

How Does Investment Risk Mediate the Effect of Investment Literacy on Online Interest in Investing Among Generation Z?

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Abstract

This study aims to determine whether or not there is an influence of investment literacy on *online* investment interest with investment risk as an *intervening* variable. The type of research used is case study research with a quantitative approach and uses data collection techniques through questionnaires distributed online. The population in this study is generation Z in Cirebon City with a sampling technique using *probability sampling*, namely with a *simple random sampling* method of 155 people, with *path analysis* using the help of IBM *Stastistic SPSS* software version 25. The results showed that the level of investment literacy had a positive and significant effect on online investment interest with a calculation of 12,251 ($>1,655$) and a significance value of 0,000 (<0.05). Investment risk has a positive and significant effect on online investment interest with a calculation of 5.377 (>1.655) and a significance value of 0.000 (<0.05). While in the sobel test, it is known that investment risk can mediate the influence of investment literacy on online investment interest of 4.2353714571305.

Keywords: investment literacy, online investment interest, investment risk.

INTRODUCTION

People in developed countries have a tendency to invest early compared to developing countries. According to the World Bank (2023), the ratio of involvement of Indonesians who invest in the capital market is only 3%, lagging far behind the United States (US) with a ratio of 55%, Singapore reaching 26%, and even Malaysia reaching 9%. This is the reason Indonesia is still a developing country because the number of investors in Indonesia is still less than 5% and the Indonesian people still have no interest in investing, even though investing can get benefits in the future.

According to the results of the Population Census conducted by the Central Statistics Agency, Indonesia's population in September 2020 was 270.20 million people and there were 69.38 million of whom were millennials, while 74.93 million people were generation Z, which means that more than 50% of Indonesia's population were millennials and generation Z. Generation Z (Gen Z) is the generation born between 1997 to 2012, This means that if calculated up to this year, the age categorized as generation Z is 11-26 years, where in that period this generation has made technology an inseparable part (Muzni & Budiman, 2021). This generation is identical and grew up with the integration of technology, individuality and active and communicative on social media and most likely they access the internet and information easily, cheaply and quickly.

The Financial Services Authority (OJK) on its website defines investment as the act of investing capital in the long term with the aim of obtaining profits in the future. According to data from the Indonesian Central Securities Depository (KSEI), the number of capital market

investors in Indonesia has reached 11.58 million investors as of August 2023. This number increased by 1.4% from the previous month (month-to-month / mtm) which was 11.42 million investors.

As of January 2023, KSEI recorded that the number of investors in the Indonesian capital market reached 10.4 million SID, this experienced a significant increase, increasing by 1.65% compared to 2022 of 10.3 million SID. Based on gender, the majority of Indonesian capital market investors are men, amounting to 62.45% with an asset value of Rp1,156.57 trillion. Meanwhile, the remaining 37.55% are female investors with an asset value of IDR 303.29 trillion. In terms of age, the number of Indonesian capital market investors with an age group under 30 years old is the largest as of August 2023 (Indonesian Central Securities Depository, 2023).

The proportion of capital market investors in Indonesia reached 57.04% in generation Z and Millennial generation with an asset value of Rp50.51 trillion. Furthermore, as many as 23.27% of capital market investors in the age group of 31-40 years have an asset value of Rp112.92 trillion. Then, there are 11.36% of investors aged 41-50 years with assets worth IDR 173.15 trillion. Generation Z is a shareholder investor in various sectors such as financials, infrastructures, industrials, consumer cyclical, consumer non cyclical, energy etc. The factors that cause the low interest of people in Indonesia to invest include: a) Education, education is one of the important aspects in human resource development. Education is the main pillar, because quality education will be able to improve an individual's ability to invest and manage finances well. b) Per capita income, income can affect the ability of individuals to buy products in the capital market, because the lower the per capita income, the lower the ability of the community to invest in the capital market. c) Community trends, when many people talk about investment, the price will increase because many people participate in investment activities. d) Government policy, if economic policy in Indonesia is good, legal protection will be strong and there will be no investment fraud because it can provide confidence for investors to invest safely. e) Investment literacy, that an investor before investing will consider investment risks, economic circumstances, reviews of the investment to be chosen and the performance of the investment (Rahma & Sophisticated, 2021).

According to the survey results by OJK, although the investment literacy rate in Indonesia has reached 47.98% for millennials and 44.04% for generation Z, the literacy rate is considered unsatisfactory because it is still less than 60%. The low number indicates the low understanding of the millennial generation regarding investment, insurance, loans and savings. The financial literacy index in the capital market sector is still stuck at 4.11% in 2022. There was a decrease because in the 2019 survey period, the capital market literacy index was 4.92%. This proves that the level of financial literacy in the capital market sector is still low even though many people have started investing in the capital market. Based on the results of the 2022 National Financial Literacy and Inclusion Survey (SNLIK), the level of financial literacy and inclusion of the community in Cirebon City is 51.81% and 87.05% and the level of financial literacy and inclusion.

The low public interest in investing is not only related to economic factors, but also to a number of other obstacles. Factors such as low education levels, minimal per capita income, people's consumptive behavior, government policies, and lack of investment literacy all play a role in creating such complexity. Although millennials and Z are starting to be interested in investing in the capital market, their investment literacy level is still below 60%, creating the risk of unwise decision-making. Investment literacy is the most important thing that everyone must understand because it can affect how our financial condition will be in the future, so that we can make rational and wise investment decisions (Parulian & Bebasari, 2022).

According to Financial Services Authority (OJK) in 2022 There was a decrease in the capital market literacy index to 4.11% from 4.92% in 2019, indicating uncertainty and widening knowledge gaps in terms of investment. Although Cirebon City has a higher level

of financial literacy and inclusion than the national average. There are factors causing the lack of investment literacy in Indonesia such as the lack of investment infrastructure in the capital market and lack of awareness of future financial management in Indonesian society. \

In this case there is a gender disparity in investment preferences, where the majority of investors in capital markets are men while women are more inclined to investments with minimal risk, creating differences in financial access and knowledge between the sexes. This phenomenon can be explained by a variety of factors, including social and cultural norms that influence women's perceptions of investment risk or a tendency to prefer options that are considered safer.

The development of technology, the capital market presents online securities trading facilities or better known as online trading. Online trading systems are the result of innovations in the field of information technology. This system is developed from e-commerce technology or business systems based on internet technology. With the online trading facility, it provides convenience and effectiveness for investors in making stock investment transactions. In addition, securities companies have now applied a lot of affordable investment capital from a minimum capital of Rp. 100,000, - can invest in the capital market (Pradnyani & Pramitari, 2019).

In the face of this problem, appropriate and effective solutions are needed. Efforts to increase understanding of investment and community engagement must be accompanied by concrete steps to overcome the obstacles identified. Strategic measures such as improving education, conducting socialization so that people have investment awareness, and strengthening investment infrastructure can be effective ways to advance economic growth and financial understanding in Indonesia.

RESEARCH METHODS

The research approach used in this study is a quantitative approach, because the quantitative approach explains the relationship between variables and testing theories using certain measuring instruments. This type of research is case study research. The population in this study is generation Z in Cirebon City who were born in 1997-2012. In this study, samples were taken using *probability sampling* techniques, namely by *simple random sampling* method. According to Sugiyono (2018), the *simple random sampling* technique is said to be *simple* because sampling members from the population is carried out randomly without paying attention to the strata in the population.

In determining the sample of this study using the Hair formula, this is due to the number of population that uses investment *Online* in generation Z is not known for sure (Hair et al., 2017). Based on the Hair formula, the number of samples to be studied in this study was 155 respondents. The analysis model in this study is as follows:

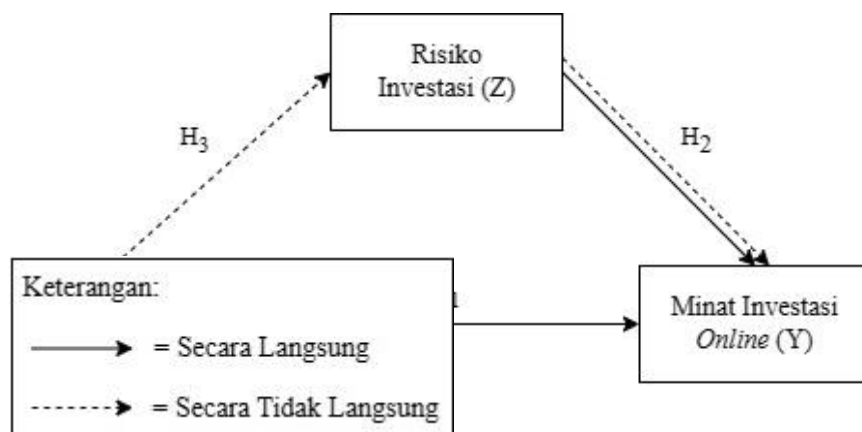


Figure 1. Research Concept Framework

Data analysis techniques are methods used to process data and then become information so that the characteristics of the data are easy to understand and useful for finding solutions to problems in a study (Ramdhan, 2021). In this study, data analysis used Path Analysis (Path Analysis Method). Path analysis is an approach used as data analysis. The purpose of the analysis path is to analyze the data determined in advance the equation, the model equation can be obtained from the research structure model based on the framework described earlier.

RESULTS AND DISCUSSION

The respondents in this study were generation Z in Cirebon City who were born in 1997-2012. However, not all population groups will be studied, researchers only need a representative sample. In this study, samples were taken from an existing population of 155 people. In this study, the instrument used was in the form of questionnaires or questionnaires distributed to the intended respondents through Google Form. The questionnaire was distributed online by researchers to each respondent for approximately 3 days, starting from October 30 to November 1, 2023.

Based on research data of generation Z who became respondents with female sex amounted to 87 people or 56% more than male gender which amounted to 68 people or 44% with vulnerable ages 20-26 years with a percentage of 90%, which is as many as 140 people. This is because at the age of 20 – 26 years. This shows that the majority of respondents to this study are dominated by women because now many women are starting to realize the importance of managing finances well so that they are starting to be interested in understanding the world of investment. Today's society can be said to be a modern society that can access social media easily. Therefore, there has been a significant shift in the perception of gender and financial roles. Women are increasingly becoming an active part of their own financial management, including in terms of investing.

Path Analysis Test Results

1. Regression Model I

Table 1
Regression-Model Summary I Test Results

Model Summary				
Type	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.704a	.495	.492	3.30010

a. Predictors: (Constant), Investment Literacy

Source: Data Processing (2023)

Table 2
Regression Test Results- Coefficients^a I

Coefficients ^a					
Type		Unstandardized Coefficients		Standardized Coefficients	Sig.
		B	Std. Error	Beta	
1	(Constant)	6.487	1.735		3.738
	Investment Literacy	.617	.050	.704	12.251

a. Dependent Variable: Online Investment Interest

Source: Data Processing (2023)

The regression equation can be explained in table 2, namely the value of the investment literacy coefficient of 0.617 shows that the investment literacy variable has a positive effect on online investment interest. Based on the magnitude of the R Square value contained in table 1 of 0.495, this shows that the contribution of investment literacy variables to online investment interest is 49.5%, while the remaining 50.5% is influenced by other variables that were not included in the study. As for finding the value of e_1 can use the formula $e_1 = \sqrt{(1 - 0,495)} 0.711$

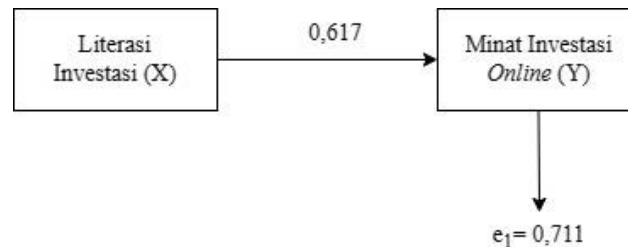


Figure 2. Results of Structure I

2. Regression Model II

Table 3
Regression-Model Summary I Test Results

Model Summary					Processing
Type	R	R Square	Adjusted R Square	Std. Error of the Estimate	
1	.759a	.576	.570	3.03486	
a. Predictors: (Constant), Investment Risk, Investment Literacy					

Source: Data
(2023)

Table 4
Regression Test Results- Coefficients^a I

Coefficients ^a					
Type	Unstandardized Coefficients		Standardized Coefficients		Sig.
	B	Std. Error	Beta	t	
1 (Constant)	1.648	1.832		.899	.370
Investment Literacy	.414	.060	.473	6.943	.000
Investment Risk	.206	.038	.366	5.377	.000

a. Dependent Variable: Online Investment Interest

Source: Data Processing (2023)

The regression equation can be explained as follows:

1. The value of the investment literacy coefficient of 0.414 shows that the investment literacy variable has a positive effect on online investment interest.
2. The value of the investment risk coefficient of 0.206 shows that the investment risk variable has a positive effect on online investment interest.

Based on the magnitude of the R Square value contained in table 3 of 0.576, this shows that the contribution of investment literacy variables and investment risk to online investment

interest is 57.6%, while the remaining 42.4% is influenced by other variables that were not included in the study.



Figure 3. Structure Results II

Test the hypothesis

1. The Influence of Investment Literacy on Online Investment Interest

To test the effect of investment literacy variables on online investment interest variables, the hypothesis can be seen in table 5 that *t* is calculated at 12.251 while *t* table is 1.655 so $12.251 > 1.655$, then H_a is accepted (H_0 is rejected), the results of this test show a significant influence of investment literacy variables on online investment interest partially. (H1 Accepted)

2. The Effect of Investment Risk on Online Investment Interest

To test the effect of investment risk variables on online investment interest variables, the hypothesis can be seen in table 7 that *t* is calculated at 5.377 while *t* table is 1.655 so $5.377 > 1.655$, then H_a is accepted (H_0 is rejected), the results of this test show a significant influence of investment risk variables on online investment interest partially. (H2 accepted).

Sobel Test

The basis for decision making in this sobel test is done by comparing t_{count} with t_{table} . If $t_{counts} > t_{table}$, it can be concluded that there is an effect of mediation. In this research there is mediation which will be tested as follows:

The effect of investment literacy (X) on online investment interest (Y) through investment risk (Z).

Known: $b = 0.206$; $sa = 0.060$; $a = 0.414$; $SB = 0.038$

$$Sab = \sqrt{b^2 Sa^2 + a^2 Sb^2 + Sa^2 Sb^2}$$

$$Sab = \sqrt{0,206^2 0,060^2 + 0,414^2 0,038^2 + 0,060^2 0,038^2}$$

$$Sab = \sqrt{0,0001527696 + 0,000247495824 + 0,0000051984}$$

$$Sab = \sqrt{0,000405463824}$$

$$Sab = 0,0201361322999$$

$$t = \frac{ab}{Sab}$$

$$t = \frac{0,085284}{0,0201361322999}$$

$$t = 4,2353714571305$$

Based on the results of the sobel test in mediation above, it shows a calculated *t* value of 4.2353714571305. While it is known that the value of *t* table from *alpha* 0.05 is 1.665, so it can be concluded that $t_{count} > t_{table}$. These results can be concluded that the investment risk variable (Z) is able to mediate the influence between the investment literacy variable (X) and the online investment interest variable (Y). (H3 Accepted)

DISCUSSION

The Influence of Investment Literacy on Online Investment Interest

Based on the results of the *t* test in Structure I shows the value of $t_{calculated}$ variable investment literacy (X) of 12.251 with a significance of 0.000. From this value, it is known that

the calculated t value is greater than the table t value of 1.665, while the significance value of 0.000 is smaller than the value of the α of 0.05. The results showed that investment literacy dimensions such as basic knowledge, skills, and attitudes in investing had a positive effect of 33.3% on the interest in *generation Z online investment* in Cirebon City.

"Basic understanding related to investment" is the indicator with the highest average value, which is 4.16, reflecting respondents' awareness of the importance of understanding the basics of investment and a good level of vigilance related to financial management. While the indicator that obtained the lowest average value was "skills in analyzing *return* calculations and skills in managing portfolio strategies" with an average value of 3.57.

According to them, technological advances and innovations in investment applications make the process more efficient and do not require special skills. Respondents' opinions show that technology has reduced the importance of basic understanding before investing, by tending to rely on app features for investment decision making.

The Effect of Investment Risk on Online Investment Interest

Based on the results of the t test in Structure II shows the calculated t value of the investment risk variable (Z) of 5.377 with a significance of 0.000. From this value, it is known that the calculated t value is greater than the table t value of 1.665, while the significance value of 0.000 is smaller than the value of the α of 0.05. The results showed that investment risk dimensions, including performance, financial, social, psychological, and time risks, had an effect of 24.3% on generation Z's online investment interest in Cirebon City.

"Understanding of performance risk in *online investing*" was the highest indicator with an average value of 3.97. Respondents recognize the importance of this understanding to achieve success in *digital investing*, are aware of risks such as market fluctuations, regulatory changes, and other external factors. This awareness encourages them to take a cautious and proactive approach, building a strong foundation for wise investment decision making. With a deep understanding of market complexity and regulation, respondents expect to optimize long-term investment returns, manage risk, and achieve better financial goals. Thus, a thorough understanding of performance risk is considered critical in building a sustainable investment portfolio.

The indicator with the lowest average value, "fear of online investment losses," got an average of 3.65. This suggests that respondents do not feel burdened by potential losses in *online investments*, as they are aware that any investment, particularly one made online carries risks that can affect the performance of their portfolio. In their view, uncertainty and fluctuations in asset value are not just risks, but rather opportunities for significant gains.

Respondents tend to view market changes as part of a dynamic investment game, where wise decisions and meticulous analysis can yield positive results. Some respondents may have a high risk tolerance or have developed meticulous investment strategies to cope with possible losses.

The Effect of Investment Literacy on Online Investment Interest with Investment Risk as an Intervening Variable

Based on the results of the sobel test, it shows a calculated t value of 4.2353714571305. While it is known that the value of t table from alpha 0.05 is 1.665, so it can be concluded that $t_{count} > t_{table}$. The calculation results show that investment literacy has an influence of 57.6% on *online investment interest* mediated by investment risk. This means that generation Z in Cirebon City with good investment literacy knowledge tends to increase interest in *online investment*, supported by a good understanding of investment risk. Awareness and understanding of investment risk enables them to manage risk wisely. The positive

relationship between investment literacy, online investment interest, and understanding investment risk can be a key factor in shaping the investment behavior of generation Z in Cirebon City.

The importance of investment literacy and understanding risk is also in line with *the Organization for Economic Cooperation and Development (OECD)*, which states that financial literacy includes the knowledge, skills, attitudes, and behaviors needed to make effective financial decisions. High investment literacy enables understanding of financial instruments, basic investment concepts, and the effectiveness of portfolio management. This helps individuals understand investment risks in depth, increases awareness of potential losses, thus enabling wise investment decision making and the development of smart risk management strategies. Conversely, a lack of investment literacy can limit understanding of the complexities of online investing, encourage impulsive action, and increase the risk of unmeasured decisions. Therefore, a good understanding of investment literacy can be a strong driver to increase interest and mitigate risk in *online investing*.

CONCLUSION

Based on the findings and results of the analysis, it shows that in the regression test model 1 the investment literacy variable (X) has a positive and significant effect on online investment interest (Y) in generation Z in Cirebon City, as evidenced by a significance value of $0.000 < 0.05$ with a calculated value of $12.251 > t_{table} 1.655$, so it is concluded that H_a is accepted H_0 is rejected. Thus, there is a significant influence of the investment literacy variable (X) on online investment interest (Y) by 33.3%.

While the test results for the investment risk variable (Z) show that there is a positive and significant effect on online investment interest (Y) in generation Z in Cirebon City as evidenced by a significance value of $0.000 < 0.05$ with a calculated value of $5.377 > t_{table} 1.655$, so it is concluded that H_a is accepted H_0 is rejected. Thus, there is a significant influence of the investment risk variable (Z) on online investment interest (Y) by 24.3%.

In the final stage of the test using mediation variables, it was seen that there was an indirect influence of investment literacy variables (X) on online investment interest (Y) through investment risk (Z) calculated at $4.2353714571305 > t_{table} 1.655$ which showed that the investment risk variable (Z) was able to mediate the influence of investment literacy (X) on online investment interest (Y) of 4.2353714571305.

Thus, indirectly there is a significant influence of the investment literacy variable (X) on online investment interest (Y) with investment risk (Z) as an intervening variable of 57.6%.

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