

Financial and digital literacy effects on digital investment decision mediated by perceived socio-economic status

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Abstract. This research aimed to examine the effects of financial and digital literacy as a fundamental aspect that influence the decision in making digital investment which is mediated by perceived socio-economic status. Prior research of how socio-economic affects digital and financial literacy which influence investment decision making process has widely been discussed over the time. However, most studies were focused on 'objective' socio-economic status as a part of a measurable factor which affects literacy level. On the other hand, there is another key element that needs to be deepened further, that is 'perceived' socio-economic status. In addition, specific discussion on 'digital' investment decisions and how it is influenced by the perception of digital investors which correlated with digital and financial literacy factors are also still limited. The trend of digital investors has risen along with the growing financial technology market, especially for millennials. This study's results will contribute to policy makers, digital investors, and especially for digital investment companies to formulate go-to-market strategy. This research used a convenient sampling and gathered data through an online questionnaire survey from 116 individual investors. Multiple regression using SmartPLS version 4.0 was applied to analyze the data and test the research model. The results show that financial literacy and digital literacy positively affects digital investment decision throughout perceived socio-economic status as a mediator that also has a positive impact to digital investment decision.

1 Introduction

Digital is inevitable, technology has developed and influenced a lot of things in human-life, and the world of finance is no exception. Financial market is also rapidly changing with a breakthrough to innovate financial products and services. Nowadays, Digital Financial Literacy (DFL) is very important to enable knowledge that affects financial decisions to allocate their resources better and gain greater advantage. People with better financial knowledge will be more likely to invest in financial markets and can have more accurate consideration to reduce risk in markets. Furthermore, the exponential growth in financial technology is changing the way people handle their financial investments.

In 2021, Indonesia's economic value is recorded at around USD 70 billion and estimated to reach up to USD 146 billion in 2025 [1]. D-Insights (2022) coined a report from E-economy revealed that Indonesia contribute around 40% to the ASEAN-6 internet economy. It also highlights a report from APJII that pandemic of Covid-19 has accelerated the digital adoption which reflected through the trend of internet penetration growth from 65% in 2018 to 77% in 2021 – 2022. However, the level of financial literacy is still relatively low, at 38,03% and the digital literacy index is 3,49% only [2].

The World Bank Report (2021) provides a use case of the key bottleneck of e-commerce to expand and the digital economy was correlated with the lack of trust in digital transactions and the impact of low adoption of digital financial services in Indonesia. The report found that only 0.5% of all Indonesian households are advanced digital financial service users (which include insurance, remittances, and credit). Most low and middle-income countries face this issue, as literacy is a critical component of digital financial access and inclusivity. The lack of understanding and knowledge of financial services has a significant impact, because most people are only familiar with basic banking services such as deposits and withdrawals [3]. A case in Vietnam showed that lower financial literacy can also be associated with several factors, such as socioeconomic and culture. For example, people of higher age, low income, and non-users of financial management applications had lower financial literacy [4]. A research study in India also revealed that education and age are determinant aspects which impact the level of financial literacy [5].

Accordingly, all the research above is more specific to study about the level of financial literacy while having a limitation to focus on the digital-related aspect and its impact to the digital investment decision. Therefore, this research aimed to examine the effects of financial and

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digital literacy as a fundamental aspect that influence the decision in making digital investment which is mediated by perceived socio-economic status.

2 Literature review

2.1. Digital Literacy

Digital literacy enables a person to use and interpret information received across digital sources [6]. There are two key components in Digital Literacy (DL) that is information literacy which refers to how to effectively find relevant information online, and digital skills which consist of basic digital knowledge and competencies to utilize digital media as well as reach information literacy [7] A digitally literate person should be able to use modern digital technologies in acquiring information, navigate through intricate informational web, how to read and understand messages on digital media, and how to use these technologies to contribute to the digital information economy.

Based on the above discussions, a hypothesis was formulated as follow:

H1: Digital Literacy will positively influence Perceived Socio-Economic Status which affect Digital Investment Decision.

2.2. Financial Literacy

Financial literacy refers to the ability to comprehend and examine options for savings, prepare for the future, and to respond appropriately to the situations which offer successful financial experience, such as in buying decisions, correct investing as well as improving wealth [8]. Financial decisions, both short and long-term, are all impacted by financial literacy which has impacts on both the individual and society [9]. Individuals who are financially literate are better able to make decisions and maintain their financial stability meanwhile it encourages inclusive growth and stronger financial systems and economies [10]. Financial literacy enabled individuals to have more assets financially in general [11]. During pandemics, being financially literate will help individuals to avoid problems related to financial issues, manageable income, and stressful situations [12].

Based on the above discussions, a hypothesis was formulated as follow:

H2: Financial Literacy will positively influence Perceived Socio-Economic Status which affect Digital Investment Decision.

2.3. Perceived Socio-Economic Status

The concept of Perceived Socio-Economic Status (PSES) can be defined as the subjective assessment of a person about their social and economic position within a community [13]. The Socio-Economic Status (SES) itself aimed to capture the big picture of different levels within society [14]. On the other hand, the hierarchy level of social positions reflects the reputation of a person. Several factors of SES such as sex, age, and specialization have

implications toward different relationships of financial skills, knowledge, financial decision and any other impacts [15]. The relationship between reflective economic outcomes and financial literacy underlie the question of how its importance to financial wealth of individuals as heterogeneity of financial literacy treatment affects household income, gender, and the level of education [16]. Interestingly, the study revealed that being more financially literate does not necessarily improve perceived economic well-being. The variable of PSES covered a wide-range of studies. Most of previous studies discussed about PSES in correlation with psychological and social issues, such as about people behavior [17], healthy learning mind [18], and financial literacy but more into perceived economic outcomes [16].

Based on the above discussions, a hypothesis was formulated as follow:

H3: Perceived Socio-Economic Status will mediate the relationship between Digital and Financial Literacy with Digital Investment Decision.

Figure 1 below presents the research model in accordance with above mentioned three hypothesis:

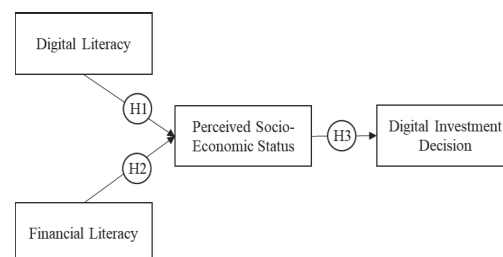


Fig. 1. Research Model

3 Methodology

The table 1 below are methodological issues that researchers considered to answer the hypothesis described above.

Table 1. Operationalized Variables

Variable	Definition	Indicator	Prior Research
Digital Investment Decision	Investors who make decisions in accordance with returns and potential risk comparison through online financial products that offer both payment and investment options. (Xia and Hou, 2016).	1. Users take into consideration of risks level related to the product before decide to invest 2. Users trust their feeling when investing 3. Users make all the investment decisions by their own	[19]

Digital Literacy	Digital literacy is known as the collection of abilities needed for an individual to access, direct, understand, and contribute to the current digital information economy (Anthhony, 2020; Baron, 2019).	1. Users can search for information from a variety of online sources. 2. Users understand the potential risks that exist when online. 3. Users reveal a certain amount of personal information as safeguard. 4. Users can interpret online information that is text-based or non-text based. 5. Users know most features of digital devices.	[20]
Financial Literacy	Have a proper knowledge in making right decision of choosing financial products and services (Hasan et al. 2021)	1. Users ability to aware of there is a need to properly manage money 2. Users have knowledge of how to plan a budget 3. Users have ability to assess their level of financial literacy and define prospects for the future	[21]
Perceived Socio - Economic Status	A measurement which enable to capture a perception toward socioeconomic, financial or social status of their family (Svedberg, J et al. 2016)	Users have their own perception of himself/herself or family wealth whether its poor, not very poor, normal, rich or very rich	[22]

3.1. Data collection

The process of data collection in this research will leverage online questionnaires with a convenient sampling of DKI Jakarta citizens which represent the urban population in Indonesia. The reason behind DKI Jakarta citizens as main sampling target is due to the research focus on more advanced financial products that is digital investment. More specific requirements of respondents are individual digital investors, in productive or working age with range in between less than 21 to above 55 years old, education level should be at least Senior High School graduate, and has average monthly

spending with measurement between less than IDR 5 million to above IDR 30 million.

The number of respondents are expected to reach 200 total respondents. The questionnaire will be divided into two sections which is first section to gather the profile of respondents and the second section is research questions that will be divide into four parts which consist of 5 (five) questions for each part (perceived socio-economic status, digital literacy, financial literacy, and digital investment decision) to determine the digital investment decision of DKI Jakarta citizens using a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree).

3.2. Respondent Profile

From the expected number of total respondents, there are 116 respondent answers that will be used for further analysis. The sample used to capture demographic profile in this research consists of male (43%) and female (57%) with most of the respondents are between 21 - 34 years old (61%) which is followed by 35 - 45 years old (30%). The education level of respondents are mostly bachelor degrees (80%), and average monthly spending is ranging from IDR 5,1 million to IDR 15 million (40%) and followed by less than IDR 5 million (33%). In terms of working type, most of the respondents are working as employees in private companies (85%). The details of the sample profile are shown in Table 2.

Table 2. Sample Profile

Gender		
Male	50	43%
Female	66	57%
Age		
Less than 21 years	2	2%
21 - 34 years	71	61%
35 - 45 years	35	30%
46 - 55 years	7	6%
More than 55 years	1	1%
Education		
Less than Senior High School	0	0%
Senior High School	2	2%
Diploma	3	3%
Bachelor	93	80%
Postgraduate	18	15%
Average Monthly Spending (in IDR)		
Less than 5 Million	39	33%
5,1 Million - 15 Million	46	40%
15,1 Million - 30 Million	22	19%
More than 30 Million	9	8%
Type of Work		
Private Employees	98	85%
Government / State-Owned Company Employees	1	1%
Self-Employed	7	6%
Others:		
Lecturer	1	1%
Housewife	4	3%
Student / Fresh Graduate / Not Working Yet	5	4%

This research uses SmartPLS version 4.0 software to analyze the data and test the research model.

4 Results and discussions

Variables and indicators from the questionnaire have been tested to check its reliability, convergent validity, and discriminant validity.

4.1. Variable Descriptive Statistic

The variable descriptive statistic assessment was calculated to examine standard deviation of each indicator as shown in Table 3.

Table 3. Variable Descriptive Statistic

Descriptive Statistic	Mean	Std. Deviation
Digital Investment Decision (DID)		
DID 2 (I can assess the level of my risk profile to make a decision on what investment I want)	3.845	0.906
DID 4 (I feel that investing using digital applications is quite safe to do, such as the security of money, data, and so on)	3.776	0.800
DID 5 (I get optimal benefits by investing through digital investment applications)	3.871	0.886
Digital Literacy (DL)		
DL 2 (I understand the risks in using digital applications)	4.112	0.740
DL 3 (I have no difficulty using digital apps to invest)	4.060	0.864
DL 5 (I can choose the right application to make an investment)	3.897	0.894
Financial Literacy (FL)		
FL 1 (I can understand the information related to my investment needs)	3.991	0.825
FL 2 (I have good knowledge of investment products such as stocks, bonds, forex, mutual funds, and others)	3.578	1.068
FL 3 (I have knowledge about investment products that makes me confident in investing)	3.767	0.922
FL 4 (I can determine what investment financial product is suitable for me by taking into account the benefits received)	3.888	0.936
FL 5 (I can accept the risk of my investment)	4.009	0.836
Perceived Socio-Economic Status		
PSES 3 (I feel I have more money to make financial investments (investments in question such as stocks, bonds, forex, mutual funds, and others))	3.707	1.026
PSES 4 (Investing can make me feel more classy or established)	3.034	1.152
PSES 5 (The investment I made became an additional source of income to meet my needs)	3.405	1.114

The mean of all indicators between 3.5 and 4.1 and the standard deviation of all indicators between 0.7 and 1.1.

4.2. Reliability and Validity

The outer factor loading assessment was calculated to evaluate the correlation between indicator and its construct with the result as shown in Table 4 and the reliability and validity assessment was calculated to test internal consistency as shown in Table 5.

Table 4. Outer Factor Loading Results

	Digital Investment Decision	Digital Literacy	Financial Literacy	Perceived Socio-Economic Status
DID 2	0.697			
DID 4	0.791			
DID 5	0.773			
DL 2		0.794		
DL 3		0.657		
DL 5		0.825		
FL 1			0.856	
FL 2			0.858	
FL 3			0.784	
FL 4			0.870	
FL 5			0.804	
PSES 3				0.628
PSES 4				0.402
PSES 5				0.446

The ideal result of outer factor loading should be greater than the minimum threshold of 0.7 to test the correlation. Then the researchers have taken out some indicators that not fulfilled the criteria from the previous outer loading results (DID 1 & DID 3, DL 2 & DL 2, and PSES 1 & PSES 2). However, after recalculate the factor loading, the lowest indicators such as PSES4 (0.402) and PSES5 (0.446) are still remaining shown the limitation of this research. Compared to other indicators, Financial Literacy (FL) indicators are the most significant as the value for FL1 (0.856), FL2 (0.858), FL3 (0.784), FL4 (0.870), and FL5 (0.804).

The assessment of internal consistency of each item or variable to evaluate data reliability was conducted by using Cronbach's Alpha with standard minimum value of 0.70 [23]. The result showed that the variables were reliable as the values are above the threshold value 0.70, except for PSES.

Table 5. Reliability & Validity

Construct	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)
Digital Investment	0.798	0.801	0.798	0.569
Digital Literacy	0.806	0.814	0.805	0.581
Financial Literacy	0.920	0.921	0.920	0.697
Perceived Socio-Economic Status	0.477	0.516	0.492	0.252

4.3. Discriminant Validity: Fornell-Lacker

The fornell-larcker assessment was calculated to examine discriminant validity as shown in Table 6.

Table 6. Discriminant Validity: Fornell-Larcker

Construct	Digital Investment Decision	Digital Literacy	Financial Literacy	Perceived Socio-Economic Status
Digital Investment Decision	0.755			
Digital Literacy	0.847	0.762		
Financial Literacy	0.877	0.848	0.835	
Perceived Socio-Economic Status	0.955	0.811	0.903	0.502

Fornell-Larcker was used to assess discriminant validity toward constructs by comparing the square root of each Average Variance Extracted (AVE) and correlations between constructs. As Fornell-Larcker measurement was referred to whether AVE values are higher than the correlations between constructs, hence it will show a positive discriminant validity. However, based on the result, it showed that AVE values are lower than the correlations between constructs.

4.4. Hypothesis Results

The calculation was conducted to test the relationship among variables of DL, FL, PSES, and DID as show in Figure 2.

There is positive impact of Digital Literacy and Financial Literacy to Perceived Socio-Economic Status (p-value < 0.05). There is also positive impact between Perceived Socio-Economic Status and Digital Investment Decision (p-value < 0.05). Therefore, Perceived Socio-

Economic Status positively mediating Digital Literacy and Financial Literacy to Digital Investment Decision.

In terms of significant values of the correlation among variables, it showed that the correlation is positive with values of DL to PSES (0.165), FL to PSES (0.763), and PSES to DID (0.955).

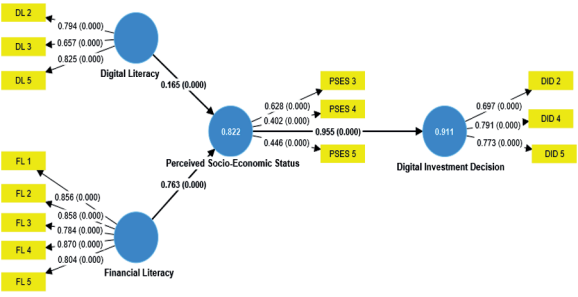


Fig. 2. Hypotheses Results

*The p-values are shown inside brackets.

5 Discussion

This research aimed to examine the effects of both financial literacy and digital literacy to digital investment decision which is mediated by perceived socio-economic status. For this study we considered that perceived socio-economic status will strengthen the financial literacy and digital literacy effect to the digital investment decision. However, the result shows that there are positive impact amongst the variables but the digital literacy and perceived socio-economic status correlation are less significant.

5.1. Theoretical Implications

The research suggests the first hypothesis that Digital Literacy will positively influence Perceived Socio-Economic Status which affect Digital Investment Decision. The result shows that Digital Literacy positively impacts Perceived Socio-Economic Status. The second hypothesis states that Financial Literacy will positively influence Perceived Socio-Economic Status which affect Digital Investment Decision. The finding obtains Financial Literacy positively impacts Perceived Socio-Economic Status. The last hypothesis states that Perceived Socio-Economic Status will mediate the relationship between Digital and Financial Literacy with Digital Investment Decision. The finding similar with what has suggested, it shows that Financial & Digital Literacy positively impact the Perceived Socio-Economic Status to affect the Digital Investment Decision.

5.2. Managerial Implications

Regarding to the results, digital investment company should consider financial literacy and digital literacy of the people to set the target market of their product and also formulate go-to-market strategy. For the perceived socio-economic factor, it still need to studied further in order to make a clearer indicator of how people perceive themselves.

5.3. Limitations and future research

This study has a limitation. There are some indicators that not correlate well which are PSES4 and PSES5, the reliability for the variable Perceived Socio-Economic Status (PSES) is also pretty low. This variable is heavily relied on perception of the respondent to assess themselves whether they feel socially and economically higher or lower compared to others. We suggest that the future research adding more indicators to analyze the correlation of this variable. The future research also can broaden the area of research to other big cities outside DKI Jakarta, such as Surabaya, Medan, and Semarang and bigger number of respondents to improve the findings.

6 Conclusion

In this digital era where many transactions including investment can be done digitally, it becomes important for interested parties to delve deeper into the factors that can influence one's digital investment decisions. And the result of this research indicates that financial literacy and digital literacy positively affects digital investment decision throughout perceived socio-economic status as a mediator that also has a positive impact to digital investment decision.

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