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Risk Management and Investment Decision: A Synergy

Prayoga Handy Pareh[1], Liana[2], Siti Nurhalisah[3], Said Kelana Asnawi[4]
[1,2,3,4] Kwik Kian Gie, Institute of Business and Informatics, Faculty of Economics and Business

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Corresponding Author:
Prayoga Handy Pareh

ABSTRACT
Investors consider risk-return in investment decisions. Several factors influence risk-return considerations, including demographic factors, social media, investment strategy, and the implementation of risk management. Data used in this research comes from Indonesia Capital Market (IDX) Investor and we used regression analysis to process the data. This research proposes the concept of interrelation between risk character and social media; as well as risk management and investment strategy. The results of the research show that investors use risk management in investing, and this risk management influences investment decisions. These results can be used as a benchmark for stakeholders to reinforce the importance of risk management in transactions.

KEYWORDS: Investment Decision, Risk Management, Social Media, Financial Literacy

1. INTRODUCTION

Currently, there is ease and convenience in financial investment through advances in information technology. This is also marked by an increase in stock investors in Indonesia, ranging from 104% (2021) and 29% (2022). Even though in absolute terms it is still small (around 4.4 million in 2022), this rapid increase indicates that there are more and more stock investors. On the other hand, around 167 million (60.4%) of Indonesia's population are social media users. Thus, social media will influence investment decisions. Stock education on social media can influence investment decisions. Influencers can influence interest in investment. Social media has now become the main means of information and even trumps the need for advice from financial experts (Kramer, 2016). There is a lot of true information and in contrary, there are also hoaxes. Therefore social media needs to be considered carefully. Social media also offers various facilities such as groups, training, and other forms of 'portfolio mimicking'. Social media including social media groups give investors an abundance of information. One of the consequences of this is that investors need the ability to filter the information.

In terms of investment, the investor's risk character plays a very important role. Bodie, Kane, and Marcus (2011) specifically refer to investment decisions depending on the degree of risk averter. In this case, the character of risk of the investor can be divided into risk averter, risk neutral, and risk taker. Related to assets, small assets are riskier but have greater return potential (Asnawi, 2022). For investors, there are several factors that must be done before investing, namely: starting with a fundamental approach, having investing mindset, increasing investment fund regularly, as well as looking for relevant information, controlling yourself, and trying to manage your funds. This principle contains risk management in the context of investment.

Risk management is important in investing. Risk management should be carried out by all investors regardless of the character of the risk. However, the potential for profit and loss may cause investors to neglect this risk management. The presence of risk management should provide balance in terms of investment decisions. In this case, if investors have risk management, then their investment decisions are more rational. Some research regarding risk management is shown by (Asnawi, Siagian, Alzah, and Halim, 2022a), and (Asnawi, Siagian, Alzah, and Halim, 2022b), regarding disposition effects and dividends. In Asnawi, Siagian, Alzah, and Halim (2022a) it was found that risk management was in line with predictions, where investors who implemented stop loss-capital gain would have a lower Disposition Effect. In Asnawi, Siagian, Alzah, and Halim (2022b) it was found that risk management would cause investors to consider shares with dividends more than shares without dividends. Thus, referring to this research, it seems that risk management is equivalent to the Bird in hand theory.

A risk taker-investor can utilize social media information more intensively because this information contains news (truth-hoax), hence the potential (benefit-risk) is available. In our opinion, this needs to be proven and makes this research interesting. For this, we submit it as research novelty

Investment decisions are not only based on rationality (fundamental) but can come from other philosophies. Cookson and Niessner (2020) divide them into 6 groups, namely fundamental, technical, momentum, global macro, growth, and value, where around 38% of investors adhere to technical principles, and around 12.5% adhere to fundamental characteristics. In this research, only fundamental and technical strategies are used. Investors in the technical category tend to utilize risk management to offset potential risks. Profit can be attained when the transaction performed at the correct timing. Losing the timing can mean losing the opportunity to attain profit with the risk of having to wait for longer time for the opportunity to come again. Meanwhile, investors with a fundamental philosophy can accept current changes and are more likely to look in the long term. Thus, fundamental investors tend not to implement risk management. Finding the company running strong financially might be sufficient for the fundamental investors. This is interesting to research, and we submit it as novelty research.

From the above description, it is known that investment decisions are influenced by intrinsic factors (namely the character of investment risk), social media, transaction strategies, and risk management. In our opinion, these four factors are very important. Hence, this research can contribute to the understanding of behavioral finance research. The main contributions of this paper are: (i) provide new evidence regarding factors that influence investment decisions; (ii) provide a concept regarding the relationship between social media and risk takers; (iii) provide the concept of the relationship between risk management and transaction strategy.

2. LITERATURE REVIEW

2.1. Characteristics of Risk and Investment Decisions

Investment decisions are considerations regarding risk-return. The basic philosophy is a positive relationship between risk and return. If it is related to the investor's character, risk can be perceived differently between investors who are risk averters and risk lovers. Risk Averter investors place greater emphasis on risk, so that for every risky investment they expect a risk premium. In this way, risk-averter investors will consider risk and return more when investing. Rich investors will be more risk averse (Paravisini et al., 2010). He, He, and Wen (2019) show what is stated in the textbook, namely that a positive relationship was found between the characteristics of risk and return. Meanwhile Perveen, Ahmad, Usman, and Liaqat (2020) shows that investment decisions are influenced by the risk character and experience of the investor.

Many studies show the influence of gender on various investment (decision) biases and various other things. Ke (2021), in the context of investing in the stock market, states gender differences, where men tend to be risk takers, more optimistic, more confident, and more attached to social participation. Aren (2020) also shows that men tend to like risky assets. Gender differences regarding investment decision bias (disposition effect) can be seen in (Breitmayer, Massari, and Pelster, 2019), (Cueva, Iturbe-Ormaetxe, Ponti, and Tomás, 2019). Both stated that women tend to be biased towards disposition effect. However, Talpsepp (2010) did not find this difference. In our opinion, risk averter investors will tend to be biased towards disposition effect, because the desire to realize potential returns, and the feeling of greater loss are characteristics that are more indicative of a risk averter.

The impact of (investor) education will affect analytical skills, investment management skills, and financial knowledge. Da Silva, Mendes, and Abreu (2022) stated that investors with good education and mathematics skills will have an impact on their financial literacy abilities. Furthermore, these investors become more rational. However, Aren (2020) found that financial literacy skills caused investors to prefer risky assets. What Aren stated does not contradict (da Silva, Mendes, and Abreu, 2022). It is interpreted that the higher the education, the greater the readiness to accept risk. Furthermore, if we refer to Ke (2021), who states that families with husbands who work in the financial sector will increase their participation in the capital market. We know that the capital market is an investment with high risk.

Regarding age, currently Generation Z has participated in stock investment. Mokhtar, Sabri, and Ho (2020) stated that age has a better impact on financial management, including that those who are older have the potential to have more experience. In our opinion, this also shows that older people will consider dividends more. However, the research results of Asnawi, Siagian, Alzah, and Halim (2022b) stated that generation do not have different preferences to dividends, where 67% of this group still consider dividends in investment decisions. This could be because dividends are a source of cash, even though the potential capital gain value can be greater than the dividend yield.

2.2. Social Media and Investment Decision

Currently, social media has become a part of investment. Social media (Facebook, Telegram, Instagram) provides many investment groups and offers investment training. Hermann, Mußhoff, and Rau (2017), Pelster and Hofmann (2018) state that investors copy other investors' trades and imitate them. Heimer (2016) stated that social media causes the role of financial experts to be replaced and encourages disposition effect bias. In the case of Indonesia, investors were deceived by financial advisors, where these financial advisors were influencers who had millions of followers. Breitmayer, Massari, and Pelster (2019), Kinanti and Asnawi (2022) show the benefits of social media, namely providing useful information and networking supplements, as well as increasing transparency. De Souza, Barbedo, and Araújo (2018) stated that only bad information (rumors) influences, especially uninformed investors. This information includes hoaxes and rumors. In Indonesia, there is a case of rumored shares, where the causal factor is a merger, namely ARTO shares, BRIS. ARTO (Bank Jago Plc) shares increased from 190 to a peak of 19,000 or an increase of up to 10,000%, when the bank merged with GOJEK (online transportation). These shares experienced multiple Auto Rejection Up and Auto Rejection Down, and the situation at that time was Covid-19, so online activity increased sharply. The current ARTO price is around IDR 2700 (15 March 2024), from the peak price it has fallen by around 86%. Kinanti and Asnawi (2022) stated the role of investor relations in reducing information asymmetry from issuers to public investors. The activeness of Investor Relations and public investors can encourage the information circulating to be true and correct. Thus, social media has a positive influence on investment decisions.

2.3. Risk Management, Transaction Strategy, and Investment Decision

Basically, risk management is managing uncertainty (volatility). In stocks, volatility is a source of capital loss (gain), especially if the shares are categorized as rumored stock as explained above. Risk-taker investors will like this volatile situation, considering the potential for greater gains. Thus, risk taker investors will ignore risk management. Risk management in stock investment can be done through (i) stock diversification; and (ii) applying stop loss-profit target. Richards, Rutterford, Kodwani, and Fenton-O'Creevy (2017) stated that the use of stop losses through automatic trading strategies can manage potential losses. In practice, investors can do this easily, through their securities account. In the case of dividends, the share price the day after the dividend cumulates can fall very sharply so that the capital loss is greater than the dividend yield. This needs to be the attention of investors who buy shares on the cum dividend date. In mutual fund and insurance companies, one way of managing financial risk is by selecting shares that distribute dividends (Harris, Hartzmark, and Solomon, 2015). Imas (2014) shows the impact of capital loss on investor character. It turns out that investors can be more risk averters and also risk takers. If an investor realizes a loss, then the investor is classified as a risk-averter, and vice versa. Fischbacher, Hoffmann, and Schudy (2017) shows risk management through automatic selling tools. In this case, they emphasize reducing potential losses as a risk. Thus, risk management has a positive influence on investment decisions.

In general, transaction strategies are divided into two, namely technical and fundamental. However, Cookson and Niessner (2020) divide them into 6, namely: Fundamental, technical, momentum, global macro, growth, and value; where the technical approach is around 38% of investors. Based on the words that are often used, apart from the fundamental approach (EPS, revenue, earnings, million, stock), the words in other approaches (chart, run, bull, wait) are closer to the technical approach. Technical Approach if transaction decisions only pay attention to price changes and momentary information.Therefore, a technical approach will have a positive influence on investment decisions. On the other hand, in the fundamental approach, the transaction decisions are based more on rational considerations, with regard to the economy, industry, and company. Long-term considerations can cause investors to ignore current performance.

2.4. The relationship between risk characteristics and social media, as well as risk management and strategy

A risk averter-investor can utilize social media information more intensively because this information contains news (truth-hoax). Hence the potential (benefit-risk) is available. In our opinion, this interrelation needs to be proven and become novel research. Investors in the technical category tend to utilize risk management to offset potential risks. Meanwhile, investors with a fundamental philosophy can accept current changes and are more likely to look in the long term. Thus, fundamental investors tend not to implement risk management. This is interesting to research, and the interrelation between these two variables needs to be proven. We submit this as novelty research.

3. METHODS

Data obtained from Indonesian capital market respondents was distributed in December 2023. There are 165 respondents answered. Indicators on variables have the same weight. This research was completed through regression equations (1) and (2). The operational definition of variables is presented in Table 1.

Table 1. Operational Definition of Selected Variables

Variables	Explanation	Hypothesis
Investment Decision (ID)	Before investing, investors consider: (i) the level of return, (ii); the level of risk; (iii) return-risk; (iv) risk versus return	Dependent Variable
Risk Character (RC)	Respondents were asked 3 questions referring to (Bodie, Kane, and Marcus, 2011) where the answers are on a scale of 1-3. If the respondent answers with a total score of 3-4	Positive risk averter investors are more likely to consider Investment decision

	risk averter, 5-7 risk neutral, and 8-9 risk taker. However, we do the coding in reverse, namely 8-9 with coding 1, 5-7 with coding 2, and 3-4 with coding 3, so that the expected coefficient is positive	
Sex	Nominal data, where 0 is male	Positive Women are considering investment decision more
Education (EDU)	The educational level of respondents with an increasing ordinal scale, (3 levels of education)	Positive Higher education respondents are considering investment decision more
Generation (GEN)	Shows the level at which the respondent is, by asking for a year of birth and dividing it according to existing generation criteria (4 generation levels), the youngest generation (Gen Z) is worth 1	Positive The older the generation of the respondents are the more they consider investment decision
Strategy (STR)	Shows the respondent's transaction method, with a nominal scale where 0 indicates fundamental and 1 indicates technical	Positive Respondents with technical investment strategy are considering investment decision more
Social Media (SM)	Shows the impact of social media through questions regarding investor participation in investment groups, as well as considering social media information in decision-making (scale 1-10)	Positive Investors who follow social media will consider investment decision more
Risk Management (RM)	Demonstrates investor behavior in financial management by implementing: diversification, stop loss, and profit taking	Positive Investors who carry out risk management will influence their investment decisions more
Risk Character * Social Media	There is an interrelation between investors and the characteristics of risk averters and social media	Positive A person who is a risk averter will be encouraged to be more careful with information from social media
Risk Management * Strategy	There is an interrelation between risk management and investor trading strategies	Positive Investors with technical strategies will increasingly consider risk management

The model can be stated as follows:

$$ID = \beta_{01} + \beta_{11} RC + \beta_{21} SM + \beta_{31} RM + \beta_{41} STR + \beta_{51} SEX + \beta_{61} Gen + \beta_{71} Edu + \varepsilon_1 \quad (1)$$

$$ID = \beta_{01} + \beta_{11} RC + \beta_{21} SM + \beta_{31} RM + \beta_{41} STR + \beta_{51} SEX + \beta_{61} Gen + \beta_{71} Edu + \beta_{81}(RC * SM) + \beta_{91}(RM * STR) + \varepsilon_1 \quad (2)$$

4. RESULTS AND DISCUSSION

4.1. Research Results

We pay attention to gender, and whether there are differences in several variables. The results are shown in table 2. Based on this table, no differences were found (men and women) in terms of investment decisions, use of social media, risk management, and transaction strategies. Investment decisions range from a mean of 8, indicating that investors are quite rational in considering risk-return. The risk management variable is also in the high range (7), indicating that investors use risk management in managing their transactions. Only the risk management variable got a high mean (>6) and in the regression test (table 3) this variable was proven to influence investment decisions.

Table 2. Independent t-test based on gender

Variables	Average-Man (n=115)	Average-Women (n=50)	T-stat (sign-2 tail)
Investment Decision	8.6	8.3	0.959 (0.339)
Risk Character	2.33	2.30	0.338 (0.735)
Social Media	5.75	5.58	0.409 (0.683)
Risk Management	7.04	6.91	0.393 (0.695)
Strategy Transaction	0.66	0.76	1.314 (0.192)

Table 3. Regression Result Analysis, Factors Influence Investment Decision

Variables	Predicted Sign	Regression (1)				Regression (2)			
		Coefficients				Coefficients			
		b	beta	t	sign	b	beta	t	sign
(Constant)		5.169		6.526	.000	6.099		4.261	.000
Risk Character	+	.001	.000	.006	.995	-.463	-.141	-.790	.431
Social Media	+	.042	.059	.761	.448	-.135	-.192	-.641	.522
Risk Management	+	.426	.466	5.926	.000	.441	.483	5.108	.000
Strategy	+	-.242	-.064	-.925	.356	.111	.030	.105	.916
Sex	+	.113	.060	.769	.443	-.227	-.060	-.858	.392
Education	+	-.033	-.013	-.171	.864	.114	.061	.776	.439
Gen	+	-.257	-.069	-.924	.357	-.025	-.010	-.129	.897
RC*SM	+					.077	.310	.868	.386
RM*Strategy	+					-.051	-.107	-.363	.717
		R^2=0.255; F=7,66* DW=1.722				R2=0.258; F=6.001*; DW=1,798			

4.2. Discussion of Research Results

The regression results from equation (1) and (2) are shown in table 3. Based on this table, there are several quite interesting results. First, the Generation variable shows a negative coefficient, meaning that Generation Z considers risk-return more in their investment decisions. Results that do not support this hypothesis can be interpreted as good news, which shows rationality in Generation Z. Even though these results are insignificant, they can be used as a basis for providing understanding and campaigning by related parties, of the importance of rationality. As stated above, in Indonesia there have been cases of fraud by financial advisors, and stock rumors. Hence, a warning to be more careful is very necessary for Generation Z considering that they are only at the initial stage of entering the world of investment. Second, inconsistent coefficients (positive-negative) were found on the risk character, social media, management strategy, and education variables. The inconsistency of this coefficient means that this variable is still too early to be used as a reason to influence investment decisions. Several reasons can be used as reasons: (i) the amount of data is small, compared to the population; (ii) the assumption of data diversity. The data was distributed to all investors, but those who gave the most answers were from Gen Z and Millennial. Third, only risk management variables are proven to influence investment decisions. This is good news that the use of stop loss, target gain, as well as portfolio, is quite a concern for investors and influence investment decisions. The use of these things will cause investments to be made rationally and have a positive impact on the economically for the investors. In our opinion, these impacts include the view of investment as a means of cultivating assets and also it can make stock investment as a good investment alternative.

Fourth, there has not been sufficient evidence of an interrelation between (i) risk characteristics and social media; and (ii) risk management with investment strategies. Explanations that can be provided: all risk characters view the role of social media similarly the same. This can be interpreted positively, indicating that all investors are affected or not affected by social media in the same way. Thus, investors have other considerations (education, generation, gender) when getting information from social media. Furthermore, there is no relationship between risk management and investment strategy. A negative coefficient can indicate that the fundamental investment strategy is more dominant in utilizing risk management. Data shows that investors use more technical strategies. This should be an initial warning for investors who use technical strategy. They are encouraged to use stricter risk management to avoid being exposed to adverse impacts (such as pom-pom shares, rumor shares, and fried shares). The concern is for the stakeholders to provide adequate education in investing in shares.

5. CONCLUSION

The research results show that risk management influences stock investment decisions by investors. Generation Z considers risk-return more than previous generations. This is a good sign of rationality (prudence) in investing. For this, stronger efforts are needed to provide education about stock investment in order for the stock investment to become a safe, comfortable, and growing investment tool.

This research data uses a questionnaire (google form) for stock investors. However, investors who participate are still very limited. In the future, if the data can be reproduced, the analysis can be enriched, by comparing generations, regions, income, and various other variables. From a modelling perspective, analysis can also be done by looking at opportunities (logistic regression).

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