



THESIS - Vol. 12, No. 1, 2023

International Research Journal

 **Kolegji AAB**
CILËSI. LIDERSHIP. SUKSESI

ISSN: 1848-4298 (Print)

ISSN: 2623-8381(Online)

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How to cite this article:

Baltacı, A. (2023). Crypto-Conspicuousness: A Scale Proposal for Consumers' Cryptocurrency Buying Behavior within the Scope of Conspicuous Consumption. *Thesis*, 12(1), 31-54.



Published online: September 20, 2023.



Article received May 29, 2023.

Article accepted August 11, 2023.



Conflict of Interest: Author declares no conflict of interest.

Crypto-Conspicuousness: A Scale Proposal for Consumers' Cryptocurrency Buying Behavior within the Scope of Conspicuous Consumption

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Abstract

Cryptocurrencies have met with a great deal of interest since they first appeared. It is not just because it is a new technology. At the same time, the fact that these instruments provide very high returns in specific periods has made them attractive as an investment tool. This research questioned whether there is a different message that individuals who buy cryptocurrencies want to give to their social environment under this behavior. In other words, this study aims to develop a scale to measure the tendency of individuals to buy cryptocurrencies for conspicuous reasons. In order to reach the goal, the quantitative method was preferred, and data were collected from 400 people. As a result, a valid and reliable scale consisting of fourteen items and three dimensions was obtained. This scale will likely be used by researchers who want to investigate the purchasing behavior of cryptocurrencies in more detail in different studies in the future.

Keywords: Cryptocurrency, blockchain, consumer behavior, conspicuous consumption

Introduction

The rapid development of internet technologies in recent years has played an essential role in introducing the blockchain concept (Kim et al., 2016). Considering the Internet of Things and machine-to-machine payment technologies (M2M), it would not be wrong to say that

cryptocurrency technology is one of the crucial components of the Fourth Industrial Revolution (Chalmers et al., 2021; Eckhardt et al., 2019; Ferreira et al., 2020; Harvey et al., 2018; Lee, 2019; Morkunas et al., 2019; Pazaitis et al., 2017).

Although cryptocurrencies have just started to be mentioned on the agenda, they have managed to create an awareness that will attract the public's attention. However, since these coins do not have a homogeneous technology, their features may also differ. For this reason, each cryptocurrency addresses a different user segment (investor, speculator, consumer, etc.) (Mendoza-Tello et al., 2019). In this research, the concept of "*cryptocurrency*" is used to express any decentralized currency digitally produced with cryptographic algorithms and used as a payment and investment tool.

Conspicuous consumption is a concept that many researchers, including economists, marketers, and those working in the field of psychology, are familiar with. However, it primarily expresses an understanding of consumption that is not utilitarian, luxurious, unnecessary, or wasteful (Campbell, 1995). Therefore, this type of behavior has an interdisciplinary aspect.

This research aims to develop a scale that can enable the behavior of buying cryptocurrencies to be considered within the scope of conspicuous consumption. Because people can use their assets to show their wealth, it will not be surprising that crypto assets appear as a similar indicator of wealth in today's digitalizing world. Therefore, it is inevitable that there will be a need for a scale to measure such behaviors in the future.

As a result of the literature review, the questions of the scale developed by Phillips and Back (2011) were adapted to fit the scope of the concept of crypto-conspicuousness. The 17-item scale was applied to 400 people. As a result of the exploratory and confirmatory factor analyses, a valid and reliable scale consisting of fourteen items and three dimensions was obtained. The scale can explain 87.48% of the total variance. In addition, the Cronbach Alpha value of 0.975 indicates that the scale is a reliable measurement tool.

The importance of this research is that it reveals the conspicuous perceptions of consumers towards cryptocurrencies, which have the

potential to change the traditional economic structure, are becoming increasingly easier to access, and are starting to take place more and more on the public agenda. From this point of view, it is evaluated that the research will contribute to the literature with its implications for e-commerce, blockchain, cryptocurrency, and consumer behavior.

Literature Review

Cryptocurrency

"The World Bank defines a fiat digital currency as a digital currency that is not backed by any underlying asset, has zero intrinsic value, and does not constitute an obligation on any institution" (Natarajan et al., 2017). The European Central Bank (2015) defines digital currencies as "instruments that digitally represent a particular value that has not been issued by any central bank or credit institution and can be used as an alternative to money in certain situations". In addition, cryptocurrency is a "decentralized platform independent of any government or central authority" (Beikverdi & JooSeok Song, 2015; Rajput et al., 2015). In cryptocurrency research, cryptocurrency is commonly understood as a medium of exchange; however, it is not yet generally socially accepted and commonly used (Phillips et al., 2023).

The first cryptocurrency to emerge was Bitcoin, introduced by Nakamoto (2008). Other cryptocurrencies that emerged after Bitcoin are designed with similar principles and algorithms. Because of this, Bitcoin can also be considered the ancestor of all existing cryptocurrencies (Egorova & Torzhevskiy, 2016). Because Bitcoin is open-source software, and the source code can be obtained on GitHub (Kuo Chuen et al., 2017). Using this code, software developers worldwide have led to the emergence of many different cryptocurrencies besides Bitcoin.

The cryptocurrency market has developed rapidly after the emergence of Bitcoin, and alternative cryptocurrencies (Altcoin) and tokens (NFT / Non-fungible tokens) have emerged (Jia et al., 2020). The altcoin is the abbreviation of "Alternative Bitcoin". Altcoins emerged with minor changes to the original Bitcoin algorithm (Arsov, 2018; Fokri et al., 2021; Huang et al., 2018). Therefore, they can be considered alternative cryptocurrencies. Altcoins can also be bought and sold in

secondary markets according to their values (Glaser & Bezenberger, 2015) and can be used as a means of payment (Fokri et al., 2021). Tokens (NFT / Non-fungible tokens) are one of the main elements of the blockchain world (X. Li et al., 2019). They digitally represent various assets, benefits, or rights to a particular blockchain project (Pilkington, 2015; Sunyaev et al., 2021). In another definition, NFTs are blockchain-based tokens that securely match property rights on digital assets with other digital assets (Dağlı, 2021). Tokens have become ideal value elements thanks to their ease of use and exchangeability (Pilkington, 2015).

Cryptocurrencies are produced in a decentralized way by a method called "Cryptocurrency Mining". Cryptocurrency mining is a new type of economic and technological human activity with a very complex structure (Zatsepin et al., 2020). Due to the decentralized nature of cryptocurrencies, a new block is constantly added to the blockchain by those who provide their computer facilities to the system, thus ensuring the system's sustainability (Mohsin, 2021; Sukharev & Silnov, 2018). Furthermore, people who provide their computer facilities to the system will earn some of the cryptocurrency produced as a reward for this contribution (Sukharev & Silnov, 2018). On the other hand, the mining infrastructure needed in various markets can provide this service for rent for those without physical computers for cryptocurrency mining (Yuen et al., 2020). In order for the mining process to take place and for the production of cryptocurrency, mining computers need to solve a very complex mathematical problem, which is why the excellent hardware features of the computers used to appear as an element that accelerates the process (Mohsin, 2021; R uth et al., 2018). Over the years, the difficulty level of cryptocurrency mining has also increased (Ghimire & Selvaraj, 2018), and as time progresses, the need to update the devices used arises. However, there are also critical approaches from the sustainability perspective toward the high amount of energy consumed in cryptocurrency mining (Fadeyi et al., 2019; Goodkind et al., 2020; J. Li et al., 2019). An average Bitcoin transaction is said to consume 3 or 4 times more power than is required for 100,000 VISA transactions, which is a very concrete comparison (Xu et al., 2018).

Despite the high interest that cryptocurrencies have received in recent years, it is difficult to say they are entirely accepted (Almajali et al., 2022). Cryptocurrencies can also be compared with cash due to the features they have. Nevertheless, unlike cash, cryptocurrencies are entirely digital and are mainly used online. The fact that cryptocurrencies have the potential to compete with virtual payment tools such as credit cards, virtual cards, and PayPal creates an expectation that they will have significant effects on payment systems in the long run (Gandal & Halaburda, 2014). Therefore, it is expected that the level of adoption of blockchain technologies in e-commerce and the prevalence of cryptocurrency usage will increase in the future. However, as of today, performance inconsistencies and scalability problems in cryptocurrencies cause the limitation of the application area of these blockchains in e-commerce (Lim et al., 2019). Sabry et al. (2020) gathered the difficulties they encountered in using and spreading cryptocurrencies under seven main headings due to their extensive literature review. Figure 1 illustrates these difficulties. In the figure, it would be appropriate to say that the elements of trust in cryptocurrencies come to the fore.

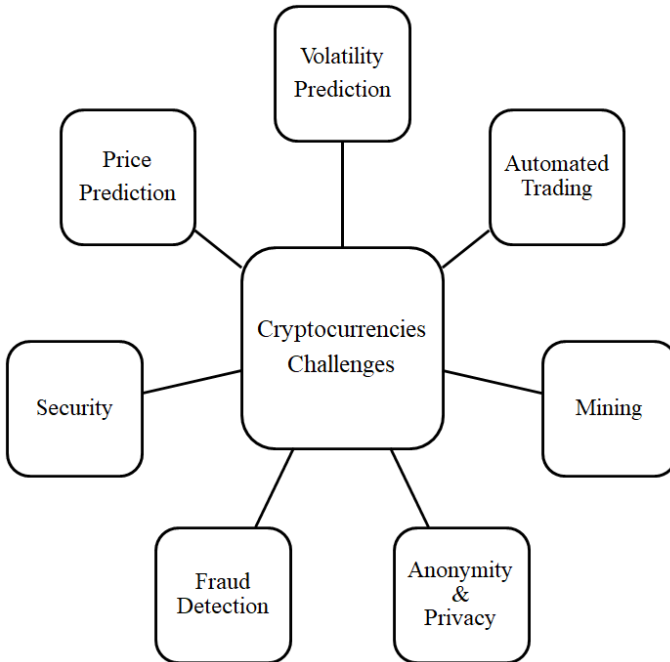


Figure 1. Challenges faced by cryptocurrencies, Source: Sabry et al., 2020.

The market price of a cryptocurrency comes from the trust that its users have shown that cryptocurrency can be used as a means of payment (Kelly, 2015). Although cryptocurrencies do not have a physical asset like gold, they will be valued to the extent that they are accepted and trusted (DeVries, 2016). In the past 14 years, the cryptocurrency market has snowballed after the emergence of the first cryptocurrency. As such, the concept of cryptocurrency has become more and more attractive to people day by day. While Bitcoin was \$0.07 in 2009, its value reached \$20,089 in 2017 (Kjærland et al., 2018), with various ups and downs in the process, and reached \$67,778 in November 2021 (BBC News Türkçe, 2021). This situation can also be considered a concrete output of the volatility in the cryptocurrency market. It is said that the most critical risk in cryptocurrency markets is volatility due to the lack of legal regulations. That also threatens cryptocurrency payments (Mendoza-Tello et al., 2019). The value of a cryptocurrency, in general, emerges through the following:

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- Users' trust in that cryptocurrency (1),
- The level of usefulness of the relevant cryptocurrency (2) and
- It is related to its popularity (3) (Mendoza-Tello et al., 2019).

In addition, the supply and demand of a cryptocurrency can be affected by:

- Social media trends,
- Alternative investment tools (precious metals, etc.),
- Market prices of gold and petroleum (Madichie et al., 2023),
- Supply and demand of other cryptocurrencies,
- Developments in stock markets,
- Governmental decisions regarding cryptocurrencies and their economic dynamics (Sabry et al., 2020).

There are many actors with different expectations in the cryptocurrency ecosystem, such as traders (including criminals), regulators, cryptocurrency miners, etc. (Sabry et al., 2020). These actors are given in Figure 2.

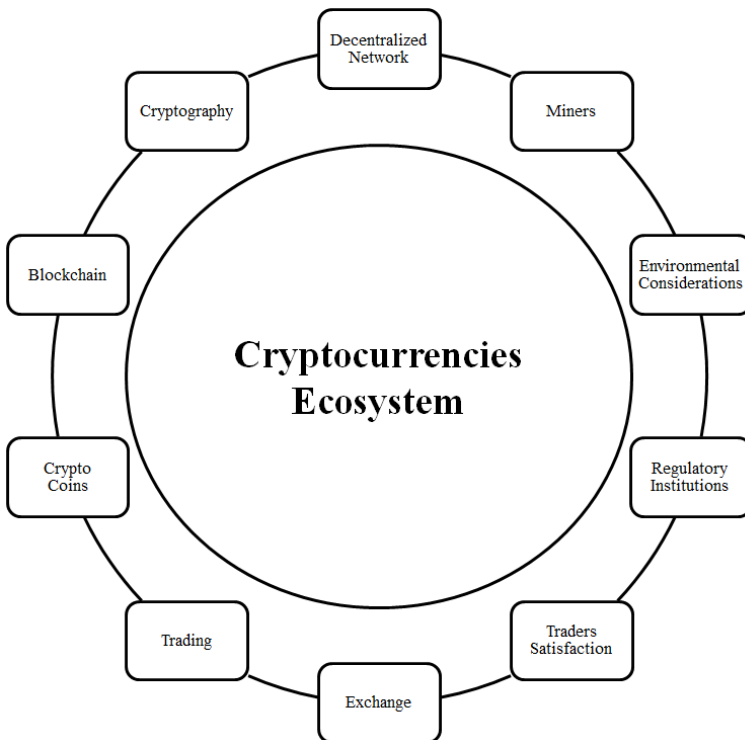


Figure 2. Cryptocurrency Ecosystem, Source: Sabry et al., 2020

There is a need for a digital cryptocurrency exchange system for commercial and financial transactions with cryptocurrencies. “A cryptocurrency exchange system is a set of digital principles and procedures programmed to enable exchange processes between cryptocurrencies, products, and official currencies” (Fang et al., 2020). Another reason these systems exist is to overcome price manipulations, cybercrime activities, and transaction delays (Bauriya et al., 2019).

Cryptocurrency wallets (crypto wallets) are vital elements in the cryptocurrency exchange system. Users considering using the blockchain system for any transaction should have a crypto wallet. Unlike traditional physical wallets, cryptocurrencies are not stored in crypto wallets. That is because cryptocurrencies are not physically available anywhere. Instead, Crypto wallet software allows the user to create an account and store information about this account. Through this software, users can transact with the cryptocurrencies they own. All of these transactions take place as a data stream on the blockchain, and while the crypto wallet software performs this process, the transactions are stored, the instructions are given, and the security of the transfer and account. That software can be installed as an application on a computer or mobile phone (Suratkar et al., 2020). In summary, crypto wallets are software that allows the user to view the balance of a particular address and exchange the values in his possession on the blockchain, and it is not possible to transact with cryptocurrencies on the blockchain without having a crypto wallet (Dlamini et al., 2017; Gentilal et al., 2017).

Cryptocurrencies affect not only consumers individually but also the global economy at a macro level (Vigna & Casey, 2016). For this reason, it is also said that using cryptocurrencies can cause discomfort for consumers, infrastructure providers, governments, and institutions authorized to carry out monetary policies (Hardman et al., 2013). Because governments and their authorized bodies want a say in commercial transactions in the markets through laws, policies, and regulations, the elimination of uncertainties with the regulations to be made in this regard will increase the motivation of individuals to own and use cryptocurrencies (Foley and Lardner LLP, 2018).

Conspicuous Consumption

With the effect of increasing income, geographical mobility, technological developments, product diversity, fashion, and symbolism with the Industrial Revolution, there has been rapid development and change in consumption behavior. One of the consumption patterns revealed by this change is conspicuous consumption.

Although the conceptualization of conspicuous consumption goes back to Adam Smith's rhetoric that "it is not wealth that people desire, it is acceptance, and good thoughts waiting for the rich" or Karl Marx's claim of a need to attract capital, the generally accepted framework is defined by Veblen, an American economist, and sociologist. It is said that it was revealed in 1899 in a work called "The Theory of the Leisure Class" (Memushi, 2013).

Conspicuous consumption can be defined as the expenditures made to inflate the individual's ego (Veblen & Chase, 1934) and prove his wealth by showing off (O'Cass & McEwen, 2004). In other words, it can be expressed as an individual's signals to show his wealth to others to increase his prestige in society.

Conspicuous consumption plays a leading role in social relations by displaying purchased goods and using them as a status element. According to Veblen and Chase (1934), the main reason for showing such behavior is the desire of consumers to establish a social network for themselves and to imitate higher socio-economic classes (Patsiaouras & Fitchett, 2012). In other words, the benefit provided by the consumer in conspicuous consumption is defined through status.

People prove their social status with the things they buy, and they give a signal to other people about their social world (Levy, 1959). In other words, the individual distinguishes himself from a lower socio-economic class with this form of consumption and proves he is a member of his class. Therefore, consumers are willing to bear a cost for the meaning of the product rather than its functional benefit (Bagwell & Bernheim, 1996). When considered within this framework, ostentatiousness arises in proportion to society's perception of the difference between those who can have the product and those who cannot.

Methodology

The research aims to propose a new conceptual structure and scale, and these aims include exploration and testing processes together. Accordingly, quantitative data were used in the study. The main purpose of this research is to obtain a scale about consumer's conspicuous tendencies to purchase cryptocurrencies. The scales used in the literature to evaluate conspicuous consumption behavior aim to measure the extent to which the respondents use the behaviors over certain assets. In this study, the scale items created by Phillips and Beck (2011) were adapted to measure the conspicuous consumption behavior of consumers towards cryptocurrencies. In the original study, the number of questions was 17, the number of dimensions was 4, the total variance explained was 71.93%, and Cr. The alpha value was found to be 0.93. The questions were asked with the 7-point Likert method (1-Strongly Disagree - 7 Strongly Agree) as in the original scale. In addition, the design of a valid and reliable scale for consumers' conspicuous consumption behaviors of crypto assets is among the research aims.

The population of the research is adult Turkish consumers. According to the Population Statistics announced by the Turkish Statistical Institute, the adult population in Turkey is 84,680,273 (Turkish Statistical Institute, 2022). Therefore, collecting data from at least 384 individuals will be sufficient for the analyses to be made at the 95% confidence interval (Krejcie & Morgan, 1970). Therefore, the convenience sampling method was used in data collection.

Data was collected using an online form created using Google Forms. The data obtained within the scope of the research were subjected to exploratory factor analysis, reliability analysis, and frequency analysis through the SPSS package program. In addition, confirmatory factor analysis was performed using the AMOS program to determine the construct validity of the research model.

This research was conducted under academic ethical principles and legislation.

Findings

During the data collection process, valid data were collected from 400 participants. It is sufficient as the number of participants is more than 384. When the demographic characteristics of the participants are examined, it is seen that there is a balanced distribution in gender and marital status. Considering the age variable, it is noteworthy that the distribution is not balanced.

Table 1. Demographics of the participants

Gender	
Male	212
Female	188

Marital Status	
Married	223
Single	177

Age	
Between 18-25	125
Between 26-33	19
Between 34-41	59
Between 42-49	77
Between 50-57	38
58 or older	82

As a result of the exploratory factor analysis, it is seen that the concept consists of three dimensions. In addition, it is seen that the questionnaire explained 87.48% of the total variance, and the Cronbach Alpha coefficient was 0.975. Therefore, the scale's measuring competence for the concept and reliability are high.

Table 2. Exploratory Factor Analysis and Reliability Statistics

#	D-1	D-2	D-3
G1	,849		
G2	,881		
G3	,841		
G4	,705		
G5	,825		
G6	,861		
G9	,759		
G10	,724		
G11		,752	
G12		,734	
G16		,775	
G17		,780	
G13			,827
G15			,719
KMO	0,933		
Bartlett's Test of Sphericity	0,000		
Approx. Chi-Square	2070,405731		
Cronbach's Alpha	0,975		
Total Variance Exp.	87,48%		

KMO is a value recommended to be 60% or more (Nakip, 2006) and shows the validity of the applied factor analysis. The result of the Bartlett Test being 0 indicates that the data is in a suitable structure for factor analysis. Similarly, the chi-square value obtained indicates the suitability of the data for factor analysis.

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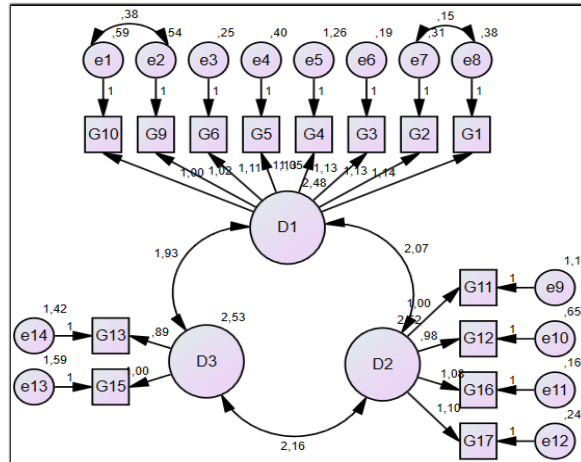


Figure 3. Confirmatory Factor Analyses

Confirmatory factor analysis was applied to test the construct validity of the scale. CMIN/DF, CFI, GFI, and RMSEA indices were evaluated in confirmatory factor analysis. As a result of the analysis, it was understood that all of the fit indices were within acceptable limits. In other words, the scale provides statistical construct validity.

Table 3. Test Results for the Fit Indices

Fit Indices	Test Result	Acceptable Limits	Reference
CMIN/DF	2,155	$2 \leq \text{CMIN/DF} \leq 5$	(Awang, 2012; Marsh & Hocevar, 1985)
CFI	0,960	$0,90 \leq \text{CFI}$	(Noudoostbeni et al., 2018)
GFI	0,825	$0,80 \leq \text{GFI}$	(Chan & Sun, 2019)
RMSEA	0,074	$0,05 \leq \text{RMSEA} \leq 0,08$	(Noudoostbeni et al., 2018)

Discussion and Conclusion

The effects of cryptocurrencies on economic life and the attitudes of individuals towards cryptocurrencies appear as exciting topics in the current literature. It is seen that cryptocurrencies have developed quite rapidly since their emergence in 2008. One of the reasons for this development is people's interest in the subject. In this study, a scale was

developed based on conspicuous consumption, which may be one of the reasons for the interest, as mentioned earlier.

The research aims to propose a new conceptual structure and scale. As a result of the exploratory and confirmatory factor analyses, a valid and reliable scale consisting of fourteen items and three dimensions was obtained. The scale can explain 87.48% of the total variance. In addition, the Cronbach Alpha value of 0.975 indicates that the scale is a reliable measurement tool. The scale consists of fourteen items and three dimensions. The lowest score that can be obtained from the scale is fourteen, and the highest score is ninety-eight. The ranges given in the table can be taken into account in the interpretation of the scale scores. It is also worth noting that this scale is quite innovative in measuring consumers' conspicuous tendencies towards crypto assets. In this context, it can be said that the study will bring a new approach to the literature.

Table 4. Scale Score Evaluation Chart

Score	Level
14-41	Low
42-69	Moderate
70 or above	High

In the literature, some studies suggest that individuals who do not save enough, especially at later ages and after retirement, may suffer due to conspicuous consumption (Murphy, 2018). However, buying cryptocurrencies to show off can encourage behavior, as it may also allow spending to be positioned as a saving in the consumer's mind. Understanding the reasons for individuals' conspicuous investments in cryptocurrencies, which include various financial risks, especially under the guise of savings, may help prevent individuals from experiencing financial problems in the future. Studies also show that cryptocurrency technologies increase the tendency of individuals to engage in some negative behaviors, such as online gambling (Delfabbro & King, 2023). It is also said that individuals who trade with cryptocurrencies in the markets engage in irrational behaviors such as herd behavior. In other words, they lose control over their purchasing

behavior because they cannot use their own will (Amirat & Alwafi, 2020; Choi et al., 2022; Liu & Zhang, 2023). Therefore, the phenomenon of cryptocurrency has brought different consumer behavior patterns and, thus, social consequences with its emergence. Since cryptocurrencies are a new technology and the prevalence of its use, individuals can make some mistakes. For this reason, it would be appropriate to provide basic crypto literacy training to users by both the government and service providers related to cryptocurrencies.

On the other hand, the scale can be used alone or in combination with other scales in future studies. It is considered that valid results can be achieved if the scale is used together with psychographic scales such as personality, self, self-esteem, or various scales related to confidence and risk. In addition, practitioners can use the scale to reveal whether individuals behave rationally in cryptocurrency usage preferences. In addition to these, using the scale together with various demographic variables can determine whether there are differences according to them.

New cryptocurrencies are being introduced to the market every day. The releaser of the coins should be aware that there are many psychographic factors underlying the attitudes towards cryptocurrencies. Cryptocurrency releasers who correctly interpret this fact will receive more attention towards their coins. Therefore, using the scale developed in this study, they can make accurate inferences about their target markets within the scope of conspicuous consumption.

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APPENDIX-1: Questionnaire

#	QUESTIONS	1	2	3	4	5	6	7
1	Having cryptocurrencies increases my value in the eyes of others.							
2	Having cryptocurrencies makes me look more fabulous in the eyes of others.							
3	Owning cryptocurrencies allows me to gain popularity among my social circle and coworkers.							
4	Owning cryptocurrency is a sign of wealth.							
5	Owning cryptocurrency makes me feel important.							
6	Owning cryptocurrency causes other people to respect me.							
7	Owning cryptocurrency is a sign of social status for me.							
8	Owning cryptocurrency is a sign of success and prestige.							
9	If I were to buy cryptocurrencies, one of the reasons would be that I want people to know I am doing it.							
10	I would like to buy cryptocurrencies because it is fashionable nowadays.							
11	I would like to buy cryptocurrencies to experience them because of their unique features compared to traditional coins.							
12	If I had the opportunity, I would like to buy a large number of cryptocurrencies.							
13	Since my social circle and coworkers are buying cryptocurrencies, I want to buy cryptocurrencies too.							
14	Since some people I know/know (including those known/know on social media) buy cryptocurrencies, I want to buy cryptocurrencies too.							