

## Enhancing The Personal Financial Management Practices of SMEs By Examining Financial Attitude, Literacy, And Knowledge

Adhi Widyakto<sup>1</sup>, Susanto<sup>2</sup>, Sugeng Rianto<sup>3</sup>, Muhammad Hakimi<sup>4</sup>

1 Department of Management, Faculty of Economics, University of Semarang

2 Faculty of Economics & Management Universiti Kebangsaan Malaysia

\*Corresponding Author: [adhiwidyakto92@gmail.com](mailto:adhiwidyakto92@gmail.com), [susanto\\_fe@usm.ac.id](mailto:susanto_fe@usm.ac.id),  
[sugengrianto63@gmail.com](mailto:sugengrianto63@gmail.com), [hakimi@ukm.edu.my](mailto:hakimi@ukm.edu.my)

### Abstract

This study aims to examine the influence of financial attitude, financial literacy, and financial knowledge on personal financial management behavior, with locus of control as a mediating variable among MSME actors in the food and beverage sector in Central Java. The study involved 70 respondents selected using purposive sampling, and data were analyzed using SmartPLS 4.0. The results show that financial attitude and financial knowledge have a positive and significant effect on locus of control, while financial literacy has a negative and significant effect on locus of control. Furthermore, financial attitude and financial knowledge have a positive and significant effect on personal financial management behavior. In contrast, financial literacy has a negative and significant effect on personal financial management behavior. In addition, locus of control has a positive and significant effect on personal financial management behavior. As a mediating variable, locus of control strengthens the positive influence of financial attitude and financial knowledge on financial management behavior, but transmits a negative indirect effect in the relationship between financial literacy and financial management behavior. These findings suggest that improving financial attitude and financial knowledge can enhance financial management behavior among MSME actors. However, the negative relationship involving financial literacy indicates the need for deeper attention, particularly in ensuring that financial knowledge is effectively translated into responsible financial behavior. This study recommends strengthening financial literacy programs through practical and behavior-oriented approaches, as well as expanding future research variables and sample coverage.

**Keywords:** financial attitude, financial literacy, financial knowledge, personal financial management behavior, and locus of control.

*JEL: D14, G53, D91, L26, L66*

Received: July 21, 2025 / Revised: May 06, 2026 / Available Online: June 02, 2026 / Publish: June 01, 2026

© year by Authors, Published by Management Departement Faculty of Economics and Business Diponegoro University. This is an open access article under the CC-BY-SA License (<https://creativecommons.org/licenses/by-sa/4.0>).

### INTRODUCTION

Micro, small, and medium enterprises (MSMEs) play a vital role in Indonesia's economy, particularly in GDP contribution. As business competition intensifies, effective financial management and personal financial habits become increasingly crucial for MSME operators. In Central Java, many MSMEs continue to struggle with financial management, facing challenges in properly handling their

business finances. Personal financial behavior is associated with the use of financial tools and financial literacy.

The primary issue affecting personal financial management among MSME actors in Central Java is their poor financial attitude. Many business owners lack the motivation to enhance their financial management skills, despite the critical importance of doing so. They often settle for their current results without implementing structured budget plans, which can negatively impact their business performance. This mindset leads to declining MSME performance over time, reducing their ability to compete effectively. Additionally, many MSME actors do not prepare financial budgets, resulting in inefficient financial management. Awareness of bookkeeping's importance remains low, as they tend to view financial management as simple and believe that as long as sales cover operational costs—often mixed with other income sources—they are managing well.

From several problems that occur to MSME actors in Central Java, the researcher also conducted pre-research on 250 MSME actors in the food and beverage sector as follows:

**Table 1.** The Phenomenon of Pre-Research Gap in Financial Management Activities of MSME Actors

Activity	Do	Not Do	Total
	Sum	Sum	
Create a budget for shopping	6 people	9 people	15 people
Record financial management	7 people	8 people	15 people
Manage finances well	4 people	11 people	15 people
Distinguishing needs from wants	5 people	10 people	15 people
Preparing income to grow the business	8 people	7 people	15 people

Source: Results of pre-research of MSME actors (2024)

The results of the pre-research above prove that MSME actors in Central Java still do not manage their finances properly. This can happen because MSME actors think that managing finances is not important. In fact, as an MSME actor, preparing a budget, managing finances, and doing financial bookkeeping is very important so that revenue continues to increase and the business continues to run smoothly.

A person's financial management behavior is influenced by several factors, one of which is financial attitude (*Financial Attitude*). Research by (Amanah et al., 2016) showing that financial attitudes have a positive effect on personal financial management behavior. This is in line with research (Herdjiono & Damanik, 2016) which emphasizes the importance of good financial posture to control financial conditions and balance expenses. However, research (Nisa & Haryono, 2022) It showed that there was no significant influence between financial attitudes and financial management behaviors, suggesting differences in outcomes among studies.

The second factor that affects personal financial management behavior is financial literacy. Financial literacy is the process of improving understanding and skills in finance (Sholihah & Isbanah, 2022). It is important to have a good understanding of financial management in order to avoid financial difficulties. Families experiencing financial difficulties are often caused by a lack of knowledge and skills in managing money, which negatively impacts their health and well-being. A good level of financial literacy can improve the well-being of individuals and families in the future (Gunawan et al., 2019). Having good financial management habits from the beginning can help achieve financial goals. Planning expenses and avoiding consumptive behavior is very important later. In addition, the relationship between financial literacy levels and financial management is significant, where the higher the literacy, the better the management (Ritakumalasari & Susanti, 2021). However, another view, according to (Sampoerno & Asandimitra, 2021), *Financial Literacy* does not have a significant influence on *financial management behavior*.

The third factor that influences personal financial management behavior is financial knowledge. Research (Putri, 2020) It shows that financial knowledge, financial attitudes, experience,

education, and personality have a significant effect on financial management behavior. The better the financial knowledge you have, the better the business financial management. Research (Humaira & Sagoro, 2018) supports this by stating that financial knowledge has a positive influence on financial management behavior. However, research (Herdjiono & Damanik, 2016) showed that financial knowledge had no significant effect, which prompted further research with different objects.

In addition to the three factors that have been mentioned, namely financial attitudes, financial literacy, and financial knowledge, this study also examines the *locus of control*. *Locus of control* reflects an individual's view of their ability to control events in life. Previous research has shown an influence of *Locus of Control* on personal financial management behavior (Kholilah & Iramania, 2013) and (Dwiastanti, 2017). However, there are also conflicting results, namely in the study (Amanah et al., 2016) indicates that the locus of control does not affect *personal financial management behavior*.

Based on this background, the researcher chose this title because of the importance of financial management for MSME actors in Central Java, which affects the needs of life in the future.

## LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

### ***Theory of Planned Behavior (TPB)***

*The Theory of Planned Behavior (TPB)* is a social psychology theory developed by Icek Ajzen in 1991. Theory of planned behavior, which is a development of the theory of reasoned action. Reasoned action theory explains that a person's behavior is influenced by the will or intention that shapes that behavior. Whereas planned behavior emphasizes the rationality of the individual in behaving as well as in the belief that the behavior is under the individual's consciousness (Ajzen, 1991). (Arkorful et al., 2021) Deep *theory of planned behavior* attitudes, subjective norms and perceptions of behavior control are determined through key beliefs. The determinants of behavior are determined by the assessment of the beliefs of the individual, either positively or negatively (Geiger et al., 2019). *Theory of planned behavior*. This is adjusted to explain the behavior of a business actor related to *Personal Financial Management Behavior*, where this business actor will make plans for the business he runs (Oduro-Appiah et al., 2022). A plan that the individual makes is inseparable from his financial attitude (*Financial Attitude*) that he has

### ***Personal financial management behavior***

*Financial management behavior* is a person's ability to manage planning, budgeting, auditing, managing, controlling, searching, and storing daily financial funds (Xiao and Porto, 2019). Emergence *Financial Management Behavior* is the impact of a person's great desire to meet his or her life needs, according to the level of income obtained.

In comparison to the work done on demographics and socio-economic factors, research on the role of psychological characteristics in personal financial planning behavior is in an elementary stage. Relatively few studies have attempted to exhibit the influence of psychological characteristics on PFMB in general (Tomar et al., 2021; Hoffmann and Plotkina, 2021a) or specific financial behaviors, like planning for retirement (Hoffmann and Plotkina, 2020; Tomar et al., 2021). However, based on the existing body of literature, it can be inferred that psychological characteristics influence PFMB.

### ***Financial Attitude***

According to Marsh, (2006) Attitude refers to how a person feels about personal financial problems, as measured by the response to a statement or opinion. Similarly, (Radianto 2020) defined Financial attitude as a mindset that can influence how someone manages their finances. Researchers have discovered many money attitudes that pinpoint people's actions when it comes to financial issues.

*Financial attitude* is a state of thought, opinion, and judgment of a person regarding finances. So that it cannot be observed directly, but must be thoroughly analyzed from his words and deeds (Abdul Ghafoor & Akhtar, 2024). *The financial attitude* that a person possesses will assist individuals in determining their behavior in terms of finances, whether in terms of financial management,

personal financial budgeting, or how individual decisions will be made (Utkarsh, Pandey, Ashta, Spiegelman, and Sutan, 2020).

### ***Financial literacy***

According to (Maghfiroh & Dwiridotjahjono, 2023) *Financial Literacy* is the ability of an individual to read, analyze, manage, and communicate their financial condition so that it can affect the welfare of an individual's life.

According to Chaity et al., (2024) Financial literacy is the comprehension of fundamental financial and economic principles needed to manage money responsibly to attain financial well-being. It entails possessing the capabilities to handle one's finances, like borrowing, investing, budgeting, and dealing with debt.

People who possess financial literacy are more prepared to manage the complexities of financial systems, comprehend financial opportunities, and plan better for their future financial security. Previous studies have shown that financial literacy is significantly influenced by individuals' awareness of financial matters, financial skills, money management capabilities, and financial experiences (Lone and Bhat, 2022).

### ***Financial knowledge***

According to the journal explains financial *Knowledge* is the ability to act rationally, an assessment of financial management based on information. *Financial Knowledge* makes a person smarter in making financial decisions related to the financial problems that everyone faces. Individuals with *financial knowledge* tend to manage their finances well. Conversely, if the individual has *low financial knowledge*, they will tend to be unwise in managing their finances Ahmad et al., 2022).

Moreover, (Aren and Aydemir (2014) find that financial knowledge moderates the relationship between individual factors and risky investment intentions. Khan (2020) reveals that financial knowledge negatively moderates the relationship between cognitive biases (specifically mental accountability and herding) and investment decisions, but positively moderates the relationship between the disposition effect and investment decisions. Additionally, (Mehmood et al., 2019) explore the possible effect of heuristic-driven biases (namely anchoring and availability) and emotional-driven biases (notably self-control bias) on investment decisions with the moderating role of financial knowledge. The findings suggest that financial knowledge moderates the relationship between heuristic-driven biases and investment decisions yet does not moderate the relationship between emotional-driven biases and investment decisions. (Rasool and Ullah, 2020) suggest that financial knowledge has a significant negative effect on investors' behavioral biases. Psychologically, this means that as the financial knowledge of investors increases, behavioral biases decrease. Based on this study, financial knowledge appears to moderate the relationship between financial attitudes and investment decision-making (Ahmad and Shah, 2022).

### ***Locus of Control***

Discussing individual behavior, the concept of LoC is one of the theories widely used in the literature of psychology and human resource management. According to Rotter (1966), LoC refers to an individual's belief regarding the extent to which they have control over events in their lives. Individuals with an internal LoC tend to believe that they have significant influence over the outcomes they experience, whereas individuals with an external LoC tend to feel that external factors, such as fate or luck, determine the outcomes (Rotter, 1990). Since its development by (Rotter (1954) Through Social Learning Theory and clinical psychology, the concept of LoC has greatly helped explain motivational risk-taking, adaptation to change, and individual psychological well-being in various fields, both within organizational scopes and in daily life. By understanding an individual's LoC, we can provide guidance and formulate appropriate motivation strategies for that individual.

Individuals' perceptions of control can be influenced by cultural norms, societal structures and historical contexts, which in turn affect their behavior and attitudes in the workplace (Venema-Steen et al., 2023). Additionally, integrating LoC with other psychological constructs such as self-efficacy and resilience has provided a more diverse understanding of how individuals respond to challenges and achieve their goals (Schlechter et al., 2023).

Those with an internal LoC may be more proactive in acquiring new skills and utilizing digital tools to enhance their productivity, whereas those with an external LoC may struggle to cope with the rapid pace of change (Whelan et al., 2024). Thus, understanding employees' LoC enables organizational leaders to formulate strategies for employee management.

Based on the theory and results of previous research, it can be assumed that *Financial Attitude*, *Financial Knowledge*, and *Financial Literacy* have an effect on *Personal Financial Management Behavior* with the *Locus of Control* as an intervening variable, so the part of the frame of mind can be described as follows:

## **Logical Relationships Between Variables**

### **The Influence of *Financial Attitude* on the *Locus of Control***

*Financial attitude* focuses more on the individual's mindset, income level and assessment of financial management. When individuals apply their knowledge, it depends on whether they believe that they have self-control over the outcome of their behavior (Ida & Dwinta, 2010). This is proven in research (Asih & Khafid, 2020), states that *Financial Attitude* has a positive and significant influence on *locus of control*.

H1: It is suspected that *financial attitude* has a significant positive effect on the *locus of control*

### **The Influence of *Financial Literacy* on the *Locus of Control***

The psychological component called *Locus of Control* has the potential to have an influence on financial management. *Locus of control* encourage a person to think further and behave in a directional and structured manner in optimizing his financial utilization (Wardani & Fitriyati, 2022). The research that supports this hypothesis is (Pradiningtyas & Lukiastuti, 2019) and (Pramedi & Haryono, 2021) which shows that *Financial Literacy* has a positive and significant influence on *Locus of Control*.

H2: It is suspected that *financial literacy* has a significant positive effect on the *locus of control*.

### **The Influence of *Financial Knowledge* on the *Locus of Control***

*Financial knowledge* encompasses self-understanding and the ability to navigate several financial aspects, including economic issues. This is judged by the level of understanding of the concept of personal finance (Sukma et al., 2022). While *Locus of Control* is an individual's belief related to how much that value affects the things that happen in his or her life (Asih & Khafid, 2020). This is proven in research conducted by (Budiono, 2020) and (Pradiningtyas & Lukiastuti, 2019) which states that *Financial Knowledge* has a positive and significant influence on *Locus of Control*.

H3: It is suspected that *financial knowledge* has a significant positive effect on the *locus of control*

### **The Influence of *Financial Attitude* on *Personal Financial Management Behavior***

According to (Humaira & Sagoro, 2018), a person's financial attitude is the way they make decisions and execute them according to their beliefs or principles. According to (Amanah et al., 2016), a person's positive financial attitude reflects his or her positive financial mindset. This is proven in research (Budiono, 2020) which shows that *Financial Attitude* affects *Financial Management Behavior*.

H4: It is suspected that *financial attitude* has a significant positive effect on *personal financial management behavior*

### **The Effect of Financial Literacy on Personal Financial Management Behavior**

*Financial literacy* is an understanding of financial facts, concepts, principles and techniques that enable individuals to make smart decisions about money (Wahyuni & Setiawati, 2022). Individuals with good financial awareness have knowledge related to personal finances that ultimately influence how they manage their finances. This research is strengthened by the results of the research conducted (Ritakumalasari & Susanti, 2021), states that *Financial Literacy* positively relates to *Financial Management Behavior*.

H5: It is suspected that *financial literacy* has a significant positive effect on *personal financial management behavior*

### **The Influence of Financial Knowledge on Personal Financial Management Behavior**

*Theory of Planned Behavior* Underpinning Influence *Financial Knowledge* towards *Personal Financial Management Behavior*, which means that a person who has the responsibility to deal with various financial problems will manage his finances well by setting aside his money to pay bills on time. Someone who has *Financial Knowledge* who are good, will be better at managing finances because they easily understand the financial problems they are facing. This is supported by the research of Qamar et al. (2016) and (Ida & Dwinta, 2010) *Financial Knowledge* affect *Personal Financial Management Behavior* Because a person can manage finances well, so that the finances can be used according to their needs.

H6: It is suspected that *financial knowledge* has a significant positive effect on *personal financial management behavior*.

### **The Effect of Locus of Control on Personal Financial Management Behavior**

Someone who has an attitude *Locus of Control* can manage their finances wisely. This can happen because people who have such a mindset believe that deviations in personal financial management can have a negative impact on the future. This is supported by research (Ritakumalasari & Susanti, 2021) and (Nisa & Haryono, 2022), showing that *Locus of Control* has a positive and significant influence on *Financial Management Behavior*.

H7: It is suspected that *the locus of control* has a significant positive effect on *personal financial management behavior*

### **The Influence of Financial Attitude on Personal Financial Management Behavior through the Locus of Control**

A person's financial attitude reflects their beliefs, values, and judgments regarding money, which shape their financial decision-making. However, a positive financial attitude does not always lead to better financial behavior when it is not supported by a strong internal locus of control. Individuals who rely more on external factors may believe that financial outcomes are beyond their control, reducing their motivation to manage finances effectively. Locus of control may weaken the positive influence of financial attitude, leading to suboptimal financial management behavior.

H8: It is suspected that *financial attitude* has a negative effect on *personal financial management behavior* through *the locus of control*

### **The Effect of Financial Literacy on Personal Financial Management Behavior through the Locus of Control**

Although financial literacy equips individuals with knowledge and skills, it does not automatically translate into responsible financial behavior. Individuals with higher financial literacy may develop overconfidence in their financial abilities, which can reduce careful planning and control. When combined with a weak internal locus of control, this overconfidence may lead to poorer financial management behavior. Thus, locus of control can act as a mediating factor that reverses the expected positive relationship between financial literacy and financial management behavior.

H9: It is suspected that *financial literacy* has a negative effect on *personal financial management behavior* through the *locus of control*.

### **The Influence of Financial Knowledge on Personal Financial Management Behavior through the Locus of Control**

Financial knowledge enhances an individual's understanding of financial concepts and practices. However, without a strong sense of personal control, individuals may fail to apply this knowledge effectively. Those with an external locus of control may attribute financial outcomes to luck or external circumstances, weakening the implementation of financial knowledge in daily financial decisions. As a result, locus of control may negatively mediate the relationship between financial knowledge and personal financial management behavior.

H10: It is suspected that *financial knowledge* has a negative effect on *personal financial management behavior* through the *locus of control*

## **METHOD**

The approach used in this method is a quantitative descriptive approach. This research will focus on the analysis of *financial attitude*, *financial literacy*, and *financial knowledge*, which are independent variables; *personal financial management behavior* is a dependent variable, and the *locus of control* as an intervening variable. The object of the research is MSME actors in Central Java District. The population in this study comprises MSME actors in the sub-district, totaling 250. As for the sample in this study, there are 70 respondents from MSME actors in the food and beverage sector.

In this study, *purposive sampling* is used, which is sample selection based on certain criteria. The following criteria are determined for sampling, including:

1. The respondent is a business actor from the residents on Central Java Respondents have businesses in the food and beverage sector
2. The respondent also has a business certificate

With the above criteria, it can help to analyze in more detail regarding financial decisions and financial management.

The data used in this study is one type of data, namely, primary data. The primary data source in this study is the respondents' answers through questionnaires or questionnaires shared online.

In this study, interval measurement is utilized. An interval scale is a mechanism for identifying sequences with identical intervals. This interval scale instrument became the Likert scale. So different responses to the questions presented will be offered. The answer to the Likert scale consists of a score of 1-5.

**Table 2.** Determination of Questionnaire Answer Score

Answer Options	Score
Strongly Agree (SS)	5
Agree (S)	4
Neutral (N)	3
Disagree (ST)	2
Strongly Disagree (STS)	1

## **Data Analysis**

Data analysis aims to improve people's understanding of what is already known and facilitate the presentation of the data that has been collected. The sequence in data analysis includes grouping power based on variables and types of respondents, tabulating data according to variables from all respondents, presenting data for each variable studied, conducting calculations to answer research questions, and conducting calculations to test the hypothesis proposed. This study uses a *Partial Least*

*Squares (PLS)-based Structural Equation Modeling (SEM)* approach for data analysis and processing. The SmartPLS 4.0 program is also used as an analysis tool.

### **Descriptive Statistical Analysis**

Descriptive statistics are used to analyze data by describing or summarizing the data collected to draw conclusions or make generalizations that apply to the general population. In studies conducted on certain populations, descriptive statistics are used to analyze (Sugiyono, 2016). In this study, the results of the answers from respondents of MSME actors in Central Java regarding the questions that have been asked, namely, related to *financial attitude, financial literacy, financial knowledge, personal financial management behavior, and locus of control*. Then analyze the data that has been obtained to conclude.

### **SmartPLS (Partial Least Squares) Analysis**

Data analysis in this study was carried out with SmartPLS Software version 4.0, which was chosen due to the limited number of samples even though the model built was quite complex. The *Structural Equation Modelling (SEM)* method is used to solve the problem of this research, because this method is more effective than other techniques. *Structural Equation Modelling (SEM)* offers high flexibility, not tied to complex assumptions, so the resulting analysis tends to be more robust. However, to achieve quality research results, the sample size does not have to be large.

Although the sample size of 70 respondents may be considered relatively small for covariance-based SEM, it is still acceptable for Partial Least Squares Structural Equation Modeling (PLS-SEM), which is designed to handle small sample sizes and complex models. According to the “10-times rule”, the minimum sample size should be at least ten times the maximum number of structural paths directed at a particular construct in the model. In this study, the sample size meets this requirement, indicating that the model can be reliably estimated using SmartPLS.

## **RESULT AND DISCUSSION**

In this study, the data used is primary data. Primary data was obtained from the answers of respondents from business actors in Central Java, with a sample of 70 respondents according to predetermined criteria. SmartPLS 4.0 is the software used in this study. Based on the questionnaire that the respondents have filled out, the results of data processing are obtained as follows:

### **Variable Statistical Analysis**

Descriptive statistical analysis is a method that uses minimum, maximum, mean, and standard deviation values to provide a comprehensive picture of the variables being studied. The results of descriptive statistical analysis conducted using the SmartPLS 4.0 program can be seen in the table below:

**Table 3.** Descriptive Statistical Analysis

Indicators	Mean	Median	Min	Max	Standard Deviation
FA (X1_1)	4,250	5.000	1.000	5.000	0,963
FA (X1_2)	4,150	4.000	1.000	5.000	0,940
FA (X1_3)	4,241	4.000	1.000	5.000	0,888
FA (X1_4)	4,141	4.000	2.000	5.000	0,891
FL (X2_1)	4,258	4,500	2,000	5,000	0,902
FL (X2_2)	4,108	4,000	2,000	5,000	0,857
FL (X2_3)	3,983	4,000	1,000	5,000	0,952
FK (X3_1)	4,150	4,000	1,000	5,000	0,904
FK (X3_2)	4,000	4,000	1,000	5,000	0,952
FK (X3_3)	4,325	5,000	2,000	5,000	0,927

FK (X3_4)	4,233	4,000	2,000	5,000	0,905
LoC (Z_1)	4,100	4,000	2,000	5,000	0,999
LoC (Z_2)	4,183	4,000	1,000	5,000	0,898
LoC (Z_3)	3,975	4,000	2,000	5,000	0,911
PFMB (Y_1)	4,108	4,000	1,000	5,000	1,019
PFMB (Y_2)	4,075	4,000	1,000	5,000	0,936
PFMB (Y_3)	4,108	4,000	1,000	5,000	0,877
PFMB (Y_4)	4,141	4,000	2,000	5,000	0,935

Source: SmartPLS 4.0 processed data (2024)

The description of the research results will show the respondents' answers to each questionnaire, which will then provide an average score for the respondents' answers, which will then be assessed based on the following scale:

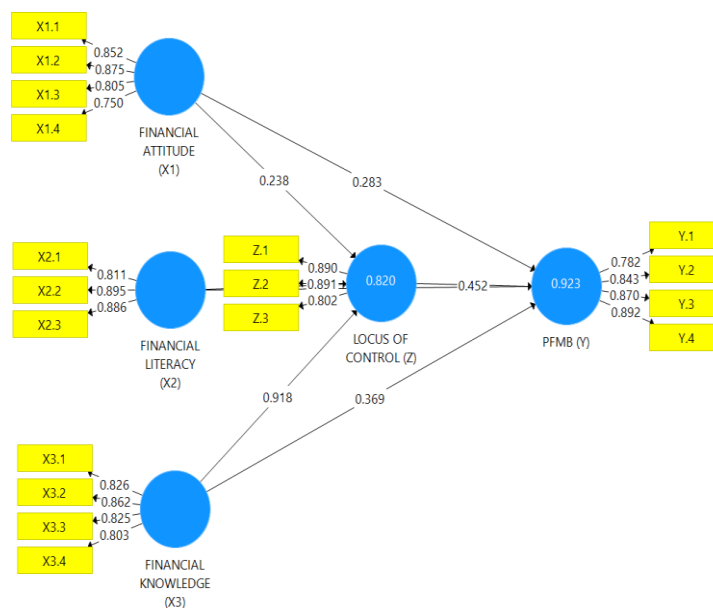
- 1.00 – 1.80 = very low
- 1.81 – 2.60 = low
- 2.61 – 3.40 = sufficient
- 3.41 – 4.20 = high
- 4.21 – 5.00 = very high

The results of the table above show the value of the deviation of each research variable, and provide an overview of the influence of each other variable. All variables were measured using questions according to each variable's indicators. Each indicator has an average value ranging from 3.975 – 4.258. The results show that the respondents' responses to the variables of *financial attitude*, *financial literacy*, *financial knowledge*, *locus of control*, and *personal financial management behavior* are in the high category. This proves that respondents feel that they can understand financial management well.

### Testing and Analysis of Measurement Models (Outer Model)

This research was conducted by evaluating the validity and reliability of the outer model with variables including *Financial Attitude (X1)*, *Financial Literacy (X2)*, *Financial Knowledge (X3)*, *Locus of Control (Z)*, and *Personal Financial Management Behavior (Y)*.

Figure 1. Outer Loading Test Results



**Convergent Validity**

In the validity test, it is assessed through the loading factor, where the loading value is more than 0.70 indicates a high level of validity. And if the AVE value is greater than 0.5, the variable used is considered valid.

**Table 4.** Outer Loading and AVE

Variable	Outer Loadings	AVE
FA (X1)	0.852	0.675
	0.875	
	0.805	
	0.750	
FL (X2)	0.811	0.748
	0.895	
	0.886	
FK (X3)	0.826	0.688
	0.862	
	0.825	
	0.803	
LoC (Z)	0.890	0.743
	0.891	
	0.802	
PFMB (Y)	0.782	0.719
	0.843	
	0.870	
	0.892	

Source: SmartPLS 4.0 processed data (2024)

Based on the table above, it shows that the outer loading value of each indicator in the five research variables has been fulfilled because all of them have a value of > 0.7. In addition, the AVE produced has also been fulfilled with a value of > 0.5. This states that the indicators for each variable in this study have met convergent validity.

**Composite Reliability**

The reliability test process is carried out by measuring *the composite reliability* value. A latent variable is considered to have good realism, if the composite reliability value exceeds 0.7.

**Table 5.** Composite Reliability Value

Variable	Cronbach's Alpha	Composite Reliability
FA (X1)	0,844	0,892
FL (X2)	0,850	0,898
FK (X3)	0,831	0,899
LoC (Z)	0,826	0,896
PFMB (Y)	0,869	0,911

Source: SmartPLS 4.0 processed data (2024)

Based on the table above, it shows that Cronbach's Alpha value on each variable is more than 0.6, which means that it has a good level of reliability or consistency. In addition, the composite reliability value of each variable also has a value of more than 0.7. This shows that each variable already has good reliability.

### Testing and Analysis of Structural Models (Inner Model)

The method used in the internal testing of this model is to look for the value of R-square ( $R^2$ ) in the construct of dependent variables. This structural model is determined with an R-square ( $R^2$ ) value above 0.25 which means a "weak" model, if the R-square ( $R^2$ ) value above 0.50 means a "moderate" model, and an R-square ( $R^2$ ) value above 0.75 means a "good" model (Ghozali, 2021).

#### R-Square Testing

R-squared is a value that shows how much an independent variable affects a dependent variable or intervening variable. The higher the R-squared value, the better the variable used in this study.

**Table 6.** R-Square and Q-Square values

Variable	R-Square	R Square Adjusted
LoC (X1)	0,820	0,814
PFMB (Y)	0,923	0,919

Source: SmartPLS 4.0 processed data (2024)

Based on the table above it shows that the structural (inner model) model in this study is included in the "good" category. The interpretation of the results of R-square ( $R^2$ ) of the dependent variable, Personal Financial Management Behavior (Y), was 0.92. So it can be explained that the variables of *financial attitude* (X1), *financial literacy* (X2), and *financial knowledge* (X3) are able to explain the *locus of control* (Z) variables of 0.82. So it can be explained that the *locus of control* (Z) variable is able to explain *the personal financial management behavior* (Y) variable by 82% and the remaining 18% is explained by variables outside the study. Meanwhile, the interpretation of the R-square results on *the personal financial management behavior* (Y) variable was 92% and the remaining 8% was explained by external variables outside the study.

#### F-Square Testing

F-square is a test that is carried out to assess how much exogenous variables affect endogenous variables. There are several characteristics in the F-square test as follows:

1. The value of F-square  $< 0.02$ , then the impact of exogenous variables on endogenous variables has a small effect.
2. The value of F-square  $> 0.02$  or  $< 0.15$ , then the impact of exogenous variables on endogenous variables has a moderate or intermediate effect.
3. The value of F-square  $> 0.15$ , then the impact of exogenous variables on endogenous variables has a large effect.

**Table 7.** F-Square Value

	FA (X1)	FL (X2)	FK (X3)	LoC (Z)	PFMB (Y)
FA (X1)				0,080	0,243
FL (X2)				0,145	0,054
FK (X3)				0,856	0,173
LoC (Z)					0,475
PFMB (Y)					

Source: SmartPLS 4.0 processed data (2024)

Based on the table above shows that:

1. The *financial attitude* variable (X1) had a moderate impact on the *locus of control* (Z) variable with a value of 0.080.

2. The *financial literacy* variable (X2) had a moderate impact on the *locus of control* (Z) variable with a value of 0.145.
3. The *financial knowledge* variable (X3) had a great impact on the *locus of control* (Z) variable with a value of 0.856.
4. The *financial attitude* variable (X1) had a moderate impact on the *personal financial management behavior* (Y) variable with a value of 0.243.
5. The *financial literacy* variable (X2) had a moderate impact on the *personal financial management behavior* (Y) variable with a value of 0.054.
6. The *financial knowledge* variable (X3) had a large impact on the *personal financial management behavior* (Y) variable with a value of 0.173.
7. The *locus of control* (Z) variable had a large impact on the *personal financial management behavior* (Y) variable, with a value of 0.475.

### Hypothesis Testing

In the hypothesis testing in this study, Bootstrapping is used to determine whether the variables have a direct effect (direct effect) or an indirect influence (indirect effect) on each other.

#### Direct Effect Test

In direct effect testing, the goal is to test the hypothesis on each variable. To measure the direct effect, there are certain criteria, namely, first, if the original value of the sample is positive, then the relationship between exogenous variables and endogenous variables is unidirectional. This shows that when the value of an exogenous variable increases, the value of the endogenous variable also increases, and vice versa. Second, if the value of the original sample is negative, then the relationship between the exogenous variable and the endogenous variable is in the opposite direction. And finally, the decision to accept or reject a hypothesis is made based on the P-value or T-statistical value. If the P-value is  $< 0.05$  or the T-value is  $> 1.96$ , then the relationship between these variables is significant. Meanwhile, if the P-value is  $> 0.05$  or the T-value  $< 1.96$ , then the relationship between the variables is insignificant.

**Table 8.** Direct Effect Test Results

Variable Relationships	Original Sample (O)	Simple Red (M)	Standard Deviation (STDEV)	T Statistics	P Values
FA → LoC	0,238	0,230	0,099	2,414	0,008
FL → LoC	-0,288	-0,280	0,066	4,341	0,000
FK → LoC	0,918	0,915	0,097	9,471	0,000
FA → PFMB	0,283	0,282	0,069	4,110	0,000
FL → PFMB	-0,123	-0,122	0,066	1,848	0,033
FK → PFMB	0,369	0,375	0,099	3,718	0,000
LoC → PFMB	0,452	0,447	0,074	6,140	0,000

Source: SmartPLS 4.0 processed data (2024)

The table above shows that:

1. The relationship between the *financial attitude* variable and the *locus of control* has an original sample value of 0.238, meaning that the relationship between the two variables is positive or unidirectional. Meanwhile, the results of the T Statistics value are  $2.414 > 1.96$  or P Values  $0.008 < 0.05$ . This shows that the relationship between the two variables is significant. Therefore, it can be concluded that the *financial attitude* variable (X1) has a positive and significant effect on *personal financial management behavior* (Y). So the  $H_1$  hypothesis is **accepted**.
2. The relationship between the *financial literacy* variable and the *locus of control* has an original sample value of (-0.288), meaning that the relationship between the two variables is negative

- or in the opposite direction. Meanwhile, the results of the T Statistics value are  $4.431 > 1.96$  or P Values  $0.000 < 0.05$ . This shows that the relationship between the two variables is significant. Therefore, it can be concluded that *the financial literacy* variable (X2) has a negative but significant effect on *personal financial management behavior* (Y). So the H<sub>2</sub> hypothesis **is rejected**.
3. The relationship between the *financial knowledge* variable and *the locus of control* has an original sample value of 0.918, meaning that the relationship between the two variables is positive or unidirectional. Meanwhile, the results of the T Statistics value are  $9.471 > 1.96$  or P values  $0.000 < 0.05$ . This shows that the relationship between the two variables is significant. Therefore, it can be concluded that *the financial knowledge* variable (X3) has a positive and significant effect on *personal financial management behavior* (Y). So the H<sub>3</sub> hypothesis **is accepted**.
  4. The relationship between *the financial attitude* variable and *personal financial management behavior* has an original sample value of 0.283, meaning that the relationship between the two variables is positive or unidirectional. Meanwhile, the results of the T Statistics score are  $4.110 > 1.96$  or P Values  $0.000 < 0.05$ . This shows that the relationship between the two variables is significant. Therefore, it can be concluded that *the financial attitude* variable (X1) has a positive and significant effect on *personal financial management behavior* (Y). So the H<sub>4</sub> hypothesis **is accepted**.
  5. The relationship between the *financial literacy variable* and *personal financial management behavior* has an original sample value of (-0.123), meaning that the relationship between the two variables is negative or in opposite directions. Meanwhile, the results of the T Statistics value are  $1.848 < 1.96$  or P Values  $0.033 < 0.05$ . This shows that the relationship between the two variables is negative significant. Therefore, it can be concluded that *the financial literacy* variable (X2) has a negative and significant effect on *personal financial management behavior* (Y). So the H<sub>5</sub> hypothesis **is rejected**.
  6. The relationship between *the financial knowledge* variable and *personal financial management behavior* has an original sample value of 0.369, meaning that the relationship between the two variables is positive or unidirectional. Meanwhile, the results of the T Statistics value are  $3.718 > 1.96$  or P Values  $0.000 < 0.05$ . This shows that the relationship between the two variables is significant. Therefore, it can be concluded that *the variable of financial knowledge* has a positive and significant effect on *personal financial management behavior* (Y). So the H<sub>6</sub> hypothesis **is accepted**.
  7. The relationship between the *locus of control* variable and *personal financial management behavior* has an original sample value of 0.452, meaning that the relationship between the two variables is positive or unidirectional. Meanwhile, the results of the T Statistics score are  $6.140 > 1.96$  or P Values  $0.000 < 0.05$ . This shows that the relationship between the two variables is significant. Therefore, it can be concluded that *the locus of control* (Z) variable has a positive and significant effect on *personal financial management behavior* (Y). So the H<sub>7</sub> hypothesis **is accepted**.

### **Indirect Effect Test**

In indirect effect testing, the purpose is to test the hypothesis on exogenous variables or variables that affect endogenous variables or affected variables mediated by intervening variables. To measure the indirect effect, has certain criteria, namely, first, if the original sample value is positive, then the relationship between exogenous variables and endogenous variables mediated by intervening variables is unidirectional. Second, if the original sample value is negative, then the relationship between exogenous variables and endogenous variables mediated by intervening variables is in the opposite direction. Lastly, the decision to accept or reject the hypothesis is made based on the P-value or the T-statistical. If the P-value is  $< 0.05$  or the T-value is  $> 1.96$ , then the relationship between these

variables is significant. Meanwhile, if the P-value is  $> 0.05$  or the T-value  $< 1.96$ , then the relationship between the variables is insignificant.

**Table 9.** Indirect Effect Test Results

Variable Relationships	Original Sample (O)	Simple Red (M)	Standard Deviation (STDEV)	T Statistics	P Values
FA → LoC → PFMB	0,108	0,102	0,405	2,380	0,009
FL → LoC → PFMB	-0,130	-0,124	0,034	3,867	0,000
FK → LoC → PFMB	0,415	0,410	0,086	4,849	0,000

Source: SmartPLS 4.0 processed data (2024)

Based on the table above it shows that:

1. The relationship between *the financial attitude* variable and *personal financial management behavior* through the *locus of control* as the intervening variable has an original sample value of 0.108, meaning that the relationship between exogenous variables and endogenous variables mediated by the intervening variable is positive or unidirectional. Meanwhile, the results of the T Statistics value are  $2.380 > 1.96$  or P values  $0.009 < 0.05$ . This shows that the relationship between exogenous variables and endogenous variables mediated by the intervening variables is significant. Therefore, it can be concluded that the relationship between *financial attitude variables* has a positive and significant effect on *personal financial management behavior* through the *locus of control*. So the  $H_8$  hypothesis **is rejected**.
2. The relationship between *the financial literacy* variable and *personal financial management behavior* through the *locus of control* as an intervening variable has an original sample value of (-0.130), meaning that the relationship between exogenous variables and endogenous variables mediated by the intervening variable is negative or in the opposite direction. Meanwhile, the results of the T Statistics value are  $3.867 > 1.96$  or P values  $0.000 < 0.05$ . This shows that the relationship between exogenous variables and endogenous variables mediated by the intervening variables is significant. Therefore, it can be concluded that the relationship between *financial literacy variables* has a negative and significant effect on *personal financial management behavior* through the *locus of control*. So the  $H_9$  hypothesis **is accepted**.

The relationship of *the financial knowledge* variable to *personal financial management behavior* through the *locus of control* as an intervening variable has an original sample value of 0.415, meaning that the relationship between exogenous variables and endogenous variables mediated by the intervening variable is positive or unidirectional. Meanwhile, the results of the T Statistics score are  $4.849 > 1.96$  or P Values  $0.000 < 0.05$ . This shows that the relationship between exogenous variables and endogenous variables mediated by the intervening variables is significant. Therefore, it can be concluded that the relationship between *financial knowledge variables* has a positive and significant effect on *personal financial management behavior* through the *locus of control*. So the  $H_{10}$  hypothesis **is rejected**.

## DISCUSSION

Based on the results of the above research, it can be explained that:

### 1. The Influence of Financial Attitude on the Locus of Control

The results of this study show that *Financial Attitude* has a positive and significant effect on *Locus of Control* of 0.238 with T-Statistics values ( $2.414 > 1.96$ ) and P values ( $0.0008 < 0.05$ ). This illustrates how a healthy mindset can help a person manage finances wisely. *Locus of control* can be influenced by a logical mindset and confidence in financial matters. Therefore, the level of *Locus of Control* individuals tends to increase as they increase *Financial Attitude*. The results of this hypothesis support previous research by (Asih & Khafid,

2020) and (Damayanti et al., 2023), which states that *Financial Attitude* has a positive and significant effect on *Locus of Control*.

## **2. The Influence of Financial Literacy on the Locus of Control**

The results of this study show that *Financial Literacy* negative and significant effect on *Locus of Control* (-0.288) with T-Statistics values ( $4.431 > 1.96$ ) and P values ( $0.0000 < 0.05$ ). This finding suggests that although MSME actors may possess financial knowledge, it does not necessarily translate into stronger internal control over financial decision-making. Instead, other factors may play a more dominant role in shaping their locus of control. This hypothesis supports previous research conducted by (Damayanti et al., 2023) explained that financial literacy does not affect *locus of control*.

## **3. The Influence of Financial Knowledge on the Locus of Control**

The results of this study show that *Financial Knowledge* has a positive and significant effect on *Locus of Control* of 0.918 with T-Statistics values ( $9.471 > 1.96$ ) and P values ( $0.0000 < 0.05$ ). This illustrates whether *Locus of Control* can help a person in planning and managing finances wisely. *Locus of control* is Higher when a person has a strong financial understanding. Therefore, the level of *Locus of Control* regarding finances and savings tends to increase along with a person's level of financial literacy. The results of this hypothesis support previous research by (Pradiningtyas & Lukiastuti, 2019), (Asih & Khafid, 2020) and (Budiono, 2020) which states that *Financial Knowledge* has a positive and significant effect on *Locus of Control*.

## **4. The Influence of Financial Attitude on Personal Financial Management Behavior**

The results of this study show that *Financial Attitude* have a positive and significant effect on *Personal Financial Management Behavior* of 0.283 with T-Statistics values ( $4.110 > 1.96$ ) and P Values ( $0.0000 < 0.05$ ). This illustrates how a *positive financial attitude* can shape a person's views and mindset regarding finances over time. *Personal financial management behavior* will increase along with the improvement of its attitude towards finances. The results of this hypothesis support the research conducted by (Budiono, 2020), (Khoirunnisa & Rochmawati, 2021) and (Saylendra & Nuryani, 2023) which states that *Financial Attitude* has a positive and significant effect on *Personal Financial Management Behavior*.

## **5. The Effect of Financial Literacy on Personal Financial Management Behavior**

The results of this study show that *financial literacy* has a negative and significant effect on *personal financial management behavior*, which is (-0.123) with T-Statistics values ( $1.848 < 1.96$ ) and P Values ( $0.033 < 0.05$ ). This indicates an inverse relationship between financial literacy and financial management behavior among MSME actors in Central Java. In other words, higher levels of financial literacy are associated with lower levels of personal financial management behavior, and vice versa. This finding suggests that financial knowledge alone may not be sufficient to encourage sound financial behavior. It is possible that MSME actors with higher financial literacy exhibit overconfidence or do not fully apply their knowledge in practice, leading to less effective financial management.

## **6. The Influence of Financial Knowledge on Personal Financial Management Behavior**

The results of the data analysis show that *Financial Knowledge* has a positive and significant effect on *Personal Financial Management Behavior* of 0.369 with T-Statistics values ( $3.718 > 1.96$ ) and P values ( $0.000 < 0.05$ ). This illustrates that by having good financial knowledge, MSME actors can also manage their finances well. This hypothesis supports previous research conducted by (Rizky et al., 2023) which states that *Financial Knowledge* has a positive and significant effect on *personal financial management behavior*.

### **7. The Effect of *Locus of Control* on *Personal Financial Management Behavior***

The results of the data analysis show that *Locus of Control* has a positive and significant effect on *Personal Financial Management Behavior*; 0.452 with T-Statistics values ( $6.140 > 1.96$ ) and P values ( $0.000 < 0.05$ ). This proves that the better MSME actors are at Central Java controlling their finances, the better they will be at managing their finances. This hypothesis supports previous research conducted by (Damayanti et al., 2023) which states that *Locus of Control* has a positive and significant effect on *financial management behavior*.

### **8. The Effect of *Financial Attitude* on *Personal Financial Management Behavior* through the *Locus of Control* as an Intervening Variable**

The results of the data analysis show that *Financial Attitude* has a positive and significant effect on *Personal Financial Management Behavior* through *Locus of Control* as an intervening variable of 0.108 with T-Statistics values ( $2.380 > 1.96$ ) and P Values ( $0.009 < 0.05$ ). This proves that MSME actors in Central Java can be wise and responsible towards *Personal Financial Management Behavior* without having to pay attention to the influence of *Locus of Control*. This hypothesis supports previous research conducted by (Asih & Khafid, 2020) states that *Financial Attitude* have a positive and significant effect on *Personal Financial Management Behavior* through *locus of control*.

### **9. The Effect of *Financial Literacy* on *Personal Financial Management Behavior* through the *Locus of Control* as an Intervening Variable**

The results of the data analysis show that *Financial Literacy* negative and significant effect on *Personal Financial Management Behavior* through *Locus of Control* as an intervening variable of (-0.130) with T-Statistics values ( $4.849 > 1.96$ ) and P Values ( $0.000 < 0.05$ ). This proves that MSME actors in Central Java have low financial literacy towards *Personal Financial Management Behavior*, so controlling its finances is also not good. This hypothesis supports previous research conducted by (Khoirunnisa & Rochmawati, 2021) states that *Financial Literacy* has negative effects on personal financial management.

### **10. The Effect of *Financial Knowledge* on *Personal Financial Management Behavior* through *Locus of Control* as an Intervening Variable**

The results of the data analysis show that *Financial Knowledge* has a positive and significant effect on *Personal Financial Management Behavior* through *Locus of Control* as an intervening variable of 0.415 with T-Statistics values ( $4.849 > 1.96$ ) and P Values ( $0.009 < 0.05$ ). This proves that MSME actors in Central Java make good financial decisions towards *Personal Financial Management Behavior* without having to pay attention to the influence of *Locus of Control*. This hypothesis supports previous research conducted by (Asih & Khafid, 2020) states that *Financial Knowledge* has a positive and significant effect on *Personal Financial Management Behavior* through *locus of control*.

## **CONCLUSION**

Based on the results of the analysis and discussion that have been presented, it can be concluded that the following include:

1. The *financial attitude* variable has a positive and significant influence on *the locus of control* in MSME actors in Central Java.
2. The *financial literacy* variable has a negative but significant influence on *the locus of control* in MSME actors in Central Java.
3. The *financial knowledge* variable has a positive and significant influence on the *locus of control* in MSME actors in Central Java.
4. The *financial attitude* variable has a positive influence on personal financial management behavior in MSME actors in Central Java.

5. The *financial literacy* variable has a negative but significant influence on *personal financial management behavior* in MSME actors in Central Java.
6. The *financial knowledge variable* has a positive and significant influence on *personal financial management behavior* in MSME actors in Central Java.
7. The *locus of control* variable has a positive and significant influence on *personal financial management behavior* in MSME actors in Central Java.
8. The *financial attitude* variable has a positive and significant influence on *personal financial management behavior* through the *locus of control* as an intervening variable in MSME actors in Central Java.
9. The *financial literacy* variable harms *personal financial management behavior* through the *locus of control* as an intervening variable in MSME actors in Central Java.

The variable of financial knowledge has a positive and significant effect on *personal financial management behavior* through the *locus of control* as an intervening variable in MSME actors in Central Java.

## SUGGESTION

Based on the description of the discussion and conclusion, there are several reasons given by the author as follows:

1. For the next researcher, it is recommended to use other variables that can affect *personal financial management behavior*, such as income, family financial education, *financial technology*, *love of money*, and *financial self-efficacy*. In addition, it is also recommended that the questionnaire be distributed more widely in order to increase the number of respondents, because the coverage of Central Java is quite wide.

For MSME actors, it is recommended to learn more about financial literacy. Financial literacy among MSME actors in Central Java is still low. This can be done by attending seminars or workshops to understand financial literacy better. In addition, MSME actors must also be careful in managing finances so that their businesses continue to progress and run smoothly.

## REFERENCES

- Abdul Ghafoor, K., & Akhtar, M. (2024). Parents' financial socialization or socioeconomic characteristics: Which has more influence on Gen-Z's financial wellbeing?. *Humanities and Social Sciences Communications*, 11(1), 522. doi: 10.1057/s41599-024-03007-3.
- Ahmad, M. and Shah, S.Z.A. (2022), "Overconfidence heuristic-driven bias in investment decisionmaking and performance: mediating effects of risk perception and moderating effects of financial literacy", *Journal of Economic and Administrative Sciences*, Vol. 38 No. 1, pp. 60-90, doi: 10.1108/JEAS-07-2020-0116.
- Ajzen, I. (1991). *The Theory of Planned Behavior*.
- Arkorful, V.E., Lugu, B.K. and Shuliang, Z. (2021), "Unearthing mask waste separation behavior in COVID-19 pandemic period: an empirical evidence from Ghana using an integrated theory of planned behavior and norm activation model", *Current Psychology*, Vol. 42 No. 10, pp. 8515-8530, doi: 10.1007/s12144-021-02313-2.
- Amanah, E., Iradianty, A., & Rahardian, D. (2016). The Influence of Financial Knowledge, Financial Attitude and External Locus of Control on Personal Financial Management Behavior in S1 Students of Telkom University The Influence of Financial Knowledge , Financial Attitude and External Locus of Control on. *E-Proceedings of Management*, 3(2), 1228–1235.
- Aren, S. and Aydemir, S.D. (2014), "Some considerations on emotional intelligence", *Journal of Global Strategic Management*, Vol. 15 No. 2, pp. 49-56.
- Asih, S. W., & Khafid, M. (2020). *The Influence of Financial Knowledge, Financial Attitude and Income on Personal Financial Management through Locus Of Control as an Intervening Variable*. 9(3), 748–767. <https://doi.org/10.15294/eeaj.v9i1.42349>

- Budiono, E. (2020). Analysis of Financial Knowledge, Financial Attitude, Income, Locus of Control, Financial Management Behavior of the People of Kediri City. *Journal of Management Science (JIM)*, Vol.8(1), 284–295.
- Chaity, N.S., Kabir, S.B., Akhter, P. and Bokhari, R.P. (2024), “How financial literacy impacts financial Well-Being: the influence of financial and technical efficacy”, *International Journal of Economics and Financial Issues*, Vol. 14 No. 2, pp. 207-217, doi: 10.32479/ijefi.15806.
- Damayanti, D., Tubasuvi, N., Purwidiyanti, W., & Yudhsitira Pradhipta Aryoko. (2023). *Financial Management Behavior: The Influence of Financial Knowledge, Financial Attitude, and Financial Literacy Mediated by Locus of Control*. 3(6), 2331–2350.
- Dwiastanti, A. (2017). Analysis of financial knowledge and financial attitude on locus of control and financial management behavior. *Management and Business Review*, 36(5), 780–791. <https://doi.org/10.1287/mksc.2017.1032>
- Geiger, J.L., Steg, L., van der Werff, E. and Unal, A.B. (2019), “A meta-analysis of factors related to recycling”, *Journal of Environmental Psychology*, Vol. 64, pp. 78-97, doi: 10.1016/j.jenvp.2019.05.004.
- Gunawan, A., Pulungan, D. R., & Koto, M. (2019). Financial Literacy Level of Lecturers of the Faculty of Economics and Business, University of Muhammadiyah North Sumatra. *National Seminar & Call For Paper Seminar on Business Master of Management (SAMBIS-2019)*, 1(1), 1–9.
- Herdjiono, I., & Damanik, L. A. (2016). *The Influence of Financial Attitude, Financial Knowledge, Parental Income on Financial Management Behavior*. Id. at 3, 226–241.
- Hoffmann, A.O.I. and Plotkina, D. (2020), “Why and when does financial information affect retirement planning intentions and which consumers are more likely to act on them?”, *Journal of Business Research*, Vol. 117, pp. 411-431
- Humaira, I., & Sagoro, E. M. (2018). The Influence of Financial Knowledge, Financial Attitudes, and Personality on Financial Management Behavior in MSME Actors at the Bantul Regency Batik Craft Center. *Nominal, Barometer of Accounting and Management Research*, 7(1). <https://doi.org/10.21831/nominal.v7i1.19363>
- Hoffmann, A.O.I. and Plotkina, D. (2021a), “Positive framing when assessing the personal resources to manage one’s finances increases consumers’ retirement self-efficacy and improves retirement goal clarity”, *Psychology and Marketing*, Vol. 38 No. 12, pp. 2286-2304.
- Ida, & Dwinta, C. Y. (2010). *The Influence of Locus of Control, Financial Knowledge, and Income on Financial Management Behavior*. 2(1), 1–10. <https://doi.org/10.35446/akuntansikompetif.v2i1.278>
- Khoirunnisa, I. R., & Rochmawati. (2021). *The Effect of Financial Literacy, Financial Attitudes, and Family Financial Education on Personal Financial Management with Locus of Control as an Intervening Variable*. 9(2), 210–219.
- Khan, D. (2020), “Cognitive-driven biases, investment decision making: the moderating role of financial literacy. The moderating role of financial literacy, doi: 10.2139/ssrn.3514086, available at: <https://ssrn.com/abstract=3514086>
- Kholilah, N. Al, & Iramania, R. (2013). Financial Management Behavior Study. *Journal of Business And Banking*, 3(1), 69–80.
- Lone, U.M. and Bhat, S.A. (2022), “Impact of financial literacy on financial well-being: a mediational role of financial self-efficacy”, *Journal of Financial Services Marketing*, p. 1, doi: 10.1057/s41264-022-00183-8.
- Maghfiroh, E. L., & Dwiridotjahjono, J. (2023). The Influence of Financial Literacy, Life Style, Financial Attitude and Self-Control on Financial Management Behavior. *Scientific Journal of Business Administration and Innovation*, 7(1), 99–114. <https://doi.org/10.25139/jiabi.v7i1.5812>
- Marsh, B. A. (2006). Knowledge levels of first-year and senior students at Baptist. (Issue August).

- Mehmood, F., Bashir, T. and Khan, A. (2019), “Financial literacy as a life-saver: moderating the contribution of behavioral biases towards investment decisions”, *Global Social Sciences Review*, Vol. 4 No. 3, pp. 106-114, doi: 10.31703/gssr.. 2019(iv-iii).14.
- Nisa, F. K., & Haryono, N. A. (2022). The Influence of Financial Knowledge, Financial Attitude, Financial Self Efficacy, Income, Locus of Control, and Lifestyle on Financial Management Behavior of Generation Z in the City of Surabaya. *Journal of Management Science*, 10(1), 82–97. <https://doi.org/10.26740/jim.v10n1.p82-97>
- Oduro-Appiah, K., Afful, A. and Osei-Tutu, H. (2022), “Assessment of belief constructs to support an intervention in municipal solid waste separation at the source in low–middle-income countries: observations from the greater accra region of Ghana”, *Recycling*, Vol. 7 No. 2, 17, doi: 10.3390/ recycling7020017.
- Pradiningtyas, T. E., & Lukiastuti, F. (2019). The influence of financial knowledge and financial attitudes on the locus of control and financial management behavior of students. *Journal of Minds: Idea Management and Inspiration*, 6(1), 96–112.
- Pramedi, A. D., & Haryono, N. A. (2021). The Influence of Financial Literacy, Financial Knowledge, Financial Attitude, Income and Financial Self Efficacy on Financial Management Behavior Entrepreneurs of Higher Education Graduates in Surabaya. *Journal of Management Science*, 9(2), 572. <https://doi.org/10.26740/jim.v9n2.p572-586>
- Putri, D. A. (2020). Factors that affect the financial management behavior of MSME actors. *Prisma Journal (Accounting Student Research Platform)*, 1(4), 62–73. <https://ojs.stiesa.ac.id/index.php/prisma/article/view/655>
- Radianto, W. E. D. (2020). The role of financial attitude in the relationship between financial knowledge and financial behavior. *Journal of Xi’an University of Architecture and Technology*, XII(Xii), 374–385.
- Rasool, N. and Ullah, S. (2020), “Financial literacy and behavioural biases of individual investors: empirical evidence of Pakistan stock exchange”, *Journal of Economics, Finance and Administrative Science*, Vol. 25 No. 50, pp. 261-278, doi: 10.1108/jefas-03-2019-0031.
- Ritakumalasari, N., & Susanti, A. (2021). Financial Literacy, Lifestyle, Locus of Control, and Parental Income on Student Financial Behavior. *Journal of Management Science*, 9(4), 1440–1450.
- Rizky, D. P., Sirat, A. H., & Dharmas, P. E. (2023). *Impact of Financial Literacy and Attitude on Resource Allocation Actors' Locus of Control as a moderating variable in the Small and Medium Food Industry*. 10(2), 796–805.
- Rotter, J.B. (1954), *Social Learning and Clinical Psychology*, Social Learning and Clinical Psychology, Prentice-Hall, Inc, Englewood Cliffs, doi: 10.1037/10788-000.
- Rotter, J.B. (1990), “Internal versus external control of reinforcement: a case history of a variable”, *American Psychologist*, Vol. 45 No. 4, pp. 489-493, doi: 10.1037/0003-066X.45.4.489.
- Sampoerno, A. E., & Asandimitra, N. (2021). The Effect of Financial Literacy, Income, Hedonism Lifestyle, Self-Control, and Risk Tolerance on Financial Management Behavior in the Millennial Generation. *Journal of Management Science*, 9(3), 1002–1014.
- Saylendra, A. A., & Nuryani, H. S. (2023). *The Influence of Financial Knowledge, Financial Attitude and Locus of Control on Financial Management Behavior*. 1(4), 265–277.
- Sholihah, D. N., & Isbanah, Y. (2022). The effect of financial literacy, financial knowledge, locus of control and lifestyle hedonism on financial management behavior. *Journal of Management Sciences (JIM)*, 11(3), 589–601.
- Schlechter, P., Hellmann, J.H. and Morina, N. (2023), “Self-efficacy and locus of control as transdiagnostic factors in Middle Eastern refugees”, *European Journal of Psychotraumatology*, Vol. 14 No. 1, doi: 10.1080/20008066.2023.2180707.
- Tomar, S., Baker, H.K., Kumar, S. and Hoffmann, A.O.I. (2021), “Psychological determinants of retirement financial planning behavior”, *Journal of Business Research*, Vol. 133, pp. 432-449.
- Utkarsh, Pandey, A., Ashta, A., Spiegelman, E., & Sutan, A. (2020). Catch them young: Impact of financial socialization, financial literacy and attitude towards money on financial well-being of

- young adults. *International Journal of Consumer Studies*, 44(6), 531–541. doi: 10.1111/ijcs.12583
- Venema-Steen, I., Southall, A. and Bortoli, A. (2023), “Drawing on the locus of control framework to explore the role of school leaders in teacher Well-Being”, *Journal of Educational Research and Practice*, Vol. 13 No. 1, pp. 141-152, doi: 10.5590/JERAP.2023.13.1.11
- Wahyuni, U. S., & Setiawati, R. (2022). The Influence of Financial Literacy and Lifestyle on the Financial Behavior of Generation Z in Jambi Province. *Journal of Management Dynamics*, 10(4), 164–175.
- Wardani, L. A., & Fitrayati, D. (2022). The effect of financial literacy and financial attitudes on financial management behavior with the locus of control as an intervening variable. *Scientific Journal of Accounting and Finance*, 4(12), 5827–5836.
- Whelan, E., Lang, M. and Butler, M. (2024), “Beyond lazy; external locus of control as an alternative explanation for the privacy paradox”, *Internet Research*, doi: 10.1108/INTR-04-2023-0282.
- Xiao, J.J. and Porto, N. (2019), “Present bias and financial behavior”, *Financial Planning Review*, Vol. 2 No. 2, p. e1048.