Does CEO's Financial Behavior Affect Startup Performance?

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Abstract. More than 100 startups failed to develop in Indonesia in 2021. Many factors have caused many startup businesses to fail to thrive, including the CEO's financial behavior. This article attempts to fill in the gaps in research on startups and startup performance or explicitly explains the effect of CEO financial knowledge, financial skills, and financial behavior on startup performance. This research was conducted in East Java Province because, based on Bekraf 2019 data, East Java Province has the second largest number of startups in Indonesia. The sample size was determined by the sloving formula, which resulted in as many as 200 research samples. Based on the number of samples, multistage sampling was applied in order to establish the optimum number of samples to represent the cities of Surabaya and Malang. The survey method uses a questionnaire to obtain primary data. The questionnaire data was processed using warp PLS 7.0 software. The results showed that partially financial knowledge had a positive and insignificant effect on financial behavior, but financial knowledge had a positive and significant effect on startup performance. Furthermore, financial skills positively and significantly affect financial behavior and startup performance. At the same time, the CEO's financial behavior positively and significantly affects startup performance. The results of this study indicate that better the CEO's financial behavior will improve the startup's performance. Conversely, the worse the CEO's financial performance will decrease the startup's performance. The implication for startup actors (CEOs) is that they are expected to have good financial behavior in managing startup businesses.

Keywords: Startup Performance · Financial Behavior · Financial skill · Financial Knowledge

1 Introduction

The effect of a startup's chief executive officer's financial behavior on the company's success is rarely studied. The performance of a startup, often known as a company's performance, is a metric utilized in order to judge how well that company's leadership has performed in terms of meeting its stated goals or indicating whether or not those goals have been met [1]. Firm performance is the outcome of business operations accomplished by business actors during a specified time period [2]. This highlights the significance of monitoring corporate performance as an indicator of a business's prosperity. The role of

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individual conduct, notably the financial actions of the CEO, in the success of a startup is rarely studied. Startups can feel the effects of a CEO's fiscal decisions even as the business is still in its infancy. External and internal factors are the two main categories of what can influence a company's performance [3].

The internal factor that causes the failure of startups in Indonesia is the behavior of startup business actors. The behavior in question includes financial behavior that is poor. Financial behavior is "any activity taken in the context of making financial decisions or carrying out financial responsibilities [4]". Meanwhile, financial behavior is something related to the efficacy of fund management [5]. The capacity to budget, manage debt, invest wisely, keep track of spending, and save for the future are all examples of financial behavior [6]. Positive and negative financial behaviors are mirrored in people's daily actions [7]. Money management entails things like keeping an emergency fund, investing in long-term assets, handling one's credit, and plotting out short-term expenditures. Excessive spending and avoiding conversations about money are examples of bad financial behavior.

Dual process theory provides the conceptual underpinnings of understanding the connection between financial behavior and business performance [8]. According to dual process theory, the success of a business is determined by the mix of intuitive and logical thinking among its leaders, which in turn leads to a high degree of financial literacy (knowledge) [8]. According to dual process theory, cognition is the process through which sensory data is transformed, summarized, elaborated upon, stored, retrieved, and applied. Mental operations such as comprehending, computing, reasoning, problem-solving, and deciding are all examples of cognition [8]. A startup's performance can benefit from the decisions of a CEO who demonstrates solid financial behavior. CEO startup with strong financial behavior, financial knowledge, and financial skills are what ultimately define a startup's success, according to dual process theory [8].

People who budget, cut costs, save money, regulate their spending, invest, and pay their bills on time are examples of responsible financial behavior [9]. Knowledge of finances has a significant impact on conduct [10]. The empirical research on the impact of financial knowledge on financial behavior has shown conflicting findings [11–21]. All find that financial knowledge significantly affects individuals' decision-making with money (financial behavior). But research by [6, 22–24] demonstrates that financial knowledge does not correlate with improved financial decision-making (financial behavior). Additionally, monetary competence (financial skills) affects fiscal habits (financial behavior). Van Deventer [24] shows that financial skills have no significant effect on financial behavior. The findings of previous studies which show that knowledge and skills have a significant effect on financial behavior are in line with social cognitive theory [25]. Knowledge, skills and behavior in social cognitive theory are the driving factors for behavior [26].

Previous studies indicate that the knowledge, skills, and behavior of startup CEOs are major internal elements that affect startup performance in Indonesia. Based on a mapping of the startup database done with the subject Indonesia Digital Creative Industry Society, 992 new businesses were founded between 2007 and 2018 [27]. The East Java Province is the second most prolific area for new businesses in Indonesia, with a total of 992. According to startupranking.com, Indonesia has the fifth-highest concentration

of startups globally. It is known that the number of startups in Indonesia is 2,276 startup units. However, there had been a decrease in the number of startups compared to the 2,400 startups in Indonesia in 2019. There had been a decline in the number of startups or more than 100 startups that failed to grow since 2020–2021. This shows that there ware factors (internal and external) that affected the performance of startups in Indonesia. This article will examine the effect of financial knowledge, financial skills and financial behavior on the performance of startups in Indonesia, especially in East Java Province.

2 Literature Review

Researchers have conducted studies to investigate whether or not there is a correlation between financial knowledge and the performance of businesses. Several studies, such as [28–30] demonstrate that financial knowledge has a major impact on the performance of a company. In the meantime, Tahir [31] offers a conceptual framework that examines the influence of financial knowledge on firm performance for small and medium-sized enterprises in Malaysia. In a similar vein, Eniola and Entebang [32] and Eniola [33] present a conceptual framework on the effect that financial knowledge has on firm performance in Nigeria.

The dual process theory, which was proposed by, explains how financial knowledge can have an effect on the performance of a corporation [8]. This theory contends that financial decisions can be influenced by intuitive as well as cognitive processes; hence, having a strong understanding of finance does not necessarily lead to making the best possible financial decisions. The dual process theory contends that the level of financial literacy (financial knowledge) that an individual possesses is directly proportional to the prevalence of either intuition or cognition as a mode of thought. In other words, the performance of a company is directly proportional to the level of financial literacy (financial knowledge) that an individual [8]. The ability to gain knowledge without resorting to inference or reason is what we mean when we talk about intuition. The ideas, understandings, judgments, or beliefs that are provided by intuition cannot be empirically tested or rationally justified. Intuition is the source of these things.

In the dual process theory, cognition is defined as the process by which sensory input is morphed, easitened, modified, and captured, retrieved, and utilised. Understanding, computation, reasoning, problem-solving, and decision-making are all components of the cognitive process, which is a mental activity [8]. People that have high cognition tend to like thinking for themselves, to be analytical, to be better at remembering knowledge, and to be more willing to seek out new information. Because it demonstrates that people who have high cognition would seek information and are more likely to be affected by appropriate messages, dual process theory is deemed to be important to this study.

Hypothesis 1: Financial Knowledge Has an Effect on Startup Performance
A person is considered to have financial knowledge if they are aware of their financial situation, comprehend various financial ideas and procedures, and are able to address their financial issues [34]. Knowledge of one's financial situation has been shown to have a significant impact on one's financial behavior [11–21]. Despite the fact that it was demonstrated by several research [6, 22–24], financial knowledge did not have a substantial impact on financial behavior.

The social cognition theory provided the foundation for the findings of earlier research that demonstrated that financial knowledge had a major effect on financial behavior [25]. Financial behavior is positioned as one of the factors in social cognitive theory known as the behavior factor. This is in contrast to the position taken by Social Cognitive Theory [25], which holds that financial knowledge is the same as knowledge in cognitive factors, which are also frequently referred to as personal factors. Based on social cognitive theory, where cognitive variables (financial knowledge) and behavior factors are the primary determinants in influencing human conduct (human behavior) [25]. Next, Huston [35] asserts that in order to accomplish one's goals regarding one's finances, an individual must first obtain financial knowledge and then put that information and those skills into practice in their financial behavior.

Hypothesis 2: Financial Knowledge Has an Effect on Financial Behavior
A set of critical thinking skills that allows one to weigh and assess the pros and cons of certain decisions in relation to one's needs, values, and goals is understood to be a core competency, and skills in making appropriate financial decisions are understood to be a set of critical thinking skills [24]. In a similar vein, people's financial behavior is shown when they have a plan or a reason to put money aside and be responsible with their financial management [36]. The findings of Chaulagain [14] and Percunda and Putri [37] reveal that one's level of financial skill has a substantial impact on the manner in which they handle their financial matters. On the other hand, van Deventer [24] demonstrates that having financial skills has no substantial effect on a person's financial behavior. On the other hand, social cognition theory provides the foundation for the logical standing of the relationship between financial skills, financial perception, and financial behavior [25]. According to Social Cognitive Theory [25], which positions financial skills and financial behavior as one of the variables in Social Cognitive Theory known as the behavior component, Social Cognitive Theory positions financial skills and financial behavior as one of the factors. According to social cognitive theory, behavior elements, such as financial skills and financial behavior, are the primary contributors to the formation of human behavior [25].

Hypothesis 3: Financial Skills Has an Affect Financial Behavior
Financial skills have a substantial effect on business performance [38]. These findings constitute the basis for the relationship that exists between financial skills and the performance of a company. In the meantime, Razak et al. [30] demonstrate that financial expertise does not have a significant effect on the success of the organization. In cases where firm performance is the final outcome of business activity done by business players during a given period of time, the phrase "where firm performance is concerned." Comprehensively measurable firm performance that takes into account both financial and non-financial factors in addition to financial ones [2].

In the dual process theory, cognition is defined as the process by which sensory input is transformed, simplified, elaborated, stored, retrieved, and utilised. Understanding, computation, reasoning, problem-solving, and decision-making are all components of the cognitive process, which is a mental activity [8, 39]. People that have high cognition tend to like thinking for themselves, to be analytical, to be better at remembering knowledge, and to be more willing to seek out new information. Because it demonstrates

that people who have high cognition would seek information and are more likely to be affected by appropriate messages, dual process theory is deemed to be important to this study. Individuals have a tendency to rely on their intuition when there is a lack of relevant information.

Hypothesis 4: Financial Skill Has an Affect Startup Performance

Esiebugie et al. [28], Rahim and Balan [29] proposed that there is a connection between an organization's financial behavior and its overall performance. It has been demonstrated by Rahim and Balan [29] as well as Esiebugie et al. [28] that a company's financial behavior has a major impact on its overall performance. This indicates that business leaders, regardless of the size of their companies, should place a greater emphasis on acquiring sound financial knowledge and conducting themselves in a manner that is commensurate with that knowledge. Because the level of financial expertise possessed by the company's owners has a direct bearing on the operation of the business.

The dual process theory provides an explanation for the connection between a company's financial behavior and its overall performance [8]. According to dual process theory, company performance is the result of financial behavior (financial behavior), which is closely related to a high level of financial literacy (financial knowledge). This close relationship is dependent on the prevalence of two different types of thinking: intuition and cognition [8]. The ability to gain knowledge without resorting to inference or reason is what we mean when we talk about intuition. The ideas, understandings, judgments, or beliefs that are provided by intuition cannot be empirically tested or rationally justified. Intuition is the source of these things. In the dual process theory, cognition is defined as the process by which information received from the senses is processed by being altered, modified, enlarged upon, loaded, recalled, and used. Understanding, computation, reasoning, problem-solving, and decision-making are all components of the cognitive process, which is a mental activity [8]. People that have high cognition tend to like thinking for themselves, to be analytical, to be better at remembering knowledge, and to be more willing to seek out new information. Because it demonstrates that people who have high cognition would seek information and are more likely to be affected by appropriate messages, dual process theory is deemed to be important to this study. Individuals have a tendency to rely on their intuition when there is a lack of relevant information.

According to Dwiastanti [40], behavioral finance is a field of study that "inherently and continuously integrates the interaction of numerous fields so that the discussion is not separated." In terms of the dimensions of behavioral finance, there are three factors that influence a person's approach to their financial situation. Psychology, sociology, and economics are the three facets that are involved. If you want to examine how people behave with their money, you need to have a basic understanding of finance, as well as some aspects of psychology and sociology. These three facets will contribute to improved financial conduct, which will in turn have an effect on the success of the company. To put it another way, financial behavior is an expertise in managing personal money, which can be broken down into habits, fields, and capital, all of which are directly tied to the performance of startups.

Hypothesis 5: Financial Behavior Has an Affect Startup Performance

3 Methods

This article used a quantitative research to answer factual and conceptual problem. The population of this research is CEO of business startups located in East Java Province, which are spread in Malang City and Surabaya City. The researcher used multistage sampling to determine the sample size to represent the population in Malang City and Surabaya City. A total of 200 business startup CEOs were sampled in this study. Researchers used a survey method using a questionnaire. The collected data were analyzed using Warp-PLS 7.0 software. Questionnaires were developed to test the hypotheses in this research model. There are 4 constructs, namely Financial Knowledge (FK), and Financial Skill (FS) as independent variables, and Financial Behavior (FB) as mediating variable and Startup Performance (FPer) as dependent variable. Each variable consists of several statement items which are measured using a Likert scale. The details can be seen in Table 1 as follows.

4 Results and Discussion

The measuring model needs to accurately portray the indications that are evaluated according to the connection between the different score items. To be considered genuine, the value of the loading factor, also known as the external loading, must be equal to 0.6 [41]. The word "Average Variance Extracted," which stands for "Average Variance," requires an evaluation value of 0.5 in order to be deemed satisfactory or legitimate. This is done so that the value of the loading factor can be compared to the correlation between the indicator and other variables. As can be seen in Table 2, the results of the outer model test, which was designed to evaluate the validity and reliability of the indicators, indicate that every single one of them is valid and trustworthy.

It is possible for the reliability value to be determined by the composite reliability value of 0.7. Despite this, there are professionals who affirm that a composite dependability score of 0.6 is still within acceptable parameters [41]. In addition, the Alpha Chronbach formula might be utilized in order to arrive at a conclusion regarding the dependability of the variables. According to what is presented in Table 3, all of the variables are capable of fulfilling the reliability standards, specifically with each composite reliability and alpha chronic value having a value of 0.7.

In addition to this, the Goodness of fit Model in PLS analysis is performed by making use of the calculation coefficient (R-Square) and the Q-Square predictive relevance (Q2), and the findings are summarized in Table 4.

Based on Table 4, the R-*square* variable *financial behavior* is 0.052. This can indicate that *financial behavior* can be explained by *financial knowledge* and *financial skills* of 0.052 or in other words the contribution of *financial knowledge* and *financial skills* variables to *financial behavior* 0.052, while the Q-*square* variable *financial behavior* is worth 0.062. This shows that the *financial knowledge* and *financial skill* have a fairly strong predictive power on the *financial behavior variable.* Furthermore, the R-*square* variable *startup performance* is 0.086. This can indicate that the *startup performance* can be explained by the *financial knowledge*, *financial skills* and *financial behavior* variables of 0.086 or in other words the contribution of the *financial knowledge variable, financial skill* and *financial behavior* variable is *financial* 0.052, while the Q-*square* variable

Table 1. Variable and item.

Variable	Item
Financial knowledge	I know the benefits of financial knowledge in managing a company (*startup*)
	I know the various sources of income and expenses of the company
	company (startup)
	myKnowing how to manage startup finances well and wisely.
	I Know the factors that affect the company's revenue (startup)
	I Know the unexpected expenses (emergency fund).
	I know the benefits of budgeting
	I know the benefits of saving in the bank.
	I know the risks of using bank debt funds in running a *startup*
	I know the strategy to get investment for *startups*
	I know the benefits of investing in companies (*startup*).
	I know the company's valuation price (*startup*)
	I know about the use of investment funds for *startups*
	I know the main purpose of having investors for *startups*
	I know the factors that are considered in choosing investors
Financial skill	I am able to prepare company financial statements.
	I am able to evaluate the financial statements of savings on a regular basis.
	I am able to manage risk through the use of bank debt to develop the company (*startup*)
	I am able to evaluate the company's debt on a regular basis.
Financial behaviour	Before buying something, I will carefully consider the company's financial capabilities (*startup*).
	I have money left over at the end of the year as financial gain.
	I pay the company's obligations (*startup*) on time.
	I do not use company finances for personal purposes
	I will always be honest with the work team/investors even if something happens that will result in financial loss.
	I think that it is better to use funds from investors than bank loans to run a company (*startup).*
	I enjoy discussing the company's financial situation with financial professionals.
	I trust investors will treat me and the company fairly.

(*continued*)

Table 1. (*continued*)

Variable	Item
	I Provide correct information about startup performance to investors.
	I know the factors that affect the decline in my income.
	I stay calm and think clearly in dealing with the company's financial problems (*startup)*
	I work hard to raise a *startup*
	I have good debt and savings management in managing the business.
Firm performance	I feel that the *startup* continues to be financially profitable.
	I feel that the *startup* continues to grow.
	I have permanent employees who meet the needs of the *startup*
	I feel that the quality of the *startup* 's business management is good.
	I feel the quality of *startup* remains / continues to improve.
	I believe business innovation will continue to grow.
	I believe I can keep the talented people in the business.

startup performance is 0.108. This shows that the *financial knowledge variable, financial skills* and *financial behavior* have strong predictive power on *startup performance variables.* The results of hypothesis testing can be seen in Table 5.

The results of testing the first hypothesis show that the *financial knowledge* variable and the *startup performance* produce a *path coefficient* of 0.130 (Fig. 1). The *path coefficient* means that both variables show a positive effect. This means that *financial knowledge* has a positive effect on *startup performance*. Furthermore, the *p-value* between the *financial knowledge* variable and the *startup performance* is 0.038. The test results indicate that *the p-value* $<$ *level of significance* (*alpha* $= 5\%$). This means that the *financial knowledge* has a positive and significant effect on the *startup performance variable.* Therefore, these results support the first hypothesis of this study which states "*financial knowledge* has a significant effect on *startup performance"*.

The positive and significant influence between the *financial knowledge* variable on the *startup performance* shows that the higher the *financial knowledge* possessed by the CEO of *a startup business* will *the startup performance* significantly increase. Vice versa, if a *startup business* does not have *financial knowledge* CEO *startup business* will have a tendency to lower *startup performance.* This statement is supported by the results of calculations in descriptive statistics which show the average value of the frequency distribution of *financial knowledge*, which is 4.29, variable is *startup performance* 4.33. The average value of the *financial knowledge* is lower than the average value of the *startup performance variable frequency distribution.* This shows that the CEO of *a startup business* who has *financial knowledge* has applied his knowledge as an effort to improve startup performance. CEO *startup business* who has *financial knowledge* can apply his knowledge so that he can find out the performance of his startup business continues to grow, and know that his startup business continues to be financially profitable. In

Table 2. Validity calculation results.

Variables	Item	Convergent Validity		Discriminant validity			
		Loading Factor	AVE	FK	FS	FB	FPer
FK	FK.1	0.880	0.655	0.880	-0.036	0.074	-0.044
	FK.2	0.739		0.739	-0.035	-0.046	0.218
	FK.3	0.793		0.793	-0.023	0.043	-0.140
	FK.4	0.853		0.853	0.044	0.012	-0.059
	FK.5	0.831		0.831	-0.010	-0.019	-0.078
	FK.6	0.707		0.707	0.057	-0.116	0.106
	FK.7	0.850		0.850	0.025	0.042	-0.147
	FK.8	0.733		0.733	0.005	-0.084	0.133
	FK.9	0.895		0.895	-0.008	0.027	-0.070
	FK.10	0.754		0.754	-0.059	-0.039	0.228
	FK.11	0.867		0.867	0.021	-0.050	0.013
	FK.12	0.664		0.664	-0.134	0.004	-0.131
	FK.13	0.851		0.851	-0.032	0.046	-0.036
	FK.14	0.823		0.823	0.150	0.001	0.083
	FK.15	0.853		0.853	0.009	0.063	-0.019
FS	FS.1	0.735	0.622	-0.092	0.735	0.007	0.018
	FS.2	0.832		0.052	0.832	-0.065	-0.025
	FS.3	0.845		0.062	0.845	0.072	0.031
	FS.4	0.736		-0.038	0.736	-0.016	-0.026
FB	FB.1	0.905	0.987	-0.072	0.049	0.905	-0.010
	FB.2	0.920		-0.101	0.026	0.920	-0.053
	FB.3	0.962		-0.065	-0.009	0.962	-0.020
	FB.4	0.968		0.002	0.004	0.968	0.061
	FB.5	0.937		0.050	0.013	0.937	0.050
	FB.6	0.977		0.043	0.013	0.977	-0.003
	FB.7	0.968		0.002	0.004	0.968	0.061
	FB.8	0.968		0.002	0.004	0.968	0.061
	FB.9	0.968		0.002	0.004	0.968	0.061
	FB.10	0.977		0.043	0.013	0.977	-0.003
	FB.11	0.861		-0.074	0.021	0.861	-0.107
	FB.12	0.826		0.210	-0.137	0.826	-0.075

(*continued*)

Table 2. (*continued*)

Variables	Item	Convergent Validity		Discriminant validity			
		Loading Factor	AVE	FK	FS	FB	FPer
	FB.13	0.870		-0.033	-0.022	0.870	-0.056
SP	Fper.1	0.608	0.759	-0.054	0.046	-0.047	0.608
	Fper.2	0.608		-0.063	-0.013	-0.050	0.608
	Fper.3	0.632		-0.071	-0.083	-0.027	0.632
	Fper.4	0.626		0.007	-0.072	0.059	0.626
	Fper.5	0.743		0.117	0.002	-0.017	0.743
	Fper.6	0.571		-0.021	0.063	-0.015	0.571
	Fper.7	0.686		0.053	0.060	0.088	0.686

Table 3. Composite reliability dan cronbach's alpha.

No	Variable	Composite reliability	Alpha chronbach
1	Financial Knowledge (FK)	0.966	0.962
2	Financial Skill (Fs)	0.867	0.795
3	Financial Behavior (FB)	0.989	0.987
4	Startup Performance (SP/FPer)	0.829	0.759

Table 4. R-Square and Q-Square predictive relevance (Q2).

Dependent	Acronym	R-Squared	Q-Squared
Financial behavior	FP	0.052	0.062
Firm performance	FS	0.086	0.108

addition, the CEO of *a startup business* who has *financial knowledge* is able to retain talented employees who are in accordance with the needs of the *startup business,* so that the *startup* has business management *startup* to continue to develop product innovation.

The CEO of *startup business* with *financial knowledge* has good cognition and has a positive impact on startup performance. Understanding, calculating, reasoning, problem solving, and decision making are all examples of cognitive functions that are discussed in Lusardi and Mitchell [8] explanation of how the dual process theory applies to cognition. The outcomes of this study lend credence to the conclusions reached by several researcher [29, 31, 32], namely that financial knowledge has a significant impact on company performance (SME profitability) in Kuching, Sarawak. According to Eniola and Entebang [32] analysis, a lack of financial knowledge is a challenge for Nigeria's small and medium enterprises (SMEs). Whereas small and medium-sized enterprises

Table 5. Results of hypothesis testing.

Independent	Dependent	Path coefficient	SE	P-value	Information
Financial Knowledge (FK)	Startup Performance (SP/FPer)	0.130	0.072	0.038	Significant
Financial Knowledge (FK)	Financial Behavior (FB)	0.111	0.073	0.064	No Significant
Financial Skill (Fs)	Financial Behavior (FB)	0.214	0.071	0.001	Significant
Financial Skill (Fs)	Startup Performance (SP/FPer)	0.150	0.072	0.019	Significant
Financial Behavior (FB)	Startup Performance (SP/Fper)	0.203	0.071	0.002	Significant

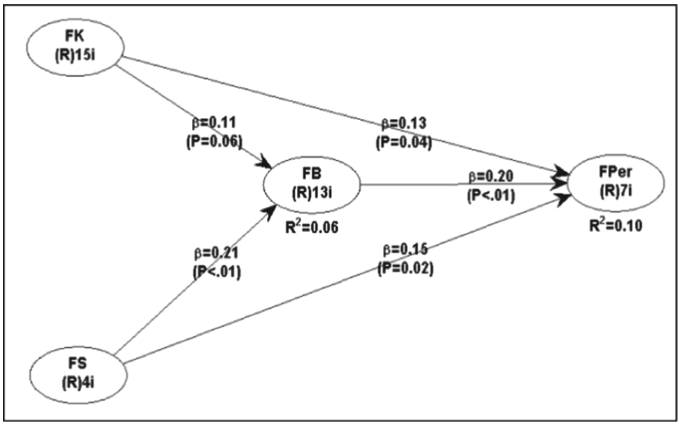

Fig. 1. Hypothesis test results.

(SMEs) in Nigeria have a history of strong performance, a significant number of these enterprises fail due to issues with financial literacy and knowledge.

The results of testing the second hypothesis show that the financial knowledge variable and the financial behavior produce a path coefficient of 0.111. The path coefficient means that both variables show a positive effect. That is, financial knowledge has a positive effect on financial behavior. Furthermore, the p-value between the financial knowledge variable and the financial behavior is 0.064. The test results show that the p-value > level of significance (alpha = 5%). This means that the financial knowledge has a positive and insignificant effect on the financial behavior variable. Therefore, these results do not support the second hypothesis of the study which states that financial knowledge affects financial behavior.

The positive and insignificant effect between financial knowledge variables on financial behavior shows that the higher the financial knowledge possessed by the CEO of a

startup business will increase financial behavior, but the increase is not significant. Vice versa, if a startup business does not have financial knowledge CEO startup business has a tendency financial behavior. This statement is supported by the results of calculations in descriptive statistics which show the average value of the frequency distribution of financial knowledge, which is 4.29, variable is financial behavior 4.22. The average value of the financial knowledge is higher than the average value of the financial behavior variable frequency distribution. This shows that there are several startup business who have financial knowledge but have financial behavior. CEOs Business startup who has financial knowledge can apply their knowledge to shape their financial behavior in managing startups, although this is not significant. CEO startup business with financial knowledge has good financial behavior, as can be seen from his behavior in managing startup finances who always carefully considers the company's financial capabilities when buying something, and always pays the company's obligations (startup) always on time. Furthermore, the CEO of a startup business who has financial knowledge, does not use company finances for personal purposes, and likes to discuss the company's financial situation with people who are professionals in the financial field to increase their knowledge about finance.

The findings of this study are consistent with social cognitive theory, which was proposed by Bandura [25]. Based on this theory, knowledge is a component of the cognitive element, while behavior is a component of the behavior factor. The cognitive components that are discussed in Bandura [25] social cognitive theory are sometimes referred to as personal factors. The foundation of financial literacy is an individual's financial knowledge, which assists individuals in making decisions and developing responsible financial conduct [7]. According to this view, the presence of a personal component is one of the most important contributors to the development of an individual's behavior. According to the findings of this study, personal financial knowledge and behavior are two factors that contribute to the formation of behavior. These factors are both considered to be part of the personal context. The findings of this study lend credence to earlier investigations carried out by researcher [6, 10, 23, 24, 42]. Research on Generation Y in South Africa carried out by van Deventer [24] in the year 2020. According to the findings of his investigation, there is both a positive and a substantial influence that can be attributed to the relationship between financial knowledge and financial behavior characteristics. In addition, the purpose of the study that was carried out by Bapat [10] was to ascertain the effect that determinants of financial knowledge had on financial behavior and to investigate the function that financial risk tolerance had as a moderating variable. According to the findings, there is a correlation between financial knowledge characteristics and financial behavior that is both positive and statistically significant. According to Bapat [10], people may not be able to fully benefit from their financial knowledge unless it results in the development of proper financial attitudes and behaviors. The purpose of the study that Dewi et al. [42] are conducting is to assess the extent to which financial knowledge and financial skills have an impact on individuals' financial behaviors. The findings indicate that an individual's level of financial knowledge has a positive and non-negligible effect on their financial conduct. According to Dewi et al. [42], strengthening one's financial knowledge is a significant component that contributes to encouraging healthy behavior regarding financial management. Those members of the millennial age

who are financially educated are better able to display appropriate financial behavior, which is important for maintaining economic stability and well-being.

The results from the study conducted by Listiani [23] in the city of Surabaya show that there is a positive and non-significant effect between financial knowledge and financial behavior. This indicates that the average respondent does not follow the financial knowledge they possess with effective financial management behavior. This is concerning given the previous statement. It's also possible to draw the conclusion that the average respondent's financial management isn't guided by solid financial understanding, which would be consistent with this interpretation. According to the findings of research carried out by Herdjiono et al. [6] having financial knowledge had a considerable favorable effect on the manner in which money was handled. According to Herdjiono et al. [6], the propensity of individuals to engage in financially responsible behavior does not increase in a linear fashion in tandem with the expansion of their financial knowledge. This is due to the fact that a person's behavior is not always driven by the level of knowledge he possesses, but is also influenced by other elements such as psychological and emotional factors.

The study's findings do not provide support to the findings of earlier research carried out by researcher [11–14, 16–22, 43–45] the amount of financial knowledge has a favorable and significant effect on the manner in which money is handled. However, according to the findings of the SEM analysis, the influence of both knowledge and behavior is shown to be growing stronger when the financial attitude of the individual is used as a mediator. In addition, Cwynar [16] demonstrates that there is a positive and significant influence on financial knowledge variables on the financial behavior of millennials in Poland. According to Cwynar [16], Polish Millennials are relatively similar to Gen X in terms of their financial situation; nonetheless, there are substantial discrepancies between the two generations in regard to their financial well-being. The millennial generation can be distinguished from the Baby Boomer group, which includes their parents, in a greater number of ways. Nevertheless, this is comprehensible when considering the vast socioeconomic disparities that exist between the two generations.

The purpose of the study that was carried out in Malaysia by Lajuni et al. [18] was to investigate the influence that millennials' level of financial knowledge has on their behavior in the country. After collecting primary data from 304 respondents, the data was subsequently processed using Smart PLS. The millennial generation in Malaysia has a good and significant effect on their financial conduct as a direct result of their varying financial understanding. The findings of the study that was carried out in Sri Lanka by Edirisinghe and Keerthipala [13] demonstrated the same conclusion, namely, that there was a positive and significant influence of financial knowledge on financial behavior. According to Edirisinghe and Keerthipala [13], the amount of financial knowledge, in particular financial management in all other dimensions, has a considerable positive effect not only on overall financial behavior but also on financial behavior in specific situations. According to the findings of Aydin [11], financial knowledge has a favorable and significant effect on the financial behavior of Turkey's millennial generation. Another research from Aydin [11] indicates that one's level of financial knowledge has a negative impact that is statistically significant on their financial conduct. It is anticipated that the detrimental impact that the present-day orientation has on financial attitudes, namely

attitudes towards savings, will be prevalent throughout Turkey. In addition, Ramalho and Forte [19] discovered that financial knowledge had a favorable and significant influence on financial behavior in Brazil. In their study, Ramalho and Forte [19] came to the conclusion that Brazilians could benefit from financial education by expanding their technical knowledge; nevertheless, they neglected to take into account behaviors such as those related to self-confidence.

According to the findings of Chaulagain [14], the level of financial knowledge has a positive and significant effect on the manner in which money is handled. According to Chaulagain [14], the level of financial literacy in Nepal is a contributing factor that positively affects financial behavior. According to Chaulagain [14] the conclusion is that in order to alter individuals' financial behavior, modern and contextual financial literacy initiatives are required to educate people. Directly contributing to financial behavior rather than indirectly through financial attitudes and the perception of one's own behavioral control is the role that financial knowledge plays. According to this investigation, knowledge is the most important component of financial literacy. According to the findings of research that was carried out by Saurabh and Nandan [20], there is a beneficial and considerable influence that financial knowledge has on the financial behavior of individuals in India. In their study, Saurabh and Nandan [20] demonstrate that all Indian citizens who participated as respondents were content with the decisions they made regarding their finances. This is due to the fact that the respondents were given financial knowledge, which influenced both their attitudes and behaviors regarding the management of their financial resources. In addition, research published in Gerrans et al. [17] and Bhushan and Medury [12] demonstrates that there is a positive and significant influence that financial knowledge has on financial behavior.

The results of testing the third hypothesis show that the *financial skill* variable and the *financial behavior* produce a *path coefficient* of 0.214. The *path coefficient* means that both variables show a positive effect. That is, *financial skills* have a positive effect on *financial behavior*. Furthermore, the *p-value* between the *financial skill* variable and the *financial behavior* is 0.001. The test results indicate that *the p-value* $<$ *level of significance* (*alpha* $= 5\%$). This means that the *financial skill* has a positive and significant effect on the *financial behavior variable.* Therefore, these results support the third hypothesis of the study which states that *financial skills* affect *financial behavior.* The positive and significant influence between the *financial skill* variables on the *financial behavior* shows that the higher the *financial skills* possessed by the CEO of *a startup business* will *financial behavior* significantly increase. Vice versa, if a *startup business* does not have *good financial skills* CEO *startup business* has a tendency *financial behavior*. This statement is supported by the results of calculations in descriptive statistics which show the average value of the frequency distribution of the *financial skill*, which is 4.22, variable is *financial behavior* 4.22. The average value of the *financial skill* is as high as the average value of the *financial behavior variable frequency distribution.* This shows that the CEO of *a startup business* has *financial skills* and has good *financial behavior*. CEOs *Business startup* who has *good financial skills* can shape their financial behavior in managing startups. CEOs *Business startup* who has *good financial skills* are generally obtained from formal and informal education processes. In addition, the CEO of *a startup business* also gains *financial skills* from work experience in the

workplace before establishing a startup. With *his financial skills*, when managing startup finances, startup CEOs always carefully consider the company's financial capabilities when buying something using company finances. The startup CEO also has the convenience of understanding the financial statements that have been prepared by the CFO (chief financial officer), so that the CEO (chief executive officer) always makes the right decisions.

Social cognitive theory argues that one of the elements that affect human conduct is a behavior component consisting of skills and behavior [25]. This behavior factor was first identified by Bandura [25]. According to the findings of this research, one of the components that contributes to the formation of an individual's pattern of behavior regarding the management of their financial resources is a person's level of financial skills and their financial behavior. The findings of this study provide credence to those of Chaulagain [14] and Dewi et al. [46] which demonstrate that one's financial skills has a major bearing on their approach to money management. On the other hand, the outcomes of this study do not support the findings of van Deventer [24], which indicated that financial skills have no substantial effect on financial behavior. These results show that financial skills do have an effect on financial behavior.

The results of testing the fourth hypothesis show that the *financial skill* variable and the *startup performance* produce a *path coefficient* of 0.130. The *path coefficient* means that both variables show a positive effect. This means that *financial skills* have a positive effect on *startup performance*. Furthermore, the *p-value* between the *financial skill* variable and the *startup performance* is 0.019. The test results indicate that *the p-value < level of significance* (*alpha* = 5%). This means that the *financial skill* has a positive and significant effect on the *startup performance variable.* Therefore, these results support the fourth hypothesis of this study which states "*financial skills* have a significant effect on *startup performance"*.

The positive and significant influence between the *financial skill* variable on the *startup performance* shows that the higher the *financial skills* CEO *startup business* will *the startup performance* significantly increase. Vice versa, if a *startup business* does not have *good financial skills* CEO *startup business* will have a tendency to lower *startup performance*. This statement is supported by the results of calculations in descriptive statistics which show the average value of the frequency distribution of the *financial skill*, which is 4.22, variable is *startup performance* 4.33. The average value of the *financial skill* is lower than the average value of the *startup performance variable frequency distribution.* This shows that the CEO of *a startup business* who has *good financial skills* has applied his skills as an effort to improve startup performance. CEO *startup business* who has *good financial skills* can apply his skills and is able to retain talented employees who are in accordance with the needs of the *startup business,* so that his *startup* has business management *startup* to continue to develop product innovation. The existence of innovations that are carried out continuously make business startups survive and continue to grow, so that *startup business* who have *good financial skills* know that their startup business continues to be financially profitable. The findings of this research are consistent with the Dual Process Theory [8], which proposes that an individual's level of knowledge and skill are the primary factors that influence their decision-making. The findings of this study provide credence to the findings of Tripopsakul and Charupongsopon [38],

which demonstrate that financial skills has a substantial bearing on the performance of a company. The findings of this study, however, do not corroborate the findings of Razak et al. [30], which indicate that financial skills have no substantial effect on the success of firms.

The results of testing the fifth hypothesis indicate that the financial behavior variable and the startup performance produce a path coefficient of 0.230. The path coefficient means that both variables show a positive effect. This means that financial behavior has a positive effect on startup performance. Furthermore, the p-value between the financial behavior variable and the startup performance is 0.002. The test results indicate that the p-value < level of significance (alpha = 5%). This means that the financial behavior has a positive and significant effect on the startup performance variable. Therefore, these results support the fifth hypothesis of this study which states "financial behavior has a significant effect on startup performance".

The positive and significant influence between financial behavior variables on startup performance shows that the better the financial behavior of the CEO of a startup business will the startup performance significantly increase. Vice versa, if a startup business does not have financial behavior CEO startup business will have a tendency to lower startup performance. This statement is supported by the results of calculations in descriptive statistics which show the average value of the frequency distribution of financial behavior, which is 4.22, variable is startup performance 4.33. The average value of the financial behavior is lower than the average value of the startup performance variable frequency distribution. This shows that startup business who have financial behavior are able to manage their startup finances well, besides that startup business also able to make the right decisions to develop their startups. This is what makes the performance of the startup experience an increase in both financial and non-financial aspects. The results of this research provide credence to the conclusions reached by Esiebugie et al. [28], Rahim and Balan [29], which demonstrated that a company's financial behavior has a major impact on its overall performance.

5 Conclusion, Limitations, and Suggestions

The results of this research have provided theoretical support for the frameworks of Social cognitive theory and Dual process theory in the context of business startups. Positive results were found for all of the proposed variable associations, with the exception of one result, which was not significant. The author is aware that the findings of this study cannot be extrapolated to a wider population. This research is only the result of a survey of respondents in certain areas and at certain times, with a limited number of respondents involved because it was only conducted in two cities, namely Malang City and Surabaya City. Consequently, the number of respondents involved in this research is limited. If the survey were administered to respondents located in all of Indonesia's cities and districts, it is probable that the findings might be different. Expectation, self-efficacy, and experience are some of the variables that are discussed in Social cognitive theory and Dual process theory. It is predicted that future research will take into consideration the usage of these variables in addition to those variables that were used in this study.

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