**Women’s Financial Literacy: Perceived Financial Knowledge and Its Impact on Their Money Management**

This research is an empirical study of women's financial literacy in a developing country. The purpose of this study is to empirically examine the effect of women’s financial knowledge on their financial management behavior. Financial literacy in developing countries, especially for women needs to be improved. Traditionally, women have a role in families to manage the family’s finances. Women's ability to conduct good financial management can help the financial stability of the family and improve its welfare. This research is an explanatory research. The sample of this study is women who live in the city of Bandung, Indonesia who are in the baby boomer, X, Y, and Z generation with a total sample of 100. The data is collected through a survey using an online questionnaire. The analysis technique used is Structural Equation Model-Partial Least Square (SEM-PLS). It is proven that perceived financial knowledge has a significant effect on financial management behavior on the dimensions of saving behavior, shopping behavior, long-term planning, and short-term planning. Moreover, the results show that women have a level of financial literacy and financial management behavior in the moderate category. This study recommends academics and financial practitioners to play a role in educating the public, especially women, through training activities, seminars, and counseling to improve women’s financial literacy. This study has several limitations, future studies can examining the concept of financial literacy in aspects not yet examined in this study, such as financial attitude, financial skills, financial awareness, and financial experience.

**Introduction**

Women play a role in the economic progress of a country. The role of women in the family, business, and community decision-making is increasingly recognized, and more women are participating in economic activities (Sharma and Kota, 2019). Higher women’s financial literacy creates wiser money management and will ultimately impact their decisions in using financial products and services. The increasing use of financial products and services can increase the potential for financial transactions and encourage the overall economic growth, create income equality and equity. Most women are given authority by their partners in managing family finances. It can be said that women act as financial managers in their families. In this era, women are educated people, having the same rights as men, the freedom to pursue a career with independent income other than as a housewife. This condition is said to be one indicator of increasing household welfare through women managing finances well. Sulaiman (2019) stated that financial literacy, in addition to preventing detrimental matters, is also believed to be able to improve welfare because by increasing the level of financial literacy, the community can make better financial decisions so that family or personal financial planning becomes more optimal and ultimately can improve welfare. The population of women that is bigger than the population of men becomes potential human resources for developers who also need 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 is still lower than the men's financial literacy index. This result is consistent with Lusardi et al. (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 making nonoptimal financial plans. Lis (2018) found that women play an important role in the long-term progress and economic growth of Indonesia. The same opinion was also expressed by Handayani (2018) who stated that women play a more important role in moving the economy around the world and creating new jobs. Abdurrahman (2018) furthermore revealed that the women's empowerment program has also been intensively initiated through the #IbuBerbagiBijak financial literacy program, aiming to provide education about access to capital, funding, and ways of doing business so that women’s businesses can develop. Successful women in business and careers are also demanded to be able to manage family finances wisely. Women have the same role as their partners to manage family finances and have a financial plan, be it short-term or long-term financial planning. This is to avoid undesirable unexpected things, such as losing a job, being involved in a work accident, having a divorce, or husband/spouse passing away. When one of those things happens, it will be better for them to have enough savings to meet family financial obligations, such as children's education costs, loan installments, house rent, etc. The nonexistence of a short-term financial plan will disrupt financial conditions and grows into a problem. The financial condition and welfare of a person in the future are dependent on how someone performs financial management in the present time. The better the financial management, the better the financial condition and welfare of a person in the future. Having wise financial management behavior has implications for a person's ability, such as being able to cope with sudden financial needs, being able to change lifestyles that are initially consumptive to being more rational, being able to bypass financial problems, and being able to make financial decisions based on relevant information. This in turn affects the continuity of a comfortable and prosperous life. Zulaihati et al. (2019) examined financial management behavior in four aspects, these are saving behavior, shopping behavior, long-term planning, and short-term planning. These four aspects are then adopted in this study to describe the condition of women's financial behavior. Saving behavior is one's behavior in managing financial planning and preparing themselves for emergencies. Shopping behavior is one’s behavior when shopping, whether shopping with rational financial calculations or based on promotions or advertisements. Long-term planning involves the purpose of the planning and where the money for long-term planning is stored. Short-term planning involves saving reserve funds, using money, and frequency of withdrawal of funds. Ida & Dwinta (2010); Laily (2016), Zulaihati et al. (2019) stated that financial literacy has a significant effect on financial management behavior, while Anugrah (2018) stated that financial literacy has no significant effect on 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 look at the condition of financial literacy to prove whether aspects of financial knowledge have an impact on financial management behavior in women in Bandung, Indonesia.

**Literature Review**

**Financial Literacy**

Various studies on financial literacy have defined the concept differently and tested it using different methods and frameworks (Swiecka et al., 2020). Lusardi et al. (2010) defined financial literacy as knowledge of basic financial concepts such as interest rates, inflation, and risk diversification. Hung et al. (2009) found that financial literacy is a link between financial knowledge, perceived knowledge, financial skills, and financial behavior. Meanwhile, according to Atkinson & Messy (2012) financial literacy is a combination of awareness, knowledge, skills, attitude, and behavior. Meanwhile, Sita & Kusumaningrum (2014) defined financial literacy as the level of knowledge, skills, and public confidence related to financial institutions and their products and services, as outlined in the index size parameters. Agreeing with the previous opinion, Sahadeo (2018) defined literacy as a combination of awareness, knowledge, abilities, attitudes, and habits needed to make sound financial decisions and ultimately achieve individual financial well-being. Whereas Swiecka et al. (2019) stated that financial literacy is the knowledge and understanding of financial concepts and risks, and the ability, motivation, and confidence to apply this knowledge to create decisions in various financial contexts to improve the financial well-being of individuals and the community as well as enabling them to participate in life the economy. Santini et al. (2019) defined the construct of anti-financial literacy, which are financial attitude, financial knowledge, financial behavior, while Rai et al. (2019) defined financial literacy as the ability of individuals to make important decisions concerning effective and efficient use of money. Lusardi et al. (2010) stated that financial literacy is influenced by demographic factors, such as age, gender, income, race, and ethnicity, etc. Considering that, financial literacy studies have been carried out on diverse demographic groups such as students (Amagir et al., 2020), university students (Nidar and Bestari, 2012; Md and Ahmad, 2020), women (Rai et al., 2019), employees, etc. Based on the definition stated above, the concept of financial knowledge is often used together with financial behavior to define financial literacy. Lusardi et al. (2010) stated that this financial knowledge was found to have important implications for financial behavior. Based on the statement, this study assumes that financial literacy consists of the concepts of perception of financial knowledge and financial behavior. This study was conducted to examine the relationship of both in explaining the condition of financial literacy in the female demographic group.

**Perceived Financial Knowledge**

Allgood and Walstad (2011); (2015); Dewi et al. (2020) stated that perceived financial literacy affects financial behavior. This finding is consistent with Mountain et al. (2020); Ramalho and Forte (2019); Adiputra and Patricia (2020) who argued financial knowledge has an important role to improve financial behavior (financial behavior). Financial knowledge has a positive influence on financial behavior. However, this opinion is not consistent with the finding of Nguyen et al. (2017), who proved that perceived financial knowledge does not affect saving behavior.

**Financial Behavior**

Dew & Xiao (2011) described the behavior of financial management as the behavior of individuals who have a relationship with finance that will affect the financial well-being of the individual. Meanwhile, financial management behavior according to Kholilah & Iramani (2013) is a person's ability to manage (planning, budgeting, checking, managing, controlling, searching, and storing) daily financial funds. The emergence of financial management behavior is the impact of a person's desire to meet their daily needs according to the income earned. Financial management behavior is an important part of future planning. The better a person does the management, the better the results will be achieved in the future. Likewise, according to Humaira & Sagoro (2018), financial behavior is a person's behavior in managing their finances from the perspective of psychology and individual habits. Financial management behavior is related to the effectiveness of fund management, where the flow of funds must be used according to a predetermined plan. Asandimitra and Kautsar (2019); Nusron et al. (2019) stated that financial knowledge influences financial behavior, where Asandimitra and Kautsar (2019) conducted a study on the financial behavior of female educators and Nusron et al. (2019) conducted a study on students. Rai et al. (2019) also explained that the financial behavior of women in India has a stronger relationship with financial literacy than financial knowledge. Based on research conducted by Zulaihati et al. (2019) there are 4 aspects used to measure the behavior of financial management, they are Saving Behavior, Shopping Behavior, Long-term Planning, and Short-term Planning. These four aspects are adopted as latent variables to measure money management behavior.

**Saving Behavior**

Saving Behavior, according to Azlan et al. (2015), 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 since the amount of savings will not be enough to meet emergency needs and eventually will increase anxiety and lead to serious health problems. Morgan and Trinh (2020) proved that the higher the level of financial knowledge, the stronger the positive influence on saving behavior. This opinion is consistent with Amari et al. (2020) who stated that financial knowledge has a role in one's saving behavior.

**Spending Behavior**

Financial knowledge is proven to influence one's shopping behavior, which includes impulsive buying behavior (Potrich and Vieira, 2019; Anisa et al. 2020). This opinion is consistent with Varcoe et al. (2005) who stated that a person's shopping behavior can be seen from comparing prices, shopping behavior when there are discounts, and impulsive shopping behavior. Wangmo (2018) stated that in shopping, financial decisions need to be based on financial calculations and analysis, such as budgeting, and not based on advertising or promotion.

**Long-Term and Short-Term Planning**

Henager & Cude (2016) stated that in long-term planning, various things need to be considered, such as long-term financial planning, the purpose of long-term planning, and a place for storing money for long-term planning. Nanziri and Olckers (2019) proved that financial knowledge has a positive relationship to long-term financial planning, wherein this study, it is a long-term pension plan. Kumar et al. (2019) through their literature study revealed that most of the literature on women's financial planning for retirement shows the lack of financial management among women and their vulnerability to poverty, where one of the determining factors of women's pension financial planning is financial knowledge. Meanwhile, for short-term financial planning, Henager & Cude (2016) proposed that in short-term planning, various things need to be considered, such as short-term financial planning, reserve fund storage, use of money, short-term expenditure, and frequency of withdrawal of funds.

Research gaps are still found in previous literature review studies and empirical studies regarding the relationship between financial knowledge and financial behavior variables. Anugrah (2018) found that financial literacy has no significant influence on financial management behavior. This finding is not consistent with the findings of Laily (2016), Zulaihati et al. (2019), and Ida & Dwinta (2010) who stated that there is a significant influence on financial literacy on financial management behavior. Figure 1 shows the rationale used in this study, adopted by Zulaihati et al. (2019).

**Picture 1**

**Method**

This study used a survey method with an explanatory approach to proving the relationship between financial knowledge and financial behavior. The population taken is women in the productive age category or aged 25 years - 74 years living in Bandung, whereas many as 731,038 people are included per 2019 data (source: Bandung City in 2020). This study used the definition of generation based on birth year:

* Baby boomer (Born in 1941-1960)
* The X generation (Born in 1961-1980)
* The Y generation (Born in 1981-1994)
* The Z generation (Born in 1995-2010)

The sample is determined using the Slovin formula, with the following calculation:

Where:

N: The number of populations

n: The number of samples

e: Confident interval (10%)

Using the formula, I obtained a value of 99.9 which was rounded to 100. Based on this calculation, this study requires a minimum of 100 survey respondents.

The sample collection was carried out using an online survey. Purposive sampling was utilized with the criteria including age restrictions, female, and domiciled in the city of Bandung. As many as 105 respondents were filled in the questionnaires. However, only 100 respondents filled the questionnaires completely and validly. The questionnaire used consisted of 25 indicators, composed of the level of financial knowledge (6 indicators), saving behavior (5 indicators), shopping behavior (4 indicators), short-term financial planning (5 indicators), and long financial planning (5 indicators). The questionnaire was compiled based on indicators constructed from previous studies, as presented in Table 1. The measurement scale used a 5-point Likert scale, starting from 1 = "strongly disagree" to 5 = "strongly agree". Data were analyzed using the Structural Equation Modelling-Partial Least Square (SEM-PLS) (Hair et al., 2016).’

**Table 1**

**Results**

**Demographic Analysis**

In the sample, the respondents consisted of 9% baby boomers, 22% generation X, 24% generation Y, and 45% generation Z. Most of them are college graduates, with a bachelor (49%) and diplomas (10%) degree, while the rest are high school graduates (34%) and junior high schools (7%). The majority of respondents are women who work (61%) and the rest are not in the labor force or unemployed (39%). In the category of women who work, it is known that 34% are entrepreneurs and 27% are employees, whereas, for women who do not work (or not in the labor force), it is known that 25% are housewives and 14% are students. The marital of respondents shows that 56% are not married and 44% are married. Meanwhile, for the family or child dependent profile question, respondents consist of no dependents/children (61%), 1-2 dependents (30%), and dependents of 3 or more people (9%). The economic status of the respondents is divided into lower-middle (24%), middle-middle (58%), and upper-middle (18%) categories. Table 3 shows that most women have financial knowledge in the medium category (76%). Although women are known to have a fairly good knowledge of risk diversification (average score of 3.25 from a scale of 5), their knowledge of financial budgeting is still in the low category (average score of 2.76 from a scale of 5). Based on the generation category, it is known that all respondents in the baby boomer generation have financial knowledge at a moderate level, while the majority of Generation X (82%) is in the moderate category and 18% is in a good category. Generation Y has a moderate level (83%), good (8%), bad (8%), while generation Z has a moderate level (62%), good (13%), and bad (24%). These results indicate that generation Z has a more diverse level of financial knowledge, where respondents are less literate than other generations. The fact that generation Z, which is the generation with the world's largest population with a lack of financial literacy, can have a major impact on economic conditions must be brought into attention. Women's saving behavior in Bandung is known to be divided among moderate (76%), good (12%), and bad (12%) categories. This can be seen in the three indicators of saving behavior that have an average above three of the highest scale of 5, such as budgeting for saving (mean = 3,163), saving for the future (mean = 3,092), and saving when receiving money (mean = 3,020), while there are two indicators with an average of below three, such as increasing the amount of savings (average = 2,949) and the percentage of savings (2,816). Based on these results, it is apparent that an aspect of women's saving behavior in Bandung that still needs attention is the lack of knowledge regarding the ideal percentage of savings. This can be seen in the percentage of savings indicators, which has the lowest average value compared to other indicators. The shopping behavior of women in Bandung showed moderate (74%), bad (17%), and good (9%) categories. This condition is reflected in the shopping behavior indicator, with the highest average value found in the indicator of buying goods that are discounted by value (average = 3,337), while the lowest average value is found on indicators comparing prices (mean = 2,908). Based on these results, it is known that the shopping behavior of women in Bandung shows consumptive behavior and women tend to care less about prices when shopping. The ease in deciding to buy items that are being discounted shows that women are making unwise financial decisions. Women in Bandung have long-term financial planning in the good (12%), moderate (67%), and bad (21%) categories. There are four indicators with an average value above 3 of scale 5, which are 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 below 3, i.e. has financial planning (mean = 2,969). The level of long-term planning for women in Bandung needs to be improved in the aspects of long-term financial planning. Women in Bandung have short-term financial planning in the good (14%), moderate (69%), and bad (17%) categories. There are two indicators with an average value above 3 of scale 5, which are doing the stages of financial planning (mean = 3.071), and looking at the financial budget (mean = 3.031). Meanwhile, the other three indicators are still low, having a score of below three, such as 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 women in Bandung needs to be improved in all of those three aspects.

**Outer Model Analysis: Measurement Evaluation (Validity and Reliability)**

The results of the validity test using convergent validity: average variance extracted (AVE) in Table 2 show that the overall variables, which is Perceived financial knowledge; saving behavior, spending behavior, long-term planning, and short-term planning fit the convergent validity criteria that if the AVE value > 0.50 (Hair et al., 2016). Based on the results of the construct reliability test using internal consistency measures: Cronbach alpha and composite reliability shown in Table 3, the two values for each variable above 0.70 indicate that each variable studied is reliable. The results of the reliability indicator test shown in Table 4 show that the outer loading of each indicator on the latent variable has a value above 0.5, meaning these indicators are valid and can be used as a manifest variable to measure the latent variable.

**Table 2**

**Table 3**

**Table 4**

**Inner Model Analysis: Structural Model Evaluation**

The evaluation of structural models to see the structural relationship between independent variables, perceived financial knowledge (X) and the dependent variable, such as saving behavior (Y1), spending behavior (Y2), long-term planning (Y3) and short-term planning (Y4) used evaluation on the value of R2, F2, R, and Q2. Meanwhile, to assess the significance test of the structural model, the T value test was used. Table 5 shows the value of R2 on the latent variables of perceived financial knowledge on saving Behavior, spending behavior, long-term planning, and short-term are 0.573, 0.559, 0.445 and 0.435, which illustrates the moderate or strong relationship between the two latent variables. Likewise, the value of F2 on the latent variable perceived financial knowledge on saving behavior, spending behavior, long-term planning, and short-term planning respectively 1,343, 1,269, 0.803 and 0.769 showed a strong influence on the relationship between these latent variables. Meanwhile, the value of R2 on the relationship of latent variables perceived financial knowledge to saving behavior, spending behavior, long-term planning, and short-term planning show a positive correlation that is equal to 0.757, 0.748, 0.667 and 0.659 relationship between the two latent variables and the Q Square value of the four dependent variables is above 0, so the quality of the structural model proves that the observed values have been reconstructed well. Therefore, the overall structural model is predicted to be replicated for further research. Table 6 shows the results of evaluating the significance of structural models through the T-test bootstrapping procedure, where the perceived financial knowledge construct significantly influences Saving Behavior, spending behavior, long-term planning, and short-term planning.

**Table 5**

**Table 6**

**Discussion**

Women's financial literacy in Bandung is found to be in the category of sufficient literate. However, there is a small portion of the generation Z group with financial literacy in the less literate category. This is found in the aspect of financial budgeting which is still in the low category. Financial budgeting is sometimes considered as a less important thing to do. However, the benefit of making a budget is to help someone in financial planning. The financial budget also helps in terms of projecting income and expenses. Making a wise budget will estimate one’s financial condition from time to time, so managing expenses wisely will be possible. Financial Literacy is a series of individual understandings of financial knowledge that can affect financial management in saving, shopping, as well as long and short-term financial planning. Someone who can perceive financial knowledge well will be able to think critically in receiving and looking for relevant information related to decisions. Financial decisions taken are decisions related to behavior in spending, saving, and making financial planning. The results of this study are consistent with the findings of Laily (2016), Ida & Dwinta (2010) & Zulaihati et al. (2019) which shows a significant influence on financial literacy on financial management behavior.

**Conclusion**

The majority of women living in Bandung are in the ‘sufficient’ level of financial literacy, both in the perceived financial knowledge and financial behavior. This study proves that the concept of financial literacy can be explained from the relationship between the variables of perceived financial knowledge, which have been proven to have a significant effect on financial management behavior in saving behavior, shopping behavior, long-term planning, and short-term planning. Efforts in increasing financial literacy need to be continued, especially in generation Z which is found to have the highest percentage of ‘less literate’ compared to other generation categories. The role of various parties is required for women's financial literacy to increase broadly and evenly, this includes the government, academics, and financial service practitioners conducting educational programs through various activities, such as workshops, training, seminars, and consultations.

**Recommendation**

Women in Bandung are expected to be able to add more insight into financial literacy, especially regarding financial budgeting. This is because there are still some respondents with bad financial literacy, caused by lack of knowledge in financial budgeting. Financial literacy functions as the knowledge and the ability to create decisions in various financial contexts to improve welfare. Besides, women in Bandung are also expected to be able to continue to improve their financial management behavior, especially regarding the percentage of savings, making price comparisons when shopping, and having good financial planning for the long and short-term. The better the financial management behavior, the better the financial condition. Further researchers can develop this research by adding other variables, such as financial awareness and financial experience, to enrich financial literacy studies. Further researchers can also use a larger sample, not limited to Bandung.