Czech University of Life Sciences Prague

Faculty of Economics and Management

Department of Languages

Bachelor Thesis

Factors affecting consumers satisfaction and perception of cryptocurrency

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CZECH UNIVERSITY OF LIFE SCIENCES PRAGUE

Faculty of Economics and Management

BACHELOR THESIS ASSIGNMENT

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Thesis title

Factors affecting consumers satisfaction and perception of cryptocurrency

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Objectives of thesis

The main aim of the bachelor thesis is to identify factors that affect people's opinion regarding choosing cryptocurrency.

Methodology

The work consists of two parts – theoretical and practical. The theoretical part will be based on the study of secondary sources. The empirical part will be compiled on the basis of outputs from quantitative/qualitative research.

The proposed extent of the thesis

30 – 40 pages

Keywords

Cryptocurrency, social media, forecasting, graph analysis, budget, knowledge, mindset, financial analysis

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Recommended information sources

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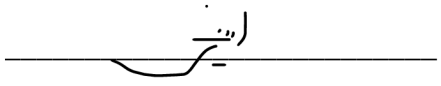
Declaration

I declare that I have worked on my bachelor thesis titled "Factors affecting consumers satisfaction and perception of cryptocurrency" 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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Factors affecting consumers satisfaction and perception of cryptocurrency

Abstract

The integration of digital currencies into the global economy has had a significant impact on people's daily lives. As a result of this technological improvement, the economy has undergone a substantial change from archaic types of technology to cutting-edge technology. The world of digital currency is enormous and intricate, and this bachelor thesis focuses on revising individual awareness for various platforms, preferences, analyses, and needs. To realize the potential benefits of digital currencies, it is vital to conduct extensive research and analysis to determine the most effective ways and strategies for educating individuals on assessing and making educated decisions. The bachelor thesis emphasizes the need to obtain a comprehensive grasp of digital currencies by using statistical analysis and relationship findings between variables, while also considering the need to continuously seek innovative approaches to educate folks on digital currency analysis and decision-making.

Keywords: Cryptocurrency, social media, forecasting, graph analysis, budget, knowledge, mindset, financial analysis, popularity, university.

Faktory ovlivňující spokojenost spotřebitelů a vnímání kryptoměny

Abstrakt

Integrace digitálních měn do globální ekonomiky měla významný dopad na každodenní životy lidí. V důsledku tohoto technologického zlepšení prošla ekonomika podstatnou změnou od archaických typů technologií k nejmodernějším technologiím. Svět digitální měny je obrovský a spletitý a tato bakalářská práce se zaměřuje na revizi individuálního povědomí pro různé platformy, preference, analýzy a potřeby. Aby bylo možné si uvědomit potenciální výhody digitálních měn, je nezbytné provést rozsáhlý výzkum a analýzu s cílem určit nejúčinnější způsoby a strategie pro vzdělávání jednotlivců o hodnocení a přijímání vzdělaných rozhodnutí. Bakalářská práce zdůrazňuje potřebu získat komplexní přehled o digitálních měnách pomocí statistické analýzy a zjištění vztahů mezi proměnnými a zároveň zvažuje potřebu neustále hledat inovativní přístupy ke vzdělávání lidí v oblasti analýzy digitálních měn a rozhodování.

Klíčová slova: Kryptoměna, sociální média, prognózování, grafová analýza, rozpočet, znalosti, myšlení, finanční analýza, popularita, univerzita.

Table of content

1 Introduction

In today's world, it is quite difficult to find vendors that do not accept credit cards or debit cards as a mode of payment. Credit cards and debit cards are often recognized as the most widely used payment methods in the entire globe, but there are a lot of issues with the way money is handled, some of which can be attributed to the fact that credit cards and wire transfers are obsolete. Other issues can be attributed to the cutting of the action, which causes transactions to be either expensive or slow.

In day-to-day life, the ability to obtain money from other people or transfer money to other individuals relies on currencies that are backed by the government and reserved in banks. Additionally, the ability to complete financial transactions, including using ATMs and connecting to banks, is essential.

These payment methods, such as credit cards, have become archaic in today's society. Therefore, the development of technology follows a path that makes use of decentralized methods and eliminates the requirement for centralized middlemen.

In 1983, the American cryptographer David Chaum, who was a pioneer in the fields of cryptography and technology that protects users' privacy in their professional lives, published a conference paper that contained the concept of electronic money, which is generally regarded as the genesis of the cryptocurrency notion.

The concept that has to be understood was to create money that did not depend on centralized institutions (like banks) and that, moreover, had the ability to be transferred without leaving a paper trail, which is considered a record, history, or collection of evidence.

In light of these technological and innovative advancements, it is essential to consider the entry of cryptocurrencies into the global economy, which brought about a dramatic transformation in the current state of affairs.

2 Objectives and Methodology

2.1 Objectives

The main aim of the bachelor's thesis is to identify factors that affect people's choices and perspectives regarding cryptocurrency.

To reach the main goal, it is necessary to assess how people feel about cryptocurrencies after considering the concept of cryptocurrencies, which is going to be discussed. In addition, the focus is on conducting research into the various types of cryptocurrencies and the preferences of individuals regarding the cryptocurrencies, taking into account the different mindsets and levels of knowledge of individuals and which platform they prefer to purchase from. The people's partial goals can be used to figure out how much they know about digital currencies and what they want to do with them in general.

2.2 Methodology

The work consists of two parts - theoretical and practical. The theoretical part is based on the study of secondary resources such as scientific literature, foreign journals, and internet sources. The empirical part is compiled on the basis of outputs from quantitative/qualitative research.

It was necessary to conduct research in order to develop details and carry out future operations. The methods of data collection, interpretation, and analysis were selected based on the nature of the problems or cases considered and mentioned and the ability of individuals to provide answers to the issues considered to be the main ones. It was essential to have a solid understanding of the research design that underpinned the main data.

One of the methods that was utilized was collecting open-ended and communicational data through interviews. This method was employed to represent the best results. In this particular scenario, qualitative research methodologies were beneficial.

Studying the numerical and statistical data that was gathered by means of surveys was yet another way that was utilized in the process of determining and connecting variables, as well as ascertaining how they were related to one another. Utilizing a questionnaire and quantitative methods, the most popular cryptocurrencies were

discovered, as well as the respondents' understanding of this topic based on their varied backgrounds and their perspectives on various forms of digital currencies.

3 Literature Review

A literature review is a study of the current academic literature and research on a particular subject. In this case, the subject under investigation is cryptocurrencies. A narrative literature review methodology can be utilized to conduct a cryptocurrency literature review. This technique requires the synthesis of existing information from multiple sources in order to achieve a comprehensive understanding. The literature review should introduce the topic of cryptocurrencies and highlight the factors that influence individuals' perceptions.

3.1 The emergence of digital currencies as a decentralized form of trade

Since nations transitioned from a barter economy to a monetary system, people have been attempting to develop a system that lends meaningful meaning to the exchange of value (Hudson, 2020).

In 1995, Chaum produced a prototype cryptocurrency that he termed Digicash by expanding on his earlier concepts and creating it. To withdraw money from a bank, the customer was forced to use special software, and particular encryption keys were needed before the money could be delivered to the intended destination (Chohan, 2017).

Despite the fact that DigiCash filed for bankruptcy in 1998, the company's pioneering ideas, as well as certain mathematical formulas and encryption technologies, were crucial in the development of subsequent forms of digital currency (Bashir, 2019). Thus, cryptocurrencies, which can simply be referred to as "digital money," make their debut on the international market.

The development of cryptocurrency is mostly related to the digital realm of the internet. The term "cryptocurrency" refers to a specific type of digital asset that operates through a decentralized network shared by a large number of computers. The origins of cryptocurrencies may be traced all the way back to the 1980s, when they were known by the name cyber currencies (Hacioglu, 2019). It's fascinating to note that the rise in popularity of these coins began well over a decade ago, on January 3, 2009, when someone going by the name "Satoshi Nakamoto" mined the first Bitcoin (BTC). Satoshi Nakamoto is the pseudonym used by the individual or group who established Bitcoin, the first cryptocurrency in the world. The real identity of Satoshi

Nakamoto remains unknown, and the name is thought to be a pseudonym (Champagne, 2014).

The cryptocurrency that was just stated made its debut in 2009, and ever since then, digital currencies have become extremely popular. Social media, blogs, and journals have helped users learn about digital currencies over the past several years, contributing to their increasing popularity (Danial, 2022). Individuals use social media to communicate with friends, share interests, and discover a sense of community. Hence, social media interactions influence events in the "real world", leading to an increase in the number of people investing in them.

Forcecasting and budgeting are important for organizations planning to offer courses on digital currencies to enhance people's knowledge about them. By predicting the demand for such courses and allocating resources effectively, organizations can tailor their courses to meet the specific needs of their audience. This contributes to the adoption and growth of cryptocurrencies. As a result, cryptocurrencies play a key role and contribute to the overall improvement of our lives that results from technological progress (Heck, 2006).

In 2009, in an effort to overcome some exchange issues, cryptocurrencies using a breakthrough technology called blockchain began to emerge. Blockchain focuses especially on the data structure and enables the existence of decentralized digital ledgers in which single entities cannot conduct transactions (Nagpal, 2017).

Cryptocurrencies have caught the financial world by storm because they provide a decentralized and secure form of trade. Given that there are different sorts of cryptocurrencies and platforms, each with their own qualities, it may be challenging to determine where to start (Grabowski, 2019).

Ether and Bitcoin stand out as two of the most prominent digital currencies in the world. In the ever-evolving world of cryptocurrencies, there are a variety of options to choose from, each with its own unique traits and benefits (Laurence, 2019). These two cryptocurrencies have established themselves as industry leaders, with Bitcoin paving the way as the first and best-known digital currency and Ether carving out a niche by enabling developers to construct decentralized applications and smart contracts. Even though there are other cryptocurrencies with their own unique traits, it is impossible to overlook the effect and significance of these two newly added market leaders.

3.1.1 Well-known digital currencies

With a market cap of over €9 billion, Bitcoin is the most well-known and widely used cryptocurrency. Bitcoin modified the electronic payment and double-spending systems by minimizing fraud, increasing efficiency, and giving objective proof-of-work to guarantee the authenticity and security of transactions. (Wu, et al., 2018). Furthermore, Bitcoin's global accessibility makes it usable by everyone with an internet connection, regardless of their location or economic status. This is particularly advantageous for residents of nations with unstable or limited financial systems.

Ethereum was conceived in the second half of 2013, and Vitalik Buterin, who was a co-founder of Bitcoin Magazine at the time, was responsible for its creation in 2014. Ethereum is a platform that enables users to create decentralized applications, also known as Dapps or decentralized apps (Van, 2023). Solidity, the programming language for Ethereum, must be comprehended, and then a thousand concurrently operating machines must be coded for. This is required for the development of decentralized software over which no individual has control. It is a platform for transactions as opposed to a currency (Solomon, 2019).

Ether is the name of the digital currency used to incentivize blockchain network membership. Ethereum creates a direct link between people and a decentralized network of supercomputers.

Solidity, as the programming language, is used to create "smart contracts," which are the application's underlying logic. In the actual world, contracts consist of a series of "if" and "then" phrases that represent a series of "conditions" and "activities." The Ethereum developers write the conditions for Dapps, and the Ethereum network is responsible for putting them into effect. Additionally, the Ethereum developers are accountable for all contractual matters, including enforcement, management, performance, and payment. For instance, if a person leases an apartment and is required to make monthly payments to the landlord, adopting a smart contract implies that the contract itself knows whether or not the rent has been paid, and only then will access be granted (Chaudhary, 2020).

With the increasing popularity of cryptocurrencies in the modern world, many investors are contemplating how to invest in these new assets in the most prudent

manner. The emphasis is thus shifted from general explanations of this notion to more specific information and depth, which illustrates the significance of the cryptocurrency (Konig, 2019). When compared to Ether, bitcoin is in a better position to utilize and be absorbed into innovations that are occurring across various industries. Ethereum, on the other hand, is seeking to drive innovations, and as a result, it faces a greater danger of experiencing disruption. The Ethereum network is the primary value generator, whereas the cryptocurrency Ether is merely the "gas" that powers it. This network, which is responsible for driving innovation, leaves Ethereum exposed to being disrupted by new players in the cryptocurrency space who are trying to build upon the infrastructure that is already in place. As Bitcoin's primary function of serving as a digital currency has been successfully completed, there will come a time when other innovative networks will be able to use Bitcoin as an underlying asset. This will be possible because Bitcoin is safe from this threat of new entrants (Chaudhary, 2020).

3.1.2 Investigation of digital currencies exchange platforms

Modern society is fascinated by decentralization, and various platforms are striving for the top spot in this business. Decentralization is the ultimate goal, despite the fact that numerous platforms offer to assist in the building of dispersed systems and increase their security. Users can purchase, sell, or trade cryptocurrencies for other digital currencies or fiat currencies such as the U.S. dollar or the euro on cryptocurrency exchange platforms, which are among the most popular decentralized platforms. With so many possibilities, though, it is essential to make the best choice (Danial, 2022).

Coinbase and Binance are two platforms that distinguish themselves from the competition. Coinbase is a massive organization with over 98 million customers and $256 billion in stored assets. It offers more than a hundred distinct cryptocurrencies for trading, making it an excellent portfolio diversification tool (Hudson, 2020). Binance is an additional, user-friendly cryptocurrency exchange that provides access to a vast array of digital assets. Its Futures feature has an incredibly low pricing structure, and the platform offers a wide range of leverage for accounts of all sizes (Yermack, 2015). Yet, platform selection is not the only consideration when dealing with cryptocurrencies.

The topic of digital currency is vast and intricate, and it is vital to be conversant with a multitude of platforms, preferences, analyses, and requirements (Nagpal, 2017). Hence, inquiry and investigation are essential for determining the best strategy. Whether you are a seasoned investor or a beginner to the world of cryptocurrencies, it is imperative that you remain informed and up-to-date on the newest platforms and their features.

3.2 Education value and investing in digital currencies

Nowadays, there are assertions that everyone may own digital currencies as long as they have a simple knowledge of how to buy and keep them secure. There are a variety of approaches to investing in cryptocurrencies, some of which don't even call for a diploma from an accredited high school. The famous rapper, investor, and millionaire known as "50 Cent" is referenced in several articles. Some assert that Cent spent his childhood in the streets. There are no limits on who may or may not purchase cryptocurrencies, as cryptocurrencies were designed to operate in a fundamentally different manner than conventional currencies. They believe that the vast majority of investors are rather young and that they have never once been questioned about their educational background during this procedure (Arias-oliva, 2019).

The exchange may on occasion ask for your personal information; however, it will never inquire about your educational history. For the purchase of digital currencies, all you need to do is sign up for an account at any exchange that deals in them and then follow the instructions that are given to you by the exchange.

Some of the most successful people in the world of information technology, according to claims made in yet another essay by David Z. Morris that was written and published in the year 2021, either did not attend college or did not graduate from college. Notwithstanding the widespread disbelief in the usefulness of higher education, figures like Bill Gates, Steve Jobs, and Steve Wozniak are instances of world-changing dropouts who went on to create billions of dollars despite not having a high school diploma. These figures became totemic in the field of technology (Morris, 2022).

Considering the enormous growth in tuition costs and the amount of debt incurred by students, there is a greater need to question whether or not the expense of attending college is truly worthwhile.

From the perspective of some individuals, attending college is a complete and utter waste of time no matter what the cost may be, according to certain organizations such as the Thiel Foundation, which was founded by Peter Thiel. "Young people who wish to construct new things instead of sitting in a classroom are eligible for this fellowship, which offers a total of one hundred thousand dollars to its recipients. For recipients to be eligible, they must either not attend college or drop out of college. Because of this context, the path forward for young individuals interested in pursuing careers in digital currencies is exceptionally difficult and unclear. Spending years learning on a campus may appear to be a significant time commitment that is not worth making, and it seems to many people to be dramatic (Hudson, 2020).

Alternatively, they said that because digital currencies such as Bitcoin have a fluctuating value that may gain 10% in value in a week and lose 15% in value in a day, it is vital to predict price fluctuations.

On the other hand, other people asserted that having a good research strategy and the right wallet are essential when it comes to choosing the best cryptocurrency. By doing the necessary research, mastering market timing techniques, and waiting to sell until a good time, selling in a panic won't occur. This leads to optimum profits (Heck, 2006).

Nevertheless, the facts about the outcomes of college tell a very different story than the experiences of these few people who are seen as successful without a professional degree. The difference in lifetime earnings between someone with a college degree and someone with just a high school diploma is , on average, $625,483.

According to a study conducted by education expert Philip Trostel at the University of Maine in 2015, college graduates have much higher lifetime employment rates and a better perspective. (Morris, 2021).

Even moderate critics of higher education acknowledge this reality. "I am a realist." At the individual level, the system should be accepted as it is," said financier Marc Andreessen in a 2020 interview that was generally somewhat critical of the status quo in higher education. "You must accept the system as it is designed." "It is pretty hazardous to tell a single individual, "Don't go to college," because of the potential

consequences (Andreessen, 2021). Thus, many believe that universities and education are necessary for driving innovation and influencing the future of technology, and that their insights and knowledge are crucial for remaining competitive in today's fast-paced technological environment.

4 Practical Part

The outcomes and reliability of the study are greatly dependent on the quantity and quality of the obtained data. In order to conduct an accurate study, it is vital to have access to trustworthy data sources.

This section delve into the intricacies of data collection and analysis procedures by providing a fascinating insight into the ways in which data can be collected and evaluated with precision and accuracy. By the end of this section, achievement is based on a comprehensive understanding of data collection and analysis procedures, which will undoubtedly prove valuable in the results

4.1 Quantitative method and survey analysis based on participants perspectives

In this section, the questions posed previously about the quantitative approach will be attempted to be answered. The quantitative methodology is supported by descriptive statistics derived from the employed sample. Quantitative techniques investigate objective hypotheses using questionnaires. In addition to examining viewpoints and attitudes, the data was obtained via questionnaires utilizing numerical and quantitative trends. Interest in descriptive statistics is based solely on sample size.

Several metrics are utilized in descriptive statistics to summarize and interpret data sets. The mean, mode, median, and standard deviation are some of these measures.

The major accomplishment with the expertise of grasping people's opinions is acquiring a more in-depth understanding of how the general public views cryptocurrency by evaluating these examples. Thus a deeper grasp of the reasoning behind people's decisions is found, as well as the notion and impact of their preferred cryptocurrency (Aneja, 2023). By employing these samples, a greater understanding of what customers value the most is required, where cryptocurrencies are headed in the future, and what has to be adopted to have a better understanding of digital currencies. Online surveys that are designed and carried out in order to gather and collect data for primary sources of data collection are the key source for the analysis. The survey offers a variety of questions about cryptocurrencies, each of which will be of a distinct nature. Some of these questions refer to their most popular cryptocurrency, their highest education level, their preference for traditional or digital methods, and

their opinion about education and better decision-making for investment, which is an open-ended question to which they responded via online surveys.

A comprehensive survey of international students attending Czech universities was conducted between the dates of 02/03/2023 and 05/03/2023. The following information was collected upon completion of the survey, a total of 111 students participated in the Google Forms survey.

The study intended to measure the level of cryptocurrency comprehension among participants using a quantitative methodology. Participants were asked to rate their understanding of cryptocurrencies on a scale of 1 to 5, and the collected data was subjected to rigorous statistical analysis. This analysis aimed to provide a detailed overview of the participants' average level of knowledge.

Another important factor that is needed to be taken into consideration is examining the relationship between the variables and setting hypotheses accordingly. This evaluation determines whether or not there is a statistically significant relationship between the variables. The investigation of a scenario or issue in order to shed light on the nature of the connections that exist between its constituent parts is the major emphasis of this section.

Regarding methodology, the chi-squared test was selected as the appropriate statistical tool for evaluating the data and determining whether there was a significant connection between the variables. On the following pages, by analyzing data through tables, the process of a chi-square test is shown, and the association between the participants' understanding of digital currency and their investment status is illustrated.

The hypothesis is based on students' awareness of digital currencies and whether they have investments in them or not.

- H0: There is no relationship between the knowledge of students regarding digital currencies and whether they have investments in digital currencies or not.
- H1: There is a relationship between the knowledge of students regarding digital currencies and whether they have investments in digital currencies or not.

4.1.1 Graph analysis and descriptive statistics

Figure 1 contains survey findings and assessments of student familiarity with digital currency. The group that received the most repeat responses from students was Bitcoin, which received 97 repetitions. Bitcoin is the most frequently used cryptocurrency. This digital currency is unquestionably the most well-known and widely used cryptocurrency. It was the first realization of the more than two-decade-old notion of a new type of currency that employs cryptography to regulate its production and transactions rather than a central authority.

As a result, because all Bitcoin network users are equally responsible for its operation and are subject to the same regulations, there is a strong incentive to keep the network decentralized. Because of these traits, Bitcoin is the most popular and commonly used currency among investors and individuals. Ether is the second-most repeated responses among participants, after bitcoin. Ether came in second with 62 repetitions. Nexo had the fewest responses, with only four students aware of its existence.

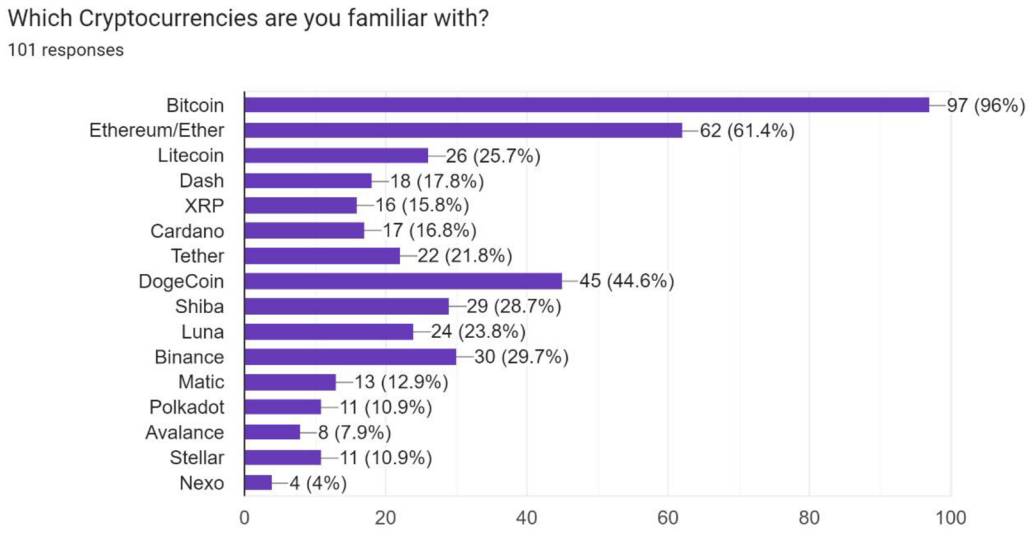

Figure 1 Popularity of cryptocurrencies based on survey

Source: Own survey results March,2023

Based on discourse theory, the main interest is in understanding what students said, how these opinions were conveyed, the reasons for their familiarity with various cryptocurrencies, and why participants most commonly mentioned these types of

digital currencies. Table 1 was created based on evidence gathered from accessible data and prices on March 1, 2023, to explain why certain coins are popular. According to the table below, Bitcoin is first in the world's chart with a market value of €428.43 billion, and Ether is second with a difference of €241.49 billion from Bitcoin. In addition, despite 22 student repeats of Tether, Tether is ranked third with a market value of €66.62 billion.

Table 1 Features of popular digital currencies

Number	Name	Price	Changes 24H	Market Cap	Volume 24H
1	BITCOIN	€ 22,165.58	0.91%	€428.43 B	€30.43 B
2	ETHEREUM	€ 1,549.74	0.84%	€186.94 B	€8.36 B
3	TETHER	€ 0.94	-0.05%	€66.62 B	€37.76 B
4	BNB	€ 283.38	-0.23%	€44.79 B	€441.75 M
5	USD COIN	€ 0.94	-0.26%	€39.83 B	€3.38 B
6	XRP	€ 0.36	0.37%	€18.36 B	€996.56 M
7	CARDANO	€ 0.34	0.03%	€11.86 B	€244.37 M
8	OKB	€ 47.81	-1.92%	€11.80 B	€59.58 M
9	DOGECOIN	€ 0.08	-0.28%	€10.64 B	€324.74 M
10	POLYGON	€ 1.15	0.00%	€10.44 B	€630.63 M

Source: Crypto EUR Price, Market Cap & Charts March, 2023

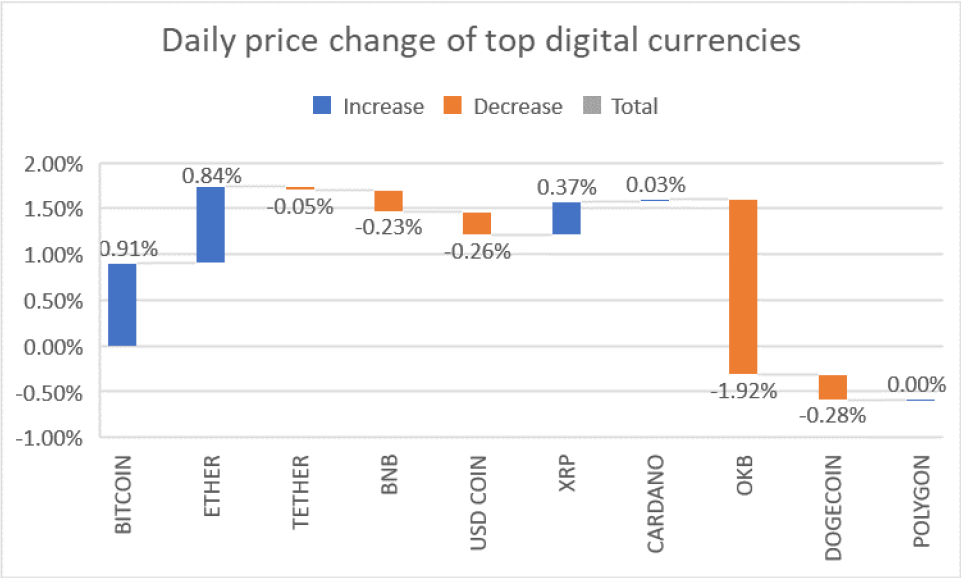

Figure 2 Price changes analysis base on website details

Source : own processing with consideration of Crypto EUR Price, Market Cap & Charts March, 2023

Existing information about these cryptocurrencies is analyzed to determine the volatility of each cryptocurrency on March 1, 2023. As seen in the above figure, Tether and Cardano saw minor price fluctuations, but Bitcoin, OKB, and Ether experienced the widest range of price fluctuations among other cryptocurrencies.

According to the findings of the study, the majority of respondents fall into the second and third groups, as seen in Figure 3, where 20.7% of the 111 participants said they were unfamiliar with cryptocurrency. Additionally, 35% of respondents indicated a lack of understanding of digital currency. Furthermore, only eight students claimed to grasp cryptocurrency sufficiently. These results highlight the large knowledge gap that exists among students about digital currencies, emphasizing the importance of educational initiatives that can help them better comprehend this developing technology.

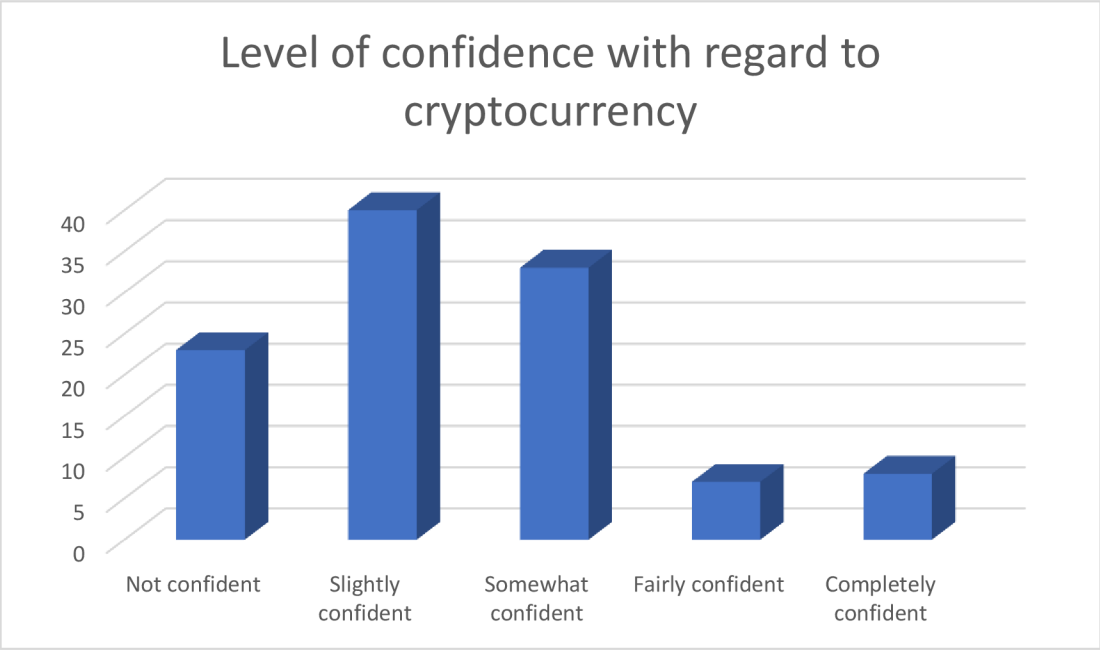

Figure 3 Confidence level of students regarding digital currencies

Source: own survey analysis through excel March, 2023

The graph has shifted significantly to the left, indicating that the vast majority of students are unfamiliar with digital currency. These findings underscore the crucial need for educational interventions to eliminate the existing knowledge gap and improve student comprehension of digital currencies.

However, when descriptive statistics are applied, the number that appears most frequently in the dataset (the mean) is confidence level 2, indicating that the majority of respondents expressed only a moderate degree of confidence in their understanding of digital currency. This conclusion emphasizes the need for targeted intervention programs that can improve students' understanding and confidence in this area, particularly in view of the increasing significance of digital currencies in the modern economy. According to the research, the average level of awareness of digital currencies among students is 2.43 on a scale from 1 to 5. There is some fluctuation in the answers, as indicated by the standard error of 0.105, but the data suggest that the students have a relatively low level of awareness regarding digital currency.

Table 2 Descriptive statistics analysis

Summary	
Mean	2.432432
Standard Error	0.105245
Median	2
Mode	2
Standard Deviation	1.108821
Range	4
Minimum	1
Maximum	5
Sum	270
Count	111

Source: Own processing from the Survey March,2023

As part of the survey's follow-up questions students responded whether a higher degree of education correlates with better investing decision-making in the context of digital currencies. Based on the pie chart below, it can be deduced that 80.2% of respondents believed that a higher level of knowledge is a significant aspect in making solid investing decisions about digital currencies.

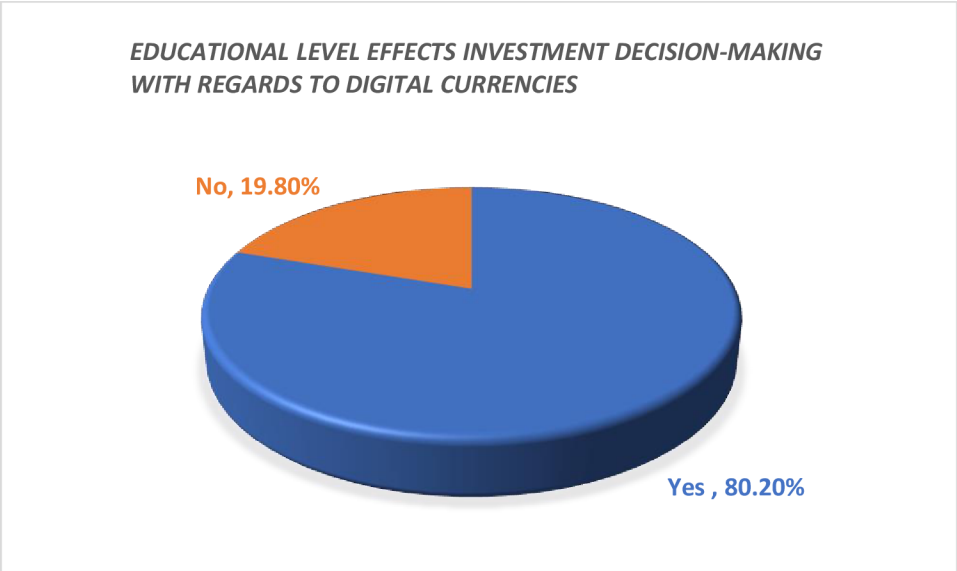

Figure 4 Education relationship with investment decision-making

Source: own processing from the survey March,2023

4.1.2 Familiarities with cryptocurrencies and relationship findings

The seeking of information and a greater understanding is an important aspect of personal and professional development, and students commonly ask how to approach this endeavor most efficiently. The question is how to increase knowledge and build on experiences to obtain a better understanding of a subject.

The results of the chi-square test reveal that there is a strong connection between participants' level of digital currency awareness and their digital currency investment status. This research is a unique attempt to evaluate students' understanding of this topic.

The hypothesis is based on students' awareness of digital currencies and whether they have investments in them or not.

- H0: There is no relationship between the knowledge of students regarding digital currencies (based on their confidence level) and whether they have investments in digital currencies or not.
- H1: There is a relationship between the knowledge of students regarding digital currencies (based on their confidence level) and whether they have investments in digital currencies or not.

Table 3 Observed values gathered from survey analysing customer ideas

Count of Do you have any investment in digital currencies?	Confidence scale(1-5)					
Investment(yes/no)	1	2	3	4	5	Grand Total
No	22	29	21	1	1	74
Yes	1	11	12	6	7	37
Grand Total	23	40	33	7	8	111

Source: own processing of survey March,2023

According to Table above, observed values for each participant were obtained, revealing varied values for each parameter. According to the data collected, the

majority of students do not have investments in digital currencies, and their confidence in their digital currency knowledge is concentrated in the second and third groups.

Table 4 Expected values calculation according observed values

Count of Do you have any investment in digital currencies?	Confidence scale(1-5)					
Investment(yes/no)	1	2	3	4	5	Grand Total
No	15.3	26.7	22	4.67	5.33	74
Yes	7.67	13.3	11	2.33	2.67	37
Grand Total	23	40	33	7	8	111

Source: own processing and calculations based on table 4

According to table 4, the expected values were computed after taking the survey results into consideration. In the following equation, we have an illustration of the approach for computing expected values using observed values. This method was applied by analyzing the votes of students for each parameter considered for the chi-square test.

$$Ei = \frac{(Row\ total\ \times Column\ total\ )}{Grand\ total} \tag{1}$$

The Chi-square test is performed using the following formula, and the observed values received from the survey are denoted. In addition, taking into account the expected values determined from the equations (1). In order to obtain the tabular value based on degrees of freedom, it is also necessary to examine the number of columns and rows in the primary statistical table (table 3), which is essential for calculating the degrees of freedom.

$$x^2 = \sum \frac{(O_i - E_i)^2}{E_i} \quad (2)$$

Where:

x^2 = Chi-square

$\sum$ = The sum

O_i = Observed values

E_i = Expected values

$$Degrees\ of\ freedom = (Row\ total - 1) \times (Column\ total - 1) \quad (3)$$

On the basis of the performed calculations, the table below was constructed, taking into account step-by-step calculations for getting chi-square test results. The chi-square test results imply that the null hypothesis must be rejected, and the alternative hypothesis must be accepted. Thus, there is a significant relationship between students' understanding of digital currencies (based on their confidence level) and their investment status in them.

Table 5 x^2calculation step by step sorted by colours

Observed	Expected	$(O - E)$	$(O - E)^2$	$(O - E)^2/E$
22	15.3	6.7	44.89	2.93398693
29	26.6	2.4	5.76	0.21654135
21	22	-1	1	0.04545455
1	4.6	-3.6	12.96	2.8173913
1	5.3	-4.3	18.49	3.48867925
1	7.6	-6.6	43.56	5.73157895
11	13.3	-2.3	5.29	0.39774436
12	11	1	1	0.09090909

6	2.3	3.7	13.69	5.95217391
7	2.7	4.3	18.49	6.84814815

Source: own calculations based on table 3 and 4

In section below, a brief overview of computations is presented, detailing the final outcomes based on the calculations performed in earlier tables. As the tabular value is less than the actual value, we support the alternative hypothesis, which demonstrates a correlation between student confidence in their knowledge of cryptocurrencies and whether or not they have digital currency investments.

- x^2 based on sum of right column : 28.52261
- Degrees of freedom : 4
- x^2 Tabular value/critital value : 9.49

Thus:

$$x^2 > x^2\ tabular(critical)value$$

Hence, the alternative hypothesis is accepted and the null hypothesis is rejected, and the data demonstrate a correlation between variables.

4.2 Qualitative method

In accordance with this approach, the primary focus of the conversation will be an examination of the ideas and viewpoints that individuals hold. With this approach, the main point of the conversation will be to look at the ideas and points of view that different people have.

By evaluating the responses people give, better insights into the ways in which people cope with and make sense of the world around them will be gained. By using grounded theory, the intention is to create new theories using the data gathered through the questionnaire, which is a test and revision of the ideas of individuals. The focus is on the elements that influence improved investment decision-making and the methods by which this can be accomplished more simply. So, the most effective tactic is to approach the concept with an open mind and let the facts speak for themselves.

Hence, we asked participants for suggestions on how to make better decisions and obtain more accurate information. In addition to survey data, the interview is the optimum method of data collection since it allows for a more in-depth understanding of ideas, attitudes, and beliefs.

Interviews are frequently used to acquire qualitative data due to the possibility of obtaining thorough descriptions and boosting comprehension. Compared to methods such as observation, where the researcher has less control over the acquired information, interviews provide better control over the collected data. Interviews can be conducted with greater flexibility based on a list of topics and questions to ask.

It is essential to get as much information as possible about each respondent. The objective is to collect personal viewpoints and concrete instances. In addition, it is vital to create an atmosphere that encourages responders to offer their own explanations and interpretations of the terms.

4.2.1 Interviews

Five interviews with five respondents were performed using the chosen approach. The interview was scheduled for the first week of May 2023. A variety of interview formats were used. Two of the interviews were conducted in person, one over the phone, and two via social media, via voice calls and text messages on Instagram, where the interviewee was provided the questions. The length of interviews varied depending on the type of interview.

The table below contains information for each interview that was considered. The following table offers information regarding each interview that was reviewed in order to gain a deeper knowledge of the concept and the participants' behavior.

Table 6 Interview overview

Interview date	Interviewee	Highest Educational level	Interview format	Interview duration
03/03/2023	Interviewee 1	Bachelor's degree	Written notes Physical	18 minutes
01/03/2023	Interviewee 2	High school diploma	Social media (text messages and Audio	

			messages on Instagram	
01/03/2023	Interviewee 3	Bachelor's degree	Social media (text messages and Audio messages on Instagram	
04/03/2023	Interviewee 4	High school diploma	Email	
03/03/2023	Interviewee 5	Master's degree	Written notes Physical	25 minutes

Source: own processing

It is critical to organize the interview into focused subjects in order to have a better understanding of opportunities, differentiation, and connections. This can be accomplished by following the interview guidelines. As a result of the framework, a deeper understanding was achieved. Thematic analysis is recognized as a critical tool for dealing with qualitative data. This strategy's main phases are familiarization with the data, generation of initial codes, searching for and reviewing themes, and providing a report.

Interview transcription is required for data processing familiarization. Once significant data was discovered, themes were established. Eventually going on to theory-based concrete foundations for presenting our qualitative empirical findings, it is crucial to begin with an explanation of the varying perspectives of respondents from diverse backgrounds who reported employing distinct themes. The data research started with perceptions of digital currencies and ended with recommendations for acquiring better information and where to get it in order to make better investing decisions with the help of digital currency.

Several questions about cryptocurrencies were asked throughout the interview, and the most important ones were examined. This part contains the respondents' thoughts, experiences, and viewpoints.

The responses of interviewees to the question about the most popular cryptocurrency were collected. Three respondents agreed on the increasing popularity

of Bitcoin. Two interviewers, on the other hand, named Ether as the most popular cryptocurrency.

The interviewees were then asked why they perceived these coins to be popular. Interviewees (1) and (2) believed that Bitcoin has gained widespread popularity because it is the first currency that enables instantaneous money transfers everywhere and in any quantity. Interviewee (5) said that "Bitcoin is by far the most widely accepted digital currency in the world , and that's why it's the most popular digital currency". Interviewee (4) stated that "Ethereum has faster network transactions than Bitcoin, and this is the reason why I consider it to be the most popular cryptocurrency.

Being internet-based enterprises, a significant proportion of respondents learned about Bitcoin's ascent from internet-based sources Nonetheless, these facts may be disseminated via social media or other platforms through friends. In response to a question regarding where interviewees first heard about cryptocurrency, respondent (1) stated, "Oh, to be honest, firstly on the internet, probably on Facebook." Furthermore, another interviewee claims that with the rise of internet usage in the business sector, it is persuasive to have individuals discover new business prospects online.

Interviewee (3) said that he learned about it via social media videos from finance influencers, especially on Instagram. Interviewee (5) said: "don't remember exactly, but probably some friends".

Furthermore, after studying their beliefs and viewpoints, clarification on the main issue was required to be considered and examined, namely their opinion on investment techniques and improved decision-making regarding digital currency, as well as whether they believe universities could help us learn about digital currencies.

Interviewee (4) asserted that the world is becoming increasingly digital and that it would be advantageous to offer courses on digital currencies and provide more knowledge about them.

Interviewee (5) remarked, "Briliant idea! That's clever! It would be great if some of the lessons we learn in college could be replaced with these ones. This would help us plan better for the future."

5 Results and Discussion

In recent years, digital currencies have garnered significant attention due to their potential as a new type of currency. Despite their increasing popularity, there is still a lack of awareness and familiarity with cryptocurrencies, particularly among students. The purpose here is to identify the elements that influence individuals decisions and viewpoints regarding digital currencies, as well as to assess the level of student knowledge on this subject.

In addition, this thesis tries to discover the most effective strategies for encouraging students to obtain a deeper grasp and knowledge of cryptocurrencies. Cryptocurrency investment decisions necessitate an understanding of the underlying technology and market dynamics. Thus, it is essential to design educational programs and initiatives that provide students with the knowledge and skills necessary to make informed decisions regarding cryptocurrencies. Colleges can play a crucial role in laying the groundwork for cryptocurrency knowledge and comprehension. Universities can foster a generation of knowledgeable investors who can contribute to the growth and development of the bitcoin market by providing students with the appropriate tools and resources.

In this chapter, the findings and comments of the research into the elements that influence the decisions and viewpoints of individuals towards cryptocurrencies are offered. In addition, the degree of knowledge of students on this topic is evaluated, and ways to enhance their comprehension and expertise of cryptocurrencies are suggested.

The outcomes of this study can inform the development of educational initiatives that can help bridge the knowledge gap and improve the publics awareness of cryptocurrencies. To evaluate the efficacy of the survey, interviews were also undertaken, and the results needed to be discussed.

The interview provided excellent insights into the viewpoints and experiences of a variety of individuals with respect to major cryptocurrencies and platforms.

The respondents explained why they believed Bitcoin or Ethereum to be the most popular cryptocurrency. In addition, the responses of the interviewees underscored the importance of the internet and social media platforms in the dissemination of information regarding digital currencies.

Also, the interview highlighted a growing interest in learning about digital currencies and the need for educational institutions to offer more courses and information on them. Ultimately, the interview underlined the significance of remaining knowledgeable and up-to-date about the rapidly changing world of cryptocurrencies.

6 Conclusion

According to the results of this investigation, which reveal a significant relationship between students' cryptocurrency knowledge and investment status, suggest that universities should consider offering courses that educate students on the subject of forecasting and investing in digital currencies. Such courses could cover various topics such as understanding the fundamentals of digital currencies, acquiring and selling cryptocurrencies, and developing effective investment strategies.

By providing students with these types of educational opportunities, universities can better equip them with the necessary knowledge and skills to navigate the increasingly complex world of digital currency investing.

Moreover, given the increasing prevalence of digital currencies in today's technologically driven world, it is becoming increasingly important for individuals to develop a deeper understanding of how these currencies operate and how they may be employed in a variety of situations.

As more and more industries use digital currencies as a standard form of exchange, it is expected that a solid foundation in this field will become a prerequisite for a vast array of occupations. By incorporating courses that teach students how to foresee and invest in digital currencies into their curricula, universities can help prepare students for this future reality and ensure that they are well-equipped to thrive in a society that is becoming increasingly dependent on digital currencies.

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8 List of pictures, tables, graphs and abbreviations

8.1 List of pictures

8.2 List of tables

Appendix

Tabular value for statistical test

Percentage Points of the Chi-Square Distribution

Degrees of Freedom	Probability of a larger value of x^2								
	0.99	0.95	0.90	0.75	0.50	0.25	0.10	0.05	0.01
1	0.000	0.004	0.016	0.102	0.455	1.32	2.71	3.84	6.63
2	0.020	0.103	0.211	0.575	1.386	2.77	4.61	5.99	9.21
3	0.115	0.352	0.584	1.212	2.366	4.11	6.25	7.81	11.34
4	0.297	0.711	1.064	1.923	3.357	5.39	7.78	9.49	13.28
5	0.554	1.145	1.610	2.675	4.351	6.63	9.24	11.07	15.09
6	0.872	1.635	2.204	3.455	5.348	7.84	10.64	12.59	16.81
7	1.239	2.167	2.833	4.255	6.346	9.04	12.02	14.07	18.48
8	1.647	2.733	3.490	5.071	7.344	10.22	13.36	15.51	20.09
9	2.088	3.325	4.168	5.899	8.343	11.39	14.68	16.92	21.67
10	2.558	3.940	4.865	6.737	9.342	12.55	15.99	18.31	23.21
11	3.053	4.575	5.578	7.584	10.341	13.70	17.28	19.68	24.72
12	3.571	5.226	6.304	8.438	11.340	14.85	18.55	21.03	26.22
13	4.107	5.892	7.042	9.299	12.340	15.98	19.81	22.36	27.69
14	4.660	6.571	7.790	10.165	13.339	17.12	21.06	23.68	29.14
15	5.229	7.261	8.547	11.037	14.339	18.25	22.31	25.00	30.58
16	5.812	7.962	9.312	11.912	15.338	19.37	23.54	26.30	32.00
17	6.408	8.672	10.085	12.792	16.338	20.49	24.77	27.59	33.41
18	7.015	9.390	10.865	13.675	17.338	21.60	25.99	28.87	34.80
19	7.633	10.117	11.651	14.562	18.338	22.72	27.20	30.14	36.19
20	8.260	10.851	12.443	15.452	19.337	23.83	28.41	31.41	37.57
22	9.542	12.338	14.041	17.240	21.337	26.04	30.81	33.92	40.29
24	10.856	13.848	15.659	19.037	23.337	28.24	33.20	36.42	42.98
26	12.198	15.379	17.292	20.843	25.336	30.43	35.56	38.89	45.64
28	13.565	16.928	18.939	22.657	27.336	32.62	37.92	41.34	48.28
30	14.953	18.493	20.599	24.478	29.336	34.80	40.26	43.77	50.89
40	22.164	26.509	29.051	33.660	39.335	45.62	51.80	55.76	63.69
50	27.707	34.764	37.689	42.942	49.335	56.33	63.17	67.50	76.15
60	37.485	43.188	46.459	52.294	59.335	66.98	74.40	79.08	88.38

Source: Plant & Soil Sciences e-Library