RESEARCH ARTICLE

The Role of Entrepreneur's Financial Sophistication on the Nexus of Business Strategy and Sustainability Indicators of Philippine Microenterprises

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Abstract: The Philippine microenterprises sector is considered as an important stimulus of the country's economic growth. Previous studies have cited that the struggles faced by micro and small entrepreneurs are brought about by the difficulty in access to finance and the lack of entrepreneurs' financial literacy and inadequate business acumen. Anchored on the resource-based view theory, the primary objective of this study is to determine the role of financial sophistication, as a human capital resource, and its components, on the link between the strategy–sustainability indicator relationship. Based on a study of 384 micro-entrepreneurs from the National Capital Region, results of the partial least squares–structural equation modeling (PLS-SEM) showed that business strategy is positively linked to each of the sustainability indicators, that is, economic, environmental, social, and governance. Conversely, the entrepreneur's financial sophistication increases the effect of business strategy on each of the sustainability indicators. The results of the study also showed that a positive financial behavior and decision-making style are significant components of financial sophistication.

Keywords: financial sophistication, financial literacy, business strategy, sustainability, MSMEs

In many countries, the sector of micro, small, and medium enterprises (MSMEs) assist in the employment generation, making them significant to the growth of a country's economy (Robu, 2013). Philippine MSMEs comprise 99.52% of the country's business establishments as of 2018, and 88.45% of them are considered microenterprises (Department of Trade and Industry [DTI], n.d.). In the Philippines, an enterprise with an asset base not exceeding PhP3,000,000 or with nine or less employees is classified as microenterprise, as cited in the Magna Carta for Micro, Small and Medium Enterprises (2008). Philippine microenterprises also generate more jobs than small and medium enterprises (DTI, n.d.). Despite its contribution to the economy's growth, difficulty in access to finance has often been perceived as one of the consistent barriers to the growth of MSMEs. However, the difficulty faced by MSMEs is not only due to the access to finance but also due to the unsatisfactory financial statements of enterprises (Aldaba, 2012) and entrepreneurs' inadequate knowledge in accounting and finance (Hampel-Milagrosa et al., 2015; Karadag, 2015). These studies imply that the entrepreneurs' competence and their level of financial literacy or

sophistication are important factor in the sustainable performance of MSMEs.

A surge of financial literacy studies became evident, especially after the 2008 global financial crisis, yet there is no standard financial literacy measure. Huston (2010) reviewed 71 financial literacy studies and found that it is often defined as financial knowledge, and only a few scholars attempted to view financial literacy as a multi-dimensional construct. Some scholars have suggested that one should not aim to be financially literate but to be financially capable. Estelami (2014) defined financial capability as financial knowledge that is put into action. Estelami also cited that in many studies, financial capability is commonly referred to as financial sophistication, hereafter will be referred as FS. Moreover, the financial market has a lot to offer today than before, which demands for sophisticated financial knowledge (Lusardi & Mitchell, 2014). Thus, basic knowledge of numeracy and interests may no longer be sufficient in difficult decision-making processes (Huston et al., 2012).

Taking into account the complexity of markets today, this inspired me to use the term FS as opposed to financial literacy, which is often construed solely as basic financial knowledge (Huston, 2010). Hence, the use of FS in this study is to include components such as (a) financial behavior, (b) financial attitude, (c) financial decision-making style, and (d) financial knowledge.

On the one hand, the increasing pressure on companies to be accountable beyond economic gains has raised attention in both research and practice to embrace the concept of business sustainability (Labuschagne et al., 2005). In recent years, firms are called not only to enhance economic performance but to safeguard, sustain, and improve both human and natural resources in the long run. This has encouraged sustainability studies to view the performance of firms beyond the economic lens. Jusoh and Parnell (2008) also cited that strategy researchers should increase their attention to non-financial measures of firm performance and not only on financial measures. Conversely, sustainability initiatives in MSMEs are often insufficient due to inadequate financial resources and limited understanding of the entrepreneur on the concept of sustainability (Singh et al., 2016), yet it is gradually rising (Hammann et al., 2009). Hence, this paper attempted to evaluate the sustainability of microenterprises based on the following indicators:

(a) economic, (b) environment, (c) social, and (d) governance.

This paper sought to determine if FS, as a valuable human capital resource, mediates the link between business strategy (BS) and sustainability indicators (SIs) as guided by the resource-based view (RBV) theory of the firm. This paper also sought to examine if financial behavior, attitude, decision-making style, and knowledge are significant components of FS. To the best of my knowledge, it appeared that studies are limited in terms of financial decision-making style as one of the components of FS (see Lusardi & Mitchell, 2014; Huston, 2010). Hence, this paper hopes to contribute to the limited studies, which looked into the importance of financial decision-making style as a component of FS. Lastly, this study aims to convey important implications to various concerned institutions and individuals with regard to the business strategies employed and the FS of micro-entrepreneurs, and how these could relate to the sustainability of Philippine microenterprises.

Scope and Limitations of the Study

The respondents of the study were limited to owners of microenterprises in the cities of the National Capital Region (NCR), Philippines. The lack of access to the entire list of registered owners of NCR's microenterprises posed a challenge to employ probabilistic sampling, which may limit the generalizability of the results to the entire population.

Also, most of the microenterprises in this study were from the retail and service sectors and with an average firm age of 10 years. The measurement of the economic performance was Likert-scales, which is considered a common practice for studies involving MSMEs (Mason et al., 2015).

Research Framework and Hypotheses

In determining the BS–FS–SIs relationship, this study is primarily guided by the RBV theory. This theory promotes the idea that an organization can enjoy a competitive advantage, provided that its resources are regarded as valuable, rare, inimitable, and non-substitutable (Barney, 1991). Akio (2005) argued that many RBV scholars have often discounted the role of entrepreneurial abilities and entrepreneurial strategies as crucial sources of an enterprise's

competitive advantage. Degravel (2012) also cited that for small firms, implemented strategies are often influenced by the entrepreneur's preferences, attitude, and judgment. This is likely possible because the entrepreneur often mirrors the enterprise (Katz & Cabezuelo, 2004). Hence, a business' strategy, together with the entrepreneur's human capital, could become a competitive advantage that may eventually improve the sustainability of the business. Given this, Figure 1 illustrates the research framework and hypotheses of this study.

Business Strategy

It is common for strategic management researchers to link strategy and performance (Campbell & Park, 2016; Jusoh & Parnell, 2008) within the context of the theory of RBV (Leitner & Guldenberg, 2010). Although each typology of strategy has its own merits and demerits, the Miles and Snow's typology of strategies (prospector, analyzer, defender, and reactor) is one of the most known (Parnell et al., 2015) and proved to be robust and adaptable given various strategic issues (Oyedijo & Akewusola, 2012). Consequently, this paper used the Miles and Snow typology in examining the strategies of Philippine microenterprises. Moore (2005) cited that for retail firms, financial performance is strongest for those who adopted the prospector, analyzer, and defender strategies. In the case of service firms, Balas et al. (2014) also cited that the adoption of a prospector strategy is significantly related to a firm's financial

performance. Given this, it is hypothesized that business strategy is positively related to the economic sustainability of microenterprises **(Hypothesis 1a)**.

In the past, the SMEs were purported to be one of the biggest polluters in the world (Hillary, 2000). However, the increasing cognizance of environmental sustainability has finally reached the world of business, including the SME sector, although at a slower pace (Simpson et al., 2004). In a survey of 220 U.K. SMEs, Revell et al. (2010) found that small business owners engage in environmental initiatives because they view it not only as a responsibility but as a strategy to create an environment-friendly image, which may eventually lead to an increase in market share **(Hypothesis 1b)**.

For small firms, sustainability is said to be associated with the owner's values (Font et al., 2016), that is why SMEs act in diverse ways when it comes to socially responsible behaviors (Aragon et al., 2016). Some SMEs do their social responsibility on short-term and fragmented activities, whereas other SMEs are doing it in a more sustainable and systemic way (Aragon et al., 2016). This is because being socially responsible can bring a number of advantages to the business. Avram and Kuhne (2008) argued that the strategic decisions revolving the socially responsible behavior of a firm could become a source of competitive advantage. Therefore, enterprise owners could also take advantage of the benefits that corporate social responsibility (CSR) practices may provide **(Hypothesis 1c)**.

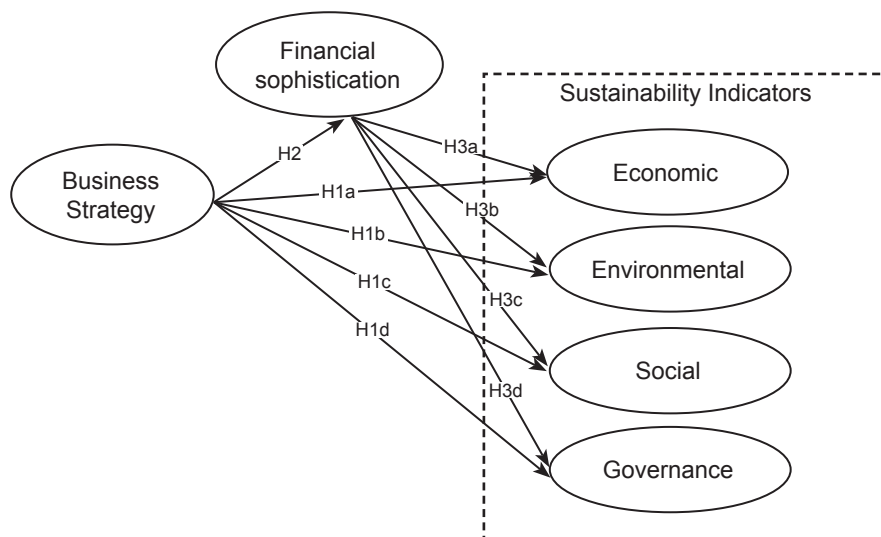Many sustainability studies have focused on the triple bottom line (TBL), that is, economic,

Figure 1. Research Framework

environmental, and social aspects. However, the governance serves as an umbrella of the three other dimensions of sustainability and ensures that the concepts of the TBL are entrenched in the organization's goals and decision-making processes (Woodward et al., 2004). Increasing literature seems to encourage the incorporation of good governance in SMEs. Studies have found that good governance will bring more benefits to SMEs, especially in its internal operations, which may lead to being sustainable (Abor & Adjasi, 2007), and the lack of it may hinder the growth and success of SMEs (Flowers et al., 2013). In the case of Tunisian SMEs, Miladi (2014) cited that good governance is viewed as something that results in quality relationships with stakeholders or families. Miladi (2014) also cited that SMEs' strategies create a competitive advantage, especially when good governance is in place **(Hypothesis 1d)**.

Financial Sophistication

Smith et al. (2012) defined FS as a human capital that enriches an individual's capacity to make more efficient financial decisions. Lusardi and Mitchell (2014) also cited that the increasing presence of complex financial products to retail-marketplace has shown to be difficult for those who are financially unsophisticated. This goes to show how important FS is to soundly handle complex financial decisions (Huston et al., 2012; Stango & Zinman, 2009). Literature in entrepreneurship also suggests that better performance is a function of the conditional effects of strategy and valuable resources such as human capital. Studies have shown that the combined effects of strategies and human capital in small firms, in comparison to its individual effects, revealed an enhanced firm performance (Campbell & Park, 2016; Edelman et al., 2005). Moreover, the exercise of business strategy is strongly related with the entrepreneur's competence (Beaver & Jennings, 2000). Hence, human capital, such as the entrepreneur's FS, can be considered a resource-based advantage that can support the adoption of a business strategy. Thus, it is hypothesized that the BS has an indirect effect on the SIs through the entrepreneur's FS **(Hypothesis 2)**.

Difficulty in accessing finance has often been said to be the compelling reason for many failures in MSMEs. Nonetheless, many of the difficulties often faced by MSMEs are also brought about by the low level of entrepreneurs' financial literacy (Abubakar,

2015). In this study, the FS of an entrepreneur is considered as a facet of human capital, which may facilitate the relationship between strategy and sustainability indicators. As earlier argued, this paper made use of the term FS instead of financial literacy to encompass beyond knowledge gains because the latter, though helpful, may no longer be adequate to make sound decisions (Johnson & Sherraden, 2007). Moreover, entrepreneurship studies (Abubakar, 2015; Hampel-Milagrosa et al., 2015; Wise, 2013) found that the FS of an entrepreneur is positively linked to a better MSME performance **(Hypothesis 3a)**. Nonetheless, sustainability scholars often cited that better firm performance does not only mean a sound economic performance (Hubbard, 2009). Thus, it is also hypothesized that the entrepreneur's FS is positively linked to the environmental SI **(Hypothesis 3b)** and social SI **(Hypothesis 3c)** of an enterprise. Also, one of the factors that impede the growth in SMEs is the lack of a good governance structure (Lekhanya, 2015; Flowers et al., 2013) and that financial literacy is one of the essentials of good governance (Pointer & Stillman, 2004). Hence, the entrepreneur's FS is also hypothesized to have a positive relationship on the governance SI of an enterprise **(Hypothesis 3d)**.

Methods

The NCR is the research locale of this study because it is considered as the economic hub of the Philippines. The NCR also ranked number one in terms of geographical spread with the highest number of MSMEs (DTI, n.d.). Initially, more than 400 micro-entrepreneurs were surveyed from the 16 cities in the NCR. The data were screened as to the validity of samples, outliers, multicollinearity, normality of data distribution, missing data, and non-engaged responses, as suggested by Hair et al. (2014). Hence, after data cleaning and pre-processing for PLS-SEM, only 384 micro-entrepreneurs formed the final sample for this study. The model was analyzed with the help of SmartPLS.

All variables used in this study were measured using sets of Likert-scale items. The study employed PLS-SEM because it could handle complex models and non-normally distributed data, which is often the case when latent variables are used (Hair et al., 2014). It must be noted that in this study, the BS and FS are second-order constructs. The first-order constructs of

BS were the different typologies of Miles and Snow, that is, (a) prospector, (b) analyzer, (c) defender, and (d) reactor. The first-order constructs of FS were (a) financial behavior, (b) financial attitude, (c) financial decision-making style, and (d) financial knowledge. In setting up the path model, the latent variable scores of the first-order constructs were used as the indicators of the second-order constructs relating to BS and FS (Lowry & Gaskin, 2014).

One of the pertinent limitations of PLS-SEM is that there is no global goodness of fit criterion. Hence, the path model went through a systematic procedure of measurement and structural model evaluation. Issues on non-unidimensional constructs were corrected by splitting the component of FS relating to financial knowledge into three topics, as suggested by the results of the principal components analysis. Hence, the first-order construct relating to financial knowledge was further decomposed into knowledge on the time value of money, capital markets, and accounting (see Figure 2). Similarly, some items were also dropped during the model evaluation because the outer loadings and outer weights were below the threshold, as suggested

by Lowry and Gaskin (2014). After resolving the issues during the measurement and structural model evaluation, the research model has passed all thresholds relating to construct reliability, discriminant validity, convergent validity, effect size, predictive relevance, size, and significance of path coefficients.

Results

The majority of the respondents in this study were women, which accounted for 54.17% of the entire sample. Most of the micro-entrepreneurs (62.49%) have earned college degrees, and 21.09% of them mentioned that they were able to earn some college units, whereas the rest of the sample were not able to enter college (16.42%). More than half of the respondents (52.08%) mentioned that they prepare financial statements annually. Other microentrepreneurs (41.15%) admitted that they only prepare financial statements when needed, and only 6.77% of the total respondents mentioned that they had never prepared any financial statements. The hypothesized relationships are presented in Figure 2.
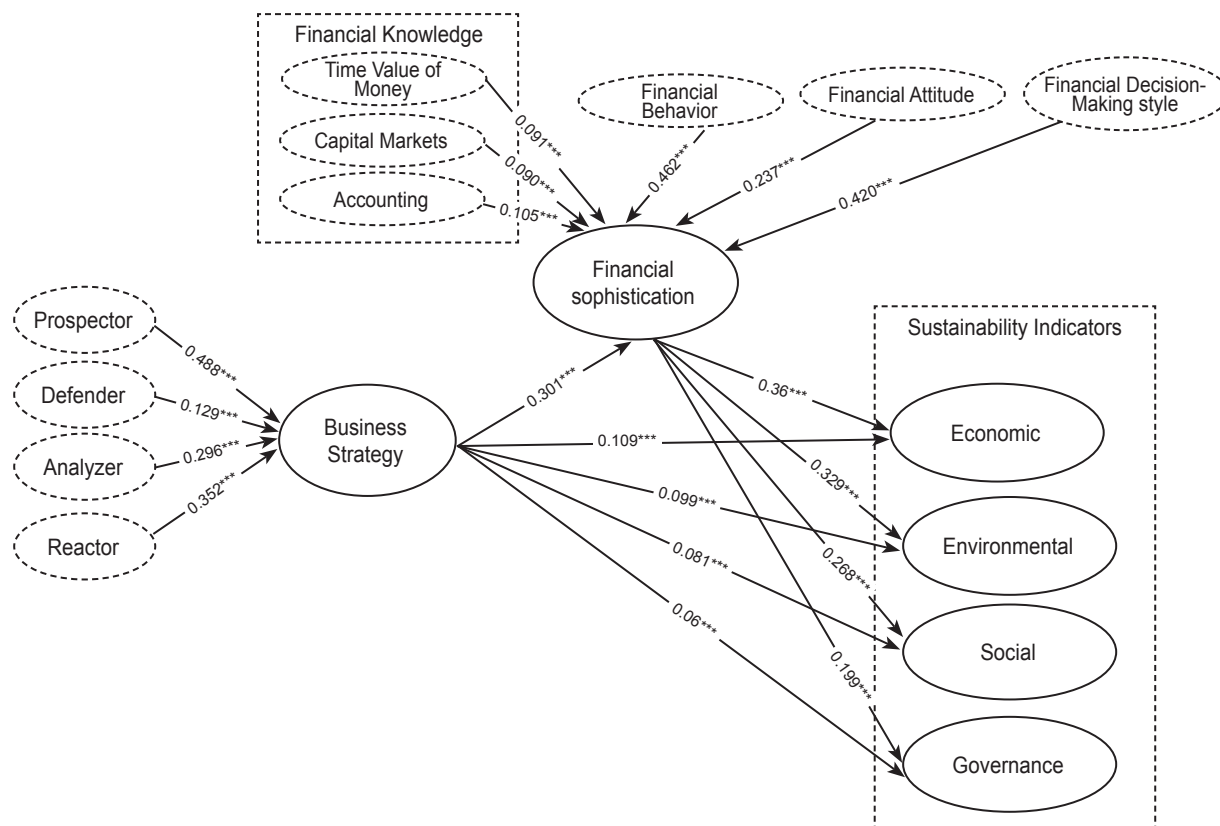

Figure 2. Path Model of the Link Between Strategy, Financial Sophistication, and Sustainability Indicators

All path coefficients in Figure 2 were found to be highly significant at a 99% confidence level. It is to be recalled that the primary focus of this study is on the BS–FS–SIs relationship, of which, as earlier mentioned, the BS and FS are second-order constructs. Nonetheless, the first-order constructs of the BS and FS were shown in dashed ovals for the purpose of providing the complete results with the goal that it may provide better insights as to which first-order constructs are the most important.

The effect size (f^2) of all paths met the threshold of 0.02, and results of the Stone-Geisser's Q^2 also revealed that the model has predictive relevance (Hair et al., 2014). All hypothesized relationships in this study were substantiated. Hence, BS has a direct effect on all of the SIs **(Hypotheses 1a, 1b, 1c, and 1d)** but with varying path coefficients. As shown in Figure 2, BS posted the highest effect on the economic SI (0.109), followed by environmental (0.099) and social (0.081) SIs, respectively. Although the relationship between BS and governance SI is highly significant, the path coefficient showed to be the least (0.06) among the four SIs used in this study. The results of the Stone-Geisser's Q^2 also revealed that the path between BS and governance SI has the least predictive relevance.

The path coefficient between BS and FS showed a positive and stronger relationship **(Hypothesis 2)** with a path coefficient of 0.301. Similarly, the path coefficients from the FS to the individual SIs also suggested that positive and significant relationships exist **(Hypotheses 3a, 3b, 3c, and 3d).** In response to the second objective of this study, Figure 2 showed that the most important component (first-order construct) of an entrepreneur's FS is financial behavior (0.462) followed by financial decision-making style (0.40). The least important component of FS is financial knowledge. Lastly, results in Figure 2 also appear to suggest that a prospector strategy is a superior business strategy for microenterprises among the Miles and Snow typology of strategies.

Discussion

The PLS-SEM results, based on a sample of 384 microenterprises, confirmed that BS has positive direct and indirect effects on each of the SIs used in this study: (a) economic, (b) environmental, (c) social, and (d) governance. The path between the BS and the individual SIs were statistically significant with

varying coefficients. Among the direct paths from BS to each of the four SIs used in this study, the direct path between the BS and the economic SI has the highest coefficient. This suggests that the adoption of a strategy is highly motivated by the possible outcome on the financial measure of firm sustainability as compared to non-financial measures. This supports the findings of Jusoh and Parnell (2008), which cited that strategies are commonly adopted to yield better financial measures and less emphasis is given on non-financial measures. However, the positive and significant relationships between the BS and the non-financial SIs, although with lower coefficients, reveal that entrepreneurs in the MSME sector are gradually turning a new leaf on how they view an enterprise's sustainability. The results imply that MSMEs have started to appreciate and employ initiatives that will make them environmentally and socially sustainable, as one of the strategies to increase market share and gain competitive advantage (Revell et al., 2010; Avram & Kuhne, 2008). The positive yet minimal coefficient between BS and governance SI reveals that microenterprises place a lower emphasis on the value of good governance in MSMEs. The findings of this study call for increased attention on good governance in MSMEs considering its possible positive effects on the overall sustainability of the firm (Miladi, 2014; Flowers et al., 2013; Abor & Adjasi, 2007).

On the one hand, based on the first-order constructs relating to the BS, results revealed that the prospector strategy has the highest path coefficient among the Miles and Snow typology of strategies. This study empirically supports the results of prior studies, which cited that prospector strategy tends to outperform analyzers, defenders, and reactors (Balas et al., 2014; Tang & Tang, 2012; Moore, 2005). Thus, by being cognizant of exploiting new product or market opportunities, the adoption of prospector strategy could lead to a competitive advantage that will make microenterprises sustainable, whether economic, environmental, social, or in its governance.

Based on the results, the path coefficients of the direct effects of BS on the individual SIs only ranged from 0.06 to 0.109, but the indirect effect of BS on the individual SIs with the presence of FS augmented the relationship with a much higher coefficient (0.301). The results of this paper confirm the findings of prior literature, which cited that the combined effects of human capital and business strategy provide an

enhanced overall firm performance (Campbell & Park 2016; Edelman et al., 2005). Hence, a financially sophisticated entrepreneur with an appropriate business strategy appears to be necessary for the sustainability of a microenterprise. Moreover, the direct effects of FS on the individual SIs revealed higher path coefficients in comparison to the BS–SIs path coefficients. The results also conform to the RBV theory that it is a valuable resource that enhances the positive link between BS and enterprise' sustainability (Akio, 2005). The entrepreneur's FS is considered as a valuable human capital resource that is unique to the enterprise, especially that the entrepreneur echoes the enterprise (Katz & Cabezuelo, 2004). Moreover, as seen in Figure 2, the path from FS to economic SI has the highest coefficient, implying that economic goal is the most significant sustainability indicator for microentrepreneurs. In a way, this supports the finding of Huston et al. (2012) when they found that individuals who are more financially sophisticated generate more net worth relative to those who were less financially sophisticated.

On the other hand, among the components of FS, financial behavior displayed to have the highest path coefficient followed by financial decision-making style, financial attitude, and financial knowledge on accounting, time value of money, and capital markets, respectively. The PLS-SEM results likely imply that among the proposed FS components, it is the positive financial behavior of an entrepreneur that could considerably help microenterprises become sustainable. The results corresponded to studies that cited that those with sound financial behavior are able to manage their resources effectively and efficiently (Hilgert et al., 2003; McKenna et al., 2003). The findings of this study also support my notion on why FS was viewed as a multi-component construct rather than the usual perspective of financial literacy, which is simply financial knowledge (Eades et al., 2013).

Conclusion

It is to be noted that the limitations of this study be recognized before generalizing the results. With the guidance of the RBV theory, this study probed the mediating role of micro-entrepreneur's FS on the nexus between the Miles and Snow typology of BS and the individual SIs. The study attempted to include SIs relating to environmental, social, and governance, aside

from the economic lens in viewing the sustainability of the business. Also, contrary to the traditional view on financial literacy studies, which are often concentrated only on financial knowledge, this study explored the idea of FS as a collection of four components: (a) financial behavior, (b) financial attitude, (c) financial decision-making style, and (d) financial knowledge.

Based on the PLS–SEM results, there is a positive and significant link between the direct paths of BS and each of the SIs. However, the indirect effect of BS on each SIs revealed a much stronger relationship with the presence of FS. Hence, the results of the study indicated that a financially sophisticated entrepreneur with an appropriate strategy appears to considerably improve the sustainability of a microenterprise. This study has shown that the entrepreneur's FS is a valuable, rare, inimitable, and non-substitutable resource that enhances the sustainable competitive advantage, especially that the entrepreneur mirrors the enterprise. Also, the study found that financial behavior is the most important among the proposed components of FS, followed by financial decision-making style, financial attitude, and financial knowledge, respectively. The study also found that among the business strategies, the adoption of a prospector strategy is superior relative to an analyzer, defender, and reactor strategies.

To end, notwithstanding the limitations of this study, it is hoped that this paper had positively realized its objective of delivering empirical evidence on the role of an entrepreneur's FS on the nexus of strategy and sustainability in the context of a developing country like the Philippines.

Acknowledgments

Declaration of Ownership:

This report is my original work.

Conflict of Interest:

None

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Ethical clearance:

The study was approved by the Institution.

References

Abor, J., & Adjasi, C. (2007). Corporate governance and the small and medium enterprises sector: Theory and implications. *Corporate Governance: The International Journal of Business in Society*, *7*(2), 111–122. https://doi.org/10.1108/14720700710739769

Abubakar, H. (2015). Entrepreneurship development and financial literacy in Africa. *World Journal of Entrepreneurship, Management and Sustainable Development, 11*(4), 281–294. https://doi.org/10.1108/WJEMSD-04-2015-0020

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. https://pdfs.semanticscholar.org/1a52/3824959552b01c3ae72aaec827ee13b4ceed.pdf?_ga=2.254794186.355017997.1566818186-226329779.1566818186

Aldaba, R. (2012). *Small and medium enterprises' (SMEs) access to finance: Philippines* (Discussion Paper Series No. 2012-05). Retrieved from https://dirp4.pids.gov.ph/ris/dps/pidsdps1205.pdf

Aragon, C., Narvaiza, L., & Altuna, M. (2016). Why and how does social responsibility differ among SMEs? A social capital systemic approach. *Journal of Business Ethics*, *138*(2), 365–384. https://doi.org/10.1007/s10551-015-2632-2

Avram, D. O., & Kuhne, S. (2008). Implementing responsible business behavior from a strategic management perspective: Developing a framework for Austrian SMEs. *Journal of Business Ethics, 82*(2), 463–475. https://doi.org/10.1007/s10551-008-9897-7

Balas, A., Gokus, O., & Colakoglu, S. (2014). Exploring the role of external environment on determing strategic focus, market orientation, and firm performance of service firms. *Academy of Marketing Studies Journal, 18*(1), 19–40. https://www.abacademies.org/articles/amsjvol18no12014.pdf

Barney, J. (1991). Firm resources and sustained competitive advantage. *Journal of Management, 17*(1), 99–120. https://doi.org/10.1177%2F014920639101700108

Beaver, G., & Jennings, P. (2000). Editorial review: Small business, entrepreneurship and enterprise development. *Strategic Change, 9*(7), 397–405. https://doi.org/10.1002/1099-1697(200011)9:7%3C397::AID-JSC519%3E3.0.CO;2-P

Campbell, J., & Park, J. (2016). Extending the resource-based view: Effects of strategic orientation toward community on small business performance. *Journal of Retailing and Consumer Services, 34,* 302–308. https://doi.org/10.1016/j.jretconser.2016.01.013

Degravel, D. (2012). Strategy-as-practice to reconcile small businesses' strategies and RBV? *Journal of Management Policy and Practice, 13*(1), 46–66.

Department of Trade and Industry. (n.d.). *2018 MSME statistics*. https://www.dti.gov.ph/resources/msme-statistics/

Eades, K., Fox, J., Keown, A., & Staten, M. (2013). *The role of professors in improving financial literacy roundtable session: Highlights from the 2012 FMA annual meeting* (Darden Business School Working Paper No. 2298763). Retrieved from https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2298763

Edelman, L., Brush, C., & Manolova, T. (2005). Co-alignment in the resource–performance relationship: Strategy as mediator. *Journal of Business Venturing, 20,* 359–383. https://doi.org/10.1016/j.jbusvent.2004.01.004

Estelami, H. (2014). An ethnographic study of consumer financial sophistication. *Journal of Consumer Behaviour, 13*(5)*,* 328–341. https://doi.org/10.1002/cb.1472

Flowers, D., Parker, H., Arenz, J., Gaffley, J., Greighton, L., Rasdien, S., Matthews, T., Pietersen, V., & Smit, Y. (2013). An exploratory study on corporate governance practices in small and micro fast moving consumer goods enterprises in the Cape Metropole, Western Cape, South Africa. *African Journal of Business Management*, *7*(22), 2119–2125. https://academicjournals.org/article/article1380698788_Flowers%20et%20al.pdf

Font, X., Garay, L., & Jones, S. (2016). Sustainability motivations and practices in small tourism enterprises in European protected areas. *Journal of Cleaner Production, 137,* 1439–1448. https://doi.org/10.1016/j.jclepro.2014.01.071

Hair, J., Hult, G. T., Ringle, C., & Sarstedt, M. (2014). *A primer on partial last squares structural equation modeling (PLS-SEM)*. 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. https://doi.org/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. https://doi.org/10.1016/j.worlddev.2014.08.005

Hilgert, M., Hogarth, J., & Beverly, S. (2003). *Household financial management: The connection between knowledge and behavior* (Technical Report No. 309-322). Retrieved from http://www.federalreserve.gov/pubs/bulletin/2003/0703lead.pdf

Hillary, R. (2000). Introduction. In R. Hillary (Eds.), *Small and medium-sized enterprises and the environment: Business imperatives* (pp. 11–22). Routledge.

Hubbard, G. (2009). Measuring organizational performance: Beyond the triple bottom line. *Business Strategy and the Environment*, *18*(3), 177–191. https://doi.org/10.1002/Bse.564

Huston, S. (2010). Measuring financial literacy. *Journal of Consumer Affairs, 44*(2), 296–316. https://doi.org/10.1111/j.1745-6606.2010.01170.x

Huston, S., Finke, M., & Smith, H. (2012). A financial sophistication proxy for the survey of consumer finances. *Applied Economics Letters, 19*(13), 1275–1278. https://doi.org/10.1080/13504851.2011.619485

Johnson, E., & Sherraden, M. (2007). From financial literacy to financial capability among youth. *Journal of Sociology and Social Welfare, 34*(3), 119–145. Retrieved from https://scholarworks.wmich.edu/cgi/viewcontent.cgi?article=3276&context=jssw

Jusoh, R., & Parnell, J. (2008). Competitive strategy and performance measurement in the Malaysian context. *Management Decision, 46*(1), 5–31. http://dx.doi.org/10.1108/00251740810846716

Karadag, H. (2015). Financial management challenges in small and medium-sized enterprises: A strategic management approach. *Emerging Markets Journal, 5*(1), 25–40. https://doi.org/10.5195/emaj.2015.67

Katz, J., & Cabezuelo, A. (2004). Measures of financial sophistication. In W. B. Gartner, K. G. Shaver, N. M. Carter, & P. D. Reynolds (Eds.), *Handbook of entrepreneurial dynamics: The process of business creation* (pp. 372–385). Sage Publications, Inc.

Labuschagne, C., Brent, A. C., & Van Erck, R. P. (2005). Assessing the sustainability performances of industries. *Journal of Cleaner Production, 13*(4), 373–385. https://doi.org/10.1016/j.jclepro.2003.10.007

Leitner, K., & Guldenberg, S. (2010). Generic strategies and firm performance in SMEs: A longitudinal study of Austrian SMEs. *Small Business Economy, 35,* 169–189. https://doi.org/10.1007/s11187-009-9239-x

Lekhanya, L. M. (2015). Leadership and corporate governance of small and medium enterprises (SMEs) in South Africa: Public perceptions. *Corporate Ownership & Control*, *12*(3), 215–222. Retrieved from https://pdfs.semanticscholar.org/3f6b/50875bcf056fb3be4a0fec48ca84722c9b43.pdf

Lowry, P. B., & Gaskin, J. (2014). Partial least squares (PLS) structural equation modeling (SEM) for building and testing behavioral causal theory: When to choose it and how to use it. *IEEE Transactions on Professional Communication, 57*(2), 123–146. https://doi.org/10.1109/TPC.2014.2312452

Lusardi, A., & Mitchell, O. (2014). The economic importance of financial literacy: Theory and evidence. *Journal of Economic Literature, 52*(1), 5–44. https://doi.org/10.1257/jel.52.1.5

Magna Carta for Micro, Small and Medium Enterprises, Republic Act 9501 (2008). Retrieved from https://www.officialgazette.gov.ph/2008/05/23/republic-act-no-9501/

Mason, M. C., Floreani, J., Miani, S., Beltrame, F., & Cappelletto, R. (2015). Understanding the impact of entrepreneurial orientation on SMEs' performance: The role of the financing structure. *Procedia Economics and Finance*, *23*, 1649–1661. https://doi.org/10.1016/S2212-5671(15)00470-0

McKenna, J., Hyllegard, K., & Linder, R. (2003). Linking psychological type to financial decision-making. *Journal of Financial Counseling and Planning, 14*(1), 19–29. Retrieved from https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2265631

Miladi, A. I. (2014). Governance for SMEs: Influence of leader on organizational culture. *International Strategic Management Review*, *2*, 21–30. https://doi.org/10.1016/j.ism.2014.03.002

Moore, M. (2005). Towards a confirmatory model of retail strategy types: An empirical test of Miles and Snow. *Journal of Business Research*, *58*(5), 696–704. https://doi.org/10.1016/j.jbusres.2003.09.004

Oyedijo, A., & Akewusola, R. (2012). Organizational strategy and firm performance: A test of Miles and Snow's model using 34 paint manufacturing SMES in South-western Nigeria. *Journal of Research in International Business and Management*, *2*, 170–178. Retrieved from https://pdfs.semanticscholar.org/595b/603158467fe6cecc2e278f883db70a22e58b.pdf

Parnell, J., Long, Z., & Lester, D. (2015). Competitive strategy, capabilities and uncertainty in small and medium sized enterprises (SMEs) in China and the United States. *Management Decision, 53*(2), 402–431. http://dx.doi.org/10.1108/MD-04-2014-0222

Pointer, D., & Stillman, D. (2004). The essentials of good governance: Financial literacy, organizational skills and access to the right data are critical. *Modern Healthcare*, *34*(46), 24.

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. https://doi.org/10.1002/bse.628

Robu, M. (2013). The dynamic and importance of SMEs in economy. *USV Annals of Economics & Public Administration*, *13*(1), 84–89. http://annals.seap.usv.ro/index.php/annals/article/viewFile/495/547

Simpson, M., Taylor, N., & Barker, K. (2004). Environmental responsibility in SMEs: Does it deliver competitive advantage? *Business Strategy and the Environment*, *13*(3), 156–171. https://doi.org/10.1002/bse.398

Singh, S., Olugu, E. U., & Musa, S. N. (2016). Development of sustainable manufacturing performance evaluation

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and Sustainability Indicators of Philippine Microenterprises

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expert system for small and medium enterprises. *Procedia CIRP, 40*, 608–613. https://doi.org/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.

Stango, V., & Zinman, J. (2009). Exponential growth bias and household finance. *The Journal of Finance, 64*(6), 2807–2849. https://doi.org/10.1111/j.1540-6261.2009.01518.x

Tang, Z., & Tang, J. (2012). Entrepreneurial orientation and SME performance in China's changing environment: The moderating effects of strategies. *Asia Pacific Journal of Management, 29,* 409–431. https://doi.org/10.1007/s10490-010-9200-1

Wise, S. (2013). The impact of financial literacy on new venture survival. *International Journal of Business and Management, 8*(23), 30–39. https://doi.org/10.5539/ijbm.v8n23p30

Woodward, D., Woodward, T., & Val, M. R. (2004). Quadruple bottom line reporting amongst a sample of Spanish water industry businesses. *Social and Environmental Accountability Journal, 24*(2), 8–14. https://doi.org/10.1080/0969160X.2004.9651717