

RESEARCH ARTICLE

# The Curious Case of Filipino Micro-Entrepreneurs' Financial Sophistication and the Triple Bottom Line

Sheevun Di O. Guliman

Mindanao State University–Iligan Institute of Technology, Philippines  
sheevundi.guliman@g.msuiit.edu.ph

Arnel Onesimo O. Uy

De La Salle University, Philippines

This study examines the effects of the three proposed financial sophistication dimensions, that is, (1) knowledge; (2) behavior, and (3) decision-making style, on the triple bottom line (TBL) framework. Based on a sample of 384 micro-entrepreneurs across the National Capital Region (NCR) in the Philippines, results of PLS-SEM showed that the financial decision-making style had a positive effect on all areas of the TBL. Financial behavior showed to have positive effects on the economic and environmental aspects while financial knowledge only had a positive effect on the economic bottom line. Lastly, the relationship between female micro-entrepreneurs' financial decision-making style and the economic bottom line was found to be significantly higher than that of male micro-entrepreneurs. Implications of these findings were also discussed.

**Keywords:** microenterprises; financial sophistication; financial literacy, triple bottom line; decision-making style, PLS-SEM

**JEL Classifications:** G41; I25; L26

The micro, small, and medium enterprises (MSMEs) are often thought to be the backbone of an economy whether in emerging or developed countries because these enterprises assist in the country's employment generation. In the case of Philippines, MSMEs comprised 99.5% of the country's business establishments as of 2015, of which the bulk (89.9%) of MSMEs are classified as microenterprises (Department of Trade and Industry [DTI], n.d.). In the same report, these MSMEs are said to have generated 61.6% of the total jobs in the country, that is, 29.4% by micro;

25.3% by small, and 6.8% by medium enterprises (DTI, n.d.). Considering the contribution of MSMEs to the Philippine economy, The Magna Carta for Micro, Small and Medium Enterprises (2008) was enacted to further entrepreneurship and fortify development and assistance programs. Moreover, the Go Negosyo Act (2014) was also established to promote job creation and inclusive growth by fortifying the Philippine MSMEs. This goes to show how important is the MSME sector in the job creation and the inclusive economic development of the Philippines.

Nonetheless, the MSME sector still faced financial difficulties and persistent barriers to its performance and growth causing these enterprises to eventually fail (Hutchinson & Xavier, 2006). Literature has often cited that difficulty in access to finance is one of the persistent problems of MSMEs. Hampel-Milagrosa, Loewe, and Reeg (2015) argued that in cases like Egypt, India, and the Philippines, an entrepreneur's inadequate financial literacy has led to business difficulties, yet it is common for many entrepreneurs to attribute it to the external environment instead of their lack of qualities. Warnecke (2013) also argued that entrepreneurs need not only funding, but they also need financial literacy training and accounting support. Consequentially, Wright and Stigliani (2013) contended that many of the researches focused on the supply side issues, but the role of entrepreneurial cognition is largely underdeveloped. These studies likely suggest that an entrepreneur's financial competence is in a way linked to the performance or sustainability of the business.

On the one hand, a number of entrepreneurship studies still consider economic or financial performance-related results to be the most appropriate measures of entrepreneurial success (Powell & Eddleston, 2013). Nonetheless, demands for social responsibility and sustainable entrepreneurship in emerging economies have been on the rise (Silajdzic, Kurtagic, & Vucijak, 2014) despite some debates on how some market failures often incite environmentally damaging entrepreneurial actions. In fact, in the Philippines, SMEs do not generally adopt environmental-friendly practices due to their limited resources (Rao, la O'Castillo, Intal, & Sajid, 2006). However, Revell, Stokes, and Chen (2010) found that small businesses were slowly turning over a new page when a high percentage of owners-managers are actively involved in practices that will reduce carbon emissions. The paradigm shift in the business world has led to a rising number of entrepreneurs to become more attentive to environmental and societal issues (Soto-Acosta, Cismaru, Vatamanecu, & Ciochina, 2016). Given the rising environmental concerns and social responsibility issues, sustainability of an organization or a firm is no longer dependent on a sole measure but could rather be viewed on several measures. These studies encouraged the use of the triple bottom line (TBL) framework for this study

as indicators or measures of performance instead of solely focusing on the traditional economic or financial measures.

In linking financial sophistication and the TBL, this study is primarily guided by the theory of resource-based-view (RBV) of the firm. The RBV theory advocates that an organization is a collection of resources where those resources that are considered as valuable, rare, inimitable, and non-substitutable can create competitive advantage (Barney, 1991). Consequentially, this valuable resource could translate to improve performance. Akio (2005) argued that RBV is an important theory in strategic management yet many had often overlooked the importance of entrepreneurial strategies and entrepreneurial abilities as critical sources of a firm's competitive advantage. Akio (2005) further mentioned that "the abilities of the entrepreneur are the principal human resource possessed by the firm" (p. 138).

In spite of a number of entrepreneurship studies that may have looked at the human capital, financial literacy, and financial sophistication of entrepreneurs or MSME owners, this study aims to contribute to the growing body of knowledge by including decision-making style as one of the measures of financial sophistication instead of primarily focusing on financial knowledge and financial behavior. This study also took into account a more holistic view of firm performance by using the TBL framework instead of financial performance alone. Moreover, this study hopes to yield empirical support that a micro-entrepreneur's human capital, that is, financial sophistication, could become a competitive advantage that may lead to the sustainability of the business, especially on the aspects of economic, environmental, and social.

Hence, the primary objective of this paper is to examine the relationship of the financial sophistication dimensions on the TBL of microenterprises in the NCR, Philippines. Another objective of the study is to examine if gender moderates any relationship between financial sophistication dimensions and the areas of the TBL. This study hopes to convey important implications to various concerned institutions and individuals with regard to how financial sophistication affects the sustainability of microenterprises as measured by the TBL framework.

## Financial Sophistication

Financial literacy studies gained relevance and importance especially after the global financial crisis in 2008. Nonetheless, some studies argued that financial capability is more important than financial literacy because financial capability encompasses broader concepts other than knowledge and that knowledge itself may not translate into favorable financial actions nor quality financial decisions (Estelami, 2014). In fact, earlier studies argued that financial literacy is no longer sufficient to make informed judgments or good financial decision-making (Willis, 2008). Huston (2010) mentioned that many studies, and even the media, often equate financial knowledge with financial literacy, yet she argued that “financial knowledge is an integral dimension of, but not equivalent to, financial literacy” (p. 307). Huston (2010) further contended that in the development of an instrument measuring financial literacy, it is vital to determine if an individual can apply the information aptly by capturing both knowledge and application.

On the one hand, Estelami (2014) cited that financial capability is a concept that is often interchangeable with financial sophistication. Smith, Finke, and Huston (2012) also defined financial sophistication as a human capital that enhances an individual's ability to make more effective financial decisions. Considering the complexity of the business/financial market today, basic knowledge on numeracy and money may no longer be enough. Thus, with the complexity of the business world, advanced/sophisticated knowledge in finance might be necessary. In 2008, Willis argued that in the present world, there is a need for “sophisticated understanding of finance because rules of thumb are not useful for decisions about complex products in a volatile market” (p. 201). Hence, this study focused on the micro-entrepreneur's financial sophistication instead of financial literacy to incorporate other dimensions and introduce financial sophistication as a multi-dimensional construct. Financial sophistication in this study is also considered as a form of human capital (Huston, 2010).

To the best of our knowledge, the dimension of financial decision-making style is not specifically incorporated in many financial literacy or financial sophistication studies; or if there are, it may not be deeply explored. The descriptions of the financial

sophistication dimensions used in this study are as follows:

1. Financial knowledge used indicators related to knowledge of time value of money, understanding of risk diversification, and awareness of the basic accounting concepts.
2. Financial behavior is the self-assessed tendency to plan and keep an eye on finances; regularly save a portion of the business income; and sound assessment of financial position when making material purchases.
3. Financial decision-making style assessed the cognitive information processing of individuals in the course of the decision-making activity, that is, if the individual is an analyst-synthesist or a realist-pragmatist. According to Rettig and Schulz (1991), an analyst-synthesist is someone who is keen about the long-term, reflective, and systematic in weighing alternatives while realist-pragmatist is the contrary. In this study, the Likert statements pertaining to this construct were structured towards an analyst-synthesist. This means that a higher Likert-score tends towards an analyst-synthesist while a lower Likert-score tends towards realist-pragmatist.

## Triple Bottom Line

Sustainability became a popular concept in recent literature. Sustainability studies in the context of SMEs are also on the rise of which other scholars refer to it as sustainable entrepreneurship. Studies have shown that SMEs' participation in sustainability initiatives is increasing but still less embracing than large organizations (Hammann, Habisch, & Pechlaner, 2009). Singh, Ologu, and Musa (2016) also mentioned that the inadequate sustainability efforts of SMEs are often caused by lack of awareness and limited financial or human resources to support the essential changes for sustainability within the company. Through time, the TBL framework, as popularized by Elkington (1994), is used as indicators/measures of sustainability.

Considering the special context of microenterprises, data on economic indicators veered to be subjective. For this study, the indicators used for the economic aspect included the perceived profitability in relation to sales and the microenterprise' competitiveness in market

share. The use of subjective performance measures for small firms is the usual practice, which is likely due to its inherent nature (Wu & Leung, 2005). For the environmental aspect, indicators include responsible use of material and energy resources as well as offering environment-friendly products while social indicator includes the importance of relationships with partners in its market.

## Methodology

### Data

Being the home to many of the Philippines's most highly urbanized cities with the most number of microenterprises, NCR was chosen as the locale of the study considering that it "remains the largest among the 17 regional economies" (Philippine Statistics Authority, 2015), contributing to more than one-third of the country's gross domestic product. The respondents were owners of microenterprises. The Magna Carta for Micro, Small and Medium Enterprises (2008) states that an enterprise is considered as micro in nature if its

asset size is less than PhP3,000,000 or its employees are nine or less. However, Aldaba (2012) mentioned that despite the definition of microenterprise is either base on assets or employees, more often than not, the definition based on the number of employees is the most commonly used definition in the country. To better understand the characteristics of the sample, their characteristics are shown in Table 1.

Unlike results of other studies where education levels of micro-entrepreneurs are usually low, especially for female entrepreneurs (Onphanhdala & Suruga, 2010), Table 1 in this study indicated that majority of the respondents were females and have attended at least post-secondary education. This data gained support from the results of the Global Entrepreneurship Monitor [GEM] Philippine report by Velasco et al. (2016) where most of the non-youth entrepreneurs had post-secondary education. Moreover, many of the surveyed micro-entrepreneurs were within the age bracket of 30 and 41 as shown in Table 1. The data also showed that more women were engaged in retailing relative to men but relatively equal when it comes to the service industry. It should also be

**Table 1.** Characteristics of the Sample According to Gender at Birth

	Description	Females	%*	Males	%*
Gender:		208	54.17	176	45.83
Age:	18-29	37	9.64	32	8.33
	30-41	83	21.62	79	20.57
	42-53	56	14.58	42	10.94
	54-65	25	6.51	19	4.95
	66 and over	7	1.82	4	1.04
Education:	Post college	17	4.43	21	5.47
	College	116	30.21	86	22.40
	Vocational	14	3.65	9	2.34
	Some college	45	11.72	36	9.38
	High school	12	3.13	20	5.21
Industry:	Some high school	4	1.04	4	1.04
	Manufacturer	10	2.60	11	2.86
	Wholesaler	17	4.43	7	1.82
	Retailer	106	27.6	75	19.53
	Service	68	17.71	68	17.71
	Others	7	1.82	15	3.91

Note= \* percentage to entire sample of 384 respondents (there may be discrepancies due to rounding-off)

noted that most of the samples belong to the retail and service industry, which also conformed to the findings of Velasco et al. (2016) that majority of the Philippine enterprises are into consumer services.

### **PLS-SEM**

This study employed the PLS-SEM using the SmartPLS (v. 3.2.7) developed by Ringle, Wende, and Becker (2015). Throughout the years, PLS-SEM has gained continuing acceptance and been considered as a feasible methodology in many business disciplines (Liñan, Urbano, & Guerrero, 2011). In the evaluation of the measurement model, outer loadings of reflective indicators with values of 0.40 or less were removed from the path model and retained those indicators with outer loadings of 0.70 and above. Moreover, two indicators with outer loadings of 0.624 and 0.651 were retained after considering its effects on the thresholds of construct reliability and validity as suggested by Hair, Hult, Ringle, and Sarstedt (2014). The values of the composite reliability of constructs were 0.783 and above while the minimum average variance extracted (AVE) is 0.547. Hence, all constructs in the path model met the thresholds of construct reliability and validity.

Initially, each of the areas of the TBL, that is, economic, environmental, and social aspects of the TBL framework, had two indicators. Nonetheless, discriminant validity between the constructs relating to environmental and social aspects of TBL were above the 0.85 threshold for the Heterotrait–Monotrait (HTMT). Upon further examination, this issue can be remedied by retaining only one indicator of the social aspect. Thus, this study employed a single indicator for the construct relating to the social aspect of the TBL. After which, all of the constructs' discriminant validity has been established.

In the evaluation of the structural model, no collinearity issues were present because the outer and inner variance inflation factors (VIFs) were all below the threshold of 5.0 as cited by Hair et al. (2014). After running the PLS algorithm and bootstrapping technique, some significant relationships were found. Bootstrapping was done to mitigate the problem on the non-normality of latent variables. These relationships were further assessed for its predictive relevance by using the blindfolding procedure to obtain the Stone-Geisser's  $Q^2$  value. The results of the blindfolding technique in this study showed that all  $Q^2$  values were higher than 0.02 although the highest is only 0.126,

which suggest that the predictive relevance of the significant relationships found in the study maybe considered small (Hair et al., 2014). Lastly, the path model was also subjected to PLS-MGA to examine if there were statistically significant differences between individual group models, specifically on their gender (at birth).

## **Results and Discussion**

A graphical presentation of the results is shown in Figure 1 below with the various paths, the path coefficients, the T-values in parentheses, and the highlighted significant relationships.

Figure 1 showed the path model from the financial sophistication dimensions to the different aspects of the TBL. The numbers outside the parentheses represent the path coefficients while the T-values are those numbers within the parentheses. Those with significant relationships have path lines that are in bold while those in gray showed insignificant relationships.

As seen in Figure 1, results of the study revealed that among the financial sophistication dimensions/constructs, the financial decision-making style (FDMS) created a positive and significant effect on all aspects of the TBL framework, although at varying significant levels. The FDMS of the micro-entrepreneur is considered to be the most important dimension in relation to the environmental and social aspects of the microenterprise based on the path coefficients yet the least important dimension in relation to the economic bottom line. The path coefficients of the FDMS to environmental and social aspects were 0.21 and 0.35 respectively and were both found to be significant at 99% confidence level although the path coefficient of the FDMS in relation to economic aspect is only 0.11 and is significant at 90% confidence level. This likely suggests that a micro-entrepreneur with a decision-making style with that of an analyst-synthesist who is keen about the long-term, reflective, and systematic in weighing alternatives would have the highest and significant effects on the environmental and social measures as compared to financial knowledge and behavior. The results likely imply that an analyst-synthesist decision-making style is directly related on how the micro-entrepreneur adopts responsible material and energy usage; offers products/services that they perceived to be environment-friendly; and

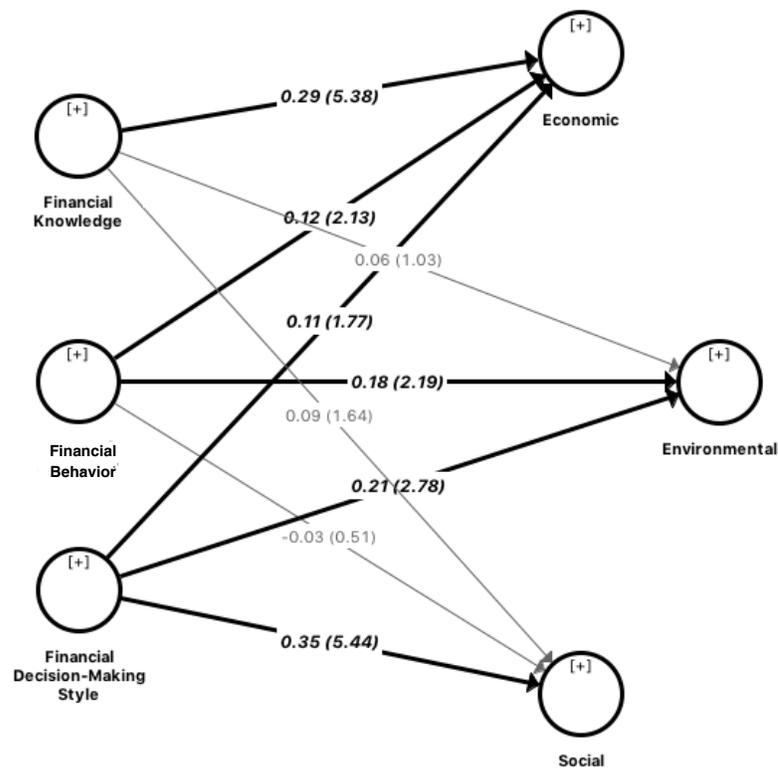


Figure 1. Path model.

builds long-term cooperative relationships with its partners in the market. It also seems to suggest that micro-entrepreneurs with an analyst-synthesist FDMS pay more attention to how their microenterprise fare well in the environmental and social measures relative to the economic measures.

On the one hand, financial behavior of the micro-entrepreneur showed to be the second most important dimension in relation to both economic and environmental aspects of the TBL with path coefficients of 0.12 and 0.18 respectively and were both significant at 95% confidence level. Nonetheless, the results of this study showed that financial behavior does not have a significant effect on the social aspect of the TBL. The results of this study appear to support the findings of McKenna, Hyllegard, and Linder (2003) that financial knowledge is not the only tool to become more successful and effective money managers. McKenna et al. (2003) contended that “psychological and behavioral differences are important factors in the decision-making process and often explain financial management behavior that deviates from the classical economic model based on rational decision-making” (p. 19). The results of the study also suggest the importance of responsible

financial behavior. As Byrne, Blake and Mannion (2009) argued, “the recent literature on individual financial decision making over the lifecycle has emphasised the effect of behavioural biases in decision making” (p. 17).

Among the three dimensions, financial knowledge showed to be the most important dimension in relation to the economic bottom line given that it has the highest path coefficient at 0.29 at 99% confidence level, although this dimension displayed insignificant effects on both the environmental and social aspects. This appears to suggest that financial knowledge is positively related to the economic bottom line of the microenterprise. Thus, the improvement of this particular financial sophistication dimension is likely to create positive effects on the economic measure of the microenterprise. However, it is to be noted that the indicators included in the financial knowledge were questions on basic accounting, time value of money, and risk diversification. Based on the results, it seems to suggest that micro-entrepreneurs who are financially knowledgeable on basic accounting concepts, time value of money, and risk diversification are more keen on the economic measures vis-à-vis the two other measures of the TBL.

Therefore, if the goal of the micro-entrepreneurs is to yield a sounder economic bottom line then enhancing their knowledge on basic accounting concepts, time value of money and risk diversification will likely create a positive and significant effect. Despite the fact that financial knowledge has no significant effect on the environmental and social measures, and financial behavior has no significant effect on the social aspect, the results still show that these dimensions of financial sophistication have positive effects in one or two of the measures of the TBL framework and that all three dimensions have positive and significant effects on the economic bottom line. Hence, the results of this study imply that a micro-entrepreneur's financial sophistication as a human capital can be considered as a valuable resource to the microenterprise especially that for MSMEs, the entrepreneur mirrors the enterprise.

This paper also investigated if there is/are any significant difference(s) in the coefficients of the path model between females and males and results are shown in Table 2.

Table 2 shows the PLS-MGA results on gender. Results show that the differences in the path coefficients of males and females were often found insignificant except for the path from females' FDMS, which had a positive and significant effect on the economic bottom line of the microenterprise at 95% confidence level. The results appear to suggest that the analyst-synthesist FDMS of female micro-entrepreneurs could yield a higher effect on the economic bottom line of the microenterprise as compared to the FDMS of the male micro-entrepreneurs. However, this does

not directly imply that female micro-entrepreneurs demonstrate higher financial sophistication than their male counterparts considering that the other constructs on financial sophistication showed no significant difference. Instead, the result on the FDMS is trying to suggest that female micro-entrepreneurs tend to be more of an analyst-synthesist in their decision-making, which may result to a significant difference in the relationship of financial decision-making style and economic bottom line.

More often, studies found that females are less financially literate or less financially sophisticated than men (Lusardi, Mitchell, & Curto 2014) and that female-owned businesses tend to underperform relative to male-owned businesses (Fairlie & Robb, 2009). Nonetheless, the results of this study have shown otherwise. The results appear to suggest that female micro-entrepreneurs are more reflective and cautious of the long-term results of their financial decisions, supporting the findings of Huang and Kisgen (2013), which may have led to a higher and significant effect on the economic bottom line of microenterprises relative to their male counterparts. Moreover, women are said to be "excellent managers of scarce resources, stretching the use of every resource to the maximum" (Yunus, 2004, p. 4078). Chirwa (2008) also argued that female-owned micro and small enterprises tend to grow quicker in terms of employment than male-owned ones. Another probable argument as to why being a female in this study is not an entrepreneurial liability could be attributed to the close gender gap in the country. In fact, the Philippines is one of the most

**Table 2.** PLS-MGA Results on Gender

Path	P.C. (Females)	P.C. (Males)	Absolute P.C.D
F.K. -> Economic	0.303	0.298	0.005
F.K. -> Environmental	0.074	0.059	0.015
F.K. -> Social	0.165	0.040	0.125
F.B. -> Economic	0.046	0.237	0.190
F.B. -> Environmental	0.132	0.213	0.081
F.B. -> Social	-0.075	-0.031	0.044
F.D.M.S -> Economic	0.199	-0.006	0.205**
F.D.M.S -> Environmental	0.280	0.143	0.137
F.D.M.S -> Social	0.310	0.450	0.140

**Notes:** F.K. = Financial knowledge; F.B. = Financial behavior;  
 F.D.M.S = Financial decision-making style; P.C. = Path Coefficient;  
 P.C. D. = Path coefficient difference; \*\* significant at 95% confidence level

gender-equal societies in the world (7th out of 144) that has closed the gender gap between males and females (World Economic Forum, 2016). Moreover, this result could also be due to the cultural dimension of Filipinos. Hofstede (2001) stated about the masculinity of Filipinos where people live in order to work and are expected to be decisive, self-assured, competitive, and emphasize on equity, for example, women are equally respected with men.

## Conclusion and Recommendation

Studies on financial literacy became more prominent and relevant especially after the global financial crisis in 2008. However, this study explored the idea of financial sophistication as a multi-dimensional construct as opposed to the traditional view of financial literacy, which is often construed as financial knowledge. It is to be noted that the limitations of this study such as the use of cross-sectional data, the research locale, the time frame, the high concentration of retail and service industry, and the size of the enterprise, that is, microenterprise, among others, be recognized before generalizing the results.

Results of the study suggest that Filipino micro-entrepreneurs have to advance their financial knowledge, particularly on time value of money, risk, and basic accounting considering that evidence showed that financial knowledge is the most important dimension in relation to the economic bottom line. On the one hand, results also suggest that the financial decision-making style of the micro-entrepreneur is considered as the most important dimension on both the environmental and social measures of the micro-enterprise because it generated the highest path coefficients relative to the other dimensions. In fact, the financial decision-making style is positively related to all areas of TBL but with varying significance levels. This may also imply that the Filipino micro-entrepreneurs consider the sustainability of their business when they make decisions.

Moreover, improvement in financial behavior, especially in their savings behavior and financial planning, will also yield a statistically significant effect on the economic and environmental measures. This study also found that the decision-making style of female micro-entrepreneurs is significantly higher than that of males in relation to the economic bottom line

of the microenterprise. Contrary to common results of other literature, this study provided evidence that being a female is not an entrepreneurship liability and may create positive effects on the economic performance of the enterprise.

Substantiated by the results yet considering the limitations of the study, it is suggested that policymakers and other involved government agencies would design capacity-building programs particularly focused on the further improvement of the three proposed dimensions of financial sophistication to improve the microenterprises' performance in general. Improving the stability and safeguarding the sustainability of these microenterprises could bring forth an impact on the economic development of a country, especially that many consider this sector as the backbone of an economy. The empirical evidence in this study offers useful empirical guidance for Philippine policymakers, regulators, and micro-entrepreneurs regarding the effects of financial sophistication on the performance and sustainability of the microenterprise. This also provides implication to aspiring female entrepreneurs that their gender is not an entrepreneurial liability especially in the case of the Philippines.

It is suggested that future researches will further explore the dimension of the financial decision-making style since this dimension appeared to be not deeply explored in many financial literacy or financial sophistication studies. It is also suggested that future studies investigating the financial sophistication-TBL relationship will also employ the same methodology used in this study, that is, PLS-SEM, to add to the growing literature in business research that utilizes the PLS-SEM technique. Moreover, comparisons of micro-entrepreneurs' financial sophistication across different countries and cultures may be pursued in future studies.

Albeit the limitations of this study, it is hoped that this paper had positively realized its objective of delivering empirical evidence on the effects of micro-entrepreneur's financial sophistication dimensions on the TBL of microenterprises, especially in the case of a developing country, that is, the Philippines.

## References

- Akio, T. (2005). The critical assessment of the resource-based view of strategic management: The source of

- heterogeneity of the firm. *Ritsumeikan International Affairs*, 3, 125–150.
- Aldaba, R. M. (2012). *Small and medium enterprises' (SMEs) access to finance* (Philippines. Discussion Paper Series No. 2012-05). Makati City: Philippine Institute for Development Studies. Retrieved from <https://www.econstor.eu/bitstream/10419/126881/1/pidsdps1205.pdf>
- Barney, J. (1991). Firm resources and sustained competitive advantage. *Journal of Management*, 17(1), 99–120.
- Byrne, A., Blake, D., & Mannion, G. (2009). *Financial sophistication and pension plan decisions* (Discussion Paper No. PI-0903). London: Pensions Institute.
- Chirwa, E. W. (2008). Effects of gender on the performance of micro and small enterprises in Malawi. *Development Southern Africa*, 25(3), 347–362. doi: 10.1080/03768350802212139
- Department of Trade and Industry. (n.d.). MSME statistics. Retrieved from <http://www.dti.gov.ph/businesses/msmes/msme-resources/msme-statistics>
- Elkington, J. (1994). Towards the sustainable corporation: Win-win-win business strategies for sustainable development. *California Management Review*, 36(2), 90–100.
- Estelami, H. (2014). An ethnographic study of consumer financial sophistication. *Journal of Consumer Behaviour*, 13, 328–341. doi:10.1002/cb.1472
- Fairlie, R., & Robb, A. (2009). Gender differences in business performance: Evidence from the characteristics of business owners survey. *Small Business Economics*, 33, 375–395.
- Go Negosyo Act, Republic Act 10644 (2014).
- Hair, J., Hult, G.T., Ringle, C., & Sarstedt, M. (2014). *A primer on partial least squares structural equation modeling (PLS-SEM)*. California, USA: SAGE Publications, Inc.
- Hammann E. M., Habisch, A., & Pechlaner, H. (2009). Values that create value: Socially responsible business practice in SMEs - Empirical evidence from German companies. *Business Ethics: A European Review*, 18(1), 37–51. doi:10.1111/j.1467-8608.2009.01547.x
- Hampel-Milagrosa, A., Loewe, M., & Reeg, C. (2015). The entrepreneur makes a difference: Evidence on MSE upgrading factors from Egypt, India, and the Philippines. *World Development*, 66, 118–130. doi:10.1016/j.worlddev.2014.08.005
- Hofstede, G. (2001). *Cultures consequences: Comparing values, behaviors, institutions and organizations across nations* (2<sup>nd</sup> ed.). London: Sage Publications.
- Huang, J., & Kisgen, D. (2013). Gender and corporate finance: Are male executives overconfident relative to female executives? *Journal of Financial Economics*, 108(3), 822–839.
- Huston, S. J. (2010). Measuring financial literacy. *Journal of Consumer Affairs*, 44(2), 296–316.
- Hutchinson, J., & Xavier, A. (2006). Comparing the impact of credit constraints on the growth of SMEs in a transition country with an established market economy. *Small Business Economics*, 27(2-3), 169–179. doi:10.1007/s11187-005-4412-3
- Liñan, F., Urbano, D., & Guerrero, M. (2011). Regional variations in entrepreneurial cognitions: Start-up intentions of university students in Spain. *Entrepreneurship & Regional Development*, 23(3/4), 187–215. doi:10.1080/08985620903233929
- Lusardi, A., Mitchell, O., & Curto, V. (2014). Financial literacy and financial sophistication in the older population. *Journal of Pension Economics and Finance*, 13(4), 347-366.
- Magna Carta for Micro, Small and Medium Enterprises, Republic Act 9501 (2008).
- McKenna, J., Hyllegard, K., & Linder, R. (2003). Linking psychological type to financial decision-making. *Journal of Financial Counseling and Planning*, 14(1), 19–29.
- Onphanhdala, P., & Suruga, T. (2010). Entrepreneurial human capital and micro and small business in Lao PDR. *The Developing Economies*, 48, 181–202.
- Philippine Statistics Authority. (2015, July 30). 2014 gross regional domestic product highlights. Retrieved from <http://nap.psa.gov.ph/grdp/2014/reglHighlights.asp>
- Powell, G.N., & Eddleston, K. A. (2013). Linking family-to-business enrichment and support to entrepreneurial success: Do female and male entrepreneurs experience different outcomes? *Journal of Business Venturing*, 28(2), 261–280.
- Rao, P., la O'Castillo, O., Intal, P., & Sajid, A. (2006). Environmental indicators for small and medium enterprises in the Philippines: An empirical research. *Journal of Cleaner Production*, 14(5), 505–515. doi:10.1016/j.jclepro.2005.03.016
- Rettig, K., & Schulz, C. (1991). Cognitive style preferences and financial management decision-making styles. *Financial Counseling and Planning* 2, 25–54.
- Revell, A., Stokes, D., & Chen, H. (2010). Small businesses and the environment: Turning over a new leaf? *Business Strategy and the Environment*, 19, 273–288. doi:10.1002/bse.628
- Ringle, C. M., Wende, S., & Beckerm, J. M. (2015). SmartPLS 3. Boenningstedt: SmartPLS GmbH. Retrieved from <http://www.smartpls.com>
- Silajdzic, I., Kurtagic, S., & Vucijak, B. (2014). Green entrepreneurship in transition economies: A case study of Bosnia and Herzegovina. *Journal of Cleaner Production*, 88, 376–384.
- Singh, S., Olugu, E. U., & Musa, S. N. (2016). Development of sustainable manufacturing performance evaluation expert system for small and medium enterprises. *Procedia CIRP*, 40, 608–613. doi:10.1016/j.procir.2016.01.142

- Smith, H., Finke, M., & Huston, S. (2012). The influence of financial sophistication and financial planners on Roth IRA ownership. *Journal of Financial Service Professionals, 66*(6), 69–81.
- Soto-Acosta, P., Cismaru, D. M., Vatamanescu, E. M., & Ciochina, R. S. (2016). Sustainable entrepreneurship in SMEs: A business performance perspective. *Sustainability (Switzerland), 8*(4), 1–12. doi:10.3390/su8040342
- Velasco, A. L., Castillo, P. J., Conchada, M. I. P., Gozun, B. C., Largoza, G. L., Perez, J. A., & Sarreal, E. D. (2016). Entrepreneurship in the Philippines: 2014 report. Retrieved from <http://www.gemconsortium.org/report>
- Warnecke, T. (2013). Entrepreneurship and age: An institutional perspective. *Journal of Economic Issues, 47*(2), 455–464. doi:10.2753/JEI0021-3624470219
- Willis, L. (2008). Against financial-literacy education. *Iowa Law Review, 94*, 197–285.
- World Economic Forum. (2016). *Global gender gap report 2016*. Davos, Switzerland: Author.
- Wright, M., & Stigliani, I. (2013). Entrepreneurship and growth. *International Small Business Journal, 31*(1), 3–22. doi: 10.1177/0266242612467359
- Wu, W., & Leung, A. (2005). Does a micro-macro link exist between managerial value of reciprocity, social capital and firm performance?: The case of SMEs in China. *Asia Pacific Journal of Management, 22*, 445–463. doi: 10.1007/s10490-005-4119-7
- Yunus, M. (2004). Grameen bank, microcredit and millennium development goals. *Economic and Political Weekly, 39*(36), 4077–4080.