

Is It Understanding or Behaviour that Influence People to Use Cryptocurrency?

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Abstract---This study aimed to determine the influence of understanding of cryptocurrency and behavior toward risk on the intention to engage in cryptocurrency transaction. This study attempted to investigate the basic reason why people would use the cryptocurrency. This research used open ended and closed ended questionnaire to gather data and then regress the correlation between variables. The findings showed that both understanding of cryptocurrency and behaviour toward risk had significantly influence the intention to use it. This could help Indonesia government in considering whether it is necessary to regulate cryptocourency, in order to make people feel more secure in using cryptocurrency. Then probably cryptocurrency would sustain in the future and could support the nation in boosting economy.

Keywords---risk-lover, cryptocurrency, understanding, regulation in Indonesia, boosting economy.

I. Introduction

Understanding of cryptocurrency is still in question since it is quite a new thing used in transaction compare to coins that had been used for hundreds of years, or even to plastic money that had been in used for decades. People are still not sure regarding of how exactly the setting up of the value of this cryptocurrency (Blockgeeks,2018), yet more and more people use it in transactions. In Indonesia, the use of cryptocurrency in daily transaction is getting wider. We can find stores both on-line and off-line that accept cryptocurrency as the media of payment such as in Jakarta, Bali, Semarang, Bandung, and even Lubuk Linggau in South Sumatra.

This is an interesting condition that needs exploring since cryptocurrency is creeping up to fuel the economic transactions. Though some insisted that this cryptocurrency exist only in the virtual world, nevertheless, when it is used in real transaction in the real world, we can no longer disregard that it is a real tool, as real as the coin and paper money we use in daily transactions.

The existence of a cryptocurrency is merely based on the trust of users that involved in the transactions using it. The condition is formed because there is no central authority to rule the whim of cryptocurrency. A Cryptocurrency exist by itself and can be abolished only because of the lost confidence of users (Lansky;2018,20). This means the existence of these cryptocurrencies is merely depending on the trust of people. Therefore, one question emerge: is behavior toward risk had been driven people to use cryptocurrency to this day?

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According to Scott, the use of cryptocurrency may create financial institutions that look beyond profits which is built on the fundamental of social and solidarity principles (Scott, 2016, p7-8). It meant that Scott saw this cryptocurrency could help economy, especially in poor or developing area, to increase. This is one area that should be dig deeper once we understand more of the behaviour of the cryptocurrency users.

Therefore, in order to see the sustainability of this cryptocurrency and to take advantage of the existence of this commodity in our economy, it is essential to look deeper into the mind of people regarding their perception towards cryptocurrency. This research try to investigate whether the understandability and the behavior towards risk influence the intention to use the cryptocurrency.

Moreover, the transaction using cryptocurrency in Indonesia is accelerating rapidly. Indonesia is very potential in virtual money market. The daily transaction of cryptocurrency in Indonesia is estimated to be in the average of US\$3million to US\$20million (Dabu, 2019), whilst the user of cryptocurrency in Indonesia is estimated to be 1,2 million to 2 million users according to M. Yusuf from Business Strategist Gopax Indonesia (Dabu, 2019).

The high volume of trading attracted Zipmex, one security token offering company, to open an office in Indonesia. The company also gather information regarding the volume of the global market and OTC service in one platform. The existence of this kind of company is essential for the liquidity of the cryptocurrency. Also it is important to push the Indonesian government to pay more attention to this business. Similar to the opening in Australia, Zipmex also tried to build trust from the users by getting license from the authority in countries where it operates. When there is no regulations regarding the license in the market, it should comply with common government regulations such as anti money laudryng and terrorist funding (Dahwilani, 2019).

II. Literature Review

Cryptocurrency

Cryptocurrency is a set of technology based on cryptography and algorithm, where they would set codes and signs mathematically to create virtual money (Nubika;2018, 106). It is an exchange medium using strong cryptographic codes to secure transaction, control the units creation, and verify the transfer of units from one owner to another (Lansky;2018, 19). Chohan (2017, p1) describe crypto currency as a cryptographic based digital asset, which is functioning as an exchange medium, which transactional flow and addition of units is controlled also by the technology of cryptography. There are various ideas of how to treat this cryptocurrency, some think of it as a commodity or an asset, some think of it as another kind of currency, more or less the same as virtual currency. Another opinion by The Head of Central Bank of Canada, Stephen Poloz: he did not acknowledge cryptocurrency as currency but probably a kind of securities (Nelson, 2018).

Lansky (2018, p121) also stated that there are three features of cryptocurrency that exist at the same time, those are 1) pseudo-anonymity, 2) independence from central authority and 3) no possibility of double spending. Pseudo-anonymity secures the individual using cryptocurrency from being detected, unless he reveals himself. Pseudo-anonymity could be reached because the cryptographic code that becomes the identity of transaction. No central authority could manage the system because it runs independently and globally through the internet. In addition, thanks to the meticulous cryptographic system, one set of number for one transaction could never be used for a second transaction.

Understanding Cryptocurrency

Understanding cryptocurrency is something that should be all-inclusive, which includes the features bound to it, such as: how it is created, the decentralized system, the ownership, the cryptographic system, the pseudo-anonymity, and probably the most interesting and most confusing is how to set the value of cryptocurrency.

Although there are many kinds of cryptocurrency, the first and most used is the Bitcoin. It means any discussions regarding cryptocurrency is mostly the discussions of bitcoin as the pioneer of cryptocurrency. When discussing about the fluctuation of cryptocurrency, we cannot fail to look at the bitcoin value (Chohan, 2017 p3). It has its ups (deflation, meaning bitcoins increase in value) and downs (inflation, meaning bitcoins decrease in value) regardless of the belief of its creator – Nakamoto - that he had invented a currency without inflation. Nakamoto believed that the value of bitcoin is not affected by inflation because of the controlling and preannouncing the supply of bitcoin (Iwamura et al, 2014 p28).

One study by Dyherberg (Lansky,2016,p121) showed that the volatility of bitcoin is a combination of US dollar properties and gold. Lansky (2016, p128) examined one of the reason of the decrease value of some cryptocurrency caused by the market correction of previous unreasonable increase following bitcoin increase of value. It means that one kind cryptocurrency should have its own value and can not merely follow the fluctuation of other cryptocurrency.

The second reason of drop in value was the mass selling of cryptocurrency by their owners. Is it caused by the loss of trust of its users? Or because its users were simply playing the cryptocurrency as other commodities, sell when the price is on top, then the value will drop. And because the players are not quite much wide compare to other commodities, the currency then lost all of its value, back to the beginning: the users lost their faith on the cryptocurrency.

Lansky also investigate that the increase of cryptocurrency value was when it brought technology innovation and decentralized services demanded by users (2016, p131). This is one thing that not common in other commodities.

When the volatility of any kind of currency is high, the trust of users is essential. From the theory of Efficient Market Hypothesis, the behavior of market player is homogenous towards information (Hendriksen, 1992 p.169). Therefore, when there is a decline tendency of cryptocurrency value, the market player would tend to do the same rationale: which is to sell, which would drive the cryptocurrency to a continuous decline. However, this is certainly not what is happening to all of them. According to Lansky's research, from 1278 kinds of cryptocurrency, 688 of them extinct (2016, p133). That means half of them still could grip the trust of its users.

Nevertheless, it is the naive understanding of the currency, which had driven bitcoin to its success today, besides the cryptosystem, which validate and register transaction and the P2P participatory system (Iwamura et al, 2014 p28). Put it in reversed, is the sophisticated understanding of cryptocurrency would holdback the users from using it?

Behavior Towards Risk

Given certain assumptions about the behavior, human have certain attitude toward risk (Hendriksen, 1992, p205). For individual who are the risk-neutral, any given circumstances would not have different impact on their decisions, because they are indifferent. On the other hand, risk lovers, the gamblers, usually would take risks more because they are willing to pay for it, and presumably, because they derive satisfaction other than monetary matters. As for the risk-averse type of individuals, they would avoid uncertainty, therefore playing in high risk is not in their mind. In facing the volatility of cryptocurrency, the group of risk averse business player would probably avoid using cryptocurrency for their transactions, considering the high volatility of the value of this cryptocurrency. The risk-neutral group of individuals would be indifferent; therefore, when there is a chance to gain earnings from the cryptocurrency transaction, as long as there are considerable risk to take, probably they would get into it. As for the risk lovers group of business player, that volatile whim could become a kind of attraction, since the pleasure they get is not merely in monetary form. From this point of view, one

could expect that the individuals who are engaged in cryptocurrency transaction, more or less are tend to be from the group of risk-lovers.

Theoretical Framework and Hypothesis Development

Since the cryptocurrency nowadays is dominated by bitcoin with its features, there is no sufficient comparison to other kind of cryptocurrencies. That means the understanding of its behavior is not precisely predictable or known.

The understanding of cryptocurrency can be gained from understanding their features, as Lansky (2018,19) proposed, they include the followings:

1. There should be a decentralized system with no central authority
2. The cryptographic system control the creation of units, ownership, transaction or transfer of unit between parties, therefore it become pseudo-anonymous.
3. Only one possibility of instruction could be executed to change ownership of one particular cryptographic unit.

Quoting Iwamura et al (2014,28) the success of bitcoins is merely because the people using it are naive. Stated otherwise, would deeper understanding of the cryptocurrency render the intention to use it?

Therefore, the first hypothesis drawn is:

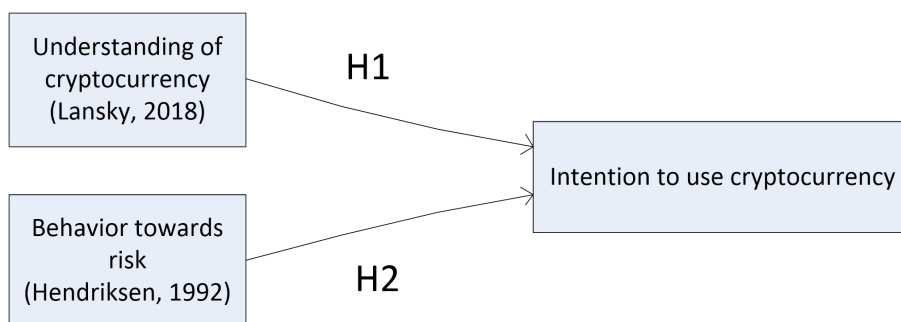
H1: Understanding of cryptocurrency would influence the intention to use it

There are three kinds of behavior towards risk that would influence business decisions. Those are the risk averse, risk lover, and risk neutral. The fact that the value of cryptocurrency is not stable and historically experiencing high ups and downs, it may render the intention of using it, especially for the group of risk averse or risk neutral individuals. Therefore, the second hypothesis drawn is:

H2: Behavior towards risk would influence the intention to use cryptocurrency

The theoretical framework of this research is shown in Figure 1.

Figure 1: Theoretical Framework



III. Method

The media to gather the data was questionnaire. There were three groups of closed questions to represent two independent variables (X1 and X2) and one dependent variable (Y), plus one open-ended question. The questionnaire statements used likert's scale, with five level of answer, start from strongly disagree (1) to the strongly agree (5). Statement for X1 was regarding the understanding of cryptocurrency. Behavior towards risk, which was stated as risk lover statements, were included in the X2 group of statement. Then, the group of Y statements was regarding the intention of respondent to use cryptocurrency.

The open question asked why respondent wanted or did not want to use cryptocurrency in transaction. The answers enhance this research, to reveal other factors that would come up, which was not included in the closed questions. It also sharpened the opinion on certain aspects that respondents may think was important.

Multiple regression model used to calculate the relationship between dependent variables (X1 - understanding of cryptocurrency and X2 – behavior toward risk) and independent variable (Y – intention to use cryptocurrency). The t-test is used to test the hypothesis.

A group of users of cryptocurrency and a group of lecturers are the population of this research. Users of cryptocurrency and lecturers should have enough understanding of cryptocurrency and presumed to be aware of risk. Using simple random sampling, 30 individuals were taken to be the respondents.

IV. Findings

The findings of the research, calculated using SPSS ver24, is shown in Table 1 as follows:

Table 1: Findings of the Research

Variable	Regression Coefficient	t-calculation	Significance
Constanta	-5,242	-	-
X1	0,236	4,875	0,000
X2	0,583	1,690	0,100

Therefore, the regression model derived from Table 1 is as shown here:

$$Y = -5,242 + 0,236X1 + 0,583X2 + e$$

The t-test results to test the partial influence shows as follows:

X1 = t-cal 2,796 > t-table 2,035, which means H1 is accepted

X2 = t-cal 1,690 > t-table 2,035, which means H2 is not accepted

The discussion of the findings above and from the open-ended questions is discussed in the next caption.

V. Discussion and Conclusion

The result from analyzing the X1 showed that the understanding of cryptocurrency is significantly influence the intention of using the cryptocurrency. The result of the correlation has a positive direction. It means that the higher the level of understanding would induce the intention of using the cryptocurrency. Therefore, the result showed that the first hypothesis is accepted, which is there is a strong relation between the understanding of cryptocurrency with the intention to use it.

The direction of the value of behaviour toward risk is positive. It means when the risk lover behavior increases then also is the intention to use cryptocurrency. However, according to the findings, the behavior towards risk did not have significant influence to the intention to use cryptocurrency, therefore the second hypothesis is not accepted. It seemed that individuals that engaged in cryptocurrency transaction was not driven by the attitude regarding risk. It could be because they use it basicly for business convenience: the pseudoanonymous reason, probably.

The open-ended question added to any other reason why the respondent wanted or did not want to use crypto currency. From all the answer to the open question, the answer is classified into four groups of similar responses, which are:

1. The lack of regulation of this currency in Indonesia cause the hesitation to use it.
2. The relatively high risk of this kind of currency and no safe-guarantee for cryptocurrency transaction cause the hesitation to use it
3. The obscurity of the way to determine the inflation rate and foreign currency of the cryptocurrency cause the hesitation to use it
4. It is a future currency that provide convenience in global transaction, therefore, there should be more education provided to increase the use of it.

Most of the consideration of the reluctance of using the cryptocurrency is related to the relatively high risk. They understand the volatile value of the cryptocurrency. This characteristic is of course not popular. The obscurity of how the value is set become one more important thing to consider. That is why from Iwamura (2014) statement and the findings of this research, trust is probably the most important factor in keeping the cryptocurrency rolling. It is along with the findings, that understanding of cryptocurrency significantly influence the intention to use it.

The lack of regulation probably is also one of the reasons why the cryptocurrency is not quite popular in Indonesia. Probably Indonesian government does not consider the cryptocurrency matter as something that has an urgency to be regulated. On the other hand, respondents seemed to wait for the regulation to ensure their intention to use crypto currency. It means the existence of regulation may increase the trust of people to be willing to use cryptocurrency. Therefore, it is kind of where to be first: the egg or the chicken.

Contrary to the idea that cryptocurrency cannot be ruled by any central authority, the consequences is very real. The transaction would have real impact in the world economy. Therefore, some country took action to try to regulate some aspects of cryptocurrency that have impact to their economy. There is still variety of point of views among countries regarding the regulation or the legal position of cryptocurrency. The legality of this currency could be divided into 3 classifications among countries, those are: 1) strong restrictions regarding the use of cryptocurrency in transaction, 2) banned it for good, 3) do not prohibit the use of it. (Nelson, 2018).

When people are well educated regarding the cryptocurrency, they probably would be willing to use it more. Then, this could lead to increasing the economy, since it could be an investment and also used as a digital currency at the same time. As Scott stated, it could help people in developing countries to do small-scale business transaction around the globe to be more efficient, less costly and easier (2016,p5). Of course, the main basic problem is that the internet connection facility should support it. For countries with a very wide areas that mostly villages like Indonesia, this would be very challenging, then Scott's idea is still too far fetch.

In the end, this study concluded that only understanding of the cryptocurrency influenced the intention to use it, while the behavior towards risk had nothing or very little to do with it. This research also indicates that through educating people of how this cryptocurrency work, the intention to use it may increase. Then, we could think of the next step regarding how it should help to boost our economy.

In the light of the above discussion, parties involved in cryptocurrency business expect that Indonesian government would soon comes up with regulations that would build more trust among the society. However, it is important to set the regulations that is fundamental and not only administrative matters, such as documents that need to be fulfilled or minimum capital/asset that need to be.

Some important statements in the regulation from the Commodity Futures Trading Regulatory Agency (Bappebti No. 5/2019) is still need to be manifested into real steps, such as in Article 2 paragraph (1) stated that the crypto asset trading should pay attention to the legal certainty and protection of users. Those statements are important yet still far from real technical steps compare to the regulation of how much the capital or the assets should be. It means, regulations regarding cryptocurrency should reach the essential matters, otherwise it would only hinder the acceleration of the business.

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