Economics and Finance in Indonesia

Volume 67
Number 1 *Volume 67, Number 1, June 2021*

Article 2

4-16-2021

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Vincent Gunawan
Universitas Katolik Parahyangan, Bandung, Indonesia, vincent.gunawan21@yahoo.com

Vera Intanie Dewi
Universitas Katolik Parahyangan, Bandung, Indonesia, vera_id@unpar.ac.id

Triyana Iskandarsyah
Universitas Katolik Parahyangan, Bandung, Indonesia, efi@lpem-feui.org

Irsanti Hasyim
Universitas Katolik Parahyangan, Bandung, Indonesia, efi@lpem-feui.org

Recommended Citation

Gunawan, Vincent; Dewi, Vera Intanie; Iskandarsyah, Triyana; and Hasyim, Irsanti (2021) "Women's Financial Literacy: Perceived Financial Knowledge and Its Impact on Money Management," *Economics and Finance in Indonesia*: Vol. 67: No. 1, Article 2.
DOI: http://dx.doi.org/10.47291/efi.v67i1.720
Available at: https://scholarhub.ui.ac.id/efi/vol67/iss1/2

Economics and Finance in Indonesia
Vol. 67 No. 1, June 2021 : 63–74
p-ISSN 0126-155X; e-ISSN 2442-9260

Women's Financial Literacy: Perceived Financial Knowledge and Its Impact on Money Management

Vincent Gunawan[a], Vera Intanie Dewi[a,*], Triyana Iskandarsyah[a], and Irsanti Hasyim[a]

[a] *Universitas Katolik Parahyangan, Bandung, Indonesia*

Manuscript Received: 29 December 2020; Revised: 3 April 2021; Accepted: 16 April 2021

Abstract

This paper presents an empirical study on women's financial literacy in a developing country, Indonesia. Financial literacy in developing countries, especially for women, needs to be improved. Traditionally, women have an important role in managing family finances. Their ability to conduct good financial management can help their family's financial stability and improve its welfare. If women do not have adequate capacity to manage the family's finances, the family's economic health can be at risk. Having financial literacy is important as it provides financial resilience at times of uncertainty. This explanatory research uses a sample comprising 100 women living in the city of Bandung, Indonesia, who are in the Baby Boomer generation as well as in Generations X, Y, and Z. The data were collected through an online questionnaire and analyzed using partial least squares structural equation modeling (PLS-SEM). The results provide evidence that perceived financial knowledge has a significant effect on financial management behavior in the dimensions of savings behavior, shopping behavior, long-term planning, and short-term planning. Moreover, the study results show that the respondents have a moderate level of financial literacy and financial management behavior.

Keywords: financial literacy; financial knowledge; financial behavior; savings behavior; shopping behavior

JEL classifications: G41; G51; G53

1. Introduction

Women play an important role in the economic development of a country. The Mastercard Index of Women Entrepreneurs (Mastercard Newsroom 2019) reported that Indonesian women's business ownership scores and rankings increased in 2019 despite Indonesia's low rank (40th out of 58 countries). The tendency is that women-owned and led companies are important economic drivers that enhance household life. This research further strengthens the view that women's empowerment in financial literacy is critical. Sharma & Kota (2019) state that the role of women in family, business, and community decision making is increasingly recognized, and that more women are participating in economic activities. Higher levels of women's financial literacy create wiser money management and ultimately impact on their decisions to use financial products and services. The increasing use of these products and services can increase the potential for financial transactions and drive overall economic growth, as well as promote income equality and equity. Most women are given authority by their partners to manage the family finances. Lind et al. (2020) found that women have more prudent financial behavior than men, with women acting as financial managers in their families. In this era, more women are educated with the same rights as men and have the freedom to pursue a career with independent income, other than solely being a housewife. This condition is said to be one indicator of the increased household welfare through women's good management of finances. Moreover, Koomson, Villano & Hadley (2021) found that household welfare is affected by the inclusion of financial literacy training in the design of women's empowerment programs.

*Corresponding Address: Management Department, Faculty of Economics, Universitas Katolik Parahyangan, Jln. Ciumbuleuit No. 94 Bandung, West Java 40141. Email: vera_id@unpar.ac.id.

Financial literacy, in addition to preventing matters that are detrimental, is believed to be able to improve welfare as, by increasing the level of financial literacy, the community can make better financial decisions so that family or personal financial planning becomes optimal and, ultimately, welfare can be improved. The Organisation for Economic Cooperation and Development (OECD)/International Network on Financial Education (INFE) (2020) reported that financial literacy levels are low across participating economies. The cited study also found that the level of financial literacy among men is higher than that among women. As the population of women is larger than that of men, women become human resources with the potential to develop competence in managing finances. Although more and more women have important roles in industry and business, the National Financial Literacy Survey conducted by the Indonesian Financial Services Authority (*Otoritas Jasa Keuangan* [OJK]) in 2019 showed that women's financial literacy index score was still lower than that of men. The results of previous studies (Cole, Sampson & Zia 2011; Lusardi & Mitchell 2014; Klapper, Lusardi & van Oudheusden 2015; Rink, Walle & Klasen 2019; Lind et al. 2020) provide evidence that women are generally less financially literate than men. Moreover, Mukong, Shiwayu & Kaulihowa (2020) found that financial literacy contributes positively and significantly to reducing the gender gap in financial inclusion. For the level of women's financial inclusion to become higher, their financial knowledge needs to be improved. Al-Bahrani, Buser & Patel (2020) identified causes of the gender gap in financial literacy. Objective financial knowledge serves as a driver for men to become more financially literate than women; meanwhile, for women, self-efficacy encourages financial literacy. This result is consistent with the work of Lusardi, Mitchell & Curto (2010) who conducted studies in developed countries. This means that women are more at risk of being affected by various financial issues, such as financial crime, hedonic and consumptive lifestyle patterns, as well as poor financial decisions and inability to set financial goals.

Women play an important role in long-term progress and economic growth and an even more important role in moving the economy worldwide and creating new jobs. Furthermore, women's empowerment programs have been intensively initiated through several financial literacy programs, aiming to provide education about access to capital, funding, and ways of doing business to develop women's businesses. Successful women in business and careers also need to wisely manage the family finances. Women share the role of managing the family finances and developing short-term and long-term financial plans with their partners. This helps to avoid undesirable and unexpected things, such as job loss, occupational accident, divorce, or death of spouse or partner. When one of these things happens, it will be less damaging if women have enough savings to meet their family's financial needs, such as children's education, loan installments, house rent, and so on. The lack of a short-term financial plan will disrupt the family's financial conditions and become a problem. An individual's financial conditions and welfare in the future depend on how financial management is performed at the present time; the better the financial management at the present time, the better the financial conditions and welfare of the individual in the future. Having wise financial management behavior has implications for an individual's ability to cope with sudden financial needs, such as needing to adapt from a consumptive lifestyle to a more rational style, avoiding or overcoming financial problems, as well as making financial decisions based on relevant information. This, in turn, affects the continuity of a comfortable and prosperous life.

Zulaihati, Susanti & Widyastuti (2020) examined financial management behavior from four aspects: savings behavior, shopping behavior, long-term planning, and short-term planning. These four aspects are adopted in the current study to describe women's financial behavior. Savings behavior is an individual's behavior in managing financial planning and preparing themselves for emergencies. Shopping behavior is an individual's behavior when shopping, whether shopping with rational financial calculations or shopping based on promotions or advertisements. Long-term planning involves the planning purpose and where the money for long-term planning is stored. Short-term planning involves saving reserve funds, use of the money, and frequency of fund withdrawal. Zulaihati, Susanti & Widyastuti (2020), Mountain et al. (2021), and Adiputra & Patricia (2020) found that financial literacy has a significant effect on financial management behavior, whereas Kieschnick (2006) reported that financial knowledge has no relationship to financial management behavior. The continuing debate over aspects of financial literacy and their impact on financial management is an interesting topic for further investigation. Therefore, this study aims to explore financial literacy to seek further evidence of whether aspects of perceived financial knowledge have impact on women's financial management behavior.

2. Literature Review

Financial literacy is a combination of the awareness, knowledge, abilities, attitudes, and habits needed to make sound financial decisions and, ultimately, to achieve individual financial well-being (Sahadeo 2018). Swiecka et al. (2020) defined financial literacy as the knowledge and understanding of financial concepts and risks. Furthermore, they added that it also refers to the ability, motivation, and confidence to apply this knowledge to make decisions in various financial contexts to improve the financial well-being of individuals and the community and enable them to participate in the economy. Santini et al. (2019) defined the constructs of financial literacy as financial attitude, financial knowledge, and financial behavior, while Rai, Dua & Yadav (2019) defined financial literacy as the ability of individuals to make important decisions concerning effective and efficient use of money. Dewi et al. (2020) proposed a financial literacy model representing the relationships between financial attitude, financial experience, financial skills, subjective financial knowledge, financial capacity, financial goals, and financial decisions. From these previous studies, it is evident that the concept of financial literacy has been defined differently and tested using various methods and frameworks (Swiecka et al. 2020).

Previous research investigating financial literacy among women has revealed that financial knowledge has a weaker correlation with financial literacy than with financial attitude and behavior (Rai, Dua & Yadav, 2019). Allgood & Walstad (2011, 2016) and Dewi et al. (2020) found that perceived financial literacy affects financial behavior. This finding is consistent with the findings of Mountain et al. (2021), Ramalho & Forte (2019), and Adiputra & Patricia (2020), in which these authors argued that financial knowledge has an important role to play in and a positive influence on improving financial behavior. However, this result is not consistent with the finding of Nguyen et al. (2017) in which the authors provided evidence that perceived financial knowledge does not affect savings behavior.

Asandimitra & Kautsar (2019) and Nusron, Wahidiyah & Budiarto (2019) found that financial knowledge influences financial behavior, with Asandimitra & Kautsar (2019) conducting a study on the financial behavior of female educators and Nusron, Wahidiyah & Budiarto (2019) conducting a study among students. Rai, Dua & Yadav (2019) also found that the financial behavior of women in India has a stronger relationship with financial literacy than financial knowledge. In the research conducted by Zulaihati, Susanti & Widyastuti (2020), four aspects were used to measure financial management behavior: savings behavior, shopping behavior, long-term planning, and short-term planning. These four aspects are adopted as latent variables in the current study to measure money management behavior.

Financial literacy has a positive impact on personal savings behavior (Morgan & Trinh 2017; OECD/INFE 2016; Tuong & Doan 2020). Savings behavior, according to Jamal et al. (2016), has an important role in economic growth at the household, company, and government levels. At the family level, poor savings or savings that are too small can cause difficulties, as the amount of savings will not be enough to meet emergency needs, thus increasing anxiety and eventually leading to serious health problems. Gedela (2012) revealed that demographic factors, such as gender, income, and age, are significant influences on savings behavior. Morgan & Long (2020) showed that the higher the level of financial knowledge, the stronger its positive influence on savings behavior. This finding is consistent with that of Amari, Salhi & Jarboui (2020) who stated that financial knowledge has a role in an individual's savings behavior.

Financial knowledge is proven to influence one's shopping behavior, which includes impulsive buying behavior (Potrich & Vieira 2018; Anisa et al. 2020). This finding is consistent with that of Varcoe et al. (2005) who stated that a person's shopping behavior can be seen in examples such as comparing prices, responding to discounts, and impulsive shopping behavior. Wangmo (2018) argues that, in shopping, financial decisions need to be based on financial calculations and analysis, such as budgeting, and not on advertising or promotions. Henager & Cude (2016) state that, in long-term planning, factors that need to be considered include long-term financial planning and its purpose, and a place for storing money for long-term planning. Nanziri & Olckers (2019) found evidence that financial knowledge has a positive relationship with long-term financial planning, which in their study refers to a long-term pension plan. Kumar, Tomar & Verma (2019), through their literature study, demonstrate that most literature on women's financial planning for retirement shows a lack of financial management among women and their vulnerability to poverty, with one of the determining factors of women's pension financial planning being financial knowledge. Meanwhile, for short-term financial planning, Henager & Cude (2016) proposed that factors needing consideration include reserve fund storage, use of money, short-term expenditure, and frequency of fund withdrawal.

Review and empirical studies point to research gaps on the relationship between perceived financial knowledge and financial behavior variables. Kieschnick (2006) was unable to prove the presence of a relationship between financial knowledge and financial savings behavior. However, more recent studies by Allgood & Walstad (2016) and Zulaihati, Susanti & Widyastuti (2020) both reported the significant influence of financial literacy on financial management behavior. Figure 1 shows the conceptual model used in the current study, which is adopted from Zulaihati, Susanti & Widyastuti (2020).

The current study proposes the following hypotheses:
H1: Perceived financial knowledge has an effect on saving behavior.
H2: Perceived financial knowledge has an effect on shopping behavior.
H3: Perceived financial knowledge has an effect on long-term planning.
H4: Perceived financial knowledge has an effect on short-term planning.

3. Method

The current study uses a survey method with an explanatory approach to provide evidence of the relationship between perceived financial knowledge and financial behavior. The population comprises women in the productive age category (i.e., aged 25–74 years) living in Bandung, a city with 731,038 residents as per 2019 data (source: "*Kota Bandung dalam Angka 2020*", bandungkota.bps.go.id). The study used the following definitions of generations based on birth years:

- Baby Boomer (born in 1941–1960)
- Generation X (born in 1961–1980)
- Generation Y (born in 1981–1994)
- Generation Z (born in 1995–2010)

The sample size was determined using Slovin's

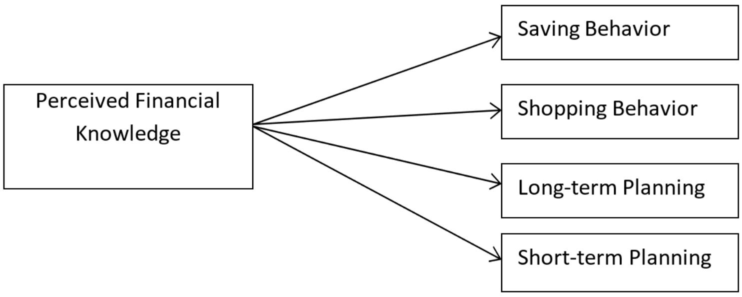

Figure 1. Conceptual Model

formula with the following calculation:

$$\mathrm{n} = \frac{\mathrm{N}}{1+\mathrm{Ne}^2} = \frac{731.038}{1+731.038\times 0.1^2} = 99.99 \approx 100 \quad (1)$$

where:

N : number of the total population;
n : number of respondents in the sample;
e : confidence interval (CI) (10%).

Using the formula, a value of 99.9 was obtained, which was then rounded to 100. This means that the study required a minimum of 100 survey respondents.

The sample collection was carried out using an online survey. Purposive sampling was utilized, with the inclusion criteria comprising (1) respondents within the age restrictions, (2) female, and (3) domiciled in the city of Bandung. In total, 105 respondents completed the questionnaire; however, only 100 respondents filled in the questionnaire completely and validly. The survey was conducted in June 2020. The questionnaire uses open-ended questions and consists of 25 indicators, composed of perceived financial knowledge (six indicators); savings behavior (five indicators); shopping behavior (four indicators); short-term financial planning (five indicators); and long financial planning (five indicators). The questionnaire was designed based on indicators constructed from previous studies (Table 1). The measurement scale uses a 5-point Likert scale, starting from 1="strongly disagree" to 5="strongly agree". This study has a limitation of a small sample size with only 100 respondents comprising its total sample. Therefore, this sample is not large enough to be representative of the entire population; that is, the results are only representative of the respondents in the survey sample and not the whole population. However, the total number of 100 respondents complies with the minimum sample required determined using the Slovin's formula. The data were analyzed using partial least squares structural equation modeling (PLS-SEM) to investigate the nexus of perceived financial knowledge and savings behavior, shopping behavior, long-term planning, and short-term planning. The PLS-SEM method works with greater statistical power and efficiently in parameter estimation on small sample sizes (Hair et al. 2016). To estimate a model, PLS-SEM uses two elements: the structural model to estimate the relationships between constructs and the measurement model to estimate relationships between latent variables and their indicators

4. Result

4.1. Demographic Analysis

To address the purpose of this study, respondents were selected based on two criteria: (i) the age of respondents being in the range of 25–74 years old and (ii) respondents who could access the online survey platform. The respondents comprised 9% Baby Boomers (nine [9] respondents), 22% Generation X (22 respondents), 24% Generation Y (24 respondents), and 45% Generation Z (45 respondents). Most were college graduates, with a Bache-

Table 1. Variable Description

Variable (Source)	Indicator
Perceived financial knowledge (Robb & Woodyard 2011; Woodyard 2013; Allgood & Wallstad 2016)	• Benefits of financial budgeting • Importance of financial knowledge for well-being • Knowledge of risk and return • Benefits of risk diversification • Knowledge of investment in stocks • Knowledge of checking account
Savings behavior (Zulaihati, Susanti & Widyastuti, 2020; Jamal et al. 2016)	• Increase the amount of savings when income increases • Save at least 10% of total revenue • Save money for the future • Always save when receiving money no matter what • Budget money well
Shopping behavior (Hira & Mugenda 2000; Zulaihati, Susanti & Widyastuti 2020)	• Buy items on sale • Compare prices • Use a written budget • Write down where money is spent
Long-term planning (Zulaihati, Susanti & Widyastuti 2020)	• Make long-term financial plans • Evaluate budget for the next 1–2 years • Plan long-term spending on a regular basis • Actively review steps needed by referring to the long-term budget • Set financial goals for the next 1–2 years
Short-term planning (Zulaihati, Susanti & Widyastuti 2020)	• Make short-term financial plans • Evaluate budget for the next 1–2 months • Actively review steps needed by referring to the short-term budget • Set financial goals for the next 1–2 months • Plan short-term spending on a regular basis

lor degree (49%) or a diploma (10%), while the rest were high school graduates (34%) and junior high school graduates (7%). Most respondents worked outside the home (61%), while the rest were unemployed (39%). Among the the respondents who worked outside the home, 34% were entrepreneurs and 27% were employees, whereas among those who did not work outside the home, 25% were housewives and 14% were students. Respondents' marital status showed that 56% were not married and 44% were married.

Regarding the demographic profile questions about respondents' families or child dependents, 61% of respondents had no dependents/no children, 30% had one to two dependents, and 9% had three or more dependents. Respondents' economic status was divided into lower-middle (24%), middle-middle (58%), and upper-middle (18%) categories. As shown in Table 3, most respondents (76%) had a medium level of financial knowledge. Although they had a reasonably good knowledge of risk diversification (average score of 3.25 on a scale of 1-5), their knowledge of financial budgeting was in the low category (average score of 2.76 on a scale of 1-5).

When looking at their generation category, all respondents in the Baby Boomer generation had a moderate level of financial knowledge. Most of those in Generation X (82%) had a moderate level of knowledge, and 18% had a good level of knowledge. Those in Generation Y had the following levels of financial knowledge: a moderate level (83%), a good level (8%), and a bad level (8%), while those in Generation Z had a moderate level (62%), a good level (13%), and a bad level (24%). These results indicate that respondents from Generation Z had greater diversity in their levels of financial knowledge and were less financially literate than those from the other generations. The fact that Generation Z has the world's largest population of those lacking financial literacy could have a major impact on economic condition and must be addressed.

The savings behavior of these respondents from Bandung was divided into moderate (76%), good (12%), and bad (12%) categories. This was shown in the three indicators for savings behavior that

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DOI: http://dx.doi.org/10.47291/efi.v67i1.720

scored an average of above 3 on a scale of 1-5: budgeting for savings (mean=3.163), savings for the future (mean=3.092), and savings when receiving money (mean=3.020), whereas the following two indicators had an average score of below 3: increasing the amount of savings (mean=2.949) and percentage of savings (mean=2.816). These results indicated that, in terms of respondents' savings behavior in Bandung, the area that still needed attention was their lack of knowledge regarding the ideal percentage of savings. This was shown by this indicator having the lowest average value compared to the other indicators.

The shopping behavior of respondents from Bandung indicated the following proportions: moderate (74%), bad (17%), and good (9%) categories. This was reflected in the shopping behavior indicators, with the highest average value found for the indicator for buying discounted goods (mean=3.337), while the lowest average value was found for the comparing prices indicator (mean=2.908). These results showed that the shopping behavior of respondents in Bandung was consumptive behavior as they tended to care less about prices when shopping. The ease of deciding to buy items that were discounted showed that respondents were making unwise financial decisions.

Respondents' long-term financial planning was found to be in the following proportions: good (12%), moderate (67%), and bad (21%). The following four indicators had an average value of above 3 on a scale of 1-5: carrying out the stages of financial planning (mean=3.214), looking at the financial budget (mean=3.194), having financial goals (mean=3.112), and using money (mean=3.204), and one indicator with an average value of below 3, that is, having financial planning (mean=2.969). The level of long-term financial planning for respondents in Bandung needs to be improved in this aspect.

Respondents' short-term financial planning was found to be in the following proportions: good (14%), moderate (69%), and bad (17%) categories. The following two indicators had an average value of above 3 on a scale of 1-5: doing the stages of financial planning (mean=3.071) and looking at the financial budget (mean=3.031). Meanwhile, the average values for the other three indicators were below 3: having financial goals (mean=2.929), using money (mean=2.980), and having financial planning (mean=2.908). The level of short-term planning for respondents in Bandung needs to be improved in all three aspects.

4.2. Outer Model Analysis: Measurement Evaluation (Validity and Reliability)

Convergent validity was tested using average variance extracted (AVE) values. As shown in Table 2, all variables, namely, perceived financial knowledge, savings behavior, spending behavior, long-term planning, and short-term planning were found to fit the convergent validity criterion of the AVE value being greater than 0.50 (Hair et al. 2016). Based on the results of the construct reliability test using the internal consistency measures, Cronbach's alpha and composite reliability (Table 3), the two values for each variable of above 0.70 indicate that each variable studied is reliable. The results of the reliability indicator test (Table 4) show that the outer loading of each indicator on the latent variable has a value of above 0.5, meaning that these indicators are valid and can be used as a manifest variable to measure the latent variable.

4.3. Inner Model Analysis: Structural Model Evaluation

The study's structural model was evaluated to examine the structural relationships between the independent variable, perceived financial knowledge (X), and the dependent variables, namely, savings behavior (Y1), spending behavior (Y2), long-term planning (Y3), and short-term planning (Y4), using the values of R^2, F^2, R, and Q^2 as the basis for evaluation. The t-value test was used to assess the significance of the structural model. As shown in Table 5, the R^2 values for the relationships of perceived financial knowledge with the dependent

Table 2. Convergent Validity Test

Variable	Average variance extracted (AVE)	Result
Perceived financial knowledge	0.626	Accepted
Savings behavior	0.607	Accepted
Shopping behavior	0.718	Accepted
Long-term planning	0.521	Accepted
Short-term planning	0.606	Accepted

Source: Output result calculation using SmartPLS 3.0 software
Criterion: accepted if AVE value is greater than 0.5 (AVE > 0.50). Significance level=5%.

Table 3. Internal Consistency Reliability

Variable	Cronbach's Alpha (CA)	Composite Reliability (CR)	Result
Perceived financial knowledge	0.876	0.907	Reliable
Savings behavior	0.840	0.885	Reliable
Shopping behavior	0.902	0.927	Reliable
Long-term planning	0.702	0.807	Reliable
Short-term planning	0.835	0.884	Reliable

Source: Output result calculation using SmartPLS 3.0 software
Criteria: accepted if Cronbach's alpha (CA) and composite reliability (CR) values are greater than 0.7 (CA, CR > 0.7) (Hair et al. 2016). Significance level=5%.

variables (i.e., savings behavior, spending behavior, long-term planning, and short-term planning) are 0.573, 0.559, 0.445, and 0.435, respectively, suggesting moderate or strong relationships between the independent and dependent variables. Likewise, the F^2 values for the relationships of the independent variable, perceived financial knowledge, with the latent variables, savings behavior, spending behavior, long-term planning, and short-term planning, are 1.343, 1.269, 0.803, and 0.769, respectively, indicating the strong influence of the independent variable on these latent variables.

The R^2 values for the relationships of the independent variable, perceived financial knowledge, with the latent variables, saving behavior, spending behavior, long-term planning, and short-term planning, show positive correlations equal to 0.757, 0.748, 0.667, and 0.659, respectively. As the Q^2 values for the relationships of the independent variable with the four dependent variables are above 0, these observed values show the good quality of the construction of the structural model. Therefore, the overall structural model is predicted to be replicable for further research. Table 6 shows the results of evaluating the significance of the structural model through using the t-test bootstrapping procedure, with the perceived financial knowledge construct shown to significantly influence savings behavior, spending behavior, long-term planning, and short-term planning. It should be noted that this study is only representative of the respondents in the survey sample and not of the whole population.

4.4. Discussion

The survey respondents' financial literacy was found to be in the category of sufficient literacy. However, a small portion of respondents in the Generation Z group were found to be in the less literate category of financial literacy. This was specifically in the financial budgeting aspect which was in the low category. This result was significant and in line with that of Klappar & Lusardi (2020) who also found that women were more likely to have financial literacy gaps. Moreover, the current study revealed that financial budgeting was sometimes considered to be a less important thing to do despite its benefit to help individuals with their financial planning and to project income and expenses. Developing a wise budget assists in estimating the individual's financial condition from time to time, thus enabling the wise management of expenses.

Financial literacy comprises a series of understandings in which an individual applies their financial

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DOI: http://dx.doi.org/10.47291/efi.v67i1.720

Table 4. Indicators of Reliability Test

Variable and Indicator	Outer Loading	Result
Perceived Financial Knowledge		
Benefits of financial budgeting	0.897	Valid
Importance of financial knowledge for well-being	0.889	Valid
Knowledge of risk and return	0.840	Valid
Benefits of risk diversification	0.832	Valid
Knowledge of investment in stocks	0.695	Valid
Knowledge of checking account	0.530	Valid
Savings Behavior		
Increase the amount of savings when income increases	0.882	Valid
Save at least 10% of total revenue.	0.818	Valid
Save money for the future	0.779	Valid
Always save when receiving money no matter what	0.745	Valid
Budget money well	0.647	Valid
Shopping Behavior		
Buy items on sale	0.841	Valid
Compare prices	0.840	Valid
Use a written budget	0.644	Valid
Write down where money is spent	0.507	Valid
Long-Term Planning		
Make financial plans	0.833	Valid
Evaluate budget for the next 1–2 years	0.817	Valid
Plan spending on a regular basis	0.778	Valid
Actively review steps needed by referring to the long-term budget	0.751	Valid
Set financial goals for the next 1–2 years	0.711	Valid
Short-Term Planning		
Make short-term financial plans	0.890	Valid
Evaluate budget for the next 1–2 months	0.855	Valid
Actively review steps needed by referring to the short-term budget	0.853	Valid
Set financial goals for the next 1–2 months	0.839	Valid
Plan short-term spending on a regular basis	0.796	Valid

Source: Output result calculation using SmartPLS 3.0 software
Criterion: accepted if outer loading value is greater than 0.5 (Hair et al. 2016).
Significance level=5%.

Table 5. Evaluation of Inner Model

Variable	R-squared (R^2)	Q-squared (Q^2)	F-squared (F^2)	R
Saving behavior (Y1)	0.573	0.337	1.343	0.757
Shopping behavior (Y2)	0.559	0.263	1.269	0.748
Long-term planning (Y3)	0.445	0.251	0.803	0.667
Short-term planning (Y4)	0.435	0.294	0.769	0.659

Source: Output result calculation using SmartPLS 3.0 software
Note: Rule of thumb:
R^2=0.25 (weak), 0.50 (moderate), and 0.75 (strong);
F^2=0.02 (small), 0.15 (moderate), and 0.35 (high);
Q^2=0.02 (small predictive capabilities), 0.15 (moderate predictive capabilities), and 0.35 (high predictive capabilities)
(Cohen 1988; Hair et al. 2016)

Table 6. Results of *t*-Test

Direct effect	*t*-Statistic	*p*-Value	Result
Perceived financial knowledge $\rightarrow$ Savings behavior	17.415	0.000	significant
Perceived financial knowledge $\rightarrow$ Shopping behavior	16.188	0.000	significant
Perceived financial knowledge $\rightarrow$ Long-term planning	10.730	0.000	significant
Perceived financial knowledge $\rightarrow$ Short-term planning	10.272	0.000	significant

Source: Output result calculation using SmartPLS 3.0 software
Note: significant if *t*-value > 1.96 and *p*-value < 0.05 (significance level 5%).

knowledge, with this affecting their financial management in savings and shopping, as well as in their short-term and long-term financial planning. Someone with a good level of perceived financial knowledge will be able to think critically when they receive and seek information relevant to making financial decisions. The current study found that financial decisions relate to behavior when spending, saving, and developing financial planning. This result is consistent with the findings of Tuong & Doan (2020) suggesting that the savings behavior of individuals was positively and significantly influenced by their financial literacy. The results of the current study also corroborate the findings of Amari, Salhi & Jarboui (2020) and Zulaihati, Susanti & Widyastuti (2020), revealing that financial literacy has a significant influence on financial management behavior.

5. Conclusion

Most women responding to the current study's survey were found to be in the 'sufficient' level of financial literacy, in both perceived financial knowledge and financial behavior. The study provides evidence that the concept of financial literacy can be explained by the relationships between perceived financial knowledge and its associated variables, such as savings behavior, shopping behavior, long-term planning, and short-term planning, which have a significant effect on financial management behavior. A higher level of financial literacy among women contributes positively to how women manage their money when saving, spending, and planning. This research has investigated the relationships between perceived financial knowledge, savings behavior, spending behavior, and financial planning, both short term and long term. The current study finds that perceived financial knowledge positively affects savings and spending behavior, while also positively affecting short-term and long-term planning.

The findings of this study have several policy implications. The inclusion of financial literacy training in the design of women's empowerment programs is needed to increase women's financial knowledge about and behavior in managing money. Women need to raise their awareness of financial literacy, especially regarding financial budgeting. Some respondents demonstrated a low level of financial literacy due to their lack of financial budgeting knowledge. An individual's financial literacy is demonstrated through their knowledge and ability to make decisions in various financial contexts to improve their welfare. Women also need to continue to improve their financial management behavior, especially regarding knowing the optimum savings proportion, making price comparisons when shopping, and having good short-term and long-term financial planning. The better their financial management behavior, the better their financial condition is.

After noting the study's limitations, future research could extend the current study by increasing the number of respondents in the sample and including more variables. Future research could also further extend the current study by adding other variables, such as financial awareness and financial experience, to further the financial literacy literature.

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