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The Sandwich Generation and Cryptocurrencies: Trust, Product Knowledge and Reference Group as Triggers of Investment Intention

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ABSTRACT

The rise and evolution of Cryptocurrency has been continuous since the launch of Bitcoin in 2009. However, Cryptocurrency as an investment instrument has not been able to attract the attention of young people. Moreover, the legal basis of trading involving Cryptocurrencies still has the potential to change, thus there could be concerns over the legality of Crypto assets as an investment medium. This research seeks to prove the effectiveness of several predictors such as trust, product knowledge and reference groups in shaping the intention to invest in Cryptocurrency. The result is that among the 3 constructs used in the measurement, only the Product Knowledge construct has a significant impact on the formation of intention to invest in Cryptocurrency.

INTRODUCTION

The rise and evolution of Cryptocurrency has been continuous since the launch of Bitcoin in 2009. Since its inception to date the awareness of the general public regarding Cryptocurrencies as well as how they are traded, managed and valued has greatly changed. There are even people who think that by using Cryptocurrency, people are able to reduce dependence on the state in general and banking institutions in particular to create fairer, decentralized, faster, and cheaper market conditions for transferring wealth (Lee et al., 2018).

The sandwich generation is a generation that has its own uniqueness because they have a different financial burden where in addition to having to support their own families, they also have an obligation to finance the lives of their parents (Bogan, 2015). Prior to that (Henchoz et al., 2019) showed an increasing trend of young people with productive age into the sandwich generation in 2015 by 15 percent from the previous year. It is a dilemma for the sandwich generation where they want to have a better life, but still feel obliged to support their parents who are no longer productive. For this reason, the sandwich generation needs to consider various types of investments that can improve their financial capabilities both now and when

they are no longer productive (Hardiyanti et al., 2021). Berbicara mengenai investasi, *Cryptocurrency* saat ini sedang menjadi pembicaraan utama bagi para investor muda. Terdapat berbagai daya tarik yang dimiliki oleh investasi jenis ini bila dibandingkan dengan instrument investasi lainnya. Instrumen investasi dalam bentuk *Cryptocurrency* tidak dapat lepas dari diperkenalkannya pertama kali Bitcoin oleh Satoshi Nakamoto pada tahun 2008. Secara ringkas, harga Bitcoin sempat mengalami kelonjakan menjadi US$4.780,15 pada tanggal 2 September 2017 (Lee, 2018). Banyak yang berpendapat bahwa, terlepas dari rumitnya pembayaran menggunakan *Bitcoin*, rendahnya tingkat utilitasnya, Bitcoin yang merupakan salah satu bentuk *Cryptocurrency* secara umum tidak memiliki nilai intrinsik seperti pada instrumen investasi lainnya (Garcia, 2014; Jung, 2017).

To encourage the Sandwich generation to invest in Cryptocurrency, especially Bitcoin, several driving factors such as a sense of trust in the instrument are needed (Bapat, 2017). A sense of trust in an investment instrument is vital especially when the instrument is relatively new and has not been traded for too long. In addition, the regulations governing Cryptocurrency, especially Bitcoin, are still relatively new so it is assumed that they will still undergo changes and improvements. It cannot be denied that Cryptocurrency still leaves doubts in the minds of investors, especially in terms of legality and guarantee of investment value because Cryptocurrency generally does not represent any financial organization, not even as a representation of any country.

In addition, there are also various triggers of investment intention, namely basic understanding of the features of an investment instrument (Rashid et al., 2020); as well as the influence of reference groups (Risi et al., 2021). When an investor does not have sufficient product knowledge, there is a tendency that the investor will refrain and even tend to avoid the investment instrument (Fride et al., 2015). However, a research that has been conducted in South Korea, investment in Cryptocurrency is actually the first choice instrument for productive age workers because of the ease of transactions, affordable prices when compared to property investment and has a perception of good investment value (Lee, 2022). The contradiction between a research result that shows that Cryptocurrency is an affordable investment instrument for productive age workers and the fact that the investment instrument is relatively new and the perception of high risk that will be faced causes researchers to feel interested in reconfirming several constructs such as trust, product knowledge, and reference groups as triggers of investment intention in Cryptocurrency, especially for the Sandwich generation in Indonesia.

LITERATURE REVIEW

The current form of money is part of a continuous process of financial innovation that began early in history. The payment system uses money as a medium of exchange that continues to evolve in accordance with the evolution of trade and the market economy (Lawson, 2013). One form of Cryptocurrency that has a place in the minds of investors is Bitcoin. Bitcoin is a peer-to-peer electronic money system that allows online payments from one party to another without going through financial institutions (Mir, 2020). This can be accomplished by using blockchain technology where the essence of this technology is to eliminate the need for intermediaries or third parties, such as banks or states, to oversee and verify monetary transactions (Suraj & Bontis, 2012).

For any investor, in transacting or investing, the investor must have confidence that the investment instrument is legal, safe, and has value. Blockchain technology allows users to store all transactions in a digital ledger together. Thus all transactions are known and should be trusted by investors. In addition, in terms of security, each transaction is encrypted differently from one another (Arli et al., 2021). Although more and more people are investing in Cryptocurrency, it turns out that there are still various problems in the political, legal and regulatory fields that hinder it (Greebel et al., 2015).

Furthermore, since Cryptocurrencies and the technology associated with them have no protection in relation to money and fund transfer processes, and in many cases, they are not backed by governments, it is assumed that the level of investor confidence in such investment instruments is low (Sas & Khairudin, 2015). In addition, the use of the word "currency" following the prefix "crypto" indicates that Cryptocurrencies have the same characteristics and functions of government-backed currencies, however, they are operated by non-governmental organizations. This is also assumed to reduce the level of confidence of potential novice investors in Cryptocurrency (Trautman, 2014). Some previous research that proves the importance of the trust factor on investment intention has been proven by Todorov (2017), Yanapath & Wilton (2014); Al Shehhi et al., (2014). Based on this explanation, the researcher proposes the following hypothesis to be tested.

H1 : Trust plays as significant predictor in the formation of intention to invest in Cryptocurrency.

Furthermore, in addition to trust, there are other factors that are also predicted to have a significant impact on the intention to invest in Cryptocurrency, namely product knowledge. A high level of knowledge indicates that the ability to understand and organize information owned by potential investors is also high (Arshad et al., 2020). Some previous research results have successfully shown that product knowledge owned by consumers is recognized as an important character that can influence purchasing decisions in all phases (Aspara, 2013; Bakar & Yi, 2016; Bashir & Nisar, 2013). However, conflicting research results are also shown by research conducted by Dayaratne & Wijethunga (2015) where in terms of investment, product knowledge becomes irrelevant because the trend of direct transactions is carried out by other parties or investment managers who better understand each investment instrument. However, the research team assumes that product knowledge, especially for young potential investors, is important to have in order to better understand the advantages and disadvantages of the Cryptocurrency instrument. For this reason, the research team proposes the following hypothesis to be reconfirmed.

H2 : Product knowledge play as significant predictor in the formation of intention to invest in Cryptocurrency.

Furthermore, the references provided by the community are generally predicted to be able to influence the thinking of each of its members in deciding something. In general, this has also been proven through several studies such as Risi et al., 2021; Hartzmark & Sussman, 2019; Risi, 2020). More specifically, the use of reference group constructs in predicting investment intention has also been proven, where according to Friede et al. (2015) and Kolbe et al. (2020) the construct is a significant predictor. However, according to research conducted by Kolenda (2021), reference groups do not have a significant influence on the intention to invest in relatively new financial instruments. The difference in research results proves that there is still a research gap that is still possible to confirm again through hypothesis testing as follows.

H3 : Reference group play as a significant predictor in the formation of intention to invest in Cryptocurrency .

METHODS

To be able to build a fit model with good generalization capabilities, at least 100 respondents are required to participate in this research. The respondents who are expected to provide answers to the close-ended questionnaires that will be distributed must have several

criteria, namely being part of the sandwich generation, having a special allocation of funds for investment, and have never invested in Crypto / Cryptocurrency assets.

After obtaining respondents who fit the criteria, the research team will submit a questionnaire containing various questions that represent each construct in this study. To get the right sample and a high percentage of response rate, the research team used snowball sampling technique so that the previous respondents can provide references for the next respondents. Thus, the time needed to collect data will be much shorter.

After the respondents provided answers, and the data was tabulated to map the answers of each answer, the research team conducted validity and reliability tests on the questionnaires to be collected. The parameter used to state that the questionnaire items in this study are valid is if they have a T-value for each loading factor and average variance extracted of more than 1.96 with a 5% confidence degree. Furthermore, to determine that the questionnaire used is reliable, this study uses the Cronbach's alpha parameter with a significance value of> 0.5. Furthermore, to test each relationship between constructs in accordance with the proposed hypothesis, the research team used the help of the Smart PLS 4 student version program, and set a minimum T-value of 1.96 or a significance value of <0.01 as the test parameter.

RESULTS

This study used 100 respondents in accordance with the predetermined requirements, namely being part of the sandwich generation, having a special allocation of funds for investment, and having never invested in Crypto / Cryptocurrency assets. By using snowball sampling technique, the research team can collect data better and measurably. This is because each prospective respondent is a reference from the previous respondent. Although the eligibility of respondents can be well maintained, the time needed to complete the data collection process is longer.

Based on descriptive statistic, the research team got a demographic picture of our respondents, where the largest respondents were found in the city of Bandung with 40 respondents, followed by the city of Bandung with 20 respondents, the city of Surakarta with 20 respondents and the city of Semarang also with 20 respondents. In terms of the type of investment currently owned, the majority of respondents chose investment in deposits as many as 24 respondents, bonds as many as 20 respondents, stocks as many as 15 respondents, sukuk as many as 14 respondents, mutual funds as many as 13 respondents, gold as many as 7 respondents, property as many as 4 respondents, and the remaining investment in diamonds as many as 3 respondents.

After obtaining data from the respondents, the research team conducted a validity test by referring to the outer loading parameter of at least 0.7 for each indicator tested. In accordance with its designation, the validity test is carried out to ensure that each indicator has a strong correlation with other indicators in the same variable. The results of the validity test with the outer loading parameter can be seen in table 5. In table 5, each indicator can be declared valid, and has a high correlation with its variable, thus it can be understood that the indicators used as question items in the questionnaire are able to measure the variables properly.

Furthermore, after ensuring that all indicators have loading factor values that meet the requirements, the research team continued by conducting reliability tests with Cronbach's Alpha, and Average Variance Extracted parameters. The reliability test results are shown in table 6. Based on table 6, the results of the reliability test using the Cronbach's Alpha and Composite Reliability parameters of each indicator have a score of> 0.7, so it can be categorized that all indicators used in the questionnaire can measure perceptions precisely according to their respective main variables. After obtaining certainty that all indicators have met the validity and reliability requirements, path analysis is then carried out to test the hypotheses that have been proposed. Path analysis was carried out using the Smart PLS 4 Student Version program.

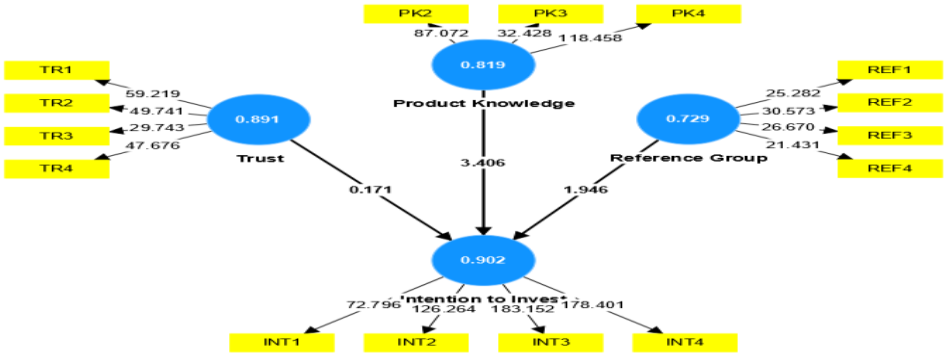
Table 1. Loading Factor

	Constructs			
Indicators	*Trust*	*Product Knowledge*	*Reference Group*	*Intention to Invest*
trust1	0.963			
trust2	0.923			
trust3	0.918			
trust4	0.971			
know1		0.964		
know2		0.940		
know3		0.777		
know4		0.971		
ref1			0.794	
ref2			0.819	
ref3			0.914	
ref4			0.862	
int1				0.915
int2				0.972
int3				0.990
int4				0.923

Table 2. Reliability Test

Constructs	*Cronbach's Alpha*	*Composite Reliability*	*Average Variance Extracted*
Intention to Invest	0.964	0.969	0.904
Product Knowledge	0.934	0.958	0.840
Reference Group	0.876	0.930	0.719
Trust	0.959	0.960	0.891

Figure 1. Research Model



DISCUSSION

Based on Figures and Tables above, this research wants to show that in making an investment, the sandwich generation is a cautious market group, especially because of the burden of responsibility for family members who must be supported. Of the three independent variables tested on the intention to invest in Cryptocurrency, this research actually proves empirically that only the Product Knowledge variable with P-values of 0.00 can have a significant impact on the formation of the intention to invest in Cryptocurrency.

Table 3. Average Score for Trust

Construct	Item	Mean
Trust	I have confidence in investment products in the form of Cryptocurrencies	2,40
	I believe that investment in Cryptocurrencies is safe	2,40
	I believe investment in Cryptocurrencies provides returns that match expectations	2,57
	I have good confidence that investing in Cryptocurrencies is legal	2,32

Judging from table above, respondents generally stated that they did not have confidence in investment products packaged in the form of Cryptocurrency. Moreover, not many

respondents understand the legality aspects of these investments, thus it is difficult to believe that Cryptocurrency is able to provide maximum returns. The average answer given by respondents fell into the Disagree category (with a mean of 2.40; 2.57; and 2.32). Trust is a crucial thing to have if you want to make an investment especially in a relatively new form of investment.

Based on history, Cryptocurrency was introduced in 2009 under the name Bitcoin. Until now, Cryptocurrency has various types of products besides Bitcoin, namely Alcoin, Ethereum and Dogecoin, which of course not all respondents understand the difference. In terms of legality, although currently Cryptocurrency can be traded based on the Commodity Futures Trading Supervisory Agency Regulation Number 5 of 2020, but still, Cryptocurrency cannot be accepted as legal tender within the framework of the Unitary State of the Republic of Indonesia. It is these two things that cause respondents to not have strong confidence to bring up the intention of investing in Cryptocurrency.

Furthermore, Table 9 below shows the average value of respondents' answers to measure the Product Knowledge construct, which is generally in the "Agree" range, which means that predominantly, respondents have good knowledge about investing in Cryptocurrencies with an average value of 3.91. Despite having knowledge about this form of investment, respondents still have a low level of trust in Cryptocurrency. Furthermore, respondents also have an understanding of all the good and bad risks (with an average value of 3.13) if investing in Cryptocurrencies. Equipped with excellent analytical skills, it is believed that the respondents involved can estimate profits and losses, so that even the benefits and risks are well predicted.

As a relatively new trading commodity, Cryptocurrencies need to prove in advance regarding their respective performance. When viewed from the description of previously owned investments (the majority of investments in the form of deposits) as well as the pattern of answers given by the respondents, it is likely that they belong to the risk averse category that tends to prefer investments that can be anticipated negative risks. Referring to a review held by one of the electronic mass media, the biggest risk of investing in Cryptocurrency is that the medium of exchange is only in the form of cryptography, there is no guarantee of the underlying assets, and very high price fluctuations. Thus, Cryptocurrency tends to be seen not as an investment medium but only speculative activities (Hardiyanti et al., 2021).

Table 4. Average Score for Product Knowledge

Construct	Item	Mean
Product Knowledge	I have good knowledge about investing in Cryptocurrencies	3,91
	I am able to find out the advantages and disadvantages of investing in Cryptocurrencies	3,13
	My ability to analyze investment risks is very good	3,17
	I already understand the benefits and risks of investing in Cryptocurrencies well	3,09

Furthermore, in terms of the Reference Group construct, on average the respondents also did not get support from the work environment with an average value of 2.98. This shows that even though respondents have a very good level of knowledge about investment, their coworkers do not provide recommendations and suggestions as alternative investment instruments. In line with this, the family environment of each respondent also does not recommend investing in Cryptocurrency. The average value for each indicator in the Reference Group construct is in the Disagree range.

Table 5. Average Score for Reference Group

Construct	Item	Mean
Reference Group	My work environment recommends investing in Cryptocurrencies	2,98
	My family advised me to invest in Cryptocurrencies	2,04
	Investing in Cryptocurrencies is highly recommended by my business colleagues	2,33
	My social environment supports me to invest in Cryptocurrencies	2,17

Thus, overall by using 3 constructs to measure the intention to invest in Cryptocurrency, only 1 construct is empirically proven to have a significant impact on the formation of the intention to invest in Cryptocurrency.

CONCLUSION

This research produces new empirical evidence that product knowledge has a significant impact on the intention to invest in Cryptocurrency. Even though reference groups also have influence in investment decisions, in this research they do not have significant power. However, with the existing limitations, namely the domicile of respondents who only come from Salatiga, Bandung, Semarang and Surakarta, the level of generalization of these findings is not optimal, so further research is needed on this matter using a wider domicile.

SUGGESTIONS

Suggestions for further research are the need to widen the profile of potential respondents by considering investment experience, the amount of allocation for investment and the respondent's risk profile as moderating variables. Thus, it is hoped that further research will produce more comprehensive conclusions with better generalization power.

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