THE EFFECT OF INVESTOR PERSONALITY TRAITS ON INVESTMENT INTENTION OF INDONESIA DIGITAL STARTUP WITH MEDIATING ROLE OF FINANCIAL SELF-EFFICACY

Santi Sandra Widjaja
Prof. Ir. H. M. Roy Sembel

ABSTRACT

This research adds value in the study of investor's personality and its effect on investment intention. The study used a purposive sampling technique. A total of 93 responses were collected through online questionnaires from individual investors in Jakarta. Data were analyzed using PLS-SEM on SmartPLS 3 program. The study has used personality psychology theory to discover the effect of investor personality traits and risk behavior on investment intention, with the contribution of financial self-efficacy as mediator. The result indicated that agreeableness and risk behavior negatively influence investment intention, and conscientiousness positively influences investment intention. Further, the result also indicated financial self-efficacy did not significantly mediate the relationship between personality traits and investment intention. The finding could help investors to understand the influence of behavioral factors on investment intention, especially in a digital startup in Indonesia. This study could also help the financial advisors to recommend investment instrument to potential investors, based on their personality traits. Potential investors should understand their personality traits and its influence on investment intention, as it may influence their decision when considering an investment in digital startup in Indonesia. This study should be beneficial for future researchers to design their investigation on similar study, and as reference for other studies on the effect of investor behavioral factors on investment intention.

Keywords: investment intention, digital startup, personality traits, financial self-efficacy

INTRODUCTION

Indonesia is an attractive market for the digital economy, with high internet penetration, digital infrastructure development, and the increase of information and technology usage (East Ventures, 2020). In 2025, Indonesia digital economy is forecast to reach $130 billion with an average annual growth of 49% (Google, Temasek, and Bain, 2019). Investments in startup businesses are considered riskier than other investment options (Mason and Harrison, 2002). Startup companies are newly founded businesses or ventures in the phase of development and market research (Calopa, Horvat, & Lalic, 2014). Funding is crucial for any startup or business venture and it is very difficult for any startup to pitch the concept to the investor and persuade them to invest in it. The big part of the funding market is venture capital, angel investment, government loans and seed funding (Garg and Shivam, 2017). There is also an informal investor or business angels who are considered as high net worth individuals who invest their own money along with their time and expertise in the hope of financial gain (Mason, 2005).

It has been researched that investors do not always behave rationally, rather their decisions are influenced by various other factors, including psychological, demographical, interpersonal, and environmental factors (Charles & Kasilingam, 2014, Gupta & Ahmed, 2016, Sembel & Trinugroho, 2011). Investor's personality plays a significant role in determining their investment success (Charles and Kasilingam, 2014). Recent study from Husnain, Shah, & Fatima (2019), Lai (2019), Liu, Woo, & Hon (2016), Ozer & Mutlu (2019), Paliwal, Bhadauria & Singh (2018), Sadiq & Khan (2019), found that personality traits influence an individual investment decision. Personality describes how one should act, react in different situations, and also interact with different people (Bashir, Shah, and Khan, 2019). Personality dimensions categorized under the big five model include openness to experience, conscientiousness, extraversion, agreeableness, neuroticism (Dhiman and Raheja, 2018).

Although many studies has been conducted in the relationship between personality traits and investment intention, however, this relationship has not been studied in startup investment especially in Indonesia. The authors are interested to understand about the effect of investor personality traits and risk behavior on investment intention of Indonesia digital startup, and its relationship with the contribution of financial self-efficacy as a mediator.

LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

Theory of Planned Behavior and Self-Efficacy

There are many studies in finance and investment conducted using the Theory of Planned Behavior (Sondari and Sudarsono, 2015). Behavioral factor has an impact on the investors' investment intention. Investment intention is the reason for investors to invest in various instrument (Viswashash and Chitramani, 2018). Intentions to perform behaviors can be predicted from attitudes toward the behaviors, subjective norms, and perceived behavioral control according to Theory of Planned Behavior. Intentions are assumed to capture the motivational factors that affect behavior, they are indications of how hard people are willing to try, and how much effort they plan to perform the behavior (Ajzen, 2012). Mayfield, Garry & Wooten (2008) used TPB to explore the effect of personality traits on short term and long term investment, while Lai (2019) used TPB to investigate the effect of personality traits on stock investment.

According to the study from Lai (2019), perceived behavioral control of individuals regarding stock investment is influenced by the personality traits of agreeableness, extroversion, and conscientiousness. Perceived behavioral control is the most compatible with Bandura's concept of perceived self-efficacy. Self-efficacy is the people's beliefs in their capabilities to produce the desired effect of their actions (Bandura, 2012). Wang, Yao, Liu, et al. (2014) and Zhang, Chen, Xiao, et al. (2019) found that extraversion, agreeableness, conscientiousness were all positively related to self-efficacy.

Five-Factor Theory

Personality psychology is the study on how people differ psychologically, and how those differences can be described and measured (Funder and Fast, 2010). Personality traits are one of the important psychological factors affecting the financial behavior of individual investors (Ozer & Mutlu, 2019). The most widely discussed and the most popular taxonomy is the Big Five Personality approach or Five-Factor model (Kumaranayake, 2017). Five-Factor theory provides a basis for causal theories, to allow prediction of behavior (Crae & Sutin, 2018). Personality dimensions categorized under the big five model include openness to experience (creative person), conscientiousness (dependable, responsible & organized person), extraversion (active person), agreeableness (social person), neuroticism (emotional & moody person) (Dhiman & Raheja, 2018).

Hypotheses Development

This research was conducted to determine the effect of investor personality traits, risk behavior, financial self-efficacy on investment intention of Indonesia EdTech startup, and mediating effect of financial self-efficacy on the relationship between personality traits and investment intention of Indonesia EdTech startup.

a. Personality Traits and Investment Intention

Personality traits have been studied by Mayfield, et al. (2008), Husnain et al. (2019), Lai (2019), Paliwal et al. (2018), Sadiq & Khan (2019), and they found personality traits have a significance impact on investment decision. Mayfield et al. (2008) found individuals who are more extraverted plans to make short term investments. Lai (2019) found conscientiousness and extraversion have a positive impact and agreeableness has a negative impact on investment intention. Paliwal et al. (2018), Sadiq and Khan (2019), and Husnain et al. (2019) found conscientiousness has a positive relationship with long term investment decision. Other research from Ozer & Mutlu (2019) found personality traits like conscientiousness and agreeableness have a positive and significant effect on financial behavior, while extraversion has no significant effect on financial behavior. Based on the explanation above, the following hypotheses are proposed:

H1: Investor personality traits affect investment intention of Indonesia EdTech startup
H1a: Extraversion has a positive effect on investment intention of Indonesia EdTech startup
H1b: Agreeableness has a negative effect on investment intention of Indonesia EdTech startup
H1c: Conscientiousness has a positive effect on investment intention of Indonesia EdTech startup

b. Risk Behavior and Investment Intention

Aren and Hamamci (2019), discovered investment choices can be estimated by objective financial literature, risk aversion, and risky investment intention. Kanten, Girgin & Kurt (2018) found risk aversion has a significant effect on individuals' investment decisions. Bashir et al. (2019) found risk attitude strongly moderates the impact of personality traits on investment decisions. Based on the literature, the following hypothesis is proposed:

H2: Risk behavior has a negative effect on investment intention of Indonesia EdTech startup.

c. Financial Self-Efficacy and Investment Intention

Claudia and Muniarti (2018) found that individuals with high self-efficacy tended to make a risky investment decisions. Farrell, Fry and Risse (2016), discovered higher financial self-efficacy is associated with investment and saving products while lower financial self-efficacy is associated with debt related products. Qamar, Khemta & Jamil (2016), and Rizkiawati & Asandimitra (2018), found that financial self-efficacy significantly affect the personal financial management behavior. Based on the literature, the following hypothesis is proposed:

H3: Financial self-efficacy has a positive effect on investment intention of Indonesia EdTech startup.

d. Mediating Role of Financial Self-Efficacy

Husnain et al. (2019) found that financial self-efficacy mediated the relationship between agreeableness and short-term investment decision, and conscientiousness and long-term investment decision. Wang et al. (2014) and Zhang et al. (2019) found that extraversion, agreeableness, conscientiousness were all positively related with self-efficacy. Based on the literature, the following hypotheses are proposed:

H4: Financial self-efficacy has a mediating effect on the relationship between investor personality traits and investment intention on Indonesia EdTech startup.
H4a: Financial self-efficacy has a mediating effect on the relationship between extraversion and investment intention on Indonesia EdTech startup
H4b: Financial self-efficacy has a mediating effect on the relationship between agreeableness and investment intention on Indonesia EdTech startup
H4c: Financial self-efficacy has a mediating effect on the relationship between conscientiousness and investment intention on Indonesia EdTech startup

METHODOLOGY

Population and Sample

The population used in this study are individual investors in Jakarta, with the requirement of investment experience at least in one of the investment instruments, such as stock, mutual fund, gold, bank fixed deposit, Startup Company, or real estate.

In this study, the sampling techniques used is non-probability sampling, which is purposive sampling. The sampling here is limited to different types of people that are able to provide the requested information (Mishra and Alok, 2017). The minimum sample size is using 10 times rule, which is based on the premise that the sample size will exceed 10 times the maximum number of internal or external model link pointing to any latent variable in the model (Hair, Ringle, and Sarstedt, 2011). This research using six variables, therefore the minimum sample is 60.

The sample used in this study were individual investors who worked at private or public companies, with a total number of 93 respondents.

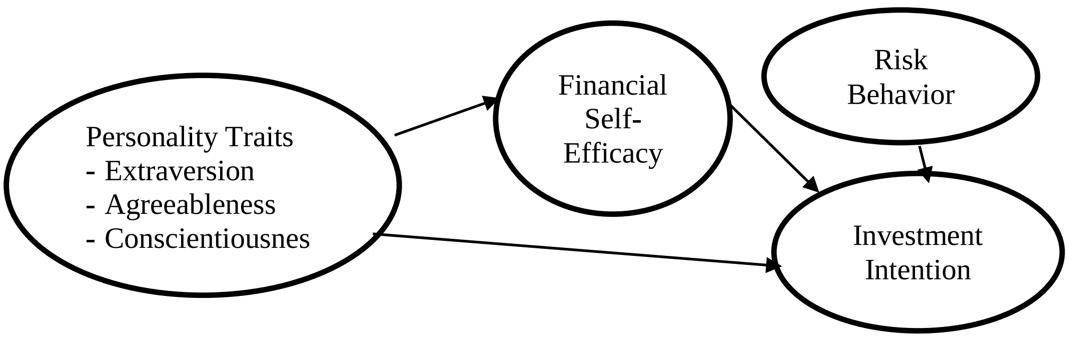
Data Collection Method and Analysis

This study used a quantitative approach. The survey questionnaire using a five-point Likert scale. Data were collected through online questionnaires. Online questionnaires were distributed to all respondent in period of March – May 2020. Data were analyzed using PLS-SEM on SmartPLS 3 program.

Research Variables

There are six variables in this research, personality traits including extraversion, agreeableness and conscientiousness, risk behavior, financial self-efficacy, and investment intention. Dependent variable in this study was investment intention. Independent variables were personality traits and risk behavior. Mediating variable was financial self-efficacy. Questionnaires using the indicators that was validated and used in previous study by other researcher. The 13 items of personality traits and 4 items of risk behavior taken from the preceding study conducted by Mayfield et al. (2008). To measure investment intention, 6 items from Trang and Tho (2017) was adopted. Financial self-efficacy, were measured by using 6 items from a previous study conducted by Lown (2011). Figure 1 shows the research framework used in this study.

Figure 1. Research Framework



RESULTS AND DISCUSSION

Results

This study used 93 individual investors in Jakarta as the respondents with the demographics described on table 1.

Table 1. Respondents Demographic

Questionnaire Results		Samples (N)	Percentage (%)
Gender	Male	42	45.2 %
	Female	51	54.8 %
Age Group	25 – 30 years old	8	8.6 %
	31 – 35 years old	18	19.4 %
	36 – 40 years old	30	32.2 %
	41 – 45 years old	19	20.4 %
	>45 years old	18	19.4%
Education	Diploma	2	2.2 %
	Bachelor Degree	64	68.8%

Questionnaire Results		Samples (N)	Percentage (%)
	Master Degree	25	26.8 %
	Doctoral Degree	2	2.2 %
Workplace	Private company	69	74.2 %
	Public company	16	17.2 %
	Other	8	8.6 %
Job Level	Investor/Shareholder	5	5.4 %
	Director / C- Level	21	22.6 %
	General Manager	11	11.8 %
	Manager	49	52.7 %
	Other	7	7.5 %
Investment Experience	Stock	5	5.4 %
	Mutual Fund	1	1.1 %
	Gold	10	10.8 %
	Bank Fixed Deposit	15	16.1 %
	Property or Real Estate	1	1.1 %
	Startup company	6	6.4 %
	More than one investment instrument, with investment in startup company	8	8.6 %
	More than one investment option, with no investment in startup company	47	50.5 %
Awareness about EdTech	Yes	81	87.1 %
	No	12	12.9 %

Analysis of The Measurement Model

To achieve valid and reliable results, reliability, convergent validity, and discriminant validity were assessed. Internal consistency reliability was measured by using Cronbach's alpha and composite reliability. The standard for Cronbach's alpha > 0.70 (Henseler, Hubona, and Ray, 2015). The composite reliability result between 0.70 and 0.95 represent a level of reliability satisfactory to good (Sarstedt, Ringle, and Hair, 2017). For convergent validity, all variables with AVE > 0.50 are considered valid (Hair et al., 2011). Loading above 0.70 indicates that the construct explains more than 50 % of indicator variance, which represent a satisfactory degree of convergent validity (Sarstedt et al., 2017). As shown in table 2, the measurement model is valid regarding reliability and convergent validity.

Table 2. Convergent Validity and Reliability

Variables	Code	Outer Loading	Cronbach's Alpha	Composite Reliability	AVE
Agreeableness	AGR1	0.781	0.702	0.825	0.616
	AGR2	0.901			
	AGR3	0.652			
Conscientiousness	CONS2	0.648	0.685	0.805	0.509
	CONS3	0.708			
	CONS4	0.775			
	CONS5	0.719			
Extraversion	EXT1	0.637	0.816	0.873	0.637
	EXT2	0.771			
	EXT3	0.864			
	EXT4	0.895			
Risk Behavior	RISK1	0.868	0.749	0.854	0.662
	RISK2	0.776			
	RISK3	0.793			

Variables	Code	Outer Loading	Cronbach's Alpha	Composite Reliability	AVE
Financial Self-Efficacy	FSE1	0.689	0.682	0.807	0.512
	FSE4	0.709			
	FSE5	0.795			
	FSE6	0.661			
Investment Intention	INT1	0.967	0.980	0.984	0.909
	INT2	0.974			
	INT3	0.959			
	INT4	0.953			
	INT5	0.946			
	INT6	0.919			

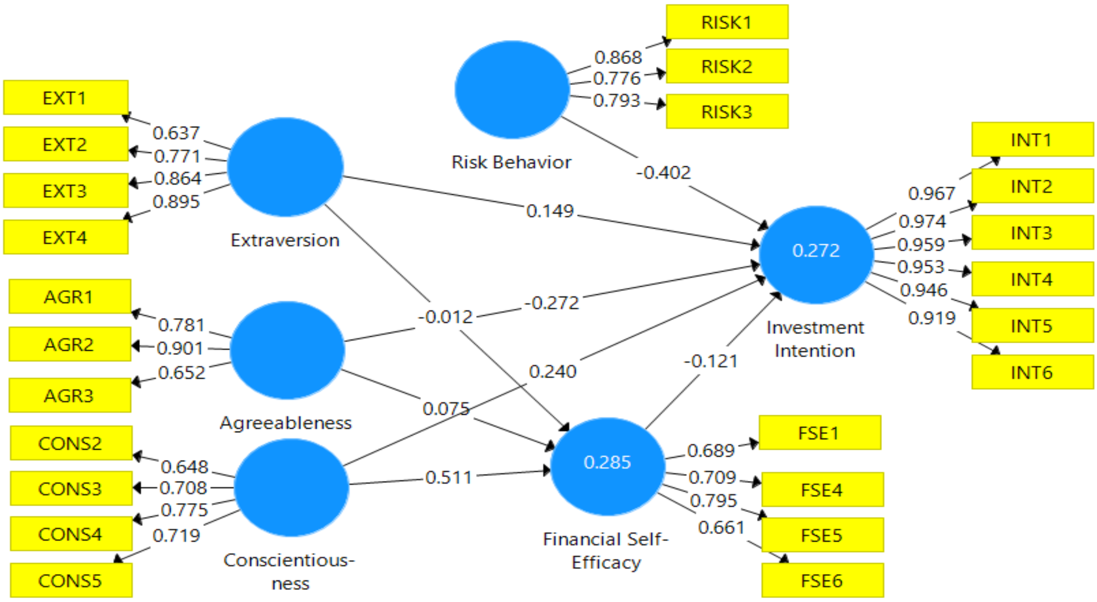
Furthermore, discriminant validity can be measured using cross-loading. An indicator's loading with its associated latent construct should be higher than its loading with all the remaining constructs (Hair et al., 2011). As shown in table 3, the measurement model is valid regarding discriminant validity.

Table 3. Discriminant Validity

Variables	Agree-ableness	Conscien-tiousness	Extra-version	Financial Self-Efficacy	Investment Intention	Risk Behavior
AGR1	0.781	0.240	-0.023	0.178	-0.114	0.006
AGR2	0.901	0.247	0.209	0.216	-0.158	-0.143
AGR3	0.652	0.147	0.326	0.061	-0.079	-0.179
CONS2	-0.022	0.648	0.311	0.239	0.167	0.084
CONS3	0.185	0.708	0.293	0.410	0.189	-0.215
CONS4	0.347	0.775	0.119	0.489	0.078	-0.095
CONS5	0.198	0.719	0.216	0.303	0.142	-0.039
EXT1	0.104	0.011	0.637	-0.038	0.142	0.055
EXT2	0.121	0.278	0.771	0.046	0.224	-0.049
EXT3	0.097	0.218	0.864	0.108	0.160	-0.127
EXT4	0.207	0.347	0.895	0.266	0.155	-0.190
FSE1	0.050	0.425	0.148	0.689	-0.042	-0.110
FSE4	0.123	0.293	0.029	0.709	-0.008	-0.141
FSE5	0.200	0.418	0.103	0.795	0.025	-0.161
FSE6	0.237	0.350	0.160	0.661	0.186	-0.204
INT1	-0.114	0.178	0.217	0.059	0.967	-0.393
INT2	-0.070	0.197	0.222	0.096	0.974	-0.388
INT3	-0.158	0.159	0.171	0.029	0.959	-0.415
INT4	-0.208	0.185	0.218	0.076	0.953	-0.354
INT5	-0.169	0.196	0.219	0.073	0.946	-0.332
INT6	-0.180	0.198	0.157	0.005	0.919	-0.362
RISK1	-0.027	-0.077	-0.131	-0.151	-0.384	0.868
RISK2	-0.159	-0.106	-0.132	-0.219	-0.235	0.776
RISK3	-0.129	-0.116	-0.061	-0.176	-0.310	0.793

The outer model diagram in Figure 2 show the correlation of each construct and outer loading results of this research.

Figure 2. Outer Model Diagram



Analysis of Structural Model

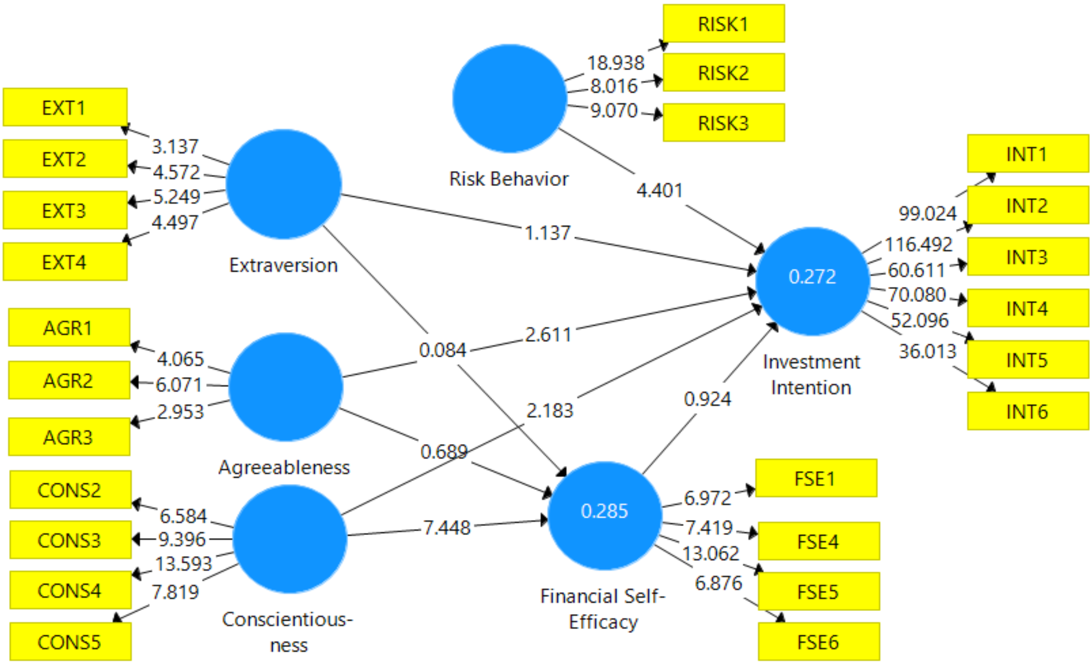
The structural model and hypotheses were assessed by using the coefficient of determination (R-square). R-square value 0.25 is considered as weak, 0.50 is moderate, and 0.75 is high (Hair et al., 2011). Based on figure 2, the R-square of investment intention 0.272 and R square of financial self-efficacy 0.285, considered as weak. In this research, the T-statistics standard is 1.96 with a level of significance 5 %.

Table 4. Hypotheses Test

Hypotheses	T-values	p-Values	Path coefficient	Results
H1a: Extraversion → investment intention	1.137	0.256	0.149	Not Supported
H1b: Agreeableness → investment intention	2.611	0.009	-0.272	Supported
H1c: Conscientiousness → investment intention	2.183	0.029	0.240	Supported
H2: Risk behavior → investment intention	4.401	0.000	-0.402	Supported
H3: Financial self-efficacy → investment intention	0.924	0.355	-0.121	Not Supported
H4a: Extraversion → financial self-efficacy → investment intention	0.065	0.949	0.001	Not Supported
H4b: Agreeableness → financial self-efficacy → investment intention	0.419	0.675	-0.009	Not Supported
H4c: Conscientiousness → financial self-efficacy → investment intention	0.895	0.371	-0.062	Not Supported

The result of T statistics from path coefficient showed in Figure 3.

Figure 3. Structural Model Diagram



DISCUSSION

The effect of investor personality traits on investment intention of Indonesia EdTech startup

According to this study, investor personality traits have a significant effect on investment intention of Indonesia EdTech startup. The result is consistent with other research that studied the influence of investor personality traits on investment intention on stock investment (Lai, 2019) or mutual fund (Paliwal et al., 2018). Hypothesis 1b, agreeableness negatively influenced investment intention of Indonesia EdTech startup is accepted. Hypothesis 1c, conscientiousness positively influenced investment intention of Indonesia EdTech startup is also accepted. However, hypothesis 1a is not accepted. Extraversion did not significantly influence investment intention of Indonesia EdTech startup. The result in line with the study from Lai (2019) which found conscientiousness has a positive impact and agreeableness has a negative impact on investment intention. The finding also supported from the finding Paliwal et al. (2018), Sadiq and Khan (2019), and Husnain et al. (2019) that conscientiousness has significant impact on short term and long term investment decision. However, the result is inconsistent with the study from Mayfield, et al. (2008) which found extraversion tend to engage in investment, and Sadiq and Khan (2019), and Lai (2019) which found extraversion have positive impact on investment intention.

The effect of risk behavior on investment intention of Indonesia EdTech startup

The result showed that risk behavior has a negative effect on investment intention of Indonesia EdTech startup, so hypothesis 2 is accepted. People who are high risk-averse tend to have low investment intention, while people who are low risk-averse tend to have high investment intention. The result in line with the study from Mayfield et al. (2008), Kanten et al (2018), and Aren and Hamamci (2019) which found risk aversion has a significant effect on an individual’s investment decision.

The effect of financial self-efficacy on investment intention of Indonesia EdTech startup

In this study, financial self-efficacy did not significantly influence investment intention on Indonesia EdTech startup, so hypothesis 3 is not accepted. The result is inconsistent with the study from Farrel et al (2016), that showed higher financial self-efficacy is associated with investment and saving product while lower financial self-efficacy is associated with debt-related products, and the study from Claudia and Muniarti (2018) which found that individuals with high self-efficacy tended to make a risky investment decision, while individuals with low self-efficacy tended to make a safer decision.

The mediating effect of financial self-efficacy on the relationship between investor personality traits and investment intention of Indonesia EdTech startup

Based on this study, financial self-efficacy did not have a mediating effect on the relationship between investor personality traits and investment intention on Indonesia EdTech startup, so hypothesis 4, 4a, 4b, and 4 c are not accepted. The result is inconsistent with the study from Husnain et al (2019) which found financial self-efficacy mediated the relationship between agreeableness and short-term investment decision, and conscientiousness and long-term investment decision.

CONCLUSION AND RESEARCH CONTRIBUTION

Conclusion

The result of this study showed that investors with high agreeableness have low investment intention of Indonesia EdTech startup, while investors with high conscientiousness have high investment intention of Indonesia EdTech startup. Risk behavior is found to have a negative influence on investment intention. High risk-aversion resulted to low investment intention on Indonesia EdTech startup, and low risk-aversion resulted to high investment intention on Indonesia EdTech startup. However, higher or lower financial self-efficacy did not affect investment intention and did not mediate the relationship between investor personality traits and investment intention on Indonesia EdTech startup.

Research Contribution

The finding could help investors to understand the influence of behavioral factors on investment intention, especially in a digital startup in Indonesia. This study could also help the financial advisors to recommend investment instrument to potential investors, based on their personality traits. Potential investors should understand their personality traits and its influence on investment intention, as it may influence their decision when considering an investment in digital startup in Indonesia. This study should be beneficial for future researchers to design their investigation on similar study, and as reference for other studies on the effect of investor behavioral factors on investment intention.

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Santi Sandra Widjaja
Sekolah Tinggi Manajemen IPMI
Email: santi.widjaja@ipmi.ac.id

Prof. Ir. H. M. Roy Sembel
Sekolah Tinggi Manajemen IPMI
Email: roy.sembel@ipmi.ac.id