



Financial Literacy Education for Women: A Novel Approach based on Social Media Platform

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Abstract

According to the latest data, the financial literacy index in Indonesia stood at 38%. This number was definitely an improvement compared to previous years but was still considerably behind compared to the global standard. Taking into account gender disparity in Indonesia, this figure becomes even more abysmal as the financial literacy index for women is substantially lower than for men. To solve this problem, a social media knowledge management framework is proposed to structure and disseminate financial knowledge with the purpose of improving the financial literacy index, especially for women, in Indonesia. This knowledge management platform is supported by a financial education program that has been developed based on the characteristics and needs of typical women in Indonesia. To further substantiate the findings of this study, a series of in-depth interviews were conducted with the aim of acquiring a better understanding of various aspects of financial literacy from the perspective of women. In total, 13 women who lived in Bandung were chosen as the main subject of this study based on a judgment sampling technique. Encouragingly, more than three-quarters of the respondents were considered to be well-literate. Digging deeper into the data, however, presents a much more nuanced and complicated insight regarding the behavior of the respondents, as most of the respondents simultaneously exhibit an extensive range of behavior ranging from discipline to carelessness when managing their money.

Keywords *Financial Literacy, Financial Education, Knowledge Management, Social Media, Economic Empowerment*

INTRODUCTION

As the fourth-largest economic country in the world with an estimated GDP of up to USD5.42 trillion by 2030 (PWC, 2017), Indonesia has some social and cultural issues, especially in public awareness related to personal finance (Susan and Djajadikerta, 2017). Based on the National Financial Literacy and Inclusion Survey (SNLIK) conducted by Indonesia's Financial Services Authority, the 2019 country's financial literacy index indicates the knowledge, skills, and beliefs a community has that can influence their attitudes or behavior for making sound decisions about financial management to achieve prosperity is 38.03% (Otoritas Jasa Keuangan, 2020). This number increased over time but is still considered low, especially compared to neighboring countries in Southeast Asia that have recorded the lowest financial literacy index in the world, except Singapore, with an average of 30% or even below. While this low achievement happens because of the combination of both financial knowledge and behaviors (OECD, 2019), in fact, financial literacy is still considered a quality that modern civilization must possess, especially in the midst of an increasingly complex financial system. Although there has been a massive institutional effort to make a more accessible financial system, as can be seen from the financial inclusion index of 76.19% in 2019 and expected to be 90% in 2024 (Otoritas Jasa Keuangan, 2020), a bigger effort is still needed to increase the financial condition of society from the base.

From various aspects, gender is known as one of the demographic aspects affecting the level of financial literacy quite significantly. Based on the same survey conducted by Indonesia's Financial Services Authority, SNLIK, the literacy rate by gender is 36.13% for women and 39.94%

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for men (Otoritas Jasa Keuangan, 2020). The same results were also stated by Hsu (2016) and Lusardi & Mitchell (2014), where men have better financial literacy and mostly make decisions about financial matters at the household level. This difference happens due to various reasons, such as different attitudes in risk management and the stigma of non-economic activities, which are very identical to women's roles (Intan, 2020). This aspect emphasizes that financial literacy is related to nature and nurture matters simultaneously (Filipiak and Walle, 2015). This gender gap becomes a challenge for providing financial information to women. At the same time, this also became the basis for many efforts to increase the level of financial literacy for women in Indonesia.

West Java, one of the most populous provinces with approximately 18% of the population in Indonesia (Badan Pusat Statistik, 2010), often becomes the adoption target of various financial products and services. But, in contradiction, the financial literacy index of the people of West Java is still considerably low at 35% (Otoritas Jasa Keuangan, 2020). In addition, from direct observation, a number of mistakes related to financial management are often made by people of West Java, such as misunderstandings regarding debt because different branding is used. These conditions support the urgency of the financial literacy aspect in West Java (Haryadi, 2019).

A low financial literacy index is important to be noticed because it shows the limited skills or understanding of Indonesians of financial products and services characteristics (Otoritas Jasa Keuangan, 2020). On the other hand, technology-based financial system development gives rise to unauthorized entities offering loans to people trapped in their inability to fulfill their needs and expectations of living in the modern world. Coupled with low financial literacy, this phenomenon could be a big disaster that causes short- and long-term losses for individuals, as well as for society and the country. Although the local government has made various prevention efforts, the very rapid change and the complexity of society make various cases of illegal loans still occur (Handayani, 2021). This clearly shows how this problem needs to be resolved quickly.

This research presents how to structure and disseminate financial knowledge to improve the financial literacy of Indonesians, especially women. By utilizing a framework describing the relationship between knowledge management and social media, we could develop design procedures for the knowledge contents to address the needs of women in Bandung, West Java. In the end, we use social media as a facilitator for transferring knowledge from experts to our target beneficiaries.

LITERATURE REVIEW

Conceptually, financial literacy refers to a specialized kind of consumer skill on how one manages one's financial affairs successfully (Alba & Hutchinson, 1987). It has been considered a specific form of human capital (Fernandes, Lynch, and Netemeyer, 2014) where the emphasis lies on the degree to which one understands key financial concepts and possesses the ability and confidence to manage personal finances through both appropriate short-term decision-making and sound, long-range financial planning, by considering life events and changing economic conditions (Remund, 2010).

Financial literacy has been rising to prominence due to the complexity of the financial system in recent years. On the other hand, there has been uncertainty due to economic recessions and a decline in public welfare policies, coupled with increased life expectancy and health care costs in old age, thus emphasizing the need for financial literacy as a means to help people make appropriate financial decisions (Hung, Yoong, and Brown, 2012). Studies also found that financial literacy possesses strong associations with financial behaviors. For example, Adams and Rau (2011) conclude a cognitive factor of financial literacy, such as understanding the basic principles of saving, plays a key role in financial preparation for retirement.

While women have made some notable achievements over the last century, such as in

attaining higher education and workforce participation, they are still lagging in financial literacy, which is key for long-term financial security (Smith and Liao, n.d.). Following the results of some national surveys on financial literacy, women generally perform better in household money management but are lacking in making major decisions for long-term planning purposes, choosing products, and staying informed with recent updates on financial issues (Lusardi and Mitchell, 2011). Reasons behind these differences have led to the lack of both knowledge and confidence, as women were less likely to give the correct answers as well as more likely to respond "don't know" when their financial competency is being assessed (Smith and Liao, n.d.; Lusardi and Mitchell, 2011).

Nevertheless, research shows that lower levels of financial literacy disadvantage women. It may lead to reduced economic power within the household as well as women's active participation in the economy (Hung, Yoong, and Brown, 2012), especially in countries where informal economic activities contribute to a significant share. Even at the household level, where women are known to play the role of financial managers of the family (Lind et al., 2020), the ability to manage financial matters is salient to the family's financial stability and welfare (Gunawan et al., 2021). However, women are also found to be more vulnerable to unforeseen circumstances. Studies in developed countries found that women are more at risk of being affected by various financial issues, such as financial crime, consumptive lifestyle, as well as poor financial decisions, and inability to set goals (Lusardi, Mitchell, and Curto, 2010).

For working women, aside from the problematic payment just compared to their men counterparts, both their tenure and occupational choice tend to be constrained by social norms as the household caretaker by default. Women with low financial literacy also have the potential to disrupt knowledge transmission to the next generation and, thus, worsen existing social disparities over a long period (Hung, Yoong, and Brown, 2012). Finally, as average women are expected to live 5 years longer than men (Smith and Liao, n.d.) and are still the subject of injustice in legal and property rights (Hung, Yoong, and Brown, 2012), the impact is far worse for specific subpopulations, for example, low-income women and widows.

Financial education has been discussed as the solution for improving financial literacy (Lusardi and Mitchell 2007). Considering how being financially literate provides strong support for women to respond to the challenging dynamics of the financial world, designing relevant education programs is essential to help close the gender gap. Koomson, Villano & Hadley (2021) find that financial literacy training in the design of women's empowerment programs brings implications to household welfare. Different types of interventions have been implemented to provide alternatives for financial education mechanisms. These alternatives range from counseling, exposure to information about financial education, financial education in high school, participation in seminars and workshops, and participation in a specially-designed program of financial education (Fernandes, Lynch, and Netemeyer, 2014).

With regard to the must-have financial knowledge for women, financial planning and debt management are among the most prominent. A good understanding of financial and debt management can lead to better financial results (Kumar et al., 2018). Financial planning is defined as the process of estimating needs related to procurement, fulfillment, storage, and financial administration in the future (Management Study Guide, 2021). At the household and individual levels, financial planning is related to the allocation of short-term and long-term funds, such as daily needs, education funds, pension funds, entertainment needs, and expenses for unexpected events (Andoko & Martok, 2020). Planning has an important role in making financial decisions because this stage involves the process of setting goals, evaluating the current position, and taking the right steps to achieve the expected goals (Hani, 2020). Someone with good financial planning can have a more comfortable and secure life because the quality of decision-making is also better. On the other

side, debt management is a process of planning and allocating debt (Heath, 2021). The purpose of debt management is to utilize lending alternatives as part of a financial strategy that helps meet short-term and long-term needs. In Indonesia itself, the practice of debt is quite commonly used, ranging from debts to official institutions to individuals or families. In general, the process and pattern of debt management depend on the individual associated with involving experiences, points of view, culture, and information spread by word of mouth about debt. In Indonesia itself, the practice of debt is quite commonly used, ranging from debt to official institutions such as banks to individuals or families. The value of Indonesian household debt is also quite large, up to 10.4% of the national GDP in March 2021 (CEIC, 2021).

In the modern era, knowledge is viewed as among the key resources for gaining a sustainable competitive advantage in the economy (Teece, 1998). However, more knowledge does not guarantee better performance (Levine and Prietula, 2012). It is the quality of the contributed knowledge that matters (Markus, 2001). Higher-quality knowledge is more likely to be transferred and reused (Zhang and Watts, 2008).

RESEARCH METHOD

Given the ubiquitous nature of mobile technology usage, we propose an alternative of using social media as a means to disseminate financial knowledge contents. Several benefits entail the application of social media for knowledge dissemination as it has the power to supply user-generated content (O'Reilly, 2007), as well as making it faster to access knowledge residing in experts' minds (Bughin et al., 2012) and bridging the gaps between knowledge seekers and owners (Fernandes, Lynch, and Netemeyer, 2014). For knowledge development, social media plays an even more important part as it increases the opportunities for people to engage and collaborate with each other despite geographical locations.

We adapt the framework of social media knowledge management by Bharati, Zhang, and Chaudry (2015) to design our proposed financial education program. The framework itself is an extension of an earlier version by Tsai and Ghoshal (1998), which denotes the relationship between the three dimensions of social capital – structural, cognitive, relational, and knowledge exchange. Social capital is considered a crucial prerequisite in leading knowledge management to function, whereas the role of social media in enabling both social capital and knowledge management is also included. Finally, how well knowledge management performs defines knowledge quality.

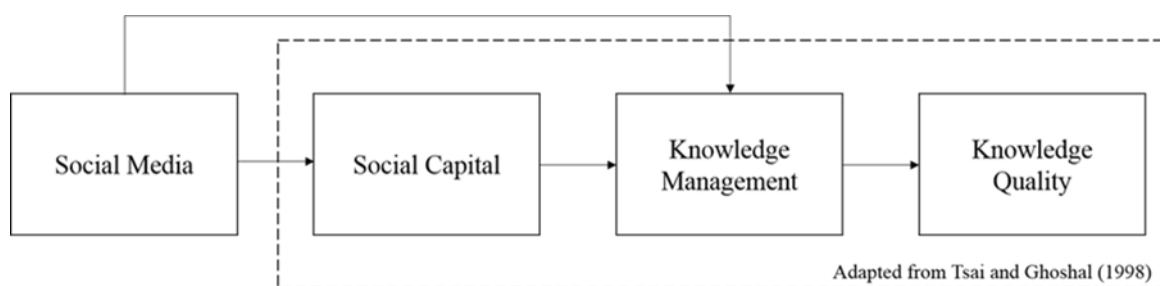


Figure 1. Research Framework for Social Media Knowledge Management (Bharati, Zhang, and Chaudry, 2015)

Within the dimensions of social capital, the structural dimension is represented by interactions to create opportunities for social capital transactions (Adler and Kwon, 2002), as well as to help shape a common set of goals, visions, and values as well as stimulating trust (Tsai and Ghoshal, 1998). Trust will then induce the willingness to share knowledge (Levin and Cross, 2004). Meanwhile, relational capital may also increase the effectiveness of knowledge sharing once they

have confidence in the competency of the knowledge source (Levin and Cross, 2004). Finally, the cognitive dimension embodied the common interests and shared understanding that facilitates knowledge-sharing (Wenger, 1998).

We argue on the suitability of this framework for designing our financial education program. Representing the structural dimension, the way we interact with our beneficiaries through social media helped us to establish and maintain relationships with women in the city of Bandung as our beneficiaries. These interactions are also important, considering both parties agreed upon a common set of goals, visions, and values as we developed our knowledge contents to address the needs of our beneficiaries. This approach consequently leads to trust, which helps to raise the willingness to share. Simultaneously, trust as a form of relational dimension was built through the participation of financial experts, as well as the validity of references used to develop the knowledge contents. Also, we argue that the cognitive dimension of our financial education program is potentially represented as our beneficiaries consciously performing knowledge-sharing after being educated about the benefits of being financially literate. Finally, powered by the use of social media as a medium for knowledge dissemination, achievement of these dimensions subsequently leads to knowledge management.

Several attempts have been made to promote knowledge transfer and sharing through social media platforms by developing learning communities. Mesquita et al. (2016), for example, have tried to integrate social media with a learning environment to create a more seamless knowledge-sharing process and encourage collaboration between learners. Another study by Cao, et al. (2020) found that social media could be a solution to improve knowledge of financial literacy citing usefulness and compatibility as the two main reasons for the effectiveness of this platform. Furthermore, Cao et al. (2020) also argued that the findings of their study support the notion that social media could be a legitimate knowledge management platform. The potential application of social media as a knowledge management platform is also supported by Nisar et al. (2019), who proposed that social media usage in the context of knowledge management could improve organizational learning within the internal environment of an organization.

We gain insights into our knowledge-creation process through in-depth interviews. Interview guideline was first developed on three main topics, that is financial planning, cash management, and debt management. These topics are chosen to be the research focus as well as to limit data coverage so the knowledge transfer can be more scalable. To ensure the exploratory nature, the interview guide is divided into two types of questions, the main question as a discussion starter and the operational questions as a probing bank. Open-ended questions are formulated based on literature related to each topic indicator and common knowledge related to daily practices of financial management in West Java. Besides the main questions, additional questions about demographic and preferences in learning finance were also added to enrich the information. As this data collection is intended for gaining insights, not testing the hypothesis, the opinion of respondents is very important. Considering the nature of women who are more emotional (Matud, 2003), interview guidelines are designed to be neutral through the flow of storytelling and capture not only verbal information but also non-verbal.

Data collection was conducted on women in Bandung, the capital city of West Java. Samples are chosen from judgmental sampling about the respondent's involvement in managing household finances. This technique is used considering the Covid-19 pandemic situation which limits the researcher's movements and no need for results generalization. Interviews were carried out to reach data adequacy assessed by thematic analysis, which is suitable for research with low inference needs (Vaismoradi et al., 2016). The thematic analysis evaluates data patterns indicated by the words or themes' similarity from the transcript (Warren, 2020). This method is qualitative

in nature by reducing the amount of data before entering the further analysis stage in an open and flexible manner (Castleberry and Nolen, 2018). Through this analysis, respondents' answers are converted into 4 points of literacy level (1 not literate and 4 literates well). These assessment levels are adopted from Bloom's taxonomic classification, which is common for knowledge assessment. Furthermore, the hold-out method that divides the dataset into two smaller comparable groups (Brun, Xu, & Dougherty, 2008) is used. The calculation is done independently, and data sufficiency is reached when the mean difference between the two does not exceed 0.2.

Further data analysis is carried out through an exploratory discussion to review the actual representation of women's financial literacy level and the problems that they face to achieve the ideal financial state. The results then become the basis for further steps, including the development of social media content to increase financial awareness. The output of this analysis is a list of content creation ideas that are further developed in an unstructured and creative manner.

FINDINGS AND DISCUSSION

Financial Literacy Level Result

Thirteen data were successfully collected for analysis and became the basis for taking research results. The data is then converted into a literacy level to assess the data adequacy and make judgments. In this process, only data about financial planning and cast management was included, while debt management was not because the results show there are some different perceptions and conditions in terms of debt the respondents have. This calculation generates an average value of 2.67 for holdout samples and 2.75 for all samples, which indicates the data sufficiency is fulfilled. The level of financial literacy of the respondents was determined from the rounded average of all indicators. It is known that 23,1% of respondents have the highest literacy level (level 4), 76,9% of respondents have the second-highest literacy level (level 3), and there are no respondents who have a literacy level of 1 (not literate), and 2 (less literate). This data shows that women in Bandung are basically quite aware of financial matters. There is no major misunderstanding about the topics reviewed, and it can be said they logically understand the financial aspects.

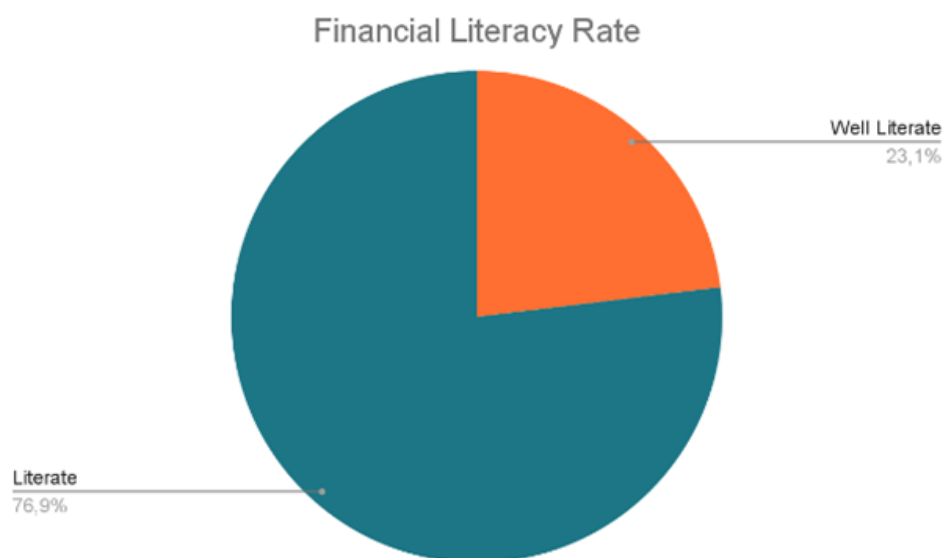


Figure 2. Financial Literacy Assessment Results

The Influence of Demographic

Looking at the demographic distribution of respondents with financial literacy levels, age and income are demographic aspects that have the greatest reach. However, these components do not have a significant effect on higher levels of financial literacy because, from the results, there is no very clear distinction between respondents with very high and very low age or income, whereas respondents who have a very high age or income do not necessarily have a high literacy level and vice versa. This shows that the visible demographic aspects do not always indicate a woman's level of financial literacy, but rather it is obtained from a combination of various deeper internal and external aspects that affect them. These findings support Dewanty and Isbanah (2018), who show that age does not have a significant effect. However, our results present some contradiction with regard to income in which our results did not show a significant effect on women's financial literacy. The difference in results on income might be given by the limited number and high diversity of respondents' backgrounds who are very sensitive to the amount of income with a very large range.

Table 1. Summary of Respondents' Demographics and Financial Literacy

ID	Age	Occupation	Income	Dependents	FLR
T1	49	Housewife	Rp6.000.000,00	2	3
T2	27	Clothes Seller	Rp10.000.000,00	1	4
T3	26	Food Seller	Rp4.000.000,00	1	3
T4	51	Housewife	Rp2.000.000,00	0	3
T5	40	Food Seller	Rp3.000.000,00	2	3
T6	24	Employee	Rp5.000.000,00	0	3
T7	38	Seller and renter	Rp3.000.000,00 - Rp5.000.000,00	2	3
T8	60	Civil servant	Rp7.500.000,00 - Rp10.000.000,00	1	3
T9	54	Housewife	Rp10.000.000,00	4	3
T10	41	Food seller	Rp1.000.000,00	3	3
T11	60	Housewife	Rp10.000.000,00	1	4
T12	63	Seller	Rp1.000.000,00	1	3

T13	61	Housewife	-	1	4
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* FLR = Financial Literacy Rate

Financial Planning

Respondents show very diverse financial planning behavior, from having sound financial management systems through budgeting to never having done structured financial planning. This is broadly influenced by the respondent's past experience in managing finances, with very few of them learning related to financial planning during the process. They generally evaluate the financial plans unconsciously or not fully desired. For them, as long as their basic and some major needs, such as medium-to-low-level health-related emergency needs, are met, their financial condition can be said well. From the control process, most of them have full control over their financial planning. This is because their income is dedicated to only their or their family's daily needs, while others have been managed for long-term needs.

Financial Management

In financial management, some respondents had implemented a regular recording and evaluation system. They have a saving strategy, either allocated from the start or from the remaining money used. They all said that saving is a must, but still, some of them often have difficulty consistently doing it. Because they live in urban areas with high exposure to technology, they are quite familiar with some modern financial products or systems. Unfortunately, in general, the financial management they do is still limited to cash, so out-of-control use of non-cash money dominated their financial management issues.

Debt Management

In debt management, most of the respondents argued that debt is bad and recommended avoiding it. They will tend to save rather than have debt, either from individuals or well-known institutions. They also understand the risks of debt from personal experience or mouth-to-mouth information. Although all respondents understand the negative side of debt and said they want to avoid it, several respondents are still active in doing installment programs - another form of debt - in buying something. This underlies the fact that sometimes debt understanding is fairly narrow, where they define debt as only borrowing cash from other parties and returning it in a similar form.

Implementation Process

We manage our knowledge creation process based on the insights accumulated from in-depth interviews. The interview results enable us to curate what kind of knowledge should be included in the social media knowledge platform. Then, we create our content following either two approach. First, we aim to correct some misconceptions regarding financial-related issues and educate our beneficiaries with the correct understanding. Some examples are whether installments are part of a debt, insurance management as part of financial management, or financial management that is not just limited to cash. Second, and in a smaller part, we address our respondents' aspirations in terms of upgrading their financial knowledge. One example is when we present content about credit cards or other financial products/services and how they actually offer some benefits when used responsibly. Some aspirations are also used in communicating the information on our content so it feels more relevant to their daily activities, such as using examples of installment programs to purchase cooking utensils and investment in jewelry, as they often convey in in-depth interview sessions. Finally, we use Instagram to disseminate our knowledge content under the account name @yukmapan. As we return to our respondents to see whether they

feel some benefits from learning via the platform, we find that there was a significant addition in terms of respondents' understanding regarding financial issues. For example, after reading our content, some respondents have started doing regular budgeting for their household finances while others are informed that they recomunicated their finances with their husbands or family. Besides that, very common feedback we get is from our initiatives. The respondents realize that learning financial is not only limited to a pricey class session they know; in contradiction, they can also do it every time and everywhere by only using their social media. It encourages them to look for more and keep learning to improve their financial management skills, as well as their financial literacy level.

This study describes how social media as a platform for knowledge transfer and networking has a positive influence on financial literacy. The finding is in line with the results of Yanto et al (2021) which show a significant effect of exposure to social media on financial behavior which will affect one's financial literacy. Furthermore, the authors also highlight the salience of peers among the mechanisms for improving financial literacy. As social media platforms enable the proliferation of user-generated content, it plays an important role in strengthening the role of peers in improving financial literacy, albeit without any direct interaction. Moreover, the power of social media, which has a large mass and unique sharing algorithms, can boost the greater impact of the content. In addition, the knowledge provided can also improve the financial attitude that will form a habit on a regular basis. This also supports research by Mesquita et al. (2016), which examines the use of social media in education that is more flexible, interactive, and personalized.

CONCLUSIONS

We study the financial literacy level of women in Bandung, West Java, and design appropriate social-media-based education programs as means to improve them. Using in-depth interviews, the results indicate signs of a high degree of financial literacy for women. The well-literate group comprises more than three-quarters of our respondents while the others can still be considered to be fairly literate. As we examine the data further, however, more insights can be revealed that carry implications for the need for financial education. For example, in terms of financial planning, some respondents had implemented textbook-like financial management techniques, whereas, at the same time, there were still some respondents who never even had experience in performing basic financial planning. These behavioral differences call for a more full-scale education program so that it can bring more benefits to the beneficiaries appropriately. By adopting a framework for social media knowledge management, we believe this is one valid approach to developing a financial education program for improving literacy.

LIMITATION & FURTHER RESEARCH

This research is not without limitations. First of all, we do not consider various scenarios on why the gender gap in financial literacy does persist over time. For example, Al-Bahrani, Buser, and Patel (2020) found empirical support for the difference in motivation between men and women to be financially literate. While men are driven by objective financial knowledge, self-efficacy seems to play a significant part in encouraging women to be financially literate. The difference, aside from other personality traits, implies that adjustments need to be made to how financial knowledge is narrated and presented. For women, it may be more effective to provide illustrations or success stories using names and near-actual situations than just merely theoretical lists of must-do activities.

Another limitation is present considering the role of potential prerequisite variables in order to make financial education more effective. From the cognitive ability to previous financial experiences, these variables may contribute to explaining the variabilities of learning effectiveness.

The role of personal traits is relevant to the findings from Lynch and Wood (2006), who argued that the presence of behaviors with a weak intention-behavior link, such as those controlled by habit or emotion, would make financial education ineffective. This explains why financial literacy has less effect in low-income samples whose behaviors are more controlled by life-pressing circumstances instead of intention (Bertrand, Mullainathan, and Shafir, 2006).

As with financial experiences, which are closely related to access, we found an example where one woman in our sample has already had exposure to credit cards while others do not. Thus, when we tried to identify whether debt management would be relevant for her, it appeared that she did not need them at that moment and expressed her interest in how to start investing instead, implying that "one-size fits all" does not exist in terms of relevant financial knowledge.

Many financial education programs are implemented without evaluations with regard to whether they do the job as intended. Even when measurement efforts are taken, researchers have disagreed upon the appropriate claim about the effectiveness of the current model of financial education programs. Amid the growing interest in financial education as a way to reach financial literacy, we propose that further research can be directed to measuring the effectiveness of the education program itself. Indicators, as well as measurement procedures, may be developed to validate the effectiveness claim objectively. One approach may be to assess financial education programs using the framework of social return on investments to see whether the costs of acquiring resources to undertake such programs are justified.

Another direction of further research may focus on uncovering whether some approaches to financial knowledge work more effectively than others. Based on the relationship between financial education and financial literacy, this means that the education program is expected to bring changes in behavior. However, since financial literacy deals with sets of behavioral attributes, different approaches may need to be undertaken simultaneously to train multiple skills in order to affect multiple behaviors. As this combined approach will potentially produce larger yet sustainable effects, more research is needed to explain how those approaches should be made.

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