The Role of Financial Technology Education Application on Financial Investment Decisions

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Abstract

This study examines how a financial education application can influence a person's decision to make a financial investment. This study also recommends that financial awareness education be implemented as soon as possible using financial education applications, formal education, or non-formal education, with full government support. The study goal is to give accurate information regarding how the existence of financial education applications affects investment decisions, as well as how financial knowledge can mediate the relationship between financial education applications and investment decisions. The data was acquired by making an online questionnaire and disseminating it to 152 respondents who were willing to fill out the information and were qualified to do. It was concluded that financial education application was shown to have a significant positive relationship with financial investment decisions. Financial knowledge mediated the flow between financial education applications and financial investment decisions. Furthermore, it has shown that financial knowledge positively influences financial investing decisions. The implications of this study are to provide information about how financial applications can influence people's decisions to invest, to assist future developers in developing more well-rounded technology applications that can make the application more accessible and user friendly for all people, and to create more people who are aware of financial assets or investments.

Keywords
Financial Education Application, Financial Literacy, Financial Knowledge, Investment Decision and Financial Investment.

1. Introduction
Today's technological advancements are accelerating. This is demonstrated by the availability of instructional technology that makes it easier for us as humans to learn knowledge, particularly around investment. According Nugraha and Rahadi (2021) Many Millennials and Generation Z have begun to learn about investing. However, the allocation of investment funds has been off-target, and there are several factors to consider before investing. Individuals today are more responsible than ever before for their finances. As life expectancy climbs, the pension and social security systems demand. In several countries, employer-sponsored defined benefit (DB) pension plans give way to private defined contribution (DC) plans, shifting responsibilities for pension saving and investing from employers to employees. Changes in labor markets have also had an impact on individuals. Skills are becoming increasingly valuable, resulting in wage inequalities between someone with a college education and higher and those with lower education (Lusardi 2019).

Indonesia's financial literacy level remains at 29.7 percent, according to the SNLKI OJK (2016) publication. This indicates they have less understanding and confidence in financial institutions' services, financial products, or services, and they cannot use these financial products and services. According to empirical studies, financial literacy has a positive impact on an individual`s behavior and financial situation. Financial executives believed that while utilizing online technologies would be an informative future trend, face-to-face education would remain critical primarily for the millennial generation. Opportunities included completing social obligations, strengthening the company's image, marketing, and favorable legal consideration. Human and financial resource limitations, a lack of IT assistance, a lack of realistic evaluation, and how to incentivize online learning have all been challenges. Some leaders advocated for the use of gaming, incentives, and innovative apps (Lee 2019).

Why is financial educational technology so crucial in the financial industry? Financial literacy is vital because it educates us all about the competencies and understanding humans need to handle money effectively. Without that, the financial actions and decisions lack a strong foundation for success, whether made or not. Financial literacy is generally taught in financial education; what is financial literacy? Financial literacy assesses an individual's understanding of fundamental financial concepts and their competency in managing personal finances through proper short-term decision-making and intellectual, long-term financial planning while keeping life situations and transforming economic conditions in mind (Remund 2010).

The advancement of digital technology in the financial industry or financial education technology allows users to obtain knowledge at any time. As innovation in financial services, financial technology aims to make it easier for people to access financial education modules and provide them with educational opportunities to achieve a high degree of financial literacy. Financial literacy can be considered an investment in human resources, and it can be beneficial in the contexts of pensions, investments, mortgages, and other financial decisions (Lusardi & Mitchell, 2019). Today's youth grow up in a complex economic environment, and citizens' financial responsibilities are significant. Financial education in schools could aid in meeting these difficulties (Amagir et al., 2018). According to OJK survey results (2019), Indonesia barely reached 38.03 percent and 76.19 percent within the financial inclusion index in 2019, increasing from 29.7 percent and 67.8 percent in 2016. Finance Index of 100 Indonesians who acknowledge the importance of financial education.

Furthermore, according to the OJK(2019) regional strata survey, the level of financial literacy in urban areas was 41.41 percent, and the level of financial inclusion in urban communities was 83.60 percent, while the levels of financial literacy and inclusion in rural communities were 34, 53, and 68 percent, respectively. According to the data collected from the survey, males had higher financial literacy and inclusion (39.94 percent and 77.24 percent, respectively) over women (36.13 percent and 75.15 percent, respectively). Furthermore, Financial literacy can be defined as an individual's capacity to absorb and use personal finance information. This concept is simple, does not contradict earlier reports, and aligns with other standardized literacy principles (Huston 2010). Since the beginning of the pandemic, financial education applications have grown in popularity, with the goal of increasing financial literacy/knowledge. However, this study are still new, and far more comprehensive research is required.

This paper aims to look into the existence of financial education applications that provide access to modules, videos, and analysis and how effectively they are utilized to influence financial investment decisions. From this article, we can draw comparisons and conclusions about whether financial education influences investment decisions or whether the financial education app has no effect on financial investment decisions.

2. Literature Review

According to the poll results, implementing the subject of Financial Literacy would be appropriate. Of course, this topic should be complemented by an e-learning course that allows the proposed applications to be shared based on the paper (Chlouba et al., 2011). Meanwhile, Clark and Mayer (2010) E-learning can be classified as "a mixture of information and instructional methods delivered on a computer through media components such as words and images to build job-transferable knowledge and skills attached to individualized learning objectives or performance of the organization." It may be intended for self-study or teacher-directed learning.

The investment decision is personal for every investor. The decision was based on the predicted expenditures, the knowledge of the expanded approaches, and purely subjective risk assessment (Virlics 2013). To make a wise investment selection, the investor should thoroughly understand and examine the options available, and these decisions should never be made quickly. Referring Avram Calin (2009) poor investment decision may lead to the destruction of a corporation. Understanding the core ideas driving investment decisions is critical to getting the most out of the review process. Therefore, the indicators used in investment evaluation should be chosen depending on the specific type of project and the available information to the decision-maker.

Mobile application-based learning media is relatively new in education; this learning media is typically in the form of an educational application or application that incorporates learning materials and modules. The program can be downloaded through Google Play or the Play Store. Because of its practical form of accessibility and versatility, the use of smartphones in learning through mobile applications will create a fresh experience for students and make it easier for students to learn anywhere and anytime (Anisah &Ahman, 2019).

The OECD (2006) conducted research on financial literacy in 12 nations, including the United States, the United Kingdom, European countries, Australia, and Japan. According to the report, all the polls undertaken in those nations showed that most respondents have very low financial literacy. There is evidence that there is a link between financial literacy and investment decisions. When making investing decisions, it has been proven that highly literate investors prefer and use different criteria than low-literacy investors. High-literacy investors rely on financial media for assistance, whereas low-literacy investors rely on families, friends, and stock traders. (Maditinos et al., 2007).

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2.1 Theoretical Framework

The research conceptualizes how the financial education application affects financial investors' decisions to invest. Figure 1 depicts the theoretical framework research model. This study proposed research hypotheses based on a literature review in search of empirical confirmation.

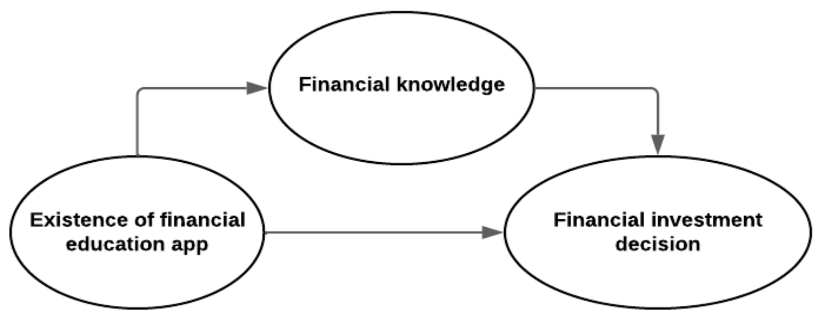

Figure 1. Theoretical framework

E-learning courses are delivered using digital devices such as computers and smartphones. They include words in spoken or printed text and pictures such as graphics, photos, animation, or video. Asynchronous e-learning refers to e-learning designed for individual self-study (Clark and Mayer, 2010). Traditional, face-to-face financial education training can be costly for public authorities in terms of resources and time and difficult for consumers to receive. The use of online distribution in the context of financial education training can be highly advantageous in providing public authorities to reach a larger audience at a fraction of the cost of facilitating the delivery, as well as in allowing people to update their competencies throughout their lives by reducing difficulties caused by limited time and resources (OECD, 2021). This research is the answer to the lack of research on the relationship of financial education application existence on the decision of the investment, as reflected in the hypotheses as follows.

H1. The Existence of financial education application will be positively related to financial investment decision.

According to Hidayah and Ariffin (2022), Financial knowledge is important current day and age of globalization because practically every organization incorporates financial management. If we do not plan our finances carefully, we will face a financial disaster. Furthermore, the current financial facilities are numerous, such as loans and investment opportunities, which necessitate students to understand finance for their well-being to be more secure. Individual investors have various levels of education; thus, it is understandable that there are many ways of making investment decisions with varying levels of education (Obamuyi, 2013). According to prior research, there is a mediating relationship between financial knowledge and financial investment decisions.This study investigates the impact of the financial education existence applications on investment decisions made through financial knowledge, as expressed in the following hypothesis. The study based on mediating effect that according Baron and Kenny (1986) that variables can serve as mediators if they meet the following criteria: a) significant level of variation in mediator-predicted due to levels of independent variables; b) significant variation in variable dependency caused by mediator-predicted; and c) The previously indicated significant relation between the independent variables becomes less significant. A variable that does not match these conditions, on the other hand, cannot be included in the test.

H2. Financial Knowledge will mediate the relationship between the existence of financial education application and financial investment decision.

Financial literacy refers to the financial knowledge and the use of specific financial abilities. Making a budget, and learning about credit and retirement funds are some examples. Understanding various financial investment assets such as stocks, bonds, and Funds and formulating an investment plan are all components of financial literacy. Financial literacy is an individual's ability to understand and evaluate trustworthy information to make better decisions by better understanding its financial risks. Someone who obtains understands, and evaluates information essential to decision making by understanding the financial ramifications (Mason & Wilson, 2000). There is plenty of evidence that financial literacy impacts people's financial decisions and behavior. For example, financial literacy has influenced both saving and investing behavior and debt management and borrowing patterns. As reflected in the following hypothesis, this study emphasizes the importance of financial knowledge in supporting financial investment decisions.
H3. Financial Knowledge will be positively related to financial investment decision.

3. Method

The sample consists of respondents from people who live near Greater Jakarta and are familiar with financial education applications. Several steps were involved in the data collection technique. The first step was to contact the person to check their interest and fit the survey standards, and then a questionnaire was sent to see if they were interested and would agree to participate. The questionnaires were distributed over ten group conversations and fifty personal texts via social media messenger. The survey was performed using a cross-sectional methodology, which required participation from everyone depending on their convenience, willingness, interest, and availability to deliver quality answers (Teddlie & Yu, 2007). Moreover, the questionnaire is sent to participants but does not reveal their names in response to confidentiality concerns because finance and investment are private matters. The author limits the scope of this study to residents of Greater Jakarta who are aware of the presence of financial education applications. The survey results acquired 152 respondents aware of financial education applications, with 47.70 percent from Jakarta, 10.70 percent from Bogor, 5 percent from Depok, 21.60 percent from Tangerang, and 15 percent from Depok Bekasi. Table 1. Shown the demographics and age of all the respondents that participate in this research.

Table 1. Profile of respondent

Demographics	Frequency	Percentage
Domicile	Jakarta	47,7
	Bogor	21,6
	Depok	10,7
	Tangerang	15
	Bekasi	5
Age	<=30	42,1
	31-40	48
	41-50	7,9
	>50	2

4. Data Analysis

Cronbach's alpha values were used to assess internal consistency, or how closely related a set of things is. It is recognized as a metric of scale dependability. A measure with a "high" alpha number may not always be unidimensional. Additional analyses are conducted to verify that the scale in question is unidimensional, in addition to assessing internal consistency. Exploratory factor analysis is one method for confirming dimensionality. According to Cortina (1993), These calculations show that alpha can be relatively high and acceptable by the standards of many (greater than .70). Cronbach's alpha is a coefficient of reliability test used in statistics. SPSS version 26 was used to collect descriptive statistics, generate correlation metrics, and calculate Cronbach alpha values in the data analysis. Cronbach's Alpha is 0.725. As described in Table 2, The Cronbach alpha value is greater than .70, indicating that the measurement's reliability is considered valid (Hair, 2007).

Table 2. Cronbach alpha values

Reliability Statistics	
Cronbach's Alpha	N of Items
.725	3

Table 3. Descriptive statistics and Pearson correlation test

Variable	Mean	Standard Deviation	Financial Education Application	Financial knowledge	Investment Decision
Financial Education Application	.85	.360	1	.273	.231
Financial knowledge	.99	.114	.273	1	.626
Investment Decision	.97	.179	.231	.626	1

Note(s):
* All significant on $p<0.05$
Independent variable: Financial education application
Mediating variable: Financial Knowledge
Dependent variable: Investment Decision

In Table 3, descriptive statistics were applied in a study to determine the main properties of data. They offer brief summaries of the sample and measures. They serve as the base of essentially all quantitative data analysis and simple graphical analysis. Correlation analysis is often used to determine how closely variables are related. According to Senthilnathan (2019), Based on the direction, the degree of correlative measure can be classed as Positive, Zero, or Negative. In theory, obtaining a complete zero correlation coefficient across variables is unlikely in applications; consequently, positive and negative correlations can be categorized as the same in analysis. The correlation analysis was used to examine the coefficient of correlation, which tells people how often one variable changes when the other does. Correlation analysis indicates a linear relationship between two variables.

5. Results and Discussion

Multiple regression analysis was utilised in this research, with investment choice as the dependent variable, financial education application as the independent variable, and financial knowledge as the mediating variable. The analysis results for the whole model are shown in Table 4 below.

Table 4. Multiple regression analysis

	Dependent Variable: Investment Decision	
	Std.Beta	Std. Beta
	(1)	(2)
Independent Variable:		
Financial Education Application	.231*	.065*
Mediating Variable:		
Financial Knowledge		.608*
R	.231	.629
R^2	.053	.396
Adj. R^2	.047	.388
Sig. F change	.00	.00

*$p < 0.05$

The statistical approach of analyzing the relationship between a dependent variable and numerous predictor variables was defined using Multiple Regression Analysis. Multiple Regression Analysis estimations are referred to as coefficients. Using Multiple Regression Analysis, we can calculate the amount of variance in the dependent variable that the variation can explain in each independent variable. This computation demonstrates the relative relevance of each independent variable in the relationship. Table 4. presents a multi regression analysis in which financial education application is used as an independent variable and financial knowledge is used as a mediating variable.

The results of the Multi regression analysis for the research model are presented in Figure 1 and Table 4. The direct effect of the hypothesized positive relationship between financial education application and investment decision (H1, =.231, $p < 0.05$) was shown in Table 4. As a result, these hypotheses were supported. This indicates that financial education application is positively related to the financial investment decision. This theory supported by Lee (2019) Advanced technology, such as edutainment, a combination of enjoyment and education to encourage education, is a breakthrough way for expanding financial education. People created an ecological model for financial literacy education program, with technology playing a critical supporting role.

According to Lee (2019) Technological advancements in the digital age, the millennial generation is progressing into the twenty-first century, using e-learning technology to promote financial education and financial experts who have the passion and enthusiasm for serving societies to partner and enhance financial education for the benefit of the community. This idea demonstrates the importance of financial technology, such as financial education applications, in enhancing financial investment decisions. The results were consistent with the previous finding. The level of financial literacy is classified into three categories. High literacy (> 80%) is defined as a thorough knowledge and comprehension of financial management and planning. Medium literacy (60-80 percent) is sufficient to understand and plan for and manage one's finances. Low literacy (60 percent) is a state in which people do not know, comprehend, or have the skills to plan and manage their finances (Chen &Volpe, 1998).

A positive relationship was also found between financial knowledge and financial investment decision (H3, β =.608, $p < 0.05$). As a result, these hypotheses are supported. This suggested that financial knowledge has positively related to making a financial investment decision. This study confirmed Frisancho (2019) Financial knowledge discoveries might also improve people's ability to analyze opportunity costs and marginal returns when making an investment decision, within and without the financial system. Financial literacy can have a long-term impact on human capital investment decisions from a young age since financially knowledgeable students are better judges of the benefits and drawbacks of investing in more years of education.

According to (Huang et al. 2019) in addition to traditional risks associated with financial services, there are new concerns associated with the usage of digital financial services. Such hazards are more broad and challenging to detect than those related to traditional financial products and services, such as phishing, pharming, spyware, and SIM card swaps. Digital footprints may potentially pose a problem. This implies that greater financial understanding may also facilitate the usage of fintech products and services, but we are unaware of any studies on the subject. The literature has also revealed that an individual's behavioral features influence their financial decisions (Van Rooij et al., 2007).
Furthermore, the hypothesized direct effect of financial knowledge mediating the relationship between financial education application and investment decision (H2, =.065, $p < .05$; =.608, $p < .05$) was accepted. As defined by Baron and Kenny (1986), Method is an analysis strategy for testing mediation hypotheses. There are two paths to the dependent variable in this mediation approach. The independent variable (financial education application) must predict the dependent variable (financial investment decision), and the mediator must be predicted by the independent variable (financial knowledge). As a result, financial knowledge will serve as a mediator between financial education applications and financial investment decisions.

This theory also supported by Andarsari and Ningtyas (2019), finance behavior is influenced by financial knowledge. An individual's financial education has a significant impact on wealth equity. People who have high financial understanding are better able to make intelligent judgments, save more for retirement, manage investments prudently, and manage household finances. On the other hand, less literate people rarely make adequate choices, are more likely to incur debt, save less, and are more vulnerable to deception.

6. Conclusions

This study investigates the effect of the existence of financial education on investment decisions with financial knowledge as the primary mediating factor. This study concludes a significant positive relationship between financial education application and investment decisions. According to Nan (2021), financial education is one of the triggers for somebody to manage their finances correctly and try to improve the way their money is collected so that investors with a high level of financial efficacy will be more precise in making investment decisions based on their abilities and needs.

The results of the study have several implications for promoting financial education and literacy in Indonesia, including the need for the application to incorporate more innovative and user-friendly features in order to help enhance Indonesia's financial understanding, particularly financial literacy and also information technology sector on developing some mobile application. People have tried to discover a reputable source of the best investment for their funds since COVID-19. Many financial education apps have emerged to help people in improving their financial literacy, or knowledge of finance.

6.1 Recommendation

Although this is considered to be the first study in Indonesia to use financial knowledge as a mediator between financial education application and investment decision making. This study, however, has numerous limitations. First, because this study was applied to Greater Jakarta, it is geographically restricted. Second, this study is still in its early stages because COVID-19 sparked the development of this financial education application. Future research is suggested to broaden the population sample. Following studies may conclude that additional characteristics, such as personality attributes, may influence personal investment decisions. It can also try to explore investment decisions on more precise financial instruments.

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