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A Comprehensive Examination Of Cryptocurrency Knowledge, Perceptions, Adoption, And Cybersecurity Challenges: Insight From University Jordan Students

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Abstract

In the middle of the ongoing technological revolution reshaping economic, financial, and banking landscapes, new types of currency suited for our digital age are emerging. These include encrypted virtual currencies seeking to establish a foothold in our modern world, influenced by various financial, commercial, economic, and pandemic-driven shifts. However, these currencies come with challenges and risks, such as potential use for illegal activities like money laundering and regulation uncertainties, which can affect economies and financial systems. Different attitudes toward cryptocurrencies have emerged over the last decade; some see the potential in technologies like Blockchain, while others worry about criminal misuse and evasions of responsibilities like taxes. Understanding how students perceive and engage with digital currencies becomes critical in light of these varied perspectives. By investigating these aspects, we can gain invaluable insights into the security threats and the potential advantages of this evolving technology. This study thoroughly analyzes students' awareness, attitudes, and behaviors concerning digital currencies at the University of Jordan, contributing to understanding this demographics' digital currency landscape.

Keywords: Cryptocurrencies, Cryptocurrency Awareness, Blockchain, University of Jordan Students, Descriptive survey, Virtual Currency.

1. Introduction

The world is currently experiencing a fast-paced technological revolution in various economic, financial, and banking areas, resulting in new forms of currency that are more compatible with modern society and the widespread use of the Internet. These include encrypted virtual

currencies attempting to find a place in today's world. Various financial, commercial, economic, and pandemic crises have supported this shift toward digital currencies. However, numerous challenges and risks are associated with these currencies, such as money laundering, financing terrorist operations, and illegal trafficking of goods. Legal and regulatory issues can also negatively affect countries' economies, financial stability, and banking systems.

The past decade has seen a range of attitudes toward cryptocurrencies, with some individuals embracing the new opportunities Blockchain technology brings. In contrast, others view it as an unstable market with potential for criminal activity and avoidance of social responsibilities like taxes and corruption. Given these divergent perspectives, it is crucial to understand students' awareness, attitudes, and behaviors regarding digital currency usage. Analyzing these factors, we can gain valuable insights into this emerging technology's potential security risks and benefits. [1]

1.1 History of Cryptocurrency and Blockchain

The history of encrypted currencies dates back to 2008 when Satoshi Nakamoto published a research paper describing his idea of creating a currency for online transactions [2]. He proposed a financial system enabling direct transactions between users without intermediaries and without being subject to regulatory oversight. The first electronic currency, Bitcoin, was created in 2009 after Nakamoto obtained a license from the Massachusetts Institute of Technology (MIT) to issue open-source software. This currency gained massive popularity due to its ease of use and accessibility to clients. The transaction system for this currency relies on two crucial points: first, each currency holder has an electronic signature, and second, there is a secure data protection system to prevent fraud and deception. This massive ledger records all transactions associated with this currency in a private and secure database known as the Blockchain.

1.2 Research Questions

This study explores the awareness, perceptions, adoption, and cybersecurity-related risk concerning digital currencies among University of Jordan students. The following questions focus on providing a comprehensive view of the research.

1) To what extent are University of Jordan students familiar with digital currencies?
2) What are the advantages of digital currencies from the perspective of University of Jordan students?

3) What are the drawbacks of digital currencies from the perspective of University of Jordan students?
4) What is the possibility of using digital currency among students at the University of Jordan?

1.3 Survey Structure

Our methodology to conduct this survey on University of Jordan students' perspectives on digital currencies would involve many steps. The first step would be to conduct a comprehensive literature review of existing research on cryptocurrency usage and awareness among university students. This will provide a foundation of knowledge on this research topic. The next step would be to collect data from various students from different colleges within the University of Jordan, such as Scientific, Humanities, and Medical, within different students' gender and different academic years. This data will identify information sources, gauge legal awareness, and anticipate future usage and educational needs. We will provide insights into understanding viewpoints on advantages and drawbacks, assessing adoption intentions, and probing cybersecurity concerns. The collected data and information will then be analyzed to identify rated familiarity with digital currencies, expressed perceptions about benefits and risks, shared adoption plans, indicated cybersecurity worries, disclosed information channels, demonstrated regulatory understanding and outlined future financial expectations. The final step is reporting the findings and recommendations clearly and concisely to support the results.

1.4 Research Contribution

By investigating digital currency awareness, perceptions, and adoption among University of Jordan students, this research aims to provide essential insights and contributions:

- The study contributes to understanding how students see forms of money, like digital currencies. This helps us recognize if students know about these new types of currency and if they like using them.
- Through exploring the good and bad sides of digital currency, the research helps us understand its advantages and disadvantages. This is important because it shows us what students think are the benefits of using digital currency and what they might be worried about.
- The study also looks at whether students are already using digital currency or if they plan to use it in the future. This is useful because

it helps us see how much students are interested in using these new forms of money.

- The research lets us learn about students' thoughts and feelings regarding digital currency. This information can be used to make better decisions about future digital currency, ensuring it is safe and helpful for students.
- Overall, this study contributes to our knowledge about digital money and how it affects students, which can be essential for making informed choices and keeping up with changes in the world.

2. Literature Review

Several studies have investigated the level of awareness and perceptions of cryptocurrencies among different demographic groups. For instance, the Jadhav et al. study in 2023 [3] aimed to investigate the factors influencing college students' awareness of cryptocurrency. The researchers gathered data from 120 students using a non-probability snowball sampling technique. The study discovered that students are more acquainted with the technology underlying cryptocurrency, which is Blockchain. Moreover, the research shows that the student's education level affects their cryptocurrency awareness, with higher education linked to a higher awareness of cryptocurrency. Male students were found to be more aware than female students. Despite being aware of cryptocurrency, most students had yet to invest in it. The majority of students learned about cryptocurrency through their peers and social media.

In 2019, Doblas [4] conducted a study investigating college students' awareness and attitude toward cryptocurrency and how these factors affect their decision to embrace this technology. The study revealed several significant findings. Firstly, the study found that many college students need more knowledge about cryptocurrency. Secondly, although cryptocurrency is viewed positively as a potential medium of exchange, many people wonder if its suitability as an investment vehicle due to its volatility. Finally, the study indicated that students' awareness and attitude toward cryptocurrency significantly determine their willingness to adopt this technology.

A study by Phillips in 2021 [5] investigated the relationship between Blockchain technology and cryptocurrencies with the attitudes, opinions, and adoption of University of Arkansas students at the Sam M. Walton College of Business. The survey found that if the university introduced cryptocurrencies and Blockchain technology in a classroom setting and other areas of student's lives, it would be positively

accepted by the student body. The study recommends offering an introductory cryptocurrency course or an intelligent contracts course for business schools.

Another study conducted by Hayati et al. (2023) [6] aimed to investigate the readiness of university students to adopt cryptocurrency as a potential investment using the Consumer Behavior Theory. The preliminary findings show that 50% of the students are likely to invest in cryptocurrency in the future, with the majority of students perceiving cryptocurrency investments as risky and uncertain compared to other assets such as gold, government bonds, and mutual funds. Additionally, about half of the students agree that using cryptocurrency in trading can improve investments' effectiveness, profitability, and value. At the same time, only one-third believe they will be satisfied with their cryptocurrency investments due to their lack of financial investment experience and little knowledge about cryptocurrency investments.

The Jelea 2022 [1] paper aimed to investigate Romanian students' perception of cryptocurrencies. The study used a qualitative research method, with semi-structured interviews, to collect information about students' perceptions of cryptocurrencies, their willingness to invest, and their information sources on the topic. The results showed that attitudes towards cryptocurrencies were polarized, with some being optimistic and others being suspicious. While most students were aware of cryptocurrencies and some were willing to invest, there were still negative associations with fraud, money laundering, and insecurity. Overall, the research indicates that cryptocurrencies are a topic of interest among Romanian students. However, there is still a need for more education and information to dispel negative perceptions.

Chathurika's 2022 [7] study aimed to determine the factors influencing the inclination to use cryptocurrencies among postgraduate students in Sri Lanka. A quantitative survey was conducted on 125 students from the University of Moratuwa. The results showed that perceived usefulness, ease of use, trust, and awareness positively affected the intention to use cryptocurrencies. The study's findings suggest that the model has a firm fit and can provide insight into human behavior regarding Fintech in emerging markets. Additionally, the study revealed that perceived trust significantly affected the intention to use cryptocurrencies.

3. Overview of Cryptocurrency

Cryptocurrency is a digital or virtual currency that uses cryptography to secure transactions and control new unit creation. It operates independently of any central bank or government authority. An influential source, Nakamoto's white paper, introduced the concept in 2008 [2], leading to the creation of Bitcoin, the pioneering cryptocurrency. After Nakamoto's work, various alternative cryptocurrencies emerged, expanding the field of digital currencies [8].

3.1 Definition of Virtual Currency & Blockchain

Virtual Currencies (VCs) refer to digital representations of value created by private developers with their units of account. These currencies can be obtained, stored, accessed, and transacted electronically, and transacting parties for a variety of purposes can agree upon their use. VCs encompass a broader range of currencies, including simple IOUs issued by issuers like mobile coupons and airline miles and VCs backed by assets such as gold and cryptocurrencies like Bitcoin [9]. In Croatia, virtual currencies are defined as “a digital representation of value that is not issued or guaranteed by a central bank or a public authority, is not necessarily attached to a legally established currency, and does not possess a legal status of currency or money, but is accepted by natural or legal persons as a means of exchange and which can be transferred, stored and traded electronically.” Since “virtual currency” is a synonym for “cryptocurrency,” the Croatian government has implicitly provided cryptocurrencies with a legal definition [10].

A Blockchain serves as a chronologically ordered record of transactions, similar to a conventional financial ledger. Each "block" of new transactions is recorded and cryptographically linked to the preceding one, thus forming a chain. The key characteristics of a Blockchain include (1) integrity, where records are cryptographically linked and, therefore, difficult to alter; (2) transparency, whereby updates are shared and visible to every network user since they all possess a copy of the entire Blockchain; and (3) democracy, enabling peer-to-peer transaction validation to occur without a centralized mediator. Blockchains and other Distributed Ledger Technologies (DLT) form the basis of many high-profile technologies, including cryptocurrency (e.g., Bitcoin), and promise to revolutionize data management and sharing across various sectors, including education [11].

3.2 Largest Cryptocurrencies by Market Cap

Coin MarketCap's data reveals approximately 22,932 digital currencies, collectively valued at $1.1 trillion in market capitalization [12]. Among these, the following are the top cryptocurrencies ranked by market capitalization:

1) Bitcoin (BTC)

Bitcoin debuted in 2009 when the software underpinning the currency was released. However, its origins are mysterious, and a person (or perhaps a group) known as Satoshi Nakamoto claims the credit for unveiling the cryptocurrency. [13]

2) Ethereum (ETH)

Ethereum, launched in 2015, is among the numerous cryptocurrencies that have appeared recently. Its founders are eight people, including a platform known as Ethereum and ether as the unit. Ethereum offers various functions, such as currency transactions, brilliant contract execution, decentralized apps or dApps, non-fungible tokens, and decentralized finance. Ether can be safeguarded against cyberattacks using a digital wallet like Coinbase. [14]

3) Tether (USDT)

Tether is a stablecoin designed to maintain a fixed value of $1 per coin and is typically pegged to a real currency like the US dollar. Stablecoins, including Tether, are often backed by a reserve of the underlying asset they're pegged to, which helps maintain their stable value over time. Unlike volatile cryptocurrencies like Bitcoin, Stablecoins are meant to keep a constant value. [15]

4) Binance Coin (BNB)

Binance Coin (BNB) is a cryptocurrency issued by Binance, a major global crypto exchange, which can be used for purchases and payments. Binance.US, the U.S. exchange branch, offers commission-free spot trading in Bitcoin and Ethereum and is known for its low fees and wide range of tradable cryptocurrencies. Although its customer service is less established than its competitors, its offerings make it a popular choice for many customers. [16]

5) USD Coin (USDC)

USD Coin (USDC) is a stablecoin with a 1:1 peg to the U.S. dollar and is backed up by $1 held in reserve, consisting of cash and short-term U.S. Treasury bonds. The Centre Consortium is responsible for issuing USDC

through regulated financial institutions. The stablecoin was launched in September 2018 and is intended to provide digital money for a cashless world. Use cases include providing a haven for crypto traders, allowing businesses to accept payments in digital assets, and disrupting decentralized finance and gaming. The ultimate goal is for USDC to be widely accepted across various wallets, exchanges, service providers, and dApps. [17]

4. Cybersecurity Challenges in the Digital Currency Landscape

As digital currency becomes more common, we must be careful about online threats, like people trying to steal money or essential information. This part discusses how to ensure digital currency is safe from these problems.

Cybersecurity aims to help protect people, devices, networks, applications, and services from unauthorized access, disruption, and exploitation by unauthorized users and ensure their Confidentiality, Integrity, and Availability by having reliable information available at the right time. [18]

4.1 Cyber Threats and How to Counter Them:

In digital currencies world, the security of data must be explicitly ensured for financial transactions, the goal of cybersecurity is to protect cryptocurrency exchanges, wallets, and other platforms from hacking attempts and cyberattacks 2, such as Distributed Denial of Service (DDoS) attacks, phishing attempts, and ransomware attacks, and also Cybersecurity practices, such as solid encryption, multi-factor authentication, and hardware security modules, are essential to safeguarding private keys and preventing unauthorized access to wallets. [19]

The most common cyber threats targeting digital currencies include hacking of exchanges, phishing attacks, malware and ransomware, fake wallets and apps, Ponzi schemes, and scams, smart contract exploits, 51% attacks, social engineering, insider threats, and supply chain attacks. These threats pose significant risks to the security and integrity of cryptocurrencies and require robust cybersecurity measures to protect users and their digital assets. [20]

Violent malware may infect users' devices, take their cryptocurrency wallets, and hold their data captive for ransom. Clients' wallets may be encrypted by ransomware attacks, which demand a cryptocurrency ransom to retrieve them.

4.2 Addressing Criminal Activities

With a specific focus on the criminal dimension, which manifests in three primary forms: hacks, thefts, and shutdowns. Hacks involve the breach of security protocols by employing substantial computational power or exploiting vulnerabilities in crypto wallets, servers, or exchanges. The second aspect concerns the unauthorized appropriation of funds from secure cold storage or vulnerable hot wallets, which may include ransom extraction through ransomware attacks. The third facet pertains to intentional shutdowns of cryptocurrency exchanges (crypto exchanges). The collective impact of these three issues presents significant risks to the cryptocurrency space, warranting ongoing attention and concern regarding their scale and extent. [21]

Phishing stands out as a prevalent type of social engineering-based compromise that targets platforms for digital currency. By tricking and deceiving the victim into trusting the attacker, who tries to obtain the victim's private information. The victim's assets and personal information are targeted. Attackers use fake personal data that might probably seem real. Additionally, they could use dishonest techniques like creating advertisements or sending emails that appear to be from legitimate sources. [22]

4.3 Impact on Individuals and Businesses

When online attacks succeed, they can cause harm to individuals, companies, and services related to digital currency. These attacks can lead to substantial financial losses, sometimes reaching millions or billions of dollars. As the value of the digital currency rises, cyberattacks might increase, too, as attackers try to steal more.

Successful cyberattacks can result in significant financial losses for individuals, exchanges, and other cryptocurrency-related enterprises. Millions or even billions of dollars worth of cryptocurrencies could be lost due to hacks and thefts of digital assets from wallets or exchanges.

More, there is a positive correlation between the price of Bitcoin and the intensity of crypto-related cyber events, meaning that as the cost of Bitcoin rises, there is an increased incentive for attackers to target cryptocurrency exchanges; Cryptocurrency exchanges are identified as a vulnerable aspect of the crypto asset ecosystem, making them prime targets for cyber-attacks.

Where the lack of solid regulation in the crypto industry is a concern, as cyber-related events can result in significantly higher costs compared to other types of events, the absence of adequate regulation

increases the risks of cyber-attacks on cryptocurrency platforms, potentially leading to more substantial losses for users and businesses involved in crypto-related activities. [23]

Cyber-attacks can tarnish the reputation of affected cryptocurrency platforms and companies. The negative publicity associated with security breaches may lead to losing customers and business partners. [24]

In some cases, cyber-attacks may lead to contentious forks in the Blockchain to reverse the damage caused by the attack, potentially creating a divide in the community and ecosystem. [25]

4.4 Government Regulations and Public Trust

Establishing clear rules about digital currency from the government is crucial to protect against online threats. If proper regulations are lacking, online dangers can intensify, resulting in extensive losses for everyone. Cyberattacks can also erode people's trust in platforms using digital currency and harm the reputation of these platforms.

As the adoption of digital currency continues to grow, ensuring its safety against online threats is paramount. This research holds significance as it seeks to comprehend the opinions of University of Jordan students about the safety of digital currency. By gaining insights into these challenges and people's perceptions, we can enhance the security of digital money for all users. This aligns with the primary objective of the research, which aims to understand how students perceive the security of digital currency and its associated risks, particularly in today's fast-changing digital landscape.

5. Research Methodology

The study employed a descriptive survey methodology, considering it the most appropriate for achieving its objectives.

5.1 Population and Sample

The study's population consisted of students from the University of Jordan, 6000 male and female students registered in several compulsory courses for the academic year 2022/2023. The classes were chosen to encompass students from different academic disciplines, thus ensuring a comprehensive range of participants. The questionnaire was distributed to a random sample of students, comprising (1043) male and female students. The study sample was distributed based on gender (male, female), college (scientific, humanities, medical), and

academic year (first, second, third, fourth, and above). Table (1) illustrates this:

Table (1): Distribution of the Study Sample According to Gender and Department

Variables Number	Levels	Number
Gender	male	422
	female	621
College	Scientific	485
	Humanities	370
	Medical	188
Academic Year	First	838
	Second	122
	Third	52
	Fourth and above	31
Total		1043

5.2 The Study Instrument

To achieve the objectives of this study, the researchers developed a questionnaire, drawing upon existing literature and studies related to digital currencies. For the current study, the developed tool was used. The questionnaire was developed based on a review of the theoretical literature. The final version of the questionnaire comprised (28) items, each corresponding to a five-point Likert scale (Very High = 5, High = 4, Moderate = 3, Low = 2, Very Low = 1).

5.3 Validity and Reliability of the Instrument

Content validity was established by presenting the questionnaire to expert (8) reviewers specialized in educational management, business administration, and digital economics at the University of Jordan. They were asked to assess the items' suitability, relevance to the included domain, and clarity and suggest appropriate modifications. Their responses indicated an acceptable level of content validity for the instrument. To assess the reliability of the study instrument, the coefficient alpha (Cronbach's alpha) was calculated for the degree of awareness among University of Jordan students about digital currencies. Cronbach's alpha formula was used to measure the internal consistency of the items. Table (2) illustrates this.

Table (2): Cronbach's Alpha Reliability Coefficients for the Study Instrument

Number	Domain	Number of Items	Cronbach's Alpha
1	Overall Instrument	28	.93

5.4 Study Instrument Correction

A five-point Likert scale was used, and the categories were transformed into a three-point scale as follows:

(5-1) = 4

3/4 = 1.33

This value was used to determine the length of the scale period. Table (3) illustrates this.

Table (3): Key to Interpret the Level of Awareness among University of Jordan Students about Digital Currencies

High	Moderate	Low	Score
5.00–3.68	3.67–2.34	2.33 –1	Mean Value

5.5 Statistical Analysis

Arithmetic means, and standard deviations were calculated for the sample respondents' responses to the questionnaire items to answer the study questions.

6. Study Results and Discussion

The obtained results will be presented after the researcher collects the data using the study instrument, as follows:

6.1 Question 1

To what extent are University of Jordan students familiar with digital currencies?

Arithmetic means, and standard deviations were calculated for the study sample's estimations of the level of awareness among the University of Jordan students regarding the concept of digital currencies on the questionnaire items. These results are presented in Table (4).

Table (4): Arithmetic Means and Standard Deviations of the Study Sample's Estimations for the Level of Awareness among University of Jordan Students Regarding the Concept of Digital Currencies, Ranked in Descending Order According to Arithmetic Means

Number	Rank	Items	Arithmetic Mean	Standard Deviation	Score
1	1	Bitcoin	2.79	1.26	moderate
3	2	Ethereum	2.30	1.21	low
2	3	Litecoin	2.28	1.18	low
6	4	EOS	2.19	1.17	Low
4	4	Stellar	2.19	1.18	Low
7	4	Ripple	2.19	1.19	Low
8	5	Chainlink	2.18	1.19	Low
5	6	Tether	2.17	1.19	Low
9	7	Monero	2.15	1.18	Low
The Overall Domain			2.27	1.08	Low

Table 4 presents a statistical analysis of students at the University of Jordan. The table ranks various digital currencies based on the arithmetic means of students' estimations of their awareness levels regarding these currencies. The key observations from this analysis are as follows:

- Bitcoin stands out with the highest average awareness score of 2.79, indicating a moderate level of awareness among the students.
- Ethereum and Litecoin, with scores of 2.30 and 2.28, respectively, reflect a comparatively lower level of awareness, falling into the "low" category.
- EOS, Stellar, and Ripple share an identical average score of 2.19, suggesting a similar modest level of awareness.
- Chainlink and Tether have scores of 2.18 and 2.17, respectively, placing them in the "low" awareness category.
- Monero scores 2.15, indicating a "low" awareness level.

Regarding the overall scope, encompassing all the digital currencies, the average awareness score is 2.27, with a standard deviation of 1.08. This overall score signifies a general "low" awareness level trend among University of Jordan students concerning digital currencies.

The researchers attribute this result to several factors, including a need for knowledge about encrypted technology and digital currencies, insufficient guidance and education about their benefits and risks, the absence of reliable information sources, and numerous concerns about understanding and using digital currencies. These concerns include worries about the security of electronic transactions and the possibility of fraud. It is worth noting that these obstacles hinder the advancement of financial technology and its potential utilization among students in the future.

6.2 Question 2

What are the advantages of digital currencies from the perspective of University of Jordan students?

Arithmetic means, and standard deviations were calculated for the study sample's estimations of the advantages of digital currencies from the perspective of the University of Jordan students. These results are presented in Table (5).

Table (5): Arithmetic Means and Standard Deviations of the Study Sample's Estimations for the Advantages of Digital Currencies from

the Perspective of University of Jordan Students, Ranked in Descending Order. According to Arithmetic Means

Number	Rank	Items	Arithmetic Mean	Standard Deviation	Score
11	1	Digital currencies are helpful for online purchasing transactions.	3.76	.96	High
15	2	There is a wide variety of digital currency types that can be used for	3.74	.92	High
18	3	They are recognized on a global level.	3.53	1.04	Moderate
14	3	Digital currency will eventually replace physical cash.	3.53	1.11	Moderate
16	4	Easily accessible digital currencies can be used and traded 24/7, often providing superior services compared	3.50	1.01	Moderate
10	5	Digital currencies are beneficial for saving purposes.	3.47	.95	Moderate
17	6	Lower transaction costs are associated with digital currencies.	3.46	.97	Moderate
12	7	Digital currencies provide a secure payment method.	3.36	1.02	Moderate
13	8	Digital currencies are characterized by transparency in financial	3.35	.99	Moderate
The Overall Domain			3.52	.75	Moderate

The results in Table (5) indicate that Item 11, which stated "Digital currencies are useful for online purchasing transactions," ranked first with an arithmetic mean of (3.76) and a standard deviation of (.96). In contrast, Item 13, which stated "Digital currencies are characterized by transparency in financial transactions," ranked last with an arithmetic mean of (3.35) and a standard deviation of (.99). The overall arithmetic mean for the advantages of digital currencies from the perspective of University of Jordan students in the overall domain was (3.52), with a standard deviation of (.75), corresponding to a moderate estimation.

Even though digital currencies are easy and flexible, electronic transactions can be conducted efficiently and quickly without financial intermediaries and their low transaction costs, allowing users to save money by avoiding fees or traditional financial services. Additionally, digital currencies offer higher privacy and security in transactions, using

encryption to protect data and ensure transaction confidentiality. The sample's responses to this question showed a moderate degree of estimation. The researchers attribute this result to a lack of awareness and education about digital currencies among students, as this topic is not adequately included in the curriculum, along with a scarcity of educational events and seminars related to financial technology. Students also need more practical experience in using digital currencies, functional understanding, and personal experience in dealing with digital wallets or conducting transactions using digital currencies.

This result can also be attributed to specific concerns related to trust in digital currencies, such as worries about personal data protection or being exposed to fraud. These concerns affect their willingness to explore and use digital currencies fully. Additionally, cultural and social factors influence students' awareness of digital currencies. Some students may need clarification or have reservations about new financial technology and prefer to rely on the traditional financial system.

6.3 Question 3

What are the drawbacks of digital currencies from the perspective of University of Jordan students?

Arithmetic means and standard deviations were calculated for the study sample's estimations of the drawbacks of digital currencies from the perspective of the University of Jordan students. These results are presented in Table (6).

Table (6): Arithmetic Means and Standard Deviations of the Study Sample's Estimations for the Drawbacks of Digital Currencies from the Perspective of University of Jordan Students, Ranked in Descending Order According to Arithmetic Means

Number	Rank	Items	Arithmetic Mean	Standard Deviation	Score
22	1	Digital currencies have yet to be widely adopted as a payment method	3.88	.93	high
24	2	The digital currency market is	3.83	.96	high
21	3	There is no guarantee in case of loss of funds.	3.81	.97	high
19	4	Digital currencies are a new technology and have yet to be fully	3.75	.90	high

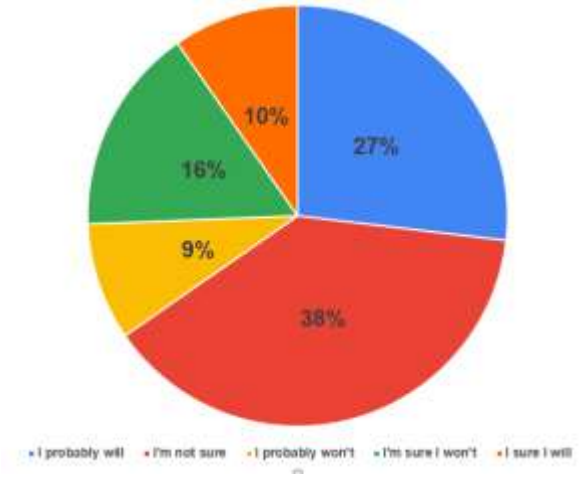
20	5	Digital currencies are difficult for ordinary individuals to understand.	3.73	.95	high
25	6	The digital currency market allows for online theft.	3.63	.97	high
23	7	Digital currencies make it easier to avoid taxes and other government	3.52	.96	moderate
26	8	The digital currency market is unregulated.	3.50	.97	moderate
27	8	Digital currencies make it easier to evade the law.	3.50	1.04	moderate
Overall domain			3.68	.71	high

The results presented in Table (6) indicate that paragraph (22), which states, "In most places, digital currencies have not yet been widely adopted as a method of payment," ranked first with an average score of (3.88) and a standard deviation of (.93). On the other hand, paragraph (27), which states "Digital currencies make it easier to evade the law," ranked last with an average score of (3.50) and a standard deviation of (1.04). The overall average score for the drawbacks of digital currencies from the perspective of University of Jordan students is (3.68) with a standard deviation of (.71), corresponding to a moderate level of estimation.

The researchers attribute these results to the extreme volatility in the value of digital currencies, causing negativity and unease among students. Sudden fluctuations in value can lead to uncertainty and concerns regarding the use of digital currencies in daily transactions. Additionally, digital currencies face security and transaction protection challenges, such as electronic fraud or hacking of digital wallets, which negatively affect their adoption. It's worth noting that the need for more regulations and systems related to digital currencies leads to a lack of trust and doubts about their secure and reliable usage.

6.4 Question 4

What is the possibility of using digital currency among students at the University of Jordan?



The presented chart outlines the results of a survey focused on evaluating the potential acceptance of digital currency among University of Jordan students by answering the question, "What is the possibility of using digital currency among students at the University of Jordan?" The answers categorize respondents' viewpoints into five categories: "I probably will," "I'm not sure," "I probably won't," "I'm sure I won't," and" I'm sure I will." The percentage illustrates the relative distribution of participants within each category in proportion to the total number of survey participants.

Overall, the survey engaged a total participant count equivalent to the sum of the percentages listed in the table. The survey data analysis highlights various perspectives among University of Jordan students regarding digital currency adoption. Notably, a substantial percentage, approximately 26.87%, conveyed a potential inclination toward embracing digital currency. Conversely, a significant portion, about 38.48%, revealed uncertainty in their stance on the matter. A smaller segment, around 9.02%, displayed a potential hesitance to adopt digital currency, while about 15.93% expressed a firm decision against its usage. Furthermore, roughly 9.69% of respondents demonstrated strong confidence in their intention to utilize digital currency. These findings emphasize the diverse viewpoints within the student community and underscore the importance of addressing uncertainties to encourage a more informed and balanced approach to incorporating digital currency into their financial practices.

7. Conclusion

In conclusion, this study comprehensively analyzes digital currency awareness, perceptions, and potential adoption challenges among University of Jordan students. The investigation provided insights into

students' familiarity with digital currencies, elucidated by calculated arithmetic means and standard deviations. The results revealed varying levels of awareness, with Bitcoin leading in moderate awareness, while Ethereum, Litecoin, and others exhibited low awareness. The perceived advantages of digital currencies were explored, emphasizing high recognition for online purchasing transactions and various currency types. Notably, the benefits related to accessibility and financial privacy showed moderate estimations. Conversely, drawbacks associated with digital currencies were identified, highlighting concerns about limited adoption, market volatility, the potential for loss of funds, and challenges in comprehension. These concerns were notably prevalent due to digital currencies' relatively recent and underdeveloped nature. Furthermore, uncertainties around legality and taxation contributed to moderate levels of anxiety. Overall, while a reasonable potential for using digital currencies among the University of Jordan students was indicated, the study underscores the need for enhanced education and awareness, regulatory clarity, and secure infrastructures to foster informed and confident adoption of digital currencies.

References

[1] M. MAȚCU, V.-B. FARAONEL, and A. R. Jelea, "A comparative study of Romanian students' perceptions on cryptocurrencies before and after the 2022 cryptocurrency market cap collapse. " Centre for European Studies (CES) Working Papers, vol. 14, no. 4, pp. 2067-7693, 2022.

[2] Wang, C., Ahmad, S. F., Ayassrah, A. Y. B. A., Awwad, E. M., Irshad, M., Ali, Y. A., ... & Han, H. (2023). An empirical evaluation of technology acceptance model for Artificial Intelligence in E-commerce. Heliyon, 9(8).

[3] S. Nakamoto, "Bitcoin: A peer-to-peer electronic cash system.," 2008.

[4] S. D. Jadhav, C. P. S. Raghunath, W. Hamid and M. V. Anil, "A study on awareness of college students about cryptocurrency and Its relation to Level of Education," Indonesian Journal of Educational Research and Technology, vol. 3, no. 2, pp. 155-160, 2023.

[5] M. P. Doblas, "Awareness and attitude towards cryptocurrencies in relation to adoption among college students in a private tertiary institution in Cagayan De Oro City, Philippines," International Journal of Advanced Research and Publications, vol. 3, no. 4, pp. 15-19, 2019.

[6] Fraihat, B. A. M., Ahmad, A. Y. B., Alaa, A. A., Alhawamdeh, A. M., Soumadi, M. M., Aln'emi, E. A. S., & Alkhawaldeh, B. Y. S. (2023). Evaluating Technology Improvement in Sustainable Development Goals by Analysing Financial Development and Energy Consumption in Jordan. International Journal of Energy Economics and Policy, 13(4), 348.

[7] E. J. Phillips, "Cryptocurrency Awareness Among Students at A Premier Academic Institution In ISYS: The Razorbacks of Arkansas," Educational Sciences: Theory & Practice, vol. 21, no. 4, pp. 100-122, 2021.

[8] H. Yusof, M. F. M. B. Munir, Z. Zolkaply and M. A. Anuar, "Exploring Cryptocurrency Readiness Among University Students," in 10th International Conference on Business, Accounting, Finance and Economics (BAFE 2022), 2023.

[9] Ahmad, A. Y. Bani ahmad , (2019). Empirical Analysis on Accounting Information System Usage in Banking Sector in Jordan. Academy of Accounting and Financial Studies Journal, 23(5), 1-9.

[10] D. Chathurika, "Factors Affecting Intention to use Cryptocurrencies with Special Reference to the University Students in Sri Lanka," in Proceedings of International Conference on Business Management, 2020.

11] Ahmad, A. B., Atta, A. A. B., Asma’a Al-Amarneh, M. S., & Dahbour, S. A. (2023). Fund Family Selectivity Skills and Market Timing Ability: Comparison Study.

[12] D. Tapscott and A. Tapscott, D. Tapscott and A. Tapscott, "Blockchain revolution: how the technology behind bitcoin is changing money, business, and the world," Penguin, 2016, Penguin, 2016.

13] M. D. He, M. K. F. Habermeier, M. R. B. Leckow, M. V. Haksar, M. Y. Almeida, M. M. Kashima, M. N. Kyriakos-Saad, M. H. Oura, T. S. Sedik and N. Stetsenko, Virtual currencies and beyond: initial considerations, International Monetary Fund, 2016.

[14] L. Krainz, "Croatia and Cryptocurrency," FREEMAN Law, August 2020. [Online]. Available: https://freemanlaw.com/cryptocurrency/croatia/.

[15] U.S. Department of Education, "What is a Blockchain?," June 2019. [Online]. Available: https://tech.ed.gov/files/2019/06/Blockchain_PTAC_6-19_print.pdf.

[16] Alnsour, I., Alghadi, M., Ahmad, A., Alibraheem, M., Altahat, S., Al-Smadi, R., & Alshboul, K. (2023). Islamic financial technology acceptance: An empirical study in Jordan. International Journal of Data and Network Science, 7(4), 1659-1668.

[17] J. Royal and B. Baker, "12 most popular types of cryptocurrency," Bankrate, August 2023. [Online]. Available: https://www.bankrate.com/investing/types-of-cryptocurrency/.

[18] J. Royal, "What is Bitcoin?," Bankrate, April 2023. [Online]. Available: https://www.bankrate.com/investing/what-is-bitcoin/.

[19] J. Royal, "What is Ethereum and how does it work?," Bankrate, April 2022. [Online]. Available: https://www.bankrate.com/investing/what-is-ethereum/.

[20] J. Royal, "What are stablecoins and how do they affect the cryptocurrency market?," Bankrate, May 2022. [Online]. Available: https://www.bankrate.com/investing/stablecoin-cryptocurrency/.

[21] J. Royal, "Binance review 2023," Bankrate, June 2023. [Online]. Available: https://www.bankrate.com/investing/binance-review/.

[22] CoinMarketCap, "About USD Coin," CoinMarketCap, August 2023. [Online]. Available: https://coinmarketcap.com/currencies/usd-coin/.

[23] P. Weichbroth, K. Wereszko, H. Anacka and J. Kowal, "Security of Cryptocurrencies: A View on the State-of-the-Art Research and Current Developments," Sensors, vol. 23, no. 6, p. 3155, 2023.

[24] K. C. Ho and Y. T. Chan, "An iterative algorithm for two-scale wavelet decomposition," IEEE, vol. 49, no. 1, pp. 254 - 257, 2021.

[25] U. W. Chohan, "The Problems of Cryptocurrency Thefts and Exchange Shutdowns," February 2018. [Online]. Available: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3131702.

[26] A. MATANOVIĆ, "BLOCKCHAIN/CRYPTOCURRENCIES AND CYBERSECURITY, THREATS AND OPPORTUNITIES," in The 9th International Conference on Business Information Security (BISEC-2017), Belgrade, Serbia, 2017.

[27] M. Alyami, R. Alhotaylah, S. Alshehri and A. Alghamdi, "Phishing Attacks on Cryptocurrency Investors in the Arab States of the Gulf," Journal of Risk and Financial Management, vol. 16, no. 5, 2023.

[28] I. Aldasoro, P. Gambacorta and T. Leach, "The drivers of cyber risk," Elsevier - Journal of Financial Stability, vol. 60, 2022.

[29] K. White, C. Buonocore, A. Goel and S. Waliczek, "The Macroeconomic Impact of Cryptocurrency and Stablecoins," in World Economic Forum. Retrieved, 2022.

[30] N. C. Yiu, "An overview of forks and coordination in blockchain development," arXiv preprint arXiv:2102.10006, 2021.

[31] M. K. Daoud, D. . Alqudah, M. . Al-Qeed, B. A. . Al Qaied, and A. Y. A. B. . Ahmad, “The Relationship Between Mobile Marketing and Customer Perceptions in Jordanian Commercial Banks: The Electronic Quality as A Mediator Variable”, ijmst, vol. 10, no. 2, pp. 1360-1371, Jun. 2023.

[32] Khan, Yasser, et al. "Application of Internet of Things (IoT) in Sustainable Supply Chain Management." Sustainability 15.1 (2022): 694. https://doi.org/10.3390/su15010694

[33] A. Y. A. B. Ahmad, S. S. Kumari, M. S, S. K. Guha, A. Gehlot and B. Pant, "Blockchain Implementation in Financial Sector and Cyber Security System," 2023 International Conference on Artificial Intelligence and Smart Communication (AISC), Greater Noida, India, 2023, pp. 586-590, https://doi.org/10.1109/AISC56616.2023.10085045