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ANALYSIS OF FACTORS AFFECTING INTEREST OF THE MILLENNIAL GENERATION IN ROBOT TRADING FOREX

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ABSTRACT

Today, transactions can be done automatically so that sellers and buyers feel more convenient and don't waste a lot of time. Technological advances enable companies to keep up with the times. Robots are useful for the current 4.0 era, especially for traders so that they don't have to watch the moves every time. This study aims to analyze the impact of knowledge, ease of use, investment risk, investment return, and trust on millennial interest in forex trading robots. The data collected in this study was disseminated via Google form and snowballed through social media and group chats. The researchers used partial least-squares structural equation models to analyze data and results obtained by variables such as knowledge, investment risk, and trust, which influenced millennial interest in forex trading robots. This research shows that traders are influenced by their thinking and adapt to their wishes when making the decision to invest in Forex using robots.

Keywords: Robot Forex, Ease of Use, Trust, Millennial Generation, Trading.

1. INTRODUCTION

Investing is already popular in the younger generation, also called the millennial generation. Indonesia stock exchange said that in these three years, capital market investors in Indonesia tend to be among young people, where the highest growth in investor growth is between 26 to 30 years old. The Central Statistics Agency, millennials (aged 21-36) contribute to about 63.5 million people [1]. with all this information, millennials have a creative and modern mindset [2]. The information received is verified and then their own money is invested because they are aware that the investment will have a positive impact. In addition, 14.7% of millennials already have a fortune of more than \$2 million, although they still do not have the fortune of the founder of Facebook [3]. Millennials are characterized by reckless risk taking and a willingness to make deeper investment decisions.

They believe they are making positive changes and want more proof of achievement [2].

Investment has various instruments such as stocks, gold, crypto, forex, and others. This study used forex because it is the largest financial market, globally integrated, liquid, and most active in the world [4]. The pandemic has attracted many new people despite low capital savings, followed by millennials up to 65%. Based on daily transaction data, transactions are up 15% to 20% over the past two years. One of the reasons is an increase in retail. They want to know more about the commodities sector and invest in foreign exchange [5].

Based on the Forex market turnover chart data in Figure 1, each instrument can be described as a significant increase in Forex trades, especially Forex swap trades, which make up 49% of all existing instruments. This suggests that swap forex trades are in high demand as this trade carries the lowest risk compared to other instruments. <u>30th September 2022. Vol.100. No 18</u> © 2022 Little Lion Scientific



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Figure 1: Daily Turnover Diagram [6]

Another phenomenon is that daily currency volume in North America increased in April 2021 compare to October 2020 and the year before. Daily currency volume rose to \$966.7 billion in April 2021, up 3.6% from the October 2020 survey period and 26.4% more year on year. This happened as the average daily volume in spot, forward, swap and over-the-counter (OTC) option trades increased year over year, but only spot and swap trades saw an increase from the October 2020 period [7].

In this Industry 4.0 era, technological developments are an important part of innovation in several areas, including investment [8]. show the presence of robots that began to be used by the community. The existence of robots for traders who have just joined forex can help to buy or sell with a set that has been arranged [9] and help psychologically where traders usually feel restless, temperamental and rash when making decisions when trading manually [10]. When using a trading robot there are several features used such as how much risk per trade can be accepted by the trader, then set the maximum loss per day. The general features of the trading robot are shown in the Figure 2.



Figure 2: Robot Trading Features

The previous research mention about robot forex, according to Marli Damião and Abade Nunes [11], most Forex trading robots are more profitable in the long run. However, the software is very expensive. In addition, some systems on robots can make a profit and manage risk successfully. Robot traders have the advantage of illustrating the buying and selling taking place and providing buy or sell signals ahead of the news. Therefore, the robot can capture positions before calculating information about price movements. According to Galimberti et al. [12], trading robots can successfully offset periods of liquidity shortages and be effective in keeping market volatility in a controlled manner.

The above research shows that robot performance has better investment ability than manual trading. As novelty of this study, we observed several social factors such as knowledge, ease of use, investment risk, return on investment and trust, which influence the interest of millennials in forex trading robots. We will observe the presence of trading robots in the forex market that makes millennials invest heavily.

In the past, researcher Icek Ajzen stated a theory called the Theory of Planned Behavior (TPB), which means the main determinant of human behavior is the intention to do something. They can do this behavior if they want it, then the TPB is reduced to a theory of reasoned action [13]. In this theory, it becomes the basis for variable knowledge, risk, return, trust, and forex interest robots. Researchers use variable knowledge to find out the knowledge possessed by traders when investing; investment risk variables to find out if traders can make decisions despite having a lot of risk; investment return variables to find out if traders have high expectations of getting a large return; trust variables to observe whether traders have a sense of trust with robot performance; and finally, robot forex interest. To find out, the trader helped by the presence of robots.

Technology Acceptance Model (TAM) is the intention to behave influenced by the individual's personal attitude towards information systems. Tam model is a derivative of the TRA model where rational behavior theory removes the norms of the user's subject and sense of interest so that there are three factors, one of which is user convenience [14]. In this theory, it becomes a research proposal for the technique convenience variable hypothesis. This study uses these variables to observe traders using robots to help them trade.

1.1 Hyphotesis Development

Knowledge on millennial's interest in robot trading forex

Knowledge can improve an individual's mindset by applying to their desire to invest and save money to make a good return [15]. There are researchers 30th September 2022. Vol.100. No 18 © 2022 Little Lion Scientific

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who state that knowledge of stock valuation has a positive effect on investment interest in asset galleries [16]. Investors with financial knowledge have a positive and significant impact on the investment decisions [17].

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H.1: Knowledge has a positive effect and significant on millennials' interest in forex trading robots.

Ease of Use on millennial's interest in robot trading forex

A person is interested in using technology when it is easier to use. This will increase the trust of the users. The comfort enjoyed can have consequences for improving a person's performance. The ease of uset technology can help individuals and trust online platformsthat only take a little effort [18]. According to Kim and Kim [19], ease of use has a positive effect on the intention to deploy sustainable fintech that uses new technologies. Confirmed by other researchers who found that the simplicity of the technology has a significant impact on SMEs' interest in using IAP because the platform is userfriendly [20]. On the other hand, according to Wang Y. et all [21]. The ease of use of the intention to use ride-sharing services has no significant effect.

H.2: Ease of use has a positive effect and significant on millennials' interest in forex trading robots.

Invesmet Risk on millennial's interest in robot trading forex

It is important to assess investment risk so that investors are fully aware of these risks and can make optimal investment decisions [22]. Other researchers found risk perception is a mediating factor in investment decision making as both a threat and an opportunity. Other researchers found that the perception of risk, both as a threat and as an opportunity, is a mediating factor in the investment decision. It plays a mediating role in shaping investor behavior so that the factor has a significant influence on all investment decisions [23]. There are researchers who disagree with previous researchers who suggest that risk does not significantly influence investment intentions [24].

H.3: Investment risk has a positive effect and significant on millennials' interest in forex trading robots.

Investment return on millennial's interest in robot trading forex

Returns are the result of profits received by companies, individuals or institutions as a result of investment policies, which are executed in the form of investment returns, either through interest or dividends. An individual who has the intention of investing will prioritize predicting the return to be obtained in the future [25]. According to Elfahmi, et all [26], return has an influence on investment interests in agriculture.

H.4: Investment return has a positive effect and significant on millennials' interest in forex trading robots.

Trust on millennial's interest in robot trading forex

Beliefs are defined as subjective beliefs, subjective probabilities, a person's willingness to trust anyone other than their own, or their own expectations [27]. Traders are confident when using Forex robots. Consistent with Gbongli, et al [28] stated that customer beliefs have a positive and influential effect on the use of electronic banking. Other researchers found that trusts did not influence investment decisions [29].

H.5: Trust has a positive effect and significant on millennials' interest in forex trading robots.

2. METHODS

This research has been tested using quantitative methods. Quantitative research is formed from questions to find the quantity of phenomena and to build the research numerically [30]. The data source used in this study is primary data from questionnaires. There are 25 questions divided into 3 sections and multiple choices are given ranging from strongly disagree (1) to strongly agree (5) and respondents can give reasons for each question, but this is not mandatory. The questionnaires will be distributed via the Google form and then snowballed through social media and group posts from April 20, 2022 to March 9, 2022. The researcher proposes several criteria for population collection, which traders investing in Commodity Futures Trading Supervisory Agency (BAPPEBTI) regulated forex, traders using robots, traders belonging to the millennial group, and traders participating in the community on social media. Due to the unknown population of forex robot users, the formula was used to get the sample. The lameshow formula is:

$$n = \frac{z_{1-\alpha/2}^2 \times p(1-p)}{d^2}$$
(1)
= $\frac{1.96^2 \times 0.5(1-0.5)}{(0.1)^2}$

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= 96.04

 ≈ 100

From the formula, we obtained a minimum sample of 100 respondents. In this study, 114 were collected who completed questionnaires. The collected data can be analyzed using the Partial Least Squares Structural Equation Modeling (PLS-SEM) method as it has fewer limitations on sample size and measurement setup and has the ability to process formative and reflective measurement models [31] and processed using the software SmartPLS 3.39 version. The first process is performed by testing the validity and reliability of each indicator and then proceeding to hypothesis testing. The validity test uses convergent validity, average variance extracted (AVE), and discriminant validity. For reliability testing using composite reliability and Cronbach's Alpha. The test continued with the R-squared test to see the power of the dependent variable. Finally, in hypothesis testing, the P values and t-test are observed to determine the relationship of the independent variable to the dependent variable.

3. RESULTS AND DISCUSSION

Respondents who filled out this research questionnaire were 114 respondents. Respondents who were grouped according to age were 17 respondents (14.9%) in the 21-24 age group, 26 respondents (22.8%) in the 25-28 age group, 31 respondents (27.2%) in the 29-32 age group, and 40 respondents (35.1%) in the 33-36 age group. Table 1 shows the demographic factors which contain more details regarding the age, gender, education, occupation of the respondents.

Table 1: Demographic Factors.				
	N	(%)		
Age				
21-24 years old	17	14,9%		
25-28 years old	26	22,8%		
29-32 years old	31	27,2%		
33-36 years old	40	35,1%		
Gender				
Male	77	67,5%		
Female	37	32,5%		
Education				
Junior High School	0	0%		
Senior High School	5	4,4%		
Diploma Degree	33	28,9%		
Under Graduate	69	60,5%		
Post graduate	7	6,1%		
Occupation				
Student	6	5,3%		
Employee	38	33,3%		

Civil servants/ State apparatus	20	17,5%
Housewife	4	3,5%
Freelancer	12	10,5%
Entrepreneur	34	29,8%

Out of the results of 114 respondents who completed the questionnaire, only 108 respondents were selected for this survey. The remaining respondents, including 6 individuals, could not be sampled because their answers were contradictory and did not match every question. Subsequently, the reported variables and the items used in the questionnaire are presented in Table 2.

Table 2: Items	Used in	Quetionnaire.
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Variable	Item	Question	Sourc
S			e
	PU1	I have expertise in using forex robots	[32]
	PU2	I check the overall performance of brokers before investing	[33]
Knowled ge	PU3	I understand technical analysis such as knowing trends, being able to determine stop loss and profit targets, and choosing the strategy used	In My Opinio n
	PU4	I understand the difference between manual and robot trading	In My Opinio n
	KP1	I am interested in using a forex robot because it is understandable	[34]
Ease of Use	Ease of Use KP2 robot to do what I want it to do.		[35]
	KP3	I feel capable using forex robots	[36]
	RI1	I will experience formal and material losses if I invest in forex robot.	[37]
Investme nt Risk	RI2	I feel that the decision to invest in forex robot is too risky.	[37]
	RI3	I regret buying a robot to trade forex	In My Opinio n
Investme	RE1	Return is my consideration on robot forex investment	In My Opinio n
nt Return	RE2	I think investing through forex robots can give great profits	In My Opinio n
Trust	KY1	I believe with robot's ability to analyze to make a profit	[38]

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	KY2	If there is a malfunction, I will continue to use robots for trading	In My Opinio n
	MT1	I am passionate about investing using robots	In My Opinio n
Robot Forex	MT2	Participating in investment seminars or training on forex robots is my way of taking the time to increase investment motivation	[39]
Interest	MT3	I make observations to find out various types of Forex Robots	[40]
	MT4	Forex robots save time and energy, so it is suitable for continuous use in the future.	In My Opinio n

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Then the questionnaire was processed using SmartPLS. It can be seen in Figure 3, which shows the model of the SmartPLS software.



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3.1 Validity Analysis This test will be done by testing the validity. first tested using a convergent validity test. In this test, to read each item, the question measures the relationship between each indicator and its latent variable [41].

Table 3: Convergent Validity.			
Construct	Items	Loadings	
W 1.1	P1	0.649	
	P2	0.786	
Knowledge	P3	0.695	
	P4	0.778	

	KP1	0.659
Ease of Use	KP2	0.717
	KP3	0.804
	RI1	0.758
Investment Risk	RI2	0.656
	RI3	0.823
Lucie due aut Distance	RE1	0.697
mvestment Ketum	RE2	0.920
Trat	KY1	0.916
Trust	KY2	0.609
	MT1	0.738
Robot Forex Interest	MT2	0.805
	MT3	0.809
	MT4	0.691

In Table 4, it is known that each construct has a value above 0.5, so that it does not have a convergent validity problem in the model that has been tested and declared valid. To find out if the construct has the correct discriminant, the Fornell-Lacker test is used by considering the diagonal value (square root of AVE) for each variable, which must have a correlation as shown in Table 5 [42]. Table 5 shows the results of the discriminant validity test.

Table 5: Fornell-Lacker Test.

					_	
	Ease of use	Inves tment Retur n	Inves tment Risk	Know ledge	Robo t Forex Inter est	Trust
Ease of use	0.729					
Invest ment Retur n	0.374	0.816				
Invest ment Risk	0.440	0.591	0.749			
Know ledge	0.531	0.416	0.481	0.729		
Robot Forex Intere st	0.481	0.568	0.714	0.632	0.762	
Trust	0.526	0.485	0.426	0.395	0.538	0.778

In Table 5, it can be seen that, based on the Fornell-Lacker test, it shows that the test results have met the requirements of discriminant validity.

3.2 Reliability Analysis

In this analysis, we use the Cronbach's alpha values obtained at the time of testing. According to Ammad, Alaloul, Qureshi [43], Cronbach alpha is used as a measure of the consistency of each item. Meanwhile, composite reliability is used to measure reliability, the value of composite reliability > 0.7 means that the model is reliable.

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Values is 0.000 < 0.05, which means that the first hypothesis has a positive effect and has a significant effect.

- In hypothesis 2, the effect of ease of use on robot forex interest where the value of t count = 0.156 < 1.96 with P Values is 0.876 > 0.05, which means that the second hypothesis has a positive effect and does not have a significant effect.
- In hypothesis 3, the effect of Investment Risk on robot forex interest with t count = 6.210 > 1.96 and P Values is 0.000 < 0.05, which means that the third hypothesis has a positive effect and has a significant effect.
- In hypothesis 4, the effect of investment return on robot forex interest with t count = 1.421 < 1.96 with a P value of 0.156 > 0.05, which means that the third hypothesis has a positive effect and does not have a significant effect.
- In hypothesis 5, the effect of trust on robot forex interest with t count = 2.177 > 1.96 and P Value of 0.000 < 0.05, which means has a positive effect and has a significant effect.

3.5 Discussion

This study examines the impact of the variables knowledge, ease of use, investment risk, investment return, and trust on the interest of forex robots. The results of this research revealed the following:

- The first hypothesis (H_1) , for the knowledge variable has a positive and influential effect on the millennial generation's interest in forex robot trading. When traders have a lot of knowledge, they have a lot of confidence to invest in robot forex. So, traders believe that it is a good thing to gain more knowledge [44]. Traders who have manual trading experience and compare it with robots will get better results. As other researchers have shown, knowledge influences intention in electronic repositories [45]. In addition, financial knowledge has a positive and significant effect on investment intention [46].
- The second hypothesis (*H*₂), for the ease of use variable has a positive effect and has no effect on the millennial generation's interest in forex robot trading. This happens because traders may be more interested in robots that are difficult to setup at the beginning, but robots can survive in the long term, so that the ease of technology has no effect. There is a malfunction in the robot that requires the trader to repair. It is also a trader's consideration to use a trading robot [11]. In line with other researchers, ease of use has no effect on the use of the Paylater application [47]. In

 Table 6: Composite Reability and Cronbach's Alpha

 Test.

Construct	Items	UN	α
Ease of use	KP1, KP2, KP3, KP4	0.772	0.602
Investment Return	RE1, RE2	0.796	0.529
Investment Risk	RI1, RI2, RI3	0.792	0.608
Knowledge	P1, P2, P3, P4	0.818	0.720
Robot Forex Interest	MT1, MT2, MT3, MT4	0.847	0.758
Trust	KY1, KY2	0.747	0.388

3.3 Determinant Coefficient

In this test, we observe the determination of coefficient in forex robot interest variable for endogenous variable. If the value of R^2 is higher, the determinant is better. On the Table 7, it shows that the results of R^2 are in the moderate category, meaning that 65.8% is able to explain the remaining variables, which are explained by other variables outside the study.

	Table 7: R Square Test.				
		R Square	R Square Adjusted		
Robot Interest	Forex	0.658	0.641		

3.4 Hypothesis Testing

A t-test was performed with a 95% confidence level and a degree of freedom value of 1.96. Hypothesis testing was carried out for each latent variable in Table 8.

Construct	T Statistic	P values
Ease of use-> Robot Forex Interest	0.156	0.876
Investment Return-> Robot Forex Interest	1.421	0.156
Investment Risk-> Robot Forex Interest	6.210	0.000
Knowledge-> Robot Forex Interest	3.764	0.000
Trust-> Robot Forex Interest	2.177	0.000

Table 8: P Values and T Statistic.

From Table 8, the test shows the results:

• In hypothesis 1, the effect of knowledge on robot forex interest with t count = 3.764 > 1.96 and P



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because Commodity Futures Trading Supervisory Agency (BAPPEBTI) is intensive in identifying the legality of forex robots, may be hesitant to fill out questionnaires. Therefore, further studies could examine other variable such as risk variables having financial risk, security risk, social risk, and then the perceived usefulness variable. Other suggestion that could be followed is integrating both factual and subjective measurements of financial knowledge and compared forex robot intention and behavior for various classes of financial assets.

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addition, ease of use does not significantly affect the intention to use ride-sharing services [21].

- The third hypothesis (H_3) , for the investment risk variable has a positive and influential effect on the millennial generation's interest in forex robot trading. If investors think that investing has a high risk, they choose investments such as stocks, gold, and etc [48]. Investors with a high equity awareness of the investment risks are increasingly interested in investing in the market [49]. It is proven by other researchers that perceived risk has an influence on purchase intention [50].
- The fourth hypothesis (H_4) , for the investment return variable has a positive effect and has no effect on the millennial generation's interest in forex robot trading. One of the factors is that traders use robots to make trading easier because they already know how much returns they will receive, which has no consequences. Other researchers indicated that perceived return has no significant effect on students' interest in the Islamic capital market [51]
- The fifth hypothesis (*H*₅), for the trust variable has a positive and influential effect on the millennial generation's interest in forex robot trading. In line with researchers who state that customer trust in web vendors has an effect on consumer interest in buying online [52]. Strengthened by investor confidence, it affects investment interest in the trading platform [53].

4. CONCLUSION

Currently, the millennial generation is becoming more and more interested in forex robots, lured by the temptation that traders can trade by sitting back and not checking every time. However, traders need to choose the right robot. High performing robots require the trader to spend more money [54]. In this study, we observe individual interest in investing in forex robots using TPB. In TPB contruction (Knowledge, Investment Risk, Investment Return and Trust), have an influence on forex robot interest. Unfortunately, investment return variable has no effect. The ease of use variable also has not affect of forex interest robot. When related to TAM, the theory is not always significant [55].

The limitation of this paper is that there are too few indicators in each variable with the minimum \geq 4 indicators used [56], the results obtained are not appropriate. Second, this sampling paper may not have obtained a representative sample for the entire study population. Lastly, forex robots are trending

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