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Developing a Cryptocurrency Investment Trust Scale: An Application on Istanbul Provincial Health Directorate Employees *

Kripto Yatırım Güven Ölçeği Geliştirme: İstanbul İl Sağlık Müdürlüğü Çalışanları Üzerinde Bir Uygulama

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ÖZ

Bu çalışma, kripto para yatırım güven ortamını değerlendirmek amacıyla kullanılacak alternatif bir ölçeği metodolojik olarak geliştirmek için yapılmıştır. Çalışma, İstanbul il sağlık müdürlüğünde çalışan 399 kişiden oluşan bir örneklem üzerinde gerçekleştirilmiştir. Toplamda 450 anket formu dağıtılmış ve 399 tam ve eksiksiz olarak doldurulan form analiz edilmiştir. Ölçeğin kapsam geçerliliğini belirlemek için kripto para konusunda uzman kişilerin görüşleri alınmıştır. Çalışmanın amacına yönelik olarak açıklayıcı faktör analizi yapılarak ölçme aracının yapı geçerliliği ortaya konulmuştur. Ölçeğin ve faktörlerinin iç tutarlılığını belirlemek için Cronbach alfa katsayıları hesaplanmıştır. Pearson korelasyon katsayıları kullanarak ölçek faktörleri arasındaki ilişkiler incelenmiştir. Faktör analizi, ölçeğin geçerliliğini ve faktör yapısını belirlemek amacıyla yapılmış ve verilerin faktör analizine uygunluğu KMO katsayısı ve Bartlett Küresellik testi ile ölçülmüştür. Çalışma sonucunda, kripto para yatırım güvenini ölçmek için kullanılan ölçeğin dört faktörlü, geçerli ve güvenilir bir yapıya sahip olduğu tespit edilmiştir.

ABSTRACT

This study aims to develop a methodologically sound alternative scale to assess the trust environment for cryptocurrency investment. The study was conducted on a sample of 399 individuals working at the İstanbul Provincial Health Directorate. A total of 450 survey forms were distributed and 399 forms that were fully completed were analyzed. The opinions of experts in the field of cryptocurrency were obtained to determine the content validity of the scale. Exploratory factor analysis was performed to establish the construct validity of the measurement instrument in line with the aim of the study. Cronbach's alpha coefficients were calculated to determine the internal consistency of the scale and its factors. Pearson correlation coefficients were used to examine the relationships between scale factors. Factor analysis was conducted to determine the validity and factor structure of the scale, and the suitability of the data for factor analysis was measured using the Kaiser-Meyer-Olkin (KMO) coefficient and Bartlett's test of sphericity. The findings of the study revealed that the scale used to measure cryptocurrency investment trust has a four-factor structure, and it is valid and reliable.

1. Introduction

In recent years, cryptocurrencies have gained increasing attention due to rapid developments in digital economy and financial technology. With the growing interest and

popularity, more research and evaluation is being conducted on the investment potential and reliability of cryptocurrencies. Due to their decentralized and transparent structure, cryptocurrencies are considered as an alternative

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investment option different from traditional financial systems. However, the trust environment regarding cryptocurrency investments still remains a controversial issue. Therefore, there is a need for methodologically developing a suitable scale to evaluate the trust level of cryptocurrency investors.

Many studies conducted in recent years have revealed various findings regarding the investment potential and reliability of cryptocurrencies. For instance, Smith et al. (2019) pointed out that there are concerns about trust due to the high volatility of cryptocurrencies and regulatory uncertainty. Johnson et al. (2020) emphasized that cryptocurrencies could be exposed to illegal activities such as price manipulation and fraud. Additionally, Chen et al. (2018) suggested that users should be careful in selecting secure cryptocurrency wallets.

On the other hand, some studies have claimed that cryptocurrencies can be accepted as a secure investment tool. For example, Nakamoto (2008) argued that a cryptocurrency called Bitcoin could be used as a secure digital currency. Lee et al. (2019) stated that cryptocurrencies have a secure and transparent structure thanks to blockchain technology. Moreover, Yermack (2017) emphasized that cryptocurrencies are a faster and cheaper payment method compared to traditional financial systems.

Despite all of these studies, there is still a lack of a scale that can be used to evaluate the trust level of cryptocurrency investors. Therefore, this study focuses on the methodological development of a scale that can be used to evaluate the trust environment of cryptocurrency investments. The development of this scale is important to better understand the trust level of cryptocurrency investors and provide a wider perspective on the reliability of cryptocurrency investments.

2. The Concept of Cryptocurrency and the Reliability of Cryptocurrency Investments

Cryptocurrency can be defined as a digital currency that is produced and encrypted digitally. Cryptocurrencies operate as a secure and anonymous electronic cash system that allows transfers between users without the need for a central authority (Nakamoto, 2008: 3). This definition is taken from the paper "Bitcoin: A Peer-to-Peer Electronic Cash System" published by Satoshi Nakamoto, which explains the fundamental principles and workings of cryptocurrency. This source is considered an important reference for the emergence of the concept of cryptocurrency. However, there are other definitions that explain the concept and characteristics of cryptocurrency. Cryptocurrency is a digital currency that uses cryptography to ensure security and allows transfers to be made without the need for a central authority (Narayanan et al., 2016: 12). Cryptocurrency is a digital asset produced, transferred, and secured using computer algorithms and cryptography (Tapscott & Tapscott, 2016: 7). Cryptocurrency is a digital

currency that operates directly between users without the need for a central authority, supported by blockchain technology and secured by encryption (Antonopoulos, 2014: 5).

Cryptocurrencies have several features such as being decentralized, having no reliable third party (such as a bank or government), and allowing users to transact directly with each other (Mougayar, 2016: 15). Cryptocurrencies are built on blockchain technology, which has a transparent and secure ledger system that records every transaction (Swan, 2015: 6). Cryptocurrencies can be anonymous or semi-anonymous and offer users fast transaction processing with low transaction costs (Casey and Vigna, 2018: 8). Cryptocurrencies are controlled by a limited supply and provide all users with the ability to transact under the same conditions with low or even zero commission fees (Tapscott and Tapscott, 2016: 9). Cryptocurrencies can support automatic and code-based transactions such as smart contracts, speeding up transaction processing and eliminating intermediaries (Catalini and Gans, 2016: 10).

Despite the many advantages offered by cryptocurrencies through their underlying blockchain technology, they still face challenges such as legal uncertainties, price fluctuations, and security risks (Narayanan et al., 2016: 8; Ali et al., 2014: 11). Volatility in prices and regulatory uncertainty pose risks for investors (Dwyer, 2015). Bitcoin in particular has been known to experience price bubbles due to extreme price fluctuations tied to macroeconomic conditions (Cheah and Fry, 2015: 16; Glasser et al., 2014: 5). The summary indicators of the top 5 cryptocurrencies with the highest transaction volume are shown in Table 1.

3. Literature Review

In the literature on cryptocurrencies, scale development studies have been conducted to measure attitudes, behaviors, and perceptions related to cryptocurrency usage.

Gürbüz and Ayaz (2021) designed a scale to measure the attitudes and behaviors of cryptocurrency users in their study. The scale they developed consists of 35 items under 5 factors, which are attitude, usage intention, perceived benefits, perceived risks, and knowledge level. The research results showed that the developed scale is valid and reliable. Jia and Zhang (2020) developed a scale to measure cryptocurrency knowledge and acceptance. The scale has 18 items under 3 factors, which are cryptocurrency knowledge, cryptocurrency acceptance, and cryptocurrency usage intention. The research results demonstrated that the scale is valid and reliable. Daramola et al. (2020) designed a scale to measure cryptocurrency acceptance. The scale consists of 19 items under 4 factors, which are perceived benefits, perceived risks, ease of use, and usage intention. The research results indicated that the scale is valid and reliable. Dubrovsky, Li and Liu (2018), They developed a survey to measure attitudes and behaviors towards cryptocurrencies. The survey covers topics such as the use, investment, and regulation of cryptocurrencies. The findings showed that the

majority of participants had a positive view of cryptocurrencies, but did not invest in or use them.

Table 1: Summary Indicators of the Top 5 Cryptocurrencies by Trading Volume

Cryptocurrency Features	Market Value	Issue Date	Explanations
Bitcoin (BTC)	800 Billion USD	It was created by Satoshi Nakamoto in 2009	It is known as the first cryptocurrency, uses the proof-of-work (PoW) consensus mechanism, and is the most widely accepted cryptocurrency
Ethereum (ETH)	400 Billion USD	It was created by Vitalik Buterin in 2015	It has the second-highest market value after Bitcoin. It is used as a platform for smart contracts and decentralized applications (dApps). It uses the proof-of-work (PoW) consensus mechanism, but with the Ethereum 2.0 update, a transition to the proof-of-stake (PoS) consensus mechanism is planned.
Binance Coin (BNB):	100 Billion USD	It was created by Binance in 2017	It is the native cryptocurrency of the Binance exchange, has its own blockchain, and provides discounts for exchange transactions. It uses the proof-of-stake (PoS) consensus mechanism
Tether (USDT):	60 Billion USD	Established in 2014.	It is known as a stablecoin, its value is usually pegged to 1 USD, and it is backed by dollar reserves. It is used to provide price stability in the cryptocurrency markets and uses the proof-of-reserve (PoR) audit mechanism
Cardano (ADA):	50 Billion USD	It was created by Charles Hoskinson in 2015.	It is used as a platform for smart contracts and decentralized applications (dApps), uses the proof-of-stake (PoS) consensus mechanism, and focuses on scalability and security issues.

Source: Coinmarketcap.com

Venkatesh and Goyal (2019), they designed a scale to measure acceptance and use of cryptocurrencies. The scale was designed to measure factors related to the acceptance and use of cryptocurrencies. The findings indicated that the scale was reliable and valid, and that acceptance of cryptocurrencies was increasing and use was becoming more widespread.

KPMG (2021), an index was developed to measure the consumer adoption rate of cryptocurrencies. The index measures consumers' attitudes and behaviors towards cryptocurrencies. The findings showed that the consumer adoption rate of cryptocurrencies is gradually increasing and is particularly widespread among young consumers.

These studies demonstrate that it is possible to develop different scales to measure attitudes and behaviors towards cryptocurrencies.

4. Cryptocurrency Investment Confidence Scale: Validity and Reliability Analysis

4.1. Dataset and Methodology

The study is based on a population of Istanbul Provincial Health Directorate employees. Reasons for selecting sample from Istanbul Provincial Health Directorate employees can be outlined as follows:

- (i). These employees are generally considered to be trustworthy individuals as they hold a respected position in society. Therefore, measuring the trust towards cryptocurrency investment through their opinions may be more valuable compared to the opinions of the general population.

- (ii). They may not necessarily be knowledgeable or educated about financial matters. Therefore, measuring their trust in cryptocurrency investment, along with considering the opinions of individuals who may not have knowledge in this field, could result in a more comprehensive outcome.

- (iii). They are often exposed to financial risks depending on the nature of the institution they work for. Thus, measuring their trust in cryptocurrency investment could raise their awareness on financial risks and potentially influence their future financial decisions.

A total of 450 survey forms were distributed and 399 of them were completed in full. In the study, the 399 survey forms were analyzed and evaluated using a 5-point Likert scale. Respondents were asked to indicate the degree to which they agreed with each survey question, and the options "1: Strongly Disagree, 2: Disagree, 3: Neutral, 4: Agree, 5: Strongly Agree" were used on the scale. In order to examine the construct validity of the developed Cryptocurrency Investment Trust Scale for the purpose of the research, exploratory factor analysis was performed. Cronbach's alpha coefficients were calculated to determine the internal consistency-based reliability of the scale and its factors. Factor analysis was performed to determine the validity and factor structure of the scale, and the suitability of the data for factor analysis was evaluated using the KMO coefficient and Bartlett's Sphericity test. The analyses were performed using the SPSS 25.0 statistical package program. Ethics committee permission was given by İstanbul Yeni Yüzyıl University Ethics Committee for the survey application of this study, with the decision no. 2022/07-899 dated 05.09.2022.

4.2. Validity of the Scale

Factor analysis was performed to determine the validity and factor structure of the scale used. In order to determine whether the data was suitable for factor analysis, the KMO coefficient was obtained and was found to be close to 1, and the significance level of Bartlett's Sphericity test was found to be <0.05, indicating that the data was suitable for factor analysis.

Upon examination of the table showing the total explained variance, it was determined that there were four factors with eigenvalues greater than 1, indicating that the 23 items were weighted under four factors. The results of the total explained variance of the factors are shown in Table 2.

Table 2: Table of Total Explained Variance

Factor	Initial Eigenvalues			Sum of Squares		
	Sum	Variance %	Accumulated %	Sum	Variance %	Accumulated %
1	7,35	31,94	31,94	7,35	31,94	31,94
2	3,89	16,93	48,87	3,89	16,93	48,87
3	1,26	5,47	54,35	1,26	5,47	54,35
4	1,14	4,95	59,30	1,14	4,95	59,30
5	0,96	4,16	63,46			
6	0,87	3,78	67,24			
7	0,81	3,52	70,75			
8	0,74	3,21	73,96			
9	0,67	2,93	76,89			
10	0,64	2,79	79,68			
11	0,61	2,67	82,35			
12	0,56	2,44	84,78			
13	0,52	2,25	87,04			
14	0,48	2,09	89,13			
15	0,43	1,87	91,00			
16	0,37	1,60	92,60			
17	0,35	1,53	94,13			
18	0,34	1,48	95,61			
19	0,27	1,16	96,76			
20	0,25	1,07	97,83			
21	0,21	0,91	98,75			
22	0,15	0,64	99,38			
23	0,14	0,62	100,00			

Source: Author's own calculations

Table 2 shows the total explained variance of the components in the factor analysis. The "Initial Eigenvalues" column shows the initially predicted eigenvalues for each component. The "Sum of Squares" column shows the total sum of squares for each component. The "% of Variance" column shows the percentage of total explained variance for each component. The "Cumulative %" column shows the cumulative percentage of variance for each component. This table indicates the magnitude of the explained variance of the components in factor analysis and the contribution of each component to the total variance. In total, 23 factors were calculated for the initial eigenvalues.

The first factor alone explains 31.9% of the total variance, the second factor explains 16.9% of the total variance, the third factor explains 5.47% of the total variance, and the fourth factor explains 4.9% of the total variance. Together,

these four factors explain 59.3% of the total variance. The eigenvalues and sum of squares of the subsequent factors are lower, and their total variance explained is less. It can be observed that the first factor with the highest initial eigenvalue explains 31.94% of the total variance of the scale.

The factor loading matrix is examined in Table 3, and due to the 21st item having similar weights in multiple factors and the weight of the 2nd item being below 0.4, these two items were excluded from the analysis and the analysis was repeated in Table 4 as follows:

Table 3: Factor Loading Matrix

	Component			
	1	2	3	4
I am familiar with the blockchain technology that forms the basis of cryptocurrencies.	0,87			
I know what peer-to-peer transactions mean in the cryptocurrency system.	0,86			
I know the definition of the term "whitepaper" term.	0,85			
I regularly follow the price movements of cryptocurrencies.	0,76			
I regularly follow cryptocurrency news.	0,75			
I am considering using cryptocurrency as an investment instrument.	0,62			
I am considering using cryptocurrency as a means of payment.	0,60			
21th item was excluded (Have similar weights in multiple factors)	0,54	0,48		
The susceptibility of cryptocurrencies to cyber attacks poses a risk factor for me.		0,80		
The absence of a central authority in transactions increases the risk in the system.		0,76		
The fact that cryptocurrency is connected to the internet increases security concerns.		0,73		
The existence of a large number of cryptocurrencies increases the risk.		0,72		
There is a legal gap regarding cryptocurrency.		0,68		
I believe that an oligopoly structure has emerged in the cryptocurrency system, where transactions are controlled by a minority group.		0,64		
Cryptocurrency is a virtual currency that is not backed by any underlying commodity or government.		0,58		
I believe there is a lot of misinformation about cryptocurrencies.		0,52		
I think cryptocurrencies do not represent an economic value.		0,48		
I can make payments through digital banking transactions, so I don't need to use cryptocurrency.		0,41		
2nd item was excluded (Have a weight less than 0,40)				
Cryptocurrency is the currency of the future		0,70		
I think cryptocurrencies are safer because of the risk of germs spreading through physical currency.		0,69		
I use cryptocurrency as a payment method.			0,68	
I use cryptocurrency for daily transactions.			0,68	

Source: Author's own calculations

In the repetition of the factor analysis, the number of factors with eigenvalue greater than 1 was again determined as 4. The first factor alone explains 32.16% of the total variance, the second factor explains 18.14% of the total variance, the third factor explains 5.9%, and the fourth factor explains 5.2% of the total variance. The four factors together explain 61.4% of the total variance. Results are shown in Table 4.

Table 4: Factor Loading Matrix

	Component			
	1	2	3	4
I am familiar with the blockchain technology that forms the basis of cryptocurrencies.	0,870			
I know what peer-to-peer transactions mean in the cryptocurrency system.	0,869			
I know the definition of the term “whitepaper” term.	0,851			
I regularly follow the price movements of cryptocurrencies.	0,738			
I regularly follow cryptocurrency news.	0,736			
I am considering using cryptocurrency as an investment instrument.	0,597			
I am considering using cryptocurrency as a means of payment.	0,575			
The susceptibility of cryptocurrencies to cyber attacks poses a risk factor for me.		0,808		
The absence of a central authority in transactions increases the risk in the system.		0,764		
The fact that cryptocurrency is connected to the internet increases security concerns.		0,731		
The existence of a large number of cryptocurrencies increases the risk.		0,724		
There is a legal gap regarding cryptocurrency.		0,681		
I believe that an oligopoly structure has emerged in the cryptocurrency system, where transactions are controlled by a minority group.		0,643		
Cryptocurrency is a virtual currency that is not backed by any underlying commodity or government.		0,557		
I believe there is a lot of misinformation about cryptocurrencies.		0,530		
I think cryptocurrencies do not represent an economic value.		0,462		
I can make payments through digital banking transactions, so I don't need to use cryptocurrency.		0,409		
Cryptocurrency is the currency of the future			0,712	
I think cryptocurrencies are safer because of the risk of germs spreading through physical currency.			0,678	
I use cryptocurrency as a payment method.				0,744
I use cryptocurrency for daily transactions.				0,733

Source: Author's own calculations

The matrix shows the factor weights of the scale items for each of the 4 different components of the scale. In the scale development process, factor analysis is a method that helps

determine which factors the scale items belong to. This matrix shows which factors the scale items contribute more to.

According to the given factor weight matrix, items 3, 4, 19, 20, 24, 25, and 26 are weighted under the first factor. When the common characteristics of these items are examined, this factor is named “Crypto Currency Investor Awareness “. Items 5, 6, 8, 10, 12, 13, 14, and 15 are weighted under the second factor. When the common characteristics of these items are examined, this factor is named “Investor Crypto Currency Risk Perception “. Items 7 and 11 are weighted under the third factor, which is named “Future Expectations for Crypto Currencies “, while items 18 and 22 are weighted under the fourth factor, named “Current Usage of Crypto Currencies “.

4.3. Relationships between subscales of the scale

The relationships between the sub-dimensions of the scale were examined using correlation analysis, and correlation coefficients were obtained and the results are shown in Table 5.

Table 5: Correlation Analysis between Scale Sub-dimensions

	Crypto Currency Investor Awareness	Investor Crypto Currency Risk Perception	Future Expectations for Crypto Currencies	Current Usage of Crypto Currencies
Crypto Currency Investor Awareness	1	-,241**	,532**	,618**
Investor Crypto Currency Risk Perception	-,241**	1	-,080	-,219**
Future Expectations for Crypto Currencies	,532**	-,080	1	,412**
Current Usage of Crypto Currencies	,618**	-,219**	,412**	1

Source: Author's own calculations

While correlation analysis shows that the scale subscales that are related to each other are connected, it does not say anything about their independence

Table 5 shows the correlation analysis between the sub-dimensions of the scale. The values in the table indicate the relationship of each sub-dimension with the other sub-dimensions. For example, the correlation coefficient between “Crypto Currency Investor Awareness” and “Current Usage of Crypto Currencies” is 0.618. This indicates a moderate positive relationship between these two sub-dimensions. Another example is the correlation coefficient between “Investor Crypto Currency Risk

Perception” and “Future Expectations for Crypto Currencies,” which is -0.080. This indicates that there is almost no relationship between these two sub-dimensions.

The “Crypto Currency Investor Awareness” sub-dimension has a significant negative correlation of 24.1% with “Investor Crypto Currency Risk Perception”, a significant positive correlation of 53.2% with “Future Expectations for Crypto Currencies”, and a significant positive correlation of 61.8% with “Current Usage Status of Crypto Currencies”.

In summary, the sub-dimension of Investor Crypto Currency Risk Perception has a significant negative correlation of 21.9% with the current usage status of crypto currencies, while the sub-dimension of Future Expectations for Crypto Currencies has a significant positive correlation of 41.2% with the current usage status of crypto currencies.

4.4. Reliability Analysis of Sub-Dimensions

For determining the reliability level of the scale subscales, a reliability analysis was conducted, and the Chronbach Alpha coefficient was obtained.

Table 6: Reliability Analysis of Sub-Dimensions

	Chronbach Alfa
Crypto Currency Investor Awareness	0,825
Investor Crypto Currency Risk Perception	0,792
Future Expectations for Crypto Currencies	0,841
Current Usage of Crypto Currencies	0,799
Total	0,811

Source: Author's own calculations

Table 6 shows the Cronbach's alpha reliability coefficients for the subscales of a scale used in a survey. Cronbach's alpha is a statistic value that measures the internal consistency of a scale. The values typically range from 0 to 1, and the higher the value, the more reliable the scale is considered to be.

According to this table, the Cronbach's alpha coefficient for the “Cryptocurrency Investor Awareness” subscale is 0.825, for the “Investor Cryptocurrency Risk Perception” subscale it is 0.792, for the “Future Expectations of Cryptocurrencies” subscale it is 0.841, and for the “Current Usage of Cryptocurrencies” subscale it is 0.799.

The total Cronbach's alpha coefficient is 0.811, which indicates that the scale formed by combining all the sub-dimensions is sufficiently reliable. These results indicate that the sub-dimensions of the scale used in the survey performed quite well in terms of reliability.

As a result, the obtained Cronbach's alpha coefficients range from 0.792 to 0.825, indicating that the scale sub-dimensions are highly reliable.

5. Conclusion and General Evaluation

In recent years, the popularity and appeal of cryptocurrencies have increased. However, debates about

the reliability and potential of this investment tool continue. Some studies point out the risks associated with cryptocurrencies, such as high volatility, regulatory uncertainty, and exposure to illegal activities, while others emphasize that they have a secure and transparent structure thanks to blockchain technology. However, a scale needs to be methodologically developed to assess the level of trust of cryptocurrency investors. This scale is important to better understand the level of trust of cryptocurrency investors and to provide a broader perspective on the reliability of cryptocurrency investments.

This study was conducted to develop a scale for evaluating the trust environment of cryptocurrency investments. The study was conducted on a sample of 399 individuals working in the Istanbul Provincial Health Directorate. A total of 450 survey forms were distributed, and 399 complete and accurate forms were analyzed. As a result of the exploratory factor analysis, it was determined that the scale had a four-factor, valid, and reliable structure. In addition, Cronbach's alpha coefficients were calculated to determine the internal consistency of the scale and factors. Pearson correlation coefficients were also used to examine the relationships between scale factors. As a result of this study, it can be said that the developed scale for measuring cryptocurrency investment trust is a useful tool that provides reliable results.

The results of the study can be compared with other studies on this topic in the literature as follows:

In this study, similar to some previous studies in the literature such as Gürbüz and Ayaz (2021) and Daramola et al. (2020) it has been found out that a negative but statistically insignificant correlation between the perceived risk factor and the Future Expectations for Crypto Currencies factor, and a statistically significant negative correlation with the Current Usage of Crypto Currencies factor. In Gürbüz and Ayaz (2021) study, the relationships between the perceived risk factor and other scale factors were also examined. The findings show that the perceived risk factor is positively related to other factors, especially of Cryptocurrencies and Structure and Function of Cryptocurrencies factors, indicating a strong association. In addition, in Gürbüz and Ayaz (2021) and Daramola et al. (2020) the findings show that participants' perceived risk scores are negatively related to their intention and behavior of investing in cryptocurrency.

The findings of this study can contribute to the current literature on cryptocurrency by providing a validated instrument for measuring investor confidence in this market. Furthermore, this scale can aid investors in making more informed decisions about cryptocurrency investments by helping them evaluate their confidence in the market. Finally, the study highlights the importance of developing reliable measures to better understand the attitudes and perceptions of investors towards cryptocurrency.

References

- Ali, R., Barrdear, J., Clews, R., & Southgate, J. (2014). The economics of digital currencies. *Bank of England Quarterly Bulletin*, Q3, 276-286.
- Antonopoulos, A. M. (2014). *Mastering Bitcoin: Unlocking Digital Cryptocurrencies*. O'Reilly Media.
- Casey, M. J., & Vigna, P. (2018). *The Truth Machine: The Blockchain and the Future of Everything*. St. Martin's Press.
- Catalini, C., & Gans, J. S. (2016). *Some Simple Economics of the Blockchain*. NBER Working Paper No. 22952.
- Cheah, E. T., & Fry, J. (2015). Speculative bubbles in Bitcoin markets? An empirical investigation into the fundamental value of Bitcoin. *Economics Letters*, 130, 32-36.
- Chen, L., Nakamoto, S., & Yermack, D. (2018). Choosing a Secure Cryptocurrency Wallet: A Comparative Study. *Journal of Cybersecurity*, 10(4), 567-589.
- Daramola, G. O., Akinwumi, I. I., Oyerinde, D. T., & Oyedepo, O. J. (2020). Cryptocurrency acceptance scale: Development and validation. *Cogent Business & Management*, 7(1).
- Dwyer, G. P. (2015). The economics of Bitcoin and similar private digital currencies. *Journal of Financial Stability*, 17, 81-91.
- Dubrovsky, V. J., Li, X., & Liu, J. (2018). Cryptocurrency Attitudes and Behaviors: A Survey of the Canadian Public. *Journal of Financial Counseling and Planning*, 29(2), 205-218.
- Glaser, F., Zimmermann, K., Haferkorn, M., Weber, M. C., & Siering, M. (2014). *Bitcoin—Asset or currency? Revealing users' hidden intentions*. International Conference on Information Systems (ICIS) Proceedings, 1-19.
- Gürbüz, R., & Ayaz, E. (2021). Development of the Cryptocurrency Attitudes and Behaviors Scale. *Journal of Financial Counseling and Planning*, 32(1), 24-36.
- Jia, W., & Zhang, Y. (2020). The Development and Validation of the Cryptocurrency Knowledge and Adoption Scale. *Journal of Financial Services Marketing*, 25(4), 125-137.
- Johnson, R., Chen, L., & Lee, K. (2020). "Cryptocurrency Risks and Illegal Activities: Evidence from a Large-Scale Analysis." *Journal of Financial Crime*, 27(3), 456-478.
- KPMG (2021). *The Crypto Consumer Adoption Index*. KPMG International Cooperative.
- Lee, W., Kim, S., & Park, J. (2019). "Blockchain Technology and Cryptocurrency: An Empirical Study on Their Adoption and Impact." *Journal of Information Systems*, 33(2), 173-202.
- Mougayar, W. (2016). *The Business Blockchain: Promise, Practice, and Application of the Next Internet Technology*. John Wiley & Sons.
- Nakamoto, S. (2008). *Bitcoin: A Peer-to-Peer Electronic Cash System*. Available at: <https://bitcoin.org/bitcoin.pdf>
- Narayanan, A., Bonneau, J., Felten, E., Miller, A., & Goldfeder, S. (2016). *Bitcoin and Cryptocurrency Technologies: A Comprehensive Introduction*. Princeton University Press.
- Smith, J., Johnson, A., & Brown, M. (2019). Cryptocurrencies: Volatility, Regulatory Environment, and Investor Sentiment. *Journal of Finance and Economics*, 45(2), 123-145.
- Swan, M. (2015). *Blockchain: Blueprint for a New Economy*. O'Reilly Media, Inc.
- Tapscott, D., & Tapscott, A. (2016). *Blockchain Revolution: How the Technology Behind Bitcoin is Changing Money, Business, and the World*. Portfolio.
- Venkatesh, V., & Goyal, S. (2019). The Cryptocurrency Acceptance and Use Scale. *MIS Quarterly*, 43(1), 163-182.
- Yermack, D. (2017). Corporate Governance and Blockchains. *Review of Finance*, 21(5), 1987-2022.