of events. Several businesses ordered employee evacuations and unpaid leave as a precaution. Some people have been given the all-clear to go back to their daily activities. It's possible that consumer choices and actions contributed to the death of some of these companies. It is impossible to put a price on a single customer while doing business online, especially if they are part of a group that is disproportionately targeted by con artists (Anumba, 2021). Because people must take charge of their own health, they must also pay for their own medical treatment out of their own pockets. They, like their staff, are responsible for securing and paying for their own health coverage. They're responsible for the company's success or failure as a whole. Customers will do better if they are able to meet their fundamental needs, such as for food, housing, and personal care items.

Company owners who have not yet invested in their workers' e-commerce abilities should do so quickly if they want to succeed despite the current economic environment. Rapid investment in e-commerce is necessary for the present economic context. In today's global economy, investing in internet sales is a smart move. Companies that are unable to adjust to the ever-evolving marketplace are doomed, according to research from Catalyst Digital (Tunz, 2019). It's frustrating that companies have to get through this roadblock before they can try out innovative tactics. The data was gleaned via in-depth discussions with CEOs of various companies. Considering that purchasers will always value convenience, one can rest certain that this layout won't go out of vogue. Why? Because products with these qualities fetch a premium price in the marketplace (Zhu, 2022). Customers of ISPs may benefit more than ever before from the use of data and analytics. The use of big data and analytics has hastened this change. This tendency has recently picked up speed, and the broad availability of big data is much to blame.

Consumers and shoppers are showing signs of shifting tastes as a result of the current economic climate. That's only one of many altered results. Kinsta's blog aims to explore and debate a range of topics that influence consumers' decisions to buy. The survey estimates China's online retail industry to be $672 billion, with the US market coming in as a distant second at $340 billion (Kumara, 2021). The U.S. is also rated as the world's second-largest market. Similar tendencies appeared when the entire quantity of internet sales was analyzed. While Spain takes the cake for overall tourist earnings with $67 billion, South Korea comes out on top thanks to its $37 billion in earnings. If one can only visit one location, make it South Korea. Some of these locations may have restaurants, spas, and retail establishments selling clothing and accessories. These results have ramifications beyond the area of targeted advertising (Song, 2022).

Amazon is no different from any other online store in that it demands customers to do thorough research prior to making a purchase. Many shoppers have converted to Amazon because of the convenience and contentment they experience there. Amazon is the first name that comes to mind when one mentions "online shopping" or e-commerce. Another perk of using Amazon is how easy it is to broadcast your message to a large audience. Joining the Amazon marketplace will increase the number of people exposed to your business's brand. Those purchasing goods and services will see price increases, less disposable money, and fewer possibilities for influence (Lui, 2020). This is due to the fact that the operation is financially impractical due to its high price tag. This is due to the fact that surgical treatments are often rather costly. Participation by patients in their own treatment has no bearing on its success. Whether or not a buyer makes a purchase, Amazon.com may still profit from its real-time data. Before acting, one should carefully weigh all of their available options and take all necessary precautions to ensure their personal safety. Until this is settled, nothing can go forward. There is a pressing need to have this done right now since it is crucial.

An increase in unfavorable press may arise if the company engaged in unethical practices in order to expand its market share. This has obviously heightened the threat level considerably. A report in the Wall Street Journal from April 2020 claims that Amazon exploited seller data to produce things that were similar to current goods but supplied at lower costs. Based on the information provided here, one can conclude that Amazon was able to do this by merging certain products and listening to supplier suggestions. It seems

from our research that Amazon exploited competitor information to do this (Treiblmaiera, 2019). Those who are interested should keep detailed records of all pertinent information and be prepared for the possibility that Amazon could ask for a financial contribution at a later date. Aiming to have Amazon-branded products account for 10% of total sales by 2022, Amazon has done extensive study into the market.

3.3 Blockchain and E-Commerce: Current Perspective

There have been several conversations about how blockchain has substantially influenced internet companies, and if people will do some study on the subject, they will see that this is not going to stop and that everything will continue as usual. This is due to the fact that blockchain technology and internet business are now protected to the greatest extent that is now possible. This has resulted in this outcome. As a consequence, the outcome was precise as expected. Because they have attained such a high level, the majority of individuals find it difficult to believe that they are benefitting in any manner as a direct result of it. This is due to their exceptional abilities (Ismanto, 2022). This is owing to their very high level of education. This is due to the very high level of achievement that they have attained. This is because they have attained such a high degree of expertise in this particular field of study. So, with everything stated, a lot of effort done, and articles are written, this component of information technology will expand, and on top of that, it is one of the hustles that is rapidly increasing around the world at this specific moment in time and place (Shao, 2021). So, with all that has been mentioned, a great deal of work has been completed, and articles have been published. As a result of all that has been addressed, the substantial amount of work that has been performed, and the papers that have been published (Zhou, 2019). It took many decades for the Internet to evolve from a network mainly used for communication at and between educational institutions and the military into a technology platform capable of hosting and realizing commercial applications. The Internet was first utilized for communication inside and between educational institutions and the military. However, it only took a few years after the World Wide Web's development for commercial websites to take off and e-commerce to become a global business model. Retail e-commerce sales were USD 4.89 trillion in 2021, with a projected increase to $6.39 trillion USD by 2024. Early research indicates that the worldwide COVID-19 epidemic has accelerated this increase. In contrast, the total market value of cryptocurrencies in 2017 was 566.26 billion USD, 128.78 billion USD in 2018,

237.1 billion USD in 2019, and 758.06 billion USD in 2020. This shows a large drop after the excitement in 2017, as well as a strong comeback and rises afterward. Despite accounting for just 2% of all digital payment transactions, bitcoin purchases are rapidly growing in importance. The parts that follow offer a succinct explanation of the origins of electronic commerce, followed by a discussion of different key research areas that have subsequently emerged (Zhidanov, 2021). The following section summarizes the most important recent breakthroughs in the area of blockchain technology, which even surpass the speed of the e-commerce era in terms of market acceptability and, to some extent, expectations. At this point in the essay, the key subjects of discussion are the components of blockchain technology that have the potential to have a significant impact on internet commerce.

4 Practical Part

4.1 Essence

Given the complexity of the topic chosen by the author and inability to extract valuable data reflecting the current worldwide situation with cryptocurrencies in e-commerce, the author takes another quantitative approach, which involves testing hypotheses related at the same time to e-commerce and cryptocurrencies. However, for any hypothesis testing related to qualitative or categorical information, a questionnaire is a fundamental component that has to be incorporated and build a bridge between the author of the thesis and participants. The author uses primary data collected by himself with the help of a questionnaire that contains answers of 52 participants who are currently co-owning or owning an e-commerce shop or platform in the Russian Federation. In fact, the author fully understands all limitations of his research and for sure, classifying the selected sample as representative is impossible, but the author believes that his research is illustrative. Given the scale of the study in general, the author believes that such a methodology is acceptable in order to draw general conclusions about the phenomenon of cryptocurrencies in relation to e-commerce.

4.2 Participants

Clearly, the choice of the Russian Federation seems rather ambivalent and not clear, but the justification for the selection is perfectly clear – the author comes from Russia so getting in touch with potential participants is easier for the author. In general, based on the literature review and general experience with e-commerce, the author believes that the case of Russia is not unique or different from other countries as the same tendencies were exercised by entrepreneurs in the country as everywhere else.

As for participants, the author focuses on engaging people who currently have an e-commerce platform or shop where they sell goods or services. The author gets in touch with those people using specialized communities on the Russian social media platform – Vkontakte. The ultimate number of participants that were engaged is equal to 52, which is far from being perfect but good in terms of illustrating the real situation. The main and only criteria was the fact of owning an e-commerce platform or being a co-owner of any e-commerce platform.

4.3 Questions

In this section, the author presents the overview of questions that were included into the questionnaire alongside with possible answers to those questions.

1) What is your gender?
    a) Male
    b) Female
2) What is your age?
    a) <20
    b) 20-41
    c) >41
3) For how many years have you been involved in e-commerce?
    a) Less than 2 years
    b) 2-5 years
    c) More than 5 years
4) What is your attitude towards cryptocurrencies?
    a) Positive
    b) Negative
5) Are you satisfied with the level of sales of your business?
    a) Yes
    b) No
6) Do you currently use cryptocurrencies as a method of payment?
    a) Yes
    b) No
7) Are you willing to use cryptocurrencies as a method of payment?
    a) Yes
    b) No
8) If you were given an option, which cryptocurrency would you integrate?
    a) Bitcoin
    b) Ethereum
    c) Litecoin
    d) Dogecoin

e) Other

9) What is your biggest concern related to integrating cryptocurrencies as a method of payment?
   a) Reputation losses
   b) Affiliation with crypto platforms
   c) Exchange rate vulnerability
   d) Inability to properly control transactions
   e) Other

Below, the author presents a brief overview of collected answers.

Figure 3, a part of the dataset

What is your gender?	What is your age?	For how many years have you been involved with e-commerce?	What is your attitude towards cryptocurrencies?
Male	<20	Less than 2	Positive
Male	<20	Less than 2	Positive
Male	20-41	2-5	Positive
Male	20-41	2-5	Positive
Male	>41	More than 5	Positive
Male	<20	Less than 2	Negative
Female	20-41	2-5	Positive
Male	20-41	Less than 2	Negative
Male	<20	Less than 2	Positive
Male	<20	Less than 2	Positive
Female	20-41	2-5	Positive
Female	>41	More than 5	Negative
Male	20-41	2-5	Positive
Male	20-41	2-5	Positive
Male	20-41	More than 5	Negative
Female	<20	Less than 2	Positive
Female	20-41	Less than 2	Negative
Male	20-41	More than 5	Positive
Male	<20	2-5	Positive
Male	<20	Less than 2	Positive
Male	<20	2-5	Positive

Source: own research

4.4 Hypotheses

Based on the list of questions presented above, the author tests a series of hypotheses, which are mentioned below:

1) Gender and attitude towards cryptocurrencies are related. The author assumes that women will be more skeptical about cryptocurrencies than men.
2) Age and attitude towards cryptocurrencies are related. The author assumes that older people will be more skeptical about cryptocurrencies, and they will more have a negative attitude.

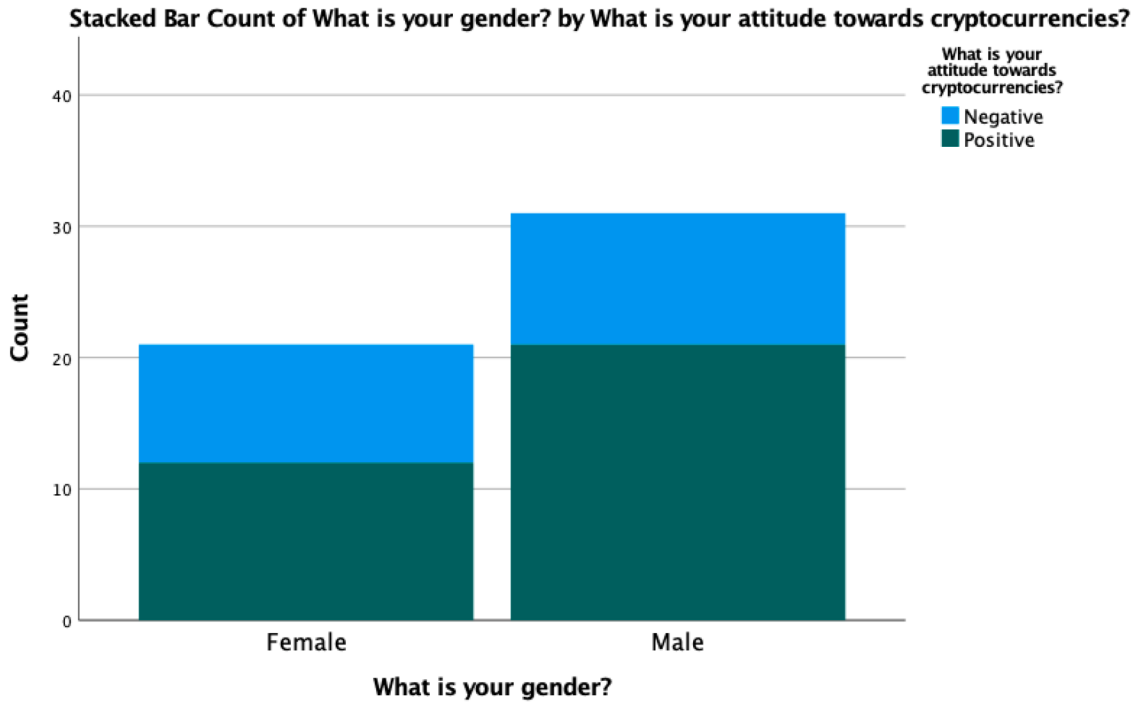
3) Satisfaction with the current level of sales and usage of cryptocurrencies are related. The author believes that those who are more satisfied with the current level of sales are likely to already use cryptocurrencies.
4) Satisfaction with the current level of sales and willingness to use cryptocurrencies as a method of payment are related. The author believes that those who are not satisfied with the current level of sales are more willing to integrate cryptocurrencies.
5) Age and willingness to adopt cryptocurrencies are related. The author believes that younger entrepreneurs are more willing to adopt cryptocurrencies as a method of payment on their cryptocurrencies.
6) Experience in e-commerce and usage of cryptocurrencies are related. The author believes that people with bigger experience are more willing to use cryptocurrencies.

The author uses either Chi-square tests or Fisher tests, depending on the situation with expected frequencies and the number of observations. The author uses SPSS application for the hypothesis testing.

4.5 Testing

First, the author starts with the hypothesis related to gender and attitude towards cryptocurrencies. First, the author provides the overview of collected responses in Figure 4.

Figure 4, gender and attitude towards cryptocurrencies



Source: own processing

Visibly, there is a slighter higher proportion of men having a positive attitude towards cryptocurrencies than women. Effectively, the author believes that two variables are not statistically related based on the answers collected. Nevertheless, the author still proceeds to the hypothesis testing in Figure 5.

Figure 5, first hypothesis test

What is your gender? * What is your attitude towards cryptocurrencies? Crosstabulation

Count

		What is your attitude towards cryptocurrencies?		
		Negative	Positive	Total
What is your gender?	Female	9	12	21
	Male	10	21	31
Total		19	33	52

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	.607[a]	1	.436		
Continuity Correction[b]	.236	1	.627		
Likelihood Ratio	.603	1	.437		
Fisher's Exact Test				.559	.313
N of Valid Cases	52				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 7.67.

b. Computed only for a 2x2 table

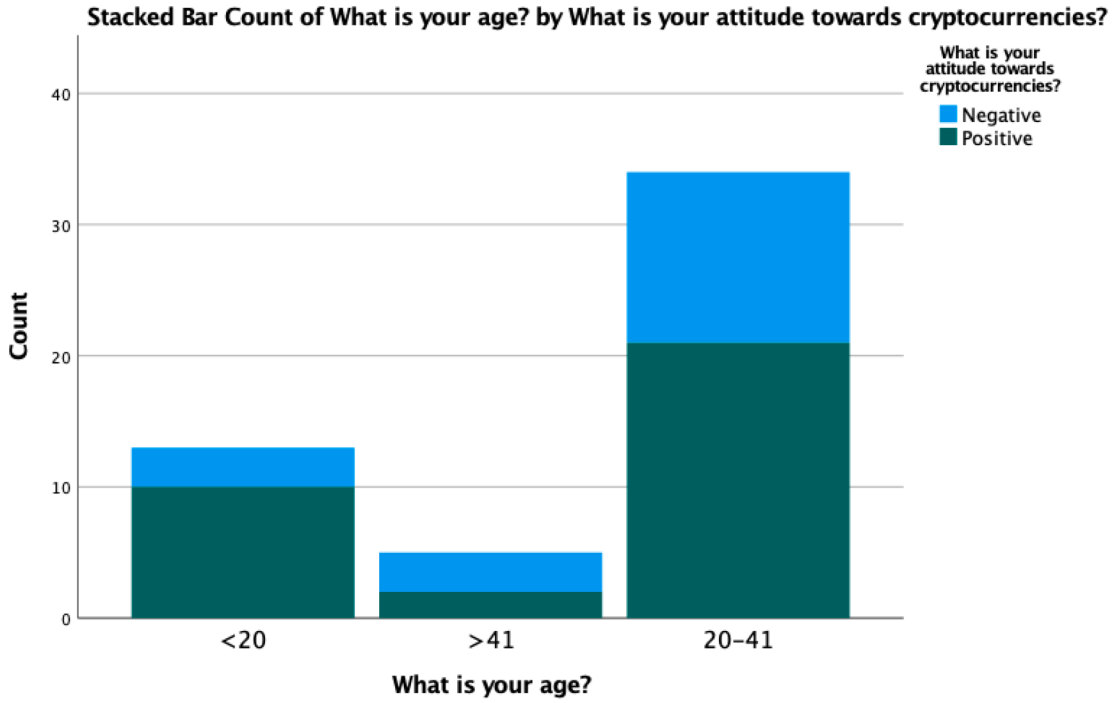
Source: own processing

- Null hypothesis: Gender and Attitude towards cryptocurrencies are not related.
- Alternative hypothesis: Gender and Attitude towards cryptocurrencies are related.
- Significance level = 5 %.
- $X^2 = 0.607$; $P = 0.436$
- $0.436 > 0.05$ => Ho is not rejected. Gender and attitude towards cryptocurrencies are not related.

Hypothesis testing has revealed that there is no real difference in the way how different genders view cryptocurrencies and have attitude towards them. The author's assumption has been rejected.

Then, the author continues to the second hypothesis (age and attitude towards cryptocurrencies), where the overview of responses is presented in Figure 6.

Figure 6, age and attitude towards cryptocurrencies



Source: own processing

Seemingly, there is no difference between different ages and their attitude towards cryptocurrencies. This partially leads to the fact that the author's assumption was not correct. At the same time, it might become a consequence of the fact that people owning an e-commerce platform are progressive and modern. Nevertheless, the author proceeds to the hypothesis testing in Figure 7.

Figure 7, second hypothesis test

What is your age? * What is your attitude towards cryptocurrencies? Crosstabulation

Count

		What is your attitude towards cryptocurrencies?		
		Negative	Positive	Total
What is your age?	<20	3	10	13
	>41	3	2	5
	20-41	13	21	34
Total		19	33	52

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	2.245[a]	2	.325
Likelihood Ratio	2.262	2	.323
N of Valid Cases	52		

a. 3 cells (50.0%) have expected count less than 5. The minimum expected count is 1.83.

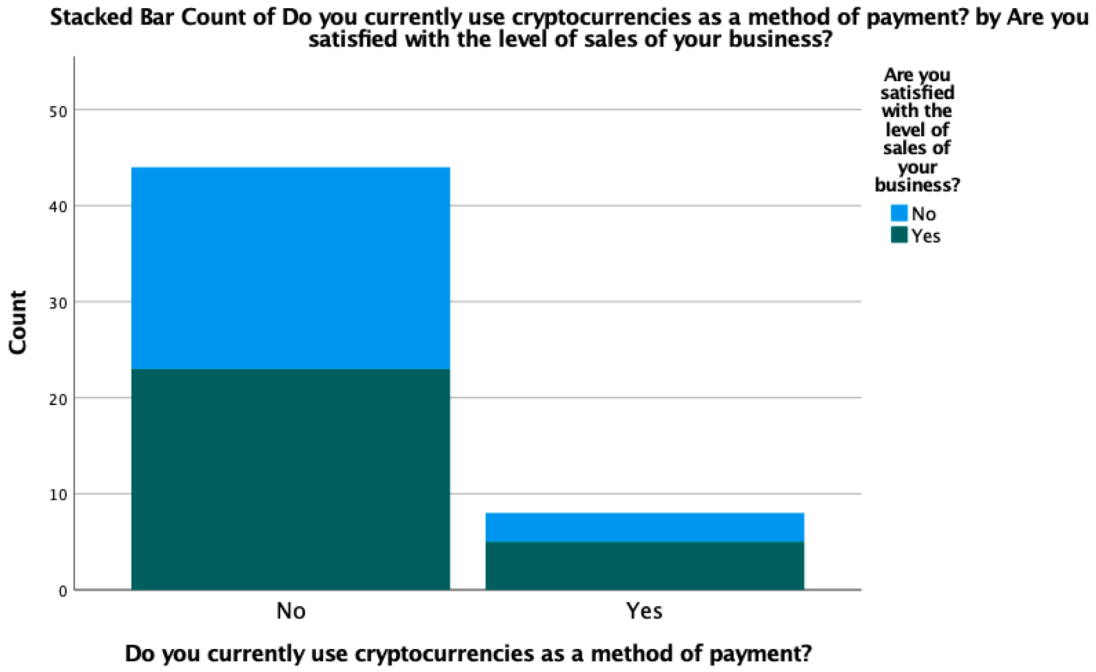
Source: own processing

- Null hypothesis: Age and Attitude towards cryptocurrencies are not related.
- Alternative hypothesis: Age and Attitude towards cryptocurrencies are related.
- Significance level = 5 %.
- $X^2 = 2.245$; $P = 0.325$
- $0.325 > 0.05$ => Ho is not rejected. Age and attitude towards cryptocurrencies are not related.

The author's assumption about the fact that younger businessmen have a more positive attitude towards cryptocurrencies in general turned out to be not true as there is no real relationship between two variables. This might be explained by the fact that people who are involved in the e-commerce world are in general fully aware of potential that cryptocurrencies and other innovations have.

The third hypothesis answers the question of whether satisfaction with the level of sales and active usage of cryptocurrencies in his or her cryptocurrency platform are statistically related. The author's original assumption was that people who use cryptocurrencies are more satisfied with the sales of their e-commerce platform. In Figure 8 the author presents bar charts for the assumption.

Figure 8, usage of cryptocurrencies and satisfaction with the level of sales



Source: own processing

Visibly, there are really no difference in proportions, which might give a hint to the author that his assumption will eventually be rejected. Nevertheless, the author proceeds to the hypothesis testing, which is shown in Figure 9.

Figure 9, third hypothesis test

Are you satisfied with the level of sales of your business? * Do you currently use cryptocurrencies as a method of payment? Crosstabulation

Count

		Do you currently use cryptocurrencies as a method of payment?		
		No	Yes	Total
Are you satisfied with the level of sales of your business?	No	21	3	24
	Yes	23	5	28
Total		44	8	52

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	.285[a]	1	.594		
Continuity Correction[b]	.022	1	.882		
Likelihood Ratio	.288	1	.591		
Fisher's Exact Test				.711	.444
N of Valid Cases	52				

a. 2 cells (50.0%) have expected count less than 5. The minimum expected count is 3.69.

b. Computed only for a 2x2 table

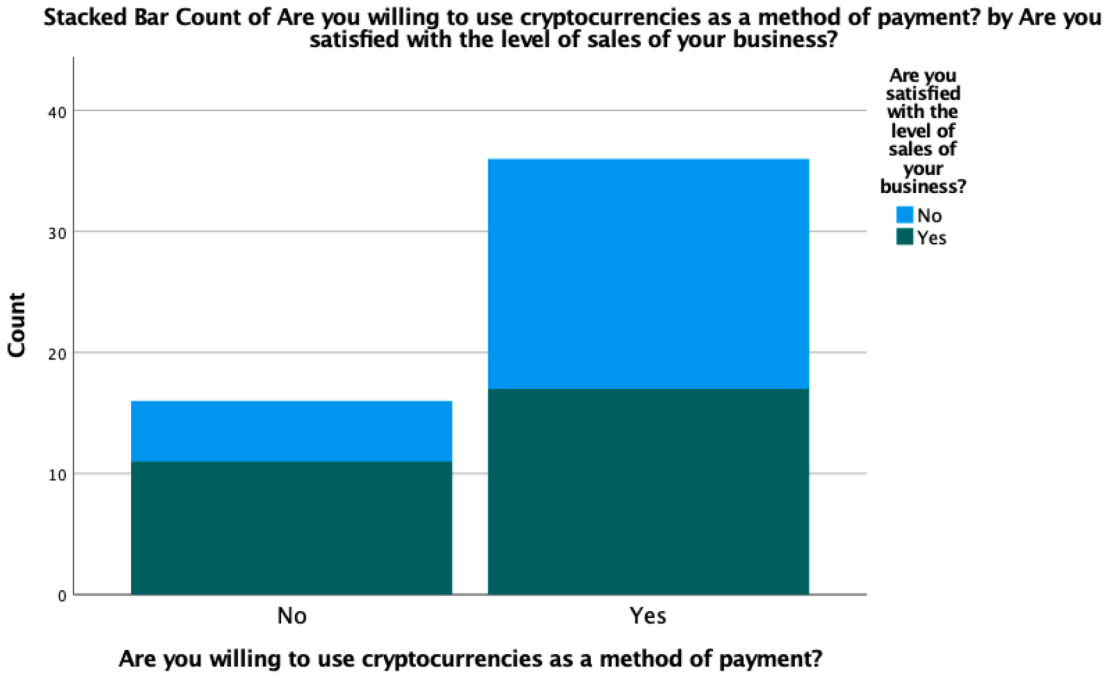
Source: own processing

- Null hypothesis: Satisfaction with the level of sales and Usage of cryptocurrencies are not related.
- Alternative hypothesis: Satisfaction with the level of sales and Usage of cryptocurrencies are related.
- Significance level = 5 %.
- $X^2 = 0.285$; P = 0.594
- 0.594 > 0.05 => Ho is not rejected. Satisfaction with the level of sales and Usage of cryptocurrencies are not related.

The author's assumption is rejected as the satisfaction with the level of sales of one's e-commerce platform and active usage of cryptocurrencies as a method for paying are not related.

The third hypothesis is somewhat similar, but instead of focusing on the current usage of cryptocurrencies as a method for payment, the author incorporates the other variable which reflects willingness to embrace such an innovation for a given e-commerce platform. The overview of responses is presented in Figure 10.

Figure 10, willingness to use cryptocurrencies and satisfaction with the level of sales



Source: own processing

Visibly, there is a difference in proportions with those who are not satisfied more willing to embrace this innovation, which perfectly fits with the author's assumption in the beginning of the practical part. In Figure 11, the author proceeds to the hypothesis testing.

Figure 11, fourth hypothesis test

Are you satisfied with the level of sales of your business? * Are you willing to use cryptocurrencies as a method of payment? Crosstabulation

Count

		Are you willing to use cryptocurrencies as a method of payment?		
		No	Yes	Total
Are you satisfied with the level of sales of your business?	No	5	19	24
	Yes	11	17	28
Total		16	36	52

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	2.066[a]	1	.151		
Continuity Correction[b]	1.290	1	.256		
Likelihood Ratio	2.109	1	.146		
Fisher's Exact Test				.229	.128
N of Valid Cases	52				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 7.38.

b. Computed only for a 2x2 table

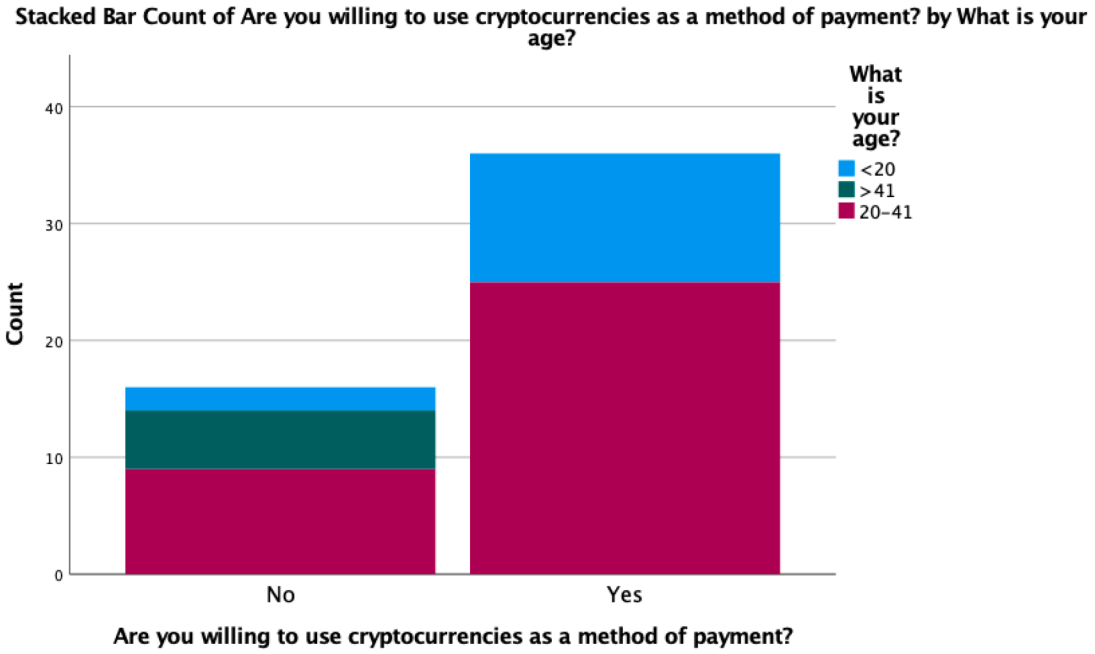
Source: own processing

- Null hypothesis: Satisfaction with the level of sales and Willingness to use cryptocurrencies are not related.
- Alternative hypothesis: Satisfaction with the level of sales and Willingness to use cryptocurrencies are related.
- Significance level = 5 %.
- $X^2 = 2.066$; $P = 0.151$
- $0.151 > 0.05$ => Ho is not rejected. Satisfaction with the level of sales and Willingness to integrate cryptocurrencies to one's e-commerce platform.

Once again, the author's assumption was rejected as there are really no statistical relationship between two variables. The author proceeds to the fifth hypothesis, which is related to age and willingness to adopt cryptocurrencies as a method for payment on one's

e-commerce platform. In Figure 12, the author presents the overview of answers for both questions:

Figure 12, age and willingness to use cryptocurrencies as a method of payment



Source: own processing

In fact, the differences in proportions are huge where younger participants are more willing to embrace cryptocurrencies as a method for payment on one's e-commerce platform. Nevertheless, this will be verified according to Figure 13, where the output for the hypothesis testing is presented:

Figure 13, fifth hypothesis test

What is your age? * Are you willing to use cryptocurrencies as a method of payment? Crosstabulation

Count

		Are you willing to use cryptocurrencies as a method of payment?		
		No	Yes	Total
What is your age?	<20	2	11	13
	>41	5	0	5
	20-41	9	25	34
Total		16	36	52

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	12.989[a]	2	.002
Likelihood Ratio	13.732	2	.001
N of Valid Cases	52		

a. 3 cells (50.0%) have expected count less than 5. The minimum expected count is 1.54.

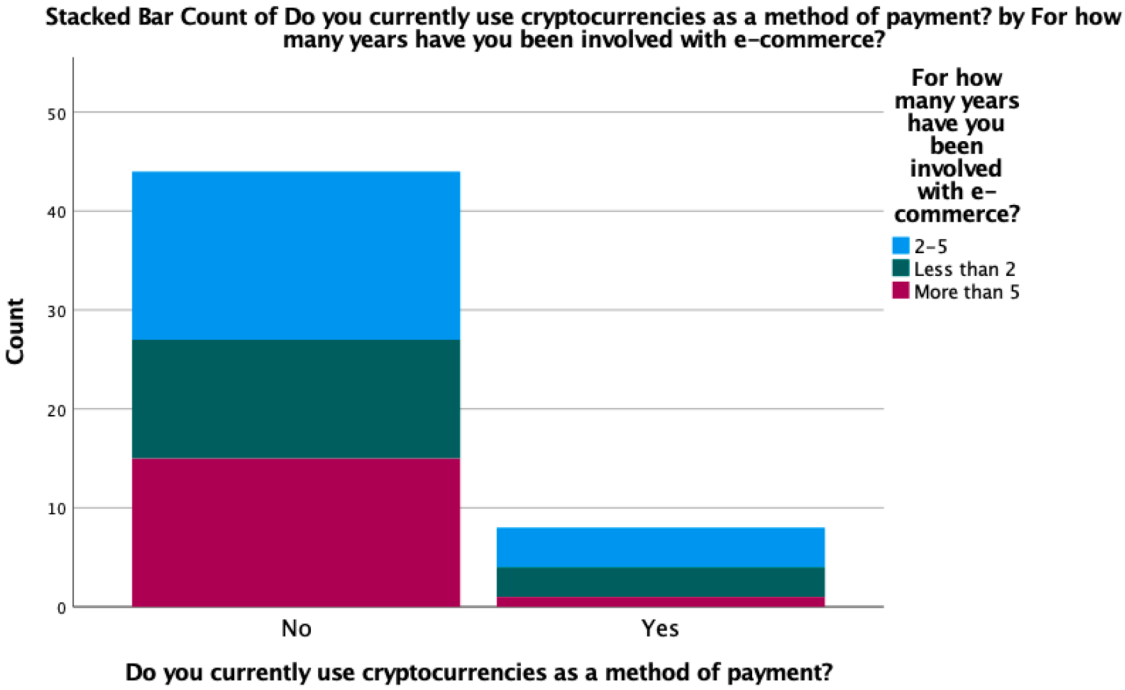
Source: own processing

- Null hypothesis: Age and Willingness to use cryptocurrencies are not related.
- Alternative hypothesis: Age and Willingness to use cryptocurrencies are related.
- Significance level = 5 %.
- $X^2 = 12.989$; $P = 0.002$
- $0.002 < 0.05$ => Ho is rejected. Age and Willingness to integrate cryptocurrencies to one's e-commerce platform are statistically related.

So far, this is the only assumption of the author that turned out to be true and not being rejected. Consequently, the author can suggest that age is still a serious factor that defines one's attitude towards embracing cryptocurrencies as a method for payment on his or her cryptocurrency platform.

Finally, the author proceeds to the very final hypothesis related to experience in e-commerce and usage of cryptocurrencies in one's e-commerce platform. In Figure 14, the author presents the overview of responses.

Figure 14, experience in e-commerce and current usage of cryptocurrencies



Source: own processing

Despite a major difference in the total number of responses per question, the proportions seem to be the same, which suggests that there is no statistical significance in the relationship between the two variables, so the author's assumption is likely to be rejected. The author proceeds to the final hypothesis testing in Figure 15.

Figure 15, experience in e-commerce and usage of cryptocurrencies

For how many years have you been involved with e-commerce? * Do you currently use cryptocurrencies as a method of payment? Crosstabulation

Count

		Do you currently use cryptocurrencies as a method of payment?		
		No	Yes	Total
For how many years have you been involved with e-commerce?	2-5	17	4	21
	Less than 2	12	3	15
	More than 5	15	1	16
Total		44	8	52

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	1.487[a]	2	.475
Likelihood Ratio	1.706	2	.426
N of Valid Cases	52		

a. 3 cells (50.0%) have expected count less than 5. The minimum expected count is 2.31.

Source: own processing

- Null hypothesis: Experience in e-commerce and Usage of cryptocurrencies are not related.
- Alternative hypothesis: Experience in e-commerce and Usage of cryptocurrencies are not related.
- Significance level = 5 %.
- $X^2 = 1.487$; $P = 0.475$
- $0.475 > 0.05$ => Ho is not rejected. Experience in e-commerce and Usage of cryptocurrencies are not related.

Consequently, the author reaches the conclusion that his sixth assumption was rejected as well. The author will proceed to the elaboration on the results in the next chapter of this bachelor thesis.

5 Results and Discussion

In Table 1, the author presents the list of six original assumptions made by the author and the final outcome per each one – whether they were rejected or not.

Table 1, assumptions and results

Assumption	Result
1. Gender and attitude towards cryptocurrencies are related with men being more tolerant towards crypto assets	*Rejected, no statistical relationship between variables.*
2. Age and attitude towards cryptocurrencies are related with younger e-commerce platforms owners being more tolerant towards crypto assets	*Rejected, no statistical relationship between variables.*
3. Satisfaction about the level of sales and usage of cryptocurrencies on one's platform are related with e-commerce owners who already use cryptocurrencies being more satisfied with their level of sales	*Rejected, no statistical relationship between variables.*
4. Satisfaction about the level of sales and willingness to use cryptocurrencies on one's platform are related with people not satisfied with the current level of one's sales on the e-commerce platform more willing to adopt cryptocurrencies	*Rejected, no statistical relationship between variables.*
5. Age and willingness to adopt cryptocurrencies are related with younger e-commerce owners more	***Not rejected as two variables were categorized as statistically significant.***

willing to adopt cryptocurrencies as a method for payment	
6. Experience in e-commerce and usage of cryptocurrencies on one's platform are related	*Rejected, no statistical relationship between variables.*

Source: own research

To begin with, it is worth to begin by saying that in order to understand perspectives of integrating cryptocurrencies as a method for payment, it is wise to see the way how people who had already had experience in e-commerce generally view the idea of cryptocurrencies in relation to their platforms. For this purpose, the author collected a sample consisting of 52 participants and asked those people basic questions related to their attitude towards cryptocurrencies in general. In fact, as it turned out, there is no significant difference in the way how different genders view the phenomenon of cryptocurrency – the author's assumption was that men have a more positive attitude towards cryptocurrencies. However, the author's assumption was eventually rejected, which is much different from what had been concluded by Jora (2020), who concluded that there are significant differences in the perception of cryptocurrencies between genders. The author suggests that this deviation comes from the differences in the sample and also from the fact that the author was analyzing owners of e-commerce platforms rather than ordinary people, as Jora (2020) did.

Then, the second hypothesis of the author was related to age and cryptocurrency attitude, where the author suggested that younger business owners are more willing to embrace cryptocurrencies and have a positive attitude towards them. The author article of Jora (2021) suggested that there are significant differences and age factor is crucial, while the author's hypothesis testing suggested an absolutely different thing, where age was not a significant factor. The author believes that this mostly comes from the fact that business owners who are actively engaged in e-commerce are progressive people, for whom age is not a factor that prevents somebody from venturing into an unknown topic.

The third hypothesis of the author is the most crucial one, as it will help the author to understand if cryptocurrencies can somehow improve the way how matters stand with one's e-commerce platform' level of sales. Consequently, it turned out that there is no statistical relationship between the satisfaction about sales and implementation of cryptocurrencies, so

the author can suggest that cryptocurrencies cannot really provide a solid basis or become a driving factor that will attract more and more people and consequently boost one's sales. This is slightly different from what was suggested by Mundhe (2022), who believe that for large enterprises building their e-commerce empires, cryptocurrencies can become the key component. Yet, the author considers the idea of opening a small e-commerce platform and the author, based on his findings, suggests that it is not likely that an opportunity to pay with cryptocurrencies will provide a long-term competitive advantage to this platform.

The fourth hypothesis is somewhat identical to the third one, whereas the author suggested that those e-commerce platform owners who are not satisfied with their level of sales will consider the idea of adopting cryptocurrencies. However, this hypothesis was also rejected as no real statistical willingness was identified among those who were not satisfied with their level of sales, so it can be assumed that there are other factors that can improve performance of a business.

The fifth assumption made by the author was the only one that had not been rejected and this one is related to the fact that younger owners of e-commerce platforms are more willing to adopt cryptocurrencies. This finding might suggest that younger people, upon meeting difficulties or obstacles, consider innovative methods, while older ones might try to focus on other aspects related to operations, distribution, etc.

Finally, the author also suggests that experience in e-commerce is not a significant factor that might prompt business owners to use cryptocurrencies, so this is also an additional point that helps the author to suggest that cryptocurrency adoption does not really offer any competitive advantage in the long-term.

Nevertheless, the author, based on the evaluation of results of the questionnaire is prone to conclude that given that there are no real relationship between one's satisfaction with the level of sales and active usage of cryptocurrencies, it is not at all likely that on the first stages of developing a small e-commerce platform, integration of diverse payment methods involving cryptocurrencies will somehow provide a significant competitive advantage for a given business owner. Given the fact that the sample of respondents primarily represented small business owners, it can surely be said that for smaller firms and platforms,

cryptocurrencies is not a turning point at all. The author's recommendation for a small firm focusing on the development of a given e-commerce platform would be focusing on other important components, such as distribution, UI solution, work with stakeholders without stressing too much attention on cryptocurrencies, since it is more likely that this component will just provide a particular bonus to the platform, which will attract just a small number of progressive people. Effectively, as of 2023, it is still can be said that cryptocurrencies are not something used that widely, so not including this option is not likely to scare a big number of people since based on the sample of respondents from the Russian Federation, there are still really many of them being able to maintain their business in the e-commerce world even without having any cryptocurrency payment method available for customers.

6 Conclusion

In the conclusion, the author is able to suggest that it is not likely that an integration of cryptocurrency payment option into a small e-commerce platform will provide a long-term competitive advantage or anyhow boost its sales. The author draws such findings based on the hypothesis testing conducted on data collected from a small sample of Russian e-commerce business owners, where five out of six assumptions were eventually rejected.

In addition to this, the author also suggests that when it comes to work with cryptocurrencies, gender and age are not likely to be significant factors for people who are working in a highly progressive or innovative industry as fundamental differences that might occur between different genders and age categories are likely to be erased due to direct involvement with high technologies, which is pretty logical.

The author's recommendation for a small e-commerce platform just starting its path in the world of e-commerce would be focusing on other fundamental concepts and not stressing out too much attention on payment methods, such as cryptocurrencies. Those domains, which have higher importance are design, user experience, distribution, communication with customers and organization of working processes.

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