

Interest in Stock Investment of Generation Z in Jakarta through Technological Advances, Motivation, and Financial Literacy

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Abstract: This study aims to determine the influence of technological advances, motivation and financial literacy on stock investment interest of generation Z in Jakarta. Researchers used primary data obtained from distributing online questionnaires to generation Z who currently reside in Jakarta with a sample size of 100 respondents. Determination of the sample size using the Leme show formula with an error rate of 5%. Path Analysis is used to process data with Smart PLS software version 4.0. According to this research, technological advances, financial literacy, and motivation have a significant effect on stock investment interest in generation Z in Jakarta.

Keywords: Technological Advances; Financial Literacy; Motivation; Stock Investment Interest; Generation Z.

Introduction

Investment is one of the financial activities that can contribute to improving the welfare of the Indonesian people. In general, investment is useful to ensure financial independence in retirement and to protect assets from the impact of inflation which continues to increase year after year. Today's technological advancements provide tools for potential investors to make their investment decisions simpler. There is a wealth of information available, especially online, on various types and methods of investment.

Due to the availability of short-term and long-term investments in the capital market, investors are usually more interested in making financial investments. Stocks are one of the most widely traded financial instruments in the capital market today. In 2022, 4 million people invested in stocks in the Indonesian capital market. Based on the Press Release of PT Kustodian Sentral Efek Indonesia July 9, 2022, at the end of June 2022, the number of stock investors in the Indonesian Capital Market was recorded at 4,002,289 Single Investor Identification (SID). Of this number, 81.64% of all stock investors are generation Z and millennials with an asset value of IDR144.07 trillion. Based on demographic data, the majority of stock investors are still located in Java (69.59%), with 13.97% of them residing in DKI Jakarta and having an asset value of Rp3,772.32 trillion.

Although there are more investors in the capital market than ever before, they are still a very small fraction of Indonesia's total population. This shows that the capital market has many prospects for Indonesia's economic growth. The capital market has two purposes; providing funding for businesses or a means to raise funds from the investor community. Therefore, capital markets are vital to the economic health of a country. Capital markets also provide a place to invest in publicly traded financial products.

Young Indonesians, from millennials to generation Z, invest with the aim of saving for the future, not to make a quick buck. Based on a survey conducted by Katadata Insight Center (2021), 72.5% of the population admitted that they invest to help prepare themselves for things like marriage, education, and other future endeavors. After that, 62.7% of respondents invest to manage their cold funds, while 51.6% of respondents invest to plan for retirement. In addition, 20% of respondents invest to plan for early retirement, while 33.9% do so for short-term gains. In order to increase public awareness to participate in the Indonesian capital market, especially among Generation Z, the Indonesia Stock Exchange is actively promoting capital market education and socialization through universities in Indonesia.

Several variables, including investment motivation, income level, risk, and investment knowledge, can influence people's interest in investing. Some of these aspects indicate the existence of investment motivation that can influence people's desire to participate in the capital market as investors. Investment motivation is a person's internal drive to strive in a certain way in every action related to investment. On the other hand, without supporting investment facilities, people's investment attitudes, perspectives, and interests will not run properly. Information technology, which is currently developing rapidly, brings a number of practicalities and conveniences that are felt in all activities, one of which is the economic sector which has the potential to accelerate the nation's economic development process.

Nowadays, many securities companies and stockbrokers offer online stock transaction portals thanks to the development of technology and digitalization. Because of all the benefits that can be gained when buying and selling stocks, people, especially the tech- and digitalsavvy Generation Z, may be interested in investing in stocks. However, as these technological advancements are often misused, there is a possibility that some people

will experience losses. The benefits and drawbacks of using these technologies can each provide unique perspectives and reactions, which can affect one's acceptance of using a technology. The financial business sector, especially investment, can use Generation Z as a target market. It is estimated that there will be more potential investors who are interested in investing because of the many conveniences that exist today. The number of investors in the Indonesian financial market continues to increase, including in the DKI Jakarta area which is the economic center of the capital city in Indonesia.

city in Indonesia. Based on the results of the population census conducted by the DKI Jakarta Central Statistics Agency (BPS), in 2020 it shows that the overall population of generation Z reached 2,297,094 people. In the future, Indonesia's financial and investment sector is expected to be more advanced due to the increasing number of people who are currently in the productive age group, or generation Z. With the data above, the researcher intends to use Jakarta as the population to be used in the study because the number of generation Z in the Jakarta area is quite dense and Jakarta is the capital and economic center of Indonesia.

Material and Methods

Technological Advances

Technology will bring new inventions along with changes in society that require adaptation and change daily routines. Tandio and Widanaputra (2016) argue that "Technological development has a major influence on a country's economic progress and encourages the business sector to be more efficient and effective in carrying out business operations to achieve maximum results". Technological advances is something that cannot be avoided in this life, because technological advances will run in accordance with scientific progress (Ngafifi, 2014:34). Technological advances can be measured by the following indicators (Tandio, 2016):

1. Availability of online trading tools.
2. Media in exchanging information.
3. Mobile trading capabilities that make the investment process easier.

Motivation

Motivation is defined as a drive from within an individual based on which he/she tries and behaves in a certain way to fulfill his/her wants or needs (Silalahi, 2015). Since drive or energy is often used to describe motivation, motivation can also be seen as the force that motivates people to act in ways that advance specific goals. Therefore, it can be said that investment motivation is the drive a person has to do something related to investment. Technological advances can be measured by the following indicators (Listyani et al., 2019):

1. Motivation begins with a change in motivation in an individual.
2. Motivation can be seen through the emergence of a feeling that directs the pattern of behavior or individual behavior.
3. Motivation is done by doing activities to achieve goals.

Financial Literacy

Finance is an important element that permeates all aspects of human life. Those who have a good understanding of finance can make better financial decisions by choosing their own financial products. Knowledge about finance is very important for individuals so that they are not wrong in making financial decisions later (Margaretha & Pambudhi, 2015). Financial literacy consists of a number of abilities and knowledge about finance possessed by a person to be able to manage or use a certain amount of money to improve their standard of living and aim to achieve welfare (Lusardi & Mitchell, 2013). Financial literacy can be measured by the following indicators (Safryani et al., 2020):

1. Basic financial knowledge.
2. Savings and loans.
3. Insurance.
4. Investment.

Stock Investment Interest

Stock investment interest is a very strong desire in a person to learn everything related to investment to the stage of practicing investment (Rodiyah, 2019). The extent to which a person seeks to learn about a particular form of investment, master it and then put that knowledge into practice is a sign of their level of interest in investing. They seek to take the time to learn more about the investment or they seek to immediately invest in that type of investment, even increasing the percentage of their current investment, is another observable trait. Interest in stock investment can be measured by the following indicators (Rodiyah, 2019):

1. Desire to find out about investment.
2. Interest in trying investments.

3. Confidence to invest.

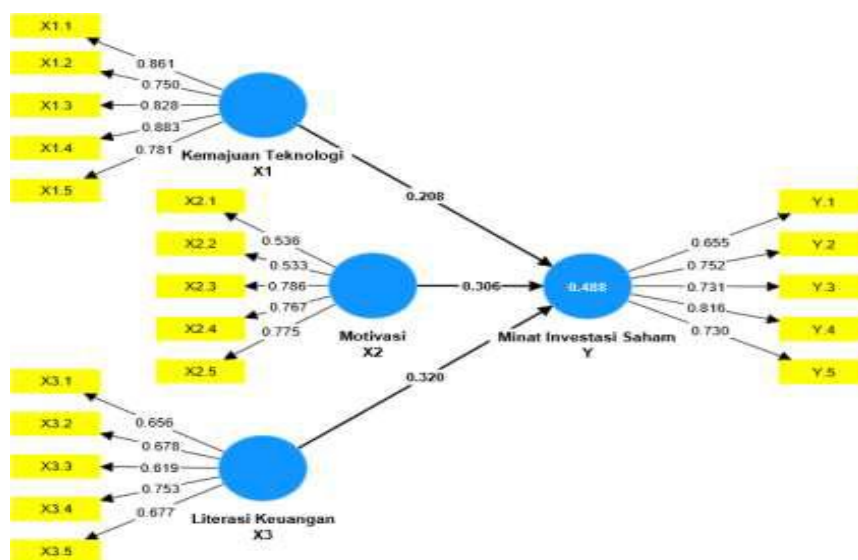
Material and Methods

The population in this study is Generation Z who currently resides in the DKI Jakarta area and was born in 1995-2006 (aged 17-28 years) and meets the terms and criteria that have been determined. Due to the unknown population size, the sample in this study was determined using the (Lemeshow et al., 1990) formula $n = \frac{Z_{\alpha/2}^2 P(1-P)}{d^2}$, N is obtained as many as 100 respondents with non-probability sampling technique. The data collection technique in this study is to use primary data in the form of distributing questionnaires online through Google Form to social media users such as Facebook and Twitter. The scale used to measure the attitudes, opinions, and perceptions of the sample is a Likert scale with scores of 1 (Strongly Disagree), 2 (Disagree), 3 (Agree), and 4 (Strongly Agree). The variables of this study are determined from specific social phenomena and the indicators of these variables are arranged based on instrument items in the form of statements. The data that has been obtained is then analyzed using variance-based Structural Equation Modeling (SEM) or called Partial Least Square (PLS) and tested for data quality using SmartPLS version 4.0 software.

Results

Partial Least Square (PLS) Data Analysis and Hypothesis Testing

PLS-SEM analysis usually consists of two sub models, namely the measurement model or often called the outer model and the structural model or often called the inner model. The measurement model shows how the manifest or observed variables represent the latent variables to be measured, while the structural model shows the strength of the estimation between latent variables or constructs. Latent variables formed in PLS-SEM, indicators can be reflective or formative (Ghozali & Latan, 2015).



Picture 1 Structural Model

Description:

- X1.1: Advancements in technology have made it much easier for me to invest in stocks in the capital market through online trading.
- X1.2: The internet makes it easier for me to find various information related to stock investment.
- X1.3: Technological advances have made it easier for me to monitor stock price movements in the capital market.
- X1.4: The mobile trading app makes it easy for me to compare, select and then buy stocks with a one-stop system.
- X1.5: In my opinion, buying and selling stocks with mobile trading is faster and easier to understand.
- X2.1: I will invest in stocks if my needs are met.
- X2.2: I will invest in stocks if my friends or relatives do.
- X2.3: By investing in stocks, I have many investor friends through the investor community.
- X2.4: By investing in stocks, I am able to save money with a sizable profit if done in the long run.
- X2.5: By investing in stocks and shares, I can save money without getting a deduction every month.

- X3.1: As a potential investor, it's important to know the basics about investing.
 X3.2: Investing is a way of saving money with high returns but also with high risks.
 X3.3: Before buying shares, I need to insure the shares.
 X3.4: I invest in companies that provide high returns.
 X3.5: I analyzed the calculation to find out the return that will be obtained before choosing a company to invest in.
 Y.1: I read the step-by-step guide to investing before I started investing in stocks.
 Y.2: Before investing, I find out information about the advantages and disadvantages of the type of stock investment that I will take.
 Y.3: My interest in investing has increased after attending investment training or seminars.
 Y.4: With sufficient funds, appropriate returns and risks, adequate facilities and attractive promotions, I am increasingly interested in investing in shares in the capital market.
 Y.5: I will invest in stocks through online trading because it is very flexible, no need to worry about watching stock investment charts all the time.

This research model consists of four latent variables, including the characteristics of Technological Advances (X1), Motivation (X2), Financial Literacy (X3) and Stock Investment Interest (Y). Evaluation of the measurement model is a stage to test the validity and reliability of a latent variable. Validity testing is done by calculating convergent validity and discriminant validity. Convergent validity is known through the loading factor. The loading factor results must exceed 0.7 for confirmatory research and can be said to be high if they correlate more than 0.7. However, in development research a scale of 0.5 to 0.6 is still acceptable. So that all loading factor values must be above 0.5 (Ghozali & Latan, 2015:37). The results of convergent validity testing are presented in Table 1 below:

Table 1 Output Outer Loading

Variable	Indicators	Loading Factor
Technological Advances (X1)	X1.1	0.861
	X1.2	0.750
	X1.3	0.828
	X1.4	0.883
	X1.5	0.781
Motivation (X2)	X2.1	0.536
	X2.2	0.533
	X2.3	0.786
	X2.4	0.767
	X2.5	0.775
Financial Literacy (X3)	X3.1	0.656
	X3.2	0.678
	X3.3	0.619
	X3.4	0.753
	X3.5	0.677
Stock Investment Interest (Y)	Y.1	0.655
	Y.2	0.752
	Y.3	0.731
	Y.4	0.816
	Y.5	0.730

Source: Primary data processed by SmartPLS 4.0, 2023

Based on the results of the outer loading output above, it can be seen that the loading factor value of all indicators for each construct is above 0.5 so that it has met convergent validity. Thus the indicators above are declared valid in measuring the variables of technological advances, motivation, financial literacy and stock investment interest. Discriminant validity is seen by comparing the square root value of the AVE for each construct with the correlation value between constructs in the model. The square root of the average variance extracted (\sqrt{AVE}) in the discriminant validity Fornell-Lacker criterion output from the PLS Algorithm is presented in Table 2 below:

Table 2 Output Discriminant Validity Fornell-Lacker criterion

	Technological Advances (X1)	Motivation (X2)	Financial Literacy (X3)	Stock Investment Interest (Y)
Technological Advances (X1)	0.822			
Motivation (X2)	0.493	0.690		
Financial Literacy (X3)	0.544	0.577	0.678	
Stock Investment Interest (Y)	0.533	0.593	0.610	0.739

Source: Primary data processed by SmartPLS 4.0, 2023

In the table above, the diagonal is the square root value of AVE and the value below it is the correlation value of each construct. It can be seen that the AVE square root value is greater than the correlation value. The AVE square root value of the Investment Interest construct of 0.739 is higher than the correlation value with the value of Technological Advances of 0.533, greater than the correlation value with Motivation of 0.593, greater than the correlation value with Financial Literacy of 0.610. So it can be concluded that the Investment Interest model is valid because it has met the discriminant validity criteria.

Reliability Testing

Reliability test of a construct in PLS has two methods, namely with Cronbach's Alpha and Composite Reliability. The rule of thumb for Alpha and Composite Reliability values must be greater than 0.7 even though the value of 0.6-0.7 is still acceptable for research (Ghozali & Latan, 2015:75). Cronbach's Alpha and Composite Reliability output is presented in Table 3 below:

Tabel 3. Output Cronbach's Alpha dan Composite Reliability

	Cronbach's Alpha	Composite Reliability
Technological Advances (X1)	0.880	0.912
Motivation (X2)	0.719	0.815
Financial Literacy (X3)	0.710	0.809
Stock Investment Interest (Y)	0.790	0.857

Source: Primary data processed by SmartPLS 4.0, 2023

Based on the table above, it can be seen that the composite reliability value on the variables of technological advances, motivation, financial literacy and investment interest is greater than 0.7. Thus, based on the calculation of composite reliability, all indicators that measure variables of technological advances, motivation, financial literacy and investment interest are declared reliable. Furthermore, the Cronbach's alpha value on the variables of technological advances, motivation, financial literacy and investment interest is greater than 0.6. Thus, based on the calculation of Cronbach's alpha, all indicators measuring the variables of technological advances, motivation, financial literacy and investment interest are declared reliable.

Hypothesis Testing

Hypothesis testing is hypothesis testing by doing the T test. The criteria for rejection or acceptance use the T test with the provisions of the t-static value used of 1.96. So that the Ha hypothesis is accepted and H0 is rejected when the t-statistic > 1.96. Hypothesis testing is done by looking at the path coefficient results from the bootstrap resampling test presented in Table 4 below:

Table 4 Path Coefficient from Technological Advances, Motivation and Financial Literacy on Stock Investment Interest

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T statistics (O/STDEV)	P Values
Technological Advances -> Stock Investment Interest	0.208	0.199	0.104	2.007	0.045
Motivation -> Stock Investment Interest	0.306	0.318	0.085	3.620	0.000
Financial Literacy -> Stock Investment Interest	0.320	0.325	0.108	2.973	0.003

Source: Primary data processed by SmartPLS 4.0, 2023

A. The effect of Technological Advances (X1) on Investment Interest (Y)

The hypothesis is:

H01: there is no significant influence between the Technological Advances variable on the Investment Interest variable

Ha1: there is a significant influence between the Technology Advances variable and the Investment Interest variable

Based on Table 4 above, it shows that there is an influence between the Technology Advances construct (X1) and the Investment Interest construct (Y) with a coefficient value of 0.208 and significant at the 5% level. The result is that the t-statistic for construct X1 is above 1.96, which is 2.007, and the Probability Values (P-Values) is less than 0.05, which is 0.045. So it can be concluded that Ha1 can be accepted.

B. The effect of Motivation (X2) on Investment Interest (Y)

The hypothesis is:

H02: there is no significant influence between the Motivation variable on the Investment Interest variable

Ha2: there is a significant influence between the Motivation variable on the Investment Interest variable

Based on Table 4 above, it shows that there is an influence between the Motivation construct (X2) and the Investment Interest construct (Y) with a coefficient value of 0.306 and significant at the 5% level. The result is the t-statistic for the X2 construct above 1.96, which is 3.620, and the Probability Values (P-Values) is less than 0.05, which is 0.000. So it can be concluded that Ha2 can be accepted.

C. The effect of Financial Literacy (X3) on Investment Interest (Y)

The hypothesis is:

H03: there is no significant influence between the Financial Literacy variable and the Investment Interest variable

Ha3: there is a significant influence between the Financial Literacy variable and the Investment Interest variable

Based on Table 4 above, it shows that there is an influence between the Financial Literacy construct (X3) and the Investment Interest construct (Y) with a coefficient value of 0.320 and significant at the 5% level. The result is the t-statistic for construct X1 above 1.96, which is 2.973, and the Probability Values (P-Values) is less than 0.05, which is 0.003. So it can be concluded that Ha3 can be accepted.

Discussion

Technological Advances Variable

Based on the measurement model above, all statement indicators that measure Technological Advances are valid and reliable. The results of the loading factor value of all statements show numbers above 0.50, which means that the indicator is valid. The highest indicator value in the Technological Advances variable is in statement X1.4, namely "The mobile trading application makes it easy for me to compare, choose and then buy shares with a one-stop system" with a value of 0.883 and the lowest is in statement X1.2, namely "The internet makes it easy for me to find various information related to stock investment" with a value of 0.750. Then the reliability assessment is seen from the Cronbach's Alpha and Composite Reliability values, which are 0.880 and 0.912 so that this value has exceeded 0.70, so the Technological Advances variable is reliable to use. Based on the first hypothesis testing, Ha1 proposed is accepted and rejects H01. The path coefficient output shows that the statistical value for the Technological Advances construct on Investment Interest is above 1.96, which is 2.007 so that the influence exerted by Technological Advances on the Investment Interest construct is significant. The coefficient value of the Technology Advances latent variable in the path coefficient output is 0.208, which means that there is a positive influence of 20.8% on the Investment Interest construct.

Motivation Variable

Based on the measurement model above, all statement indicators that measure Motivation are valid and reliable. The results of the loading factor value of all statements show numbers above 0.50, which means that the indicator is valid. The highest indicator value in the Motivation variable is in statement X2.3, namely "By investing in stocks I have many investor relatives through the investor community association" with a value of 0.786 and the lowest is in statement X2.2, namely "I will invest in stocks if my friends or relatives invest" with a value of 0.533. Then the reliability assessment is seen from the Cronbach's Alpha and Composite Reliability values, which are 0.719 and 0.815 so that this value has exceeded 0.70, so the Motivation variable is reliable to

use. Based on the second hypothesis testing, Ha2 proposed is accepted and rejects H02. The path coefficient output shows that the statistical value for the Motivation construct on Investment Interest is above 1.96, which is 3.620 so that the influence exerted by Motivation on the Investment Interest construct is significant. The coefficient value of the Motivation latent variable in the path coefficient output is 0.306, which means that there is a positive influence of 30.6% on the Investment Interest construct.

Financial Literacy

Variable Based on the measurement model above, all statement indicators that measure Financial Literacy are valid and reliable. The highest indicator value in the Financial Literacy variable is in statement X3.4, namely "I invest in companies that provide a high enough return" with a value of 0.753 and the lowest is in statement X3.3, namely "Before buying shares, I need to insure these shares" with a value of 0.619. Then the reliability assessment is seen from the Cronbach's Alpha and Composite Reliability values, which are 0.710 and 0.809 so that this value has exceeded 0.70, so the Financial Literacy variable is reliable to use. Based on the third hypothesis testing, Ha3 proposed is accepted and rejects H03. The path coefficient output shows that the statistical value for the Financial Literacy construct on Investment Interest is above 1.96, which is 2.973 so that the influence exerted by Financial Literacy on the Investment Interest construct is significant. The coefficient value of the Financial Literacy latent variable in the path coefficient output is 0.320, which means that there is a positive influence of 32% on the Investment Interest construct.

Conclusions

1. Technological advances have a significant effect on stock investment interest in generation Z in Jakarta, this shows that technological advances are very important to increase interest in stock investment, one of which is the existence of mobile trading and various online articles that discuss stock investment that can be accessed by generation Z.
2. Motivation has a significant influence on stock investment interest in generation Z in Jakarta, this shows that motivation is very important to increase interest in stock investment, one of which is that by investing in stocks you can have long-term savings with benefits and without service fees.
3. Financial literacy has a significant influence on stock investment interest in generation Z in Jakarta, this shows that financial literacy is very important to increase interest in stock investment, one of which is attending seminars with stock investment material, then by reading books that discuss stock investment.

Advices

1. For Academics

To reflect a larger population and incorporate more diverse factors, future research is expected to explore a larger sample size. Try to use mediating variables to see if there is a relationship between the independent and dependent variables.

2. For Industry

- A. Based on the age range of respondents from 17 to 28 years old, they are all currently highly connected to the internet. It is recommended for mobile trading app developers to offer a variety of attractive, straightforward, and easy-to-use digital marketing services to increase interest in using mobile trading apps.
- B. Based on the results of this study, suggestions for the government and the entire capital market structure are expected to be more innovative in developing programs that can maximize the use of technology, increase financial literacy and motivation, and increase interest in stock investment in generation Z in locations other than DKI Jakarta. Examples of such programs include seminars and training with interesting topics so that the audience wants to participate in the program.

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