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Financial Literacy and Financial Performance of Small and Medium-sized Enterprises

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Financial Literacy and Financial Performance of Small and Medium-sized Enterprises

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Abstract

Research Aims - The study aims to examine the influence of financial literacy on the performance of small and medium-sized enterprises (SMEs) in Malaysia.

Design/methodology/approach - The data were obtained from questionnaires distributed to 200 SME managers/owners. Multiple regression analysis was applied to test the influence of financial literacy on SMEs performance by controlling manager profile and SME-specific characteristics.

Research Findings - Multiple regression results prove that financial literacy has a positive and significant impact on SMEs' performance. Managers/owners with financial literacy skills understand business-related financial concepts, including debt, savings, takaful, insurance, and investment, which ensure the good performance of their business.

Theoretical Contribution/Originality - Similar research has been conducted outside Malaysia. However, there is a need to validate the financial literacy and SME performance relationship in the Malaysian environment due to differences in culture; ways of thinking; and legal, business, and political situations. These differences lead to different responses which then contribute to the way the effect of financial literacy on SME performance is explained. In addition, this study improves the consistency of the existing evidence on SME performance and expands the scope of the Resource-Based View (RBV) from the perspective of SMEs

Research limitation & implications - Government agencies such as SME Corporation recognise the importance of financial literacy among entrepreneurs. Therefore, proactive efforts need to be accelerated to provide an adequate level of financial literacy among entrepreneurs. Furthermore, entrepreneurial finance can be introduced in formal and non-formal education to ensure that every layer of society enjoys the benefits regardless of their economic status.

Keywords - financial literacy; performance; SME; entrepreneur; Malaysia.

INTRODUCTION

In Malaysia, small and medium-sized enterprises (SMEs) represent 98.5% of all firms (Economic Census, Department of Statistics, 2016) and contributed 38.3% to the country's GDP in 2018. SME firms also contributed 17.3% of the country's total export value in 2018 (DOSM, 2019). In addition, SMEs promote the economic development of a local community by creating job opportunities, increasing household income, and stimulating rural industries. Contributions to individuals can be seen in terms of the basic development of entrepreneurship that transforms traders into entrepreneurs. For these reasons, the Malaysian government developed the SME Master Plan 2012-2020, which targeted 41% of SME contribution to the

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national GDP, 65% to employment, and 23% to export value.

Despite the growing numbers of SMEs in Malaysia and their remarkable contributions toward economic development and society, the performance of SMEs has not yet reached the desired target (Yusoff et al., 2018). According to Musa and Chinniah (2016), various programs and assistance have been introduced by the government to aid SME firms, but the performance of SMEs remains non-competitive. This situation is evidenced in the SMEs' contribution to the country's GDP, which from 2010 to 2016 showed a relatively insignificant increase of only 4.6% (NSDC, 2017). In addition, the Malaysian Department of Statistics reported that the overall contribution of SMEs to the country's GDP is also lower than that of large firms, at a rate of 38.3% compared with 61.7% for large firms. In terms of export value, SME firms contribute RM171.9 billion (USD41.95 billion) out of RM994.9 billion (USD242.81 billion) of the total national export value (DOSM, 2019). This unfavourable performance also led to a high percentage of SME failures. In 2012, the Small Business Administration recorded that most SME firms do not last long; 50% of them cannot survive after five years of establishment, and about 33% cannot survive after ten years of establishment in most countries. Statistics in 2016 show that only 50% of SME firms in the United States survived after five years, while only one-third survived after ten years. Consistently, many Malaysian SMEs fail in the first five years (Kee-Luen et al., 2013), with a failure rate of 60% (Ahmad & Seet, 2009; Chong, 2012). Based on the 2011 census, which was reported in the SME Master Plan 2012–2020, 42% of SMEs registered in 2000 failed to survive until 2005. Jebna and Baharuddin (2013) argued that the failure rate of SME firms is high given that no complete data exist to obtain accurate statistical figures. Bernama (2017) reported that nearly 80% of SMEs in the country failed to survive in the first three years

The current pandemic has affected the SME Master Plan 2012-2020, which could in turn threaten the economic wellbeing of various layers of society in Malaysia. The contribution of SMEs to the Malaysian GDP was down by more than 7 percent in 2020 compared to the previous year. Generally, the contribution of Malaysian SMEs to the country's GDP was relatively low. In 2019, SMEs in Malaysia contributed 39.8% to the national GDP (Department of Statistics Malaysia, 2020), compared to an ASEAN regional average of 44.8% (AEM-METI Economic and Industrial Cooperation Committee, 2021). Similarly, the contribution of Malaysian SMEs to total export value in 2018 was 17.3%, slightly lower than the average ASEAN regional contribution of 20.4% (Asian Development Bank, 2020). These alarming performance outcomes may cause Malaysian SMEs to lag far behind in seizing opportunities globally and ultimately to fail to remain competitive (Khalique et. al., 2011).

Thus, studies to determine factors that can influence the performance of SMEs have frequently been conducted. Financial literacy continues to be among the factors investigated. Past studies have shown inconclusive evidence of the relationship between financial literacy and SME performance. Significant relationships have been demonstrated in some studies (e.g., Agyapong & Attram, 2019; Aribawa, 2016;

Chamwada, 2015; Cherugong, 2015; Dahmen & Rodriguez, 2014; Fernandes, 2015; Kimunduu et al., 2016; Muraga & John, 2015; Njoroge, 2013; Sabana, 2015; Salome & Memba, 2014; Usama & Yusoff, 2019). By contrast, other research (i.e., Bruhn & Zia, 2011; Eresia-Eke & Raath, 2013; Menike, 2018) shows that financial literacy has no relationship with or influence on SME performance. In addition, these past studies have been conducted in countries other than Malaysia. Researchers sense the necessity to validate the relationship between financial literacy and SME performance in the Malaysian environment, as differences exist between Malaysia and other countries from the perspective of culture, ways of thinking, legal issues, business nature, political situation, and other factors. For instance, some countries may enact a particular regulation to promote SME start-ups such as Japan and Thailand. However, the government policy and private sector roles have become the driving forces encouraging SME start-ups in Malaysia (Wisuttisak, 2020). This initiative has been extended to financial education and building financial management skills before beginning business operations. In fact, Malaysian workplaces are very hierarchical, based on position, age, and sometimes ethnicity. For instance, certain ethnicities may dominate others, creating friction within an organization (Saxena and & Dasgupta, 2017). This may hinder the awareness of the importance of financial literacy. These differences lead to different responses in different countries (Harzing, 2006). Smith (2004) stated that cultural differences between countries can also lead to different responses in the survey conducted. Several studies on financial literacy among SMEs have been conducted in Malaysia. The level and determinants of SMEs' financial literacy have become the most popular topic of research (e.g., Ripain et al., 2017; Thabet et al., 2019), while some studies have focused on the relationship between financial literacy and SME's profitability (see Rahim & Balan, 2020; Sabli et al., 2018; Suffari & Tahir, 2021). However, the findings from the earlier studies are ambiguous. Therefore, this study examines the influence of financial literacy on the performance of SMEs in Malaysia. This study differs from that of Rahim and Balan (2020) as we employ a more comprehensive measurement of financial literacy by considering insurance literacy as suggested by Sabana (2014). Furthermore, it enriches the growing literacy in the context of SME to assist the decision-making process and strategy formulation to ensure a sustainable SME performance. This study also expands the scope of the Resource-Based View (RBV) by considering financial literacy as one of the knowledge components in the SME perspective.

The remainder of the paper is organized as follows. First, we provide an overview of the small and medium-sized enterprise (SME) categorization in Malaysia. Second, we review the past studies related to financial literacy and performance, followed by the conceptual framework and research hypothesis. Next, we elaborate research methodology, results and discussion. Finally, conclusion provided at the end of the paper.

SME DEFINITION AND CATEGORIZATION

Although there is no specific universal definition for SMEs (Altman et al., 2008), they can be identified based on three aspects: namely, definitions by international institutions, national law, and industry (Berisha and Pula, 2015). According to Altman et al. (2008), since 1996, the European Union has provided a general definition of SMEs, which was later updated in 2003. This definition is based on two criteria: the number of employees and annual sales. Firms in the European Union are classified as SMEs when annual sales are less than 50 million Euros (RM238,575,832/ USD 58,224,742) per year and when the number of employees is less than 250 people. The World Bank added another criterion: total assets total assets (US dollars) (Berisha and Pula, 2015). Altman et al. (2008) defined SMEs in the United States based on the following four criteria: profit-oriented, located in the United States, contributes to the national economy, and does not exceed the size of the numerical standard of the industry in which it enters.

In Malaysia, two bodies are responsible for defining SMEs: the Ministry of International Trade and Industry (MITI) and the Malaysian Small and Medium Enterprises Corporation (SME Corp), formerly known as the Small and Medium Industries Development Corporation (SMIDEC). MITI serves as the legislative body related to SMEs, while SME Corp plays a role in promoting SME development by offering advisory services, financial and fiscal assistance, infrastructure, markets, and other development programs. SME Corp can be considered a reference centre for SMEs related to information and advisory services on SME development programs. The definition of SMEs adopted today is in line with the economic changes experienced in Malaysia after 2005, including price inflation, structural changes, and changes in business flows. The new definition SMEs was approved in a meeting during the 14th Council of the National SME Development Council (MPPK) on 11 July 2013 and was enforced on 1 January 2014. It has raised the threshold limit for annual sales value and the number of full-time SME employees for all economic sectors. The revised definition of SMEs increases the number of companies classified as SMEs, especially in the service sector Table 1 summarises the definition of SMEs in Malaysia.

In Malaysia, all SMEs must be registered with the Companies Commission of Malaysia (CCM). Business registration can be made by using a personal name or trade name, with a registration fee between RM60-RM100 (USD15-USD25). Furthermore, SMEs also need to obtain licenses and permits from the relevant authorities, including local authorities. Currently, there are 907,065 SMEs registered in Malaysia, of which more than 76% are represented by micro enterprises (SME Corporation Malaysia, 2021). Indeed, SMEs have a huge opportunity for synergy

Category	Micro		Small		Medium	
	Annual sales	Full-time employees	Annual sales	Full-time employees	Annual sales	Full-time employees
Manufacturing	< RM300K (USD73.2K)	< 5	RM300K < RM15mil (USD73.2K < USD3.66mil)	5 <75	RM15 mil ≤ RM50 mil (USD3.66mil ≤ USD12.2 mil)	75 ≤ 200
Services and other sectors	<RM300K (USD73.2K)	< 5	RM300k < RM3 mil (USD73.K < USD732K)	5 < 30	RM3 mil ≤ RM20 mil (USD732K ≤ USD4.88mil)	30 ≤ 75

Source: SME Corp. Malaysia (2020)

Table 1
SME definition

development, not only among Malaysian SMEs but also among Asian countries via various initiatives by SME Corp. For instance, East Asia SME Round Table Meeting serves as a platform for member SMEs to share ideas, issues and economic cooperation. Moreover, SME Corp also provides a variety of programs such Bumiputera Enterprise Enhancement Programme (BEEP) and Global SME Masterclass (GSM) Programme to promote innovation and synergies among SMEs in Malaysia.

LITERATURE REVIEW

Strong performance and business sustainability are the key objectives in any business, including SMEs (Madrid-Guijarro et al., 2007). Accordingly, firms and communities can reap benefits through the withdrawal of resources, creating employment opportunities and creating wealth (Ahmad & Abdul Ghani, 2013). However, SMEs are often associated with sluggish growth, unsatisfactory sales, lack of competitiveness, and fragility. Yusuf and Dansu (2013) stated that SMEs are firms that cannot last long. Zakaria (2013) claimed that although the percentage of SMEs is larger than that of large firms, the SME sector shows no internal or external strengths. Therefore, measuring performance over time is very important, especially in a volatile business environment (Najmi et al., 2005).

Given that SME firms constitute the majority of enterprises in a country, studying the performance of SMEs is important. Moreover, SME firms are also the backbone of the economic development of a country through their contributions to GDP, to reducing unemployment, and to export value. Furthermore, SME firms form a sector wherein the basics of entrepreneurship are practiced in producing entrepreneurs who can catalyse the economy to become, allowing the country to face a competitive (Misoska et al., 2016). Therefore, it is very relevant to examine factors that affect the performance of SMEs. Among the factors that capture the attention of researchers is the aspect of financial literacy among SME entrepreneurs. Table 2 shows definitions of financial literacy from some previous studies.

Financial literacy skills represent an important organisational resource provide benefits to the organisation. Gavigan (2010) highlighted that financial literacy skills

Table 2
Financial literacy definition across past studies

Past study	Definition
Vitt et al. (2000)	Financial literacy is the ability to read, analyze, manage and communicate about personal financial positions that affect life. These include the ability to differentiate financial options, discuss financial and money issues without discomfort, plan for the future and respond efficiently to matters affecting daily financial decisions or matters affecting the economy in general.
Worthington (2005)	Financial literacy is the ability to evaluate and make effective decisions about the use and management of money.
Servon and Kaestner (2008)	Financial literacy refers to the ability to understand and apply financial concepts.
Huston (2010)	Financial literacy is awareness and knowledge as well as financial instruments and is needed in business and daily life. Financial literacy also includes the ability to balance bank accounts, budgets, savings for the future, and strategies for managing debt.
OECD INFE (2011)	Financial literacy is a combination of awareness, knowledge, skill, attitude, and behaviour necessary to make sound financial decisions and ultimately achieve individual financial wellbeing.
Sohn et al. (2012)	Financial literacy is the knowledge and skills needed to handle financial challenges and make decisions about finances in daily life.
Eresia dan Raath (2013)	Financial literacy is seen as the ability to make appropriate financial-related decisions and plan for future financial needs.

link business financial resources with financial products and services. Furthermore, financial literacy allows for sensible financial decision-making to attain financial wellbeing (OECD INFE, 2011). Accordingly, Adomako et al. (2016) suggested that the financial literacy possessed by entrepreneurs constitutes the firm's internal ability to access finance aimed at achieving superior growth. Consistently, Sucuahi (2013) highlighted that entrepreneurs with a good financial foundation can be an important barometer of business success and growth in a competitive business environment. When entrepreneurs lack financial literacy, this can lead to the failure of a business (Niederauer, 2010). As knowledge of financial management is an important aspect in ensuring the firm's financial stability (Talib et al., 2017), it is an essential instrument for SME success (Fernandes, 2015; Kimunduu et al., 2016). Indeed, Ahmad Raflis et al. (2007) stated that financial literacy is a key support function that plays an important role in determining the life of an entity apart from its core functions (e.g., the offering of products or services). A lack of financial literacy usually has no significant impact at an early stage but turns out to have a decisive impact on SME growth and sustainability in the long run.

Past studies have shown empirical evidence that a relationship exists between financial literacy and SME performance. Dahmen and Rodriguez (2014) found a link between financial literacy and SME performance in Florida, USA. They explained that firms with good financial literacy can identify and respond to climate change in business, economy, and finance. Thus, the decisions made will create innovative and effective solutions for business performance improvement and sustainability. A study conducted on a soapstone business in Kenya found that the training related to financial literacy has a positive impact on businesses' financial performance (Salome & Memba, 2014). Additionally, other studies in Kenya (e.g., Chamwada, 2015; Cherugong, 2015; Kimunduu et al., 2016; Muraga & John, 2015; Njoroge, 2013; Sabana, 2014) have also shown that financial literacy has a relationship with SME performance.

A study in Portugal shows that a high level of financial literacy possessed by business owners will contribute to better SME performance. This study also identifies the need to strengthen financial education for SME entrepreneurs (Fernandes, 2015). As stated by Aribawa (2016), SMEs with good financial literacy will be able to achieve business objectives, have a business development orientation, and survive in difficult economic conditions. Draxler et al. (2014) assumed that an SME owner will be involved in complex and strategic financial decision-making to achieve business objectives and sustainability. In addition, the findings of studies conducted in Central Java, Indonesia are consistent with findings that show a significant relationship between financial literacy and SME performance (Aribawa, 2016).

However, findings from previous studies remain inconsistent and vague. In fact, some studies show no association between financial literacy and SME performance (Bruhn & Zia, 2011; Eresia-Eke & Raath, 2013; Menike, 2018). Thus, reassessing the impact of financial literacy on SEM performance is worthwhile in emerging countries like Malaysia. Meanwhile, the profile of the manager and the SME-specific characteristics studied vary and may also be expected to impact SME performance. Therefore, this study will include these variables in the SME performance model as control variables to estimate the causal effect of financial literacy on SME performance.

Regarding the manager profile, age, gender, and education of entrepreneurs were found to influence SME performance (Essel, 2019). Essel (2019) explains that most entrepreneurs have low formal education and face constraints in terms of technical training; thus, the success of SMEs is highly dependent on the age and education of the entrepreneur. Accordingly, older managers achieve better SME performance (Faye, 2017). Moreover, Shava and Rungani (2016) confirmed that male-led SMEs outperform female-led SMEs, while Ndlovu et al. (2018) showed that the influence of owner-manager experience and level of education has a strong relationship with SME performance. As such, SME owners can employ human capital, which gives them a competitive advantage. Stelate et al. (2018) found that manager experience plays an important role in a successful SME. Experience helps managers to make the right decisions in business. Furthermore, the experience gained is in line with the age range and educational background achieved. Although Cowling et al. (2017) suggested that the entrepreneurial experience does not have any impact on sales growth among SMEs in the UK, little impact on employment growth was observed. They also found that level of education is insignificant in influencing SMEs' performance.

Firm characteristics such as firm size, firm age, business sector, and type of ownership have also been examined as driving factors for firm performance in the past literature. Generally, larger firms perform better than smaller firms, due to the economy of scale (Sellers & Alampi-Sottini, 2018). Empirical evidence can be seen from Cowling et al. (2018) in their study of 3167 SMEs in the UK after the global financial crisis of 2008-2009. Consistently, the analysis of 723 wineries firms in Italy showed a positive effect of firm size on firm performance (Sellers & Alampi-Sottini, 2018). On the other hand, Zhang (2007) suggested that small firms surpassed larger firms among Chinese listed companies. However, Radipere and Dhliwayo (2014) found no significant effect of firm size on business performance among SMEs in the retail industry.

Regarding firm age, Mallinguh et al. (2020) found that older firms outperformed younger firms in Kenya. Consistently, firm age has a positive relationship with employment growth but is insignificant regarding the growth of sales among 200 small-scale firms in Ghana (Essel et al., 2019). Furthermore, Radipere and Dhliwayo (2014) suggested a positive link between firm age and business performance; however, further analysis revealed that the effect of firm age disappears after 20 years of operation. On the other hand, Cowling et al. (2018) found a negative association between firm age and SME performance, as measured by sales growth in the UK. In other words, younger SMEs performed better than older SMEs, especially those aged above 10 years.

The business sector in which SMEs operate is another firm characteristic that has been examined in past studies on the effect on firm performance. For instance, Mallinguh et al (2020) found that the business sector has a substantial effect on financial performance among 146 medium-size firms in Kenya. Similar findings were reported by Essel et al. (2019) in their study of small-scale firm performance in Ghana. Consistently, the business sector has strong predictive power for SME performance in Pretoria, South Africa (Mothibi, 2015).

Several studies have also assessed the type of ownership to anticipate firm performance. For instance, Obasan et al. (2016) found a strong positive association between insider ownership and firm performance in Nigeria. Consistently, Chu (2009) discovered that family ownership had a positive correlation with SME performance. However, Mallinguh et al. (2020) and Essel et al. (2019) found no evidence of the effect of ownership on firm performance.

Summary and Conceptual Framework

The review of past studies has shown the influence of financial literacy on SME performance, although the empirical evidence remains vague. Therefore, this study proposes a conceptual framework as shown in Figure 1. Furthermore, the Resource-Based View (RBV) is employed to support the conceptual framework. According to the RBV, businesses perform differently, as each business has different internal resources. The internal organizational resources refer to the strengths and weaknesses that exist in a particular firm (Wernerfeldt, 1984). These include the assets, capabilities, information, and knowledge that are controlled (owned) by the firm in question (Barney, 1991; Wernerfeldt, 1984). Therefore, the competitive advantage of a business comes from internal resources. In other words, any useful resources that can be obtained by a business would determine the competitive advantage of that firm over others.

The RBV holds that firms compete using the resources and capabilities available within them (Peteraf & Bergen, 2003). Furthermore, Khotimah (2014) highlighted that the RBV sees firms as groups of resources and capabilities. In a broader view, the RBV focuses on the firm's ability to maintain a combination of resources that cannot be owned by or built in the same way by competitors. According to Adomako et al. (2016), financial literacy possessed by an entrepreneur would enhance the firm's internal ability to access financing for future growth. Therefore, financial literacy can be seen as an internal capacity of the firm to achieve a competitive advantage.

Based on the review of the past literature and the proposed conceptual framework, this study hypothesizes that:

H_A: Financial literacy positively influence SME performance.

Figure 1
Conceptual framework

METHODOLOGY

Sampling

The study population includes all SMEs listed on the SME Corp website database as of 30 September 2016. The selected SMEs are concentrated in the states of Kedah, Perlis, and Penang, which have been included under Northern Corridor Economic Region (NCER). Indeed, NCER promotes a balance and equitable economic development nationwide. Furthermore, these states have become one of the prominent gateways within the Indonesia-Malaysia-Thailand Growth Triangle (IMT-GT) in Southeast Asia for investment in businesses and commercial expansion for various industries (Northern Corridor Economic Region, 2021). The total number of SMEs in these states is 7,012. Simple random sampling will be used to select SMEs in each state, because this is the best approach to obtain samples to represent the population. This sampling method is less biased than other sampling methods and can provide a high level of generalisability (Sekaran & Bougie, 2010). Following the sample size table by Krejcie and Morgan (1970), this study used a sample of 364 SMEs.

Research instrument

Survey methods are widely used in the study of business, because business is a social phenomenon involving many performed transactions, and the data needed to make decisions come from humans. Accordingly, a questionnaire was developed containing four sections, labelled A, B, C, and D. The sections in the questionnaire are designed to obtain information on the constructs shown in Table 3. Parts A and B contain the respondents' and firm's profiles, respectively. The questions in this section are closed-ended questions with a predefined response format.

Meanwhile, the development of questions in Parts C and D, regarding financial literacy and SME performance, respectively uses unidimensional methods. According to this method, the measured variables have been hypothesised by relating them to a single construct (Azizi, 2009). For Part C, this study opted to adopt and adjust the instruments developed by Sabana (2014) to represent financial literacy, as shown in Table 4. The items and dimensions used by Sabana (2014) are more comprehensive than the measures used in other studies, as they include the dimensions of insurance literacy and mathematical knowledge, which have rarely been considered in measuring financial literacy in other past studies.

Performance measurement (Part D) is based on respondents' perceptions of the financial position of SMEs. The selection of this subjective measurement was made for the following reasons. Firstly, obtaining financial data from SMEs is difficult. For SME owners/managers, financial data are a sensitive matter, and they tend to provide inaccurate financial data (Khan et al., 2014). Thus, the financial data provided by SMEs are likely inaccurate (Tippins & Sohi, 2003) and unreliable (Kraus et al., 2006, in excerpts from Khan et al., 2014). Therefore, obtaining objective financial data from SMEs is impractical. Secondly, based on Sapienza et al. (1988), objective financial data provided by SMEs often do not reflect the actual situation of SMEs, as managers/owners tend to manipulate financial data to avoid individual or corporate taxes (Zulkiffli & Perera, 2011). Lastly, objective data may be misinterpreted. This condition can occur due to variations in total profits (Covin & Slevin, 1989) and can also lead to inconsistent objective measurement among SMEs in different industries (Dawe, 1999, in excerpts from Zulkiffli & Perera, 2011). Thus, this study will use the performance measurement used by Azizi (2009), as shown in Table 5. Measurement of financial performance from this subjective perspective has also been used by researchers such as Man Wing (2001) and Nakhata (2007) in their respective studies.

Sections C and D use a response format based on an itemised rating scale. This scale is an interval measurement scales that allows respondents to use a wide range of point numbers (Cavana et al., 2001). This study uses a 6-point Likert scale; thus, it does not provide a midpoint or neutral point. The use of 6-point Likert scale is supported by Tang et al. (1999), who argued that a 6- to 7-point scale allows re-

Table 3
Parts of the questionnaire

Part	Details
A	Respondent profile
B	Firm profile
C	Financial literacy
D	SME performance

Table 4
Dimensions and item description of financial literacy

Dimension	Item description
Financial management	Our organisation has cash books used to record business revenue and expenses, Our organisation separates any personal income/expenses from business income/expenses. The organisation makes plans for the business and regularly monitors it. Our organisation implements cash flow projections for businesses. Our organisation provides financial statements for businesses (e.g., balance sheets and income statements). This organisation uses the financial information in the financial statements to manage the business. Our organisation has a business plan.
Savings literacy	Our organisation knows the importance of saving for business expenses. Our organisation has savings plans for business expenses. Our organisation regularly saves for business expenses. Our organisation will not easily issue organisational savings to finance unrelated business expenses.
Debt literacy	Debt is inevitable in a business. Loans in businesses are a risk. Members of the organisation know the differences among a base rate, a nominal rate, and an interest rate. Members of the organisation know what is meant by real benefits. Members of the organisation know the difference between interest rates and compounded interest rates. Organisation prefers business loans to be repaid on a flat basis rather than reducing loan balances. The organisation obtained business credit reports over the past 12 months. The organisation has too much debt and has problems or will probably have problems in repayment. This organisation has the right amount of debt at present and does not have any problems paying it off. This organisation has lower debt, and organisations are eligible for other loans. This organisation does not know the status of the debts incurred.
Investment literacy	This organisation has an investment plan. The organisation regularly monitors returns from investments. This organisation diversify their investments and change them depending on the return or revenue to be obtained. Investments with high returns may also have high risks.
Insurance literacy	Business-related insurance is important. The business insurance policies in the market differ from each other. Terms related to business insurance policies must be understood by all members of the organisation. This organisation cannot afford to have a business insurance policy because it is too expensive. All members of the organisation lack information on insurance products suitable for the business.

Source: Sabana (2014)

spondents to express optimal levels of confidence in their extreme assessments. For financial literacy, the 6-point scale ranges from strongly disagree to strongly agree, while for performance it ranges from very low to very high. In total, this questionnaire contains 53 questions. Table 6 summarises the number of items for each part.

Reliability test

A research instrument is deemed reliable if it is capable of consistently providing the same result when the elements of the same entity are measured many times under the same conditions (Van Dalen, 1993). Similarly, Lim (2007) defines reliability as a degree of consistency of a research instrument measuring a variable studied. He also stated that the more consistent the measurement is, the higher is the reliability of the instrument. The instrument is considered to have 100% reliability if every time the instrument is managed, the same result is obtained.

According to Sekaran (2000), the alpha coefficient can provide the best indication to determine reliability. Hair et al. (2006) detailed the degree of alpha coefficient reliability as follows: 0.6 or above is average, over 0.7 is better than normal, more than 0.8 is good and 0.9 is very good. For studies related to social sciences, Sekaran (2003) stated that a value of 0.6 or above is often applied for Cronbach's Alpha. If the items in the variable show a value less than 0.6, then those items should be removed from the questionnaire (Sekaran & Bougie, 2010).

Multiple regression

Generally, correlation analysis tests the strength of a relationship between two continuous variables (Franzese & Luliano, 2019) using a coefficient correlation ranging from -1 to +1. The higher the value of the coefficient correlation (close to +1 or -1), the stronger the relationship between these two continuous variables, and vice versa. However, correlation analysis cannot assess whether one variable can explain the other variables. Therefore, linear regression can be employed to examine the influence of independent variables on dependent variables. The following is the basic econometric equation to model the relationship between the independent variable (X) and dependent variable (Y). Indeed, linear regression aims to estimate the

Table 5
Description of SME performance items

Construct	Item	Source
Performance of SME	Cash flow Gross profit margin Net profit from the operation Sales growth Return on sales Return on investments Net profit margin ratio Return on shareholder equity Ability to finance business from profit	Azizi (2009)

Table 6
Number of items for each part

Part	Details	Number of items
A	Respondent's profile	8
B	Firm's profile	5
C	Financial literacy	31
D	SME performance	9
TOTAL		53

model parameters α and β that fit with the joint distribution of X and Y (Franzese & Luliano, 2019).

$$Y=\alpha+\beta X+\varepsilon \quad (1)$$

In this study, SME performance and financial literacy were treated as the dependent variable and independent variable, respectively, while manager profile and SME-specific characteristics were treated as control variables. Control variables were added to the model to anticipate the causal effect of financial literacy on SME performance. Accordingly, multiple linear regression is employed, and the above equation can be rewritten as follows:

$$SMEPer=\alpha+\beta_1 FinLit+\beta_t Control+\varepsilon \quad (2)$$

where *SMEPer* and *FinLit* represent SME performance and financial literacy, respectively. CONTROL is the control variables, which consist of manager profiles (i.e., gender (GEN), age (AGE), experience (EXP), an education level (EDU)) and SME-specific characteristics (i.e., sector in which SMEs operate (SEC), type of ownership (OWN), business age (BIZAGE), and firm size (SIZE)). Meanwhile, α is the intercept, β measures the regression coefficient and ε represents the error term. The summary of measurement for each variable is presented in Table 7.

RESULTS AND DISCUSSIONS

Questionnaires were sent to respondents (SME owners/managers) via postal mail. To obtain the required sample number of 364, a total of 1,213 questionnaires were posted to randomly selected SMEs. This number is based on Sekaran and Bougie (2010), who stated that the response rate received via mail is 30%. The data collection process lasted for six months, and 207 questionnaires were received at the end of the period (17.06%). After careful assessment, it was concluded that only 200 questionnaires (16.48%) could be used. A total of seven sets of questionnaires were rejected due to incomplete respondent feedback. The number of questionnaires received did not reach the threshold suggested by Krejcie and Morgan (1970) and

Variable	Description	Measurement
GEN	Gender	1=male, 0=female
AGE	Managers' age	Ordinal: (1) < 25 years old; (2) 26-30 years old; (3) 31-35 years old; (4) 36-40 years old; (5) 41- 45 years old; (6) 46-50 years old; (7) > 50 years old
EXP	Managers' experience – measures whether managers possessed any experience before starting their business	1=experience, 0=no experience
EDU	Education level	Ordinal: (1) primary school; (2) secondary school; (3) diploma; (4) bachelor's degree; (5) master's degree, (6) doctorate
SEC	Sector in which SMEs operate	1=service, 0=non-service
OWN	Type of ownership	1= sole proprietor, 0 = others
BIZAGE	Business age – number of years since SMEs were incorporated	Ordinal: (1) < 5 years; (2) 5-10 years; (3) 11-15 years; (4) 16-20 years; (5) 21-25 years; (6) > 25 years
SIZE	Firm size	Numbers of employees
FINLIT	Financial literacy	6-point Likert scale
SMEPer	SME performance	6-point Likert scale

Table 7
Summary of variable measurement

Sekaran and Bougie (2010). However, the number is deemed acceptable for this study, as the response is nearly the same as that of several previous studies, including Rudd et al. (2008) at 16%; Shuhymee (2010) at 16.9%; Kohtamaki et al. (2012) at 12.5% and Rosli (2014) at 19.8%.

Respondent's profile

The majority of respondents were male (57.5%), and the rest were female (42.5%). The age distribution shows that the fewest respondents were in the age group under 25 (6.5%), and the majority of respondents were in the age range of 41–45 years (28%). Respondents aged between 46–50 represented 19% of the sample, the age range of 31–35 years represented 15.5%, and the age range of 36–40 years represented 15%. For the rest, 7.5% of respondents were aged between 26–30, and only 8.5% were more than 50 years old. Meanwhile, in terms of educational level, secondary school education showed the highest percentage (45%), followed by bachelor's degree (23.5%) and a diploma (18.5%). The respondents with primary school

Table 8
Respondents' profile

	Frequency	Percentage (%)
Gender		
Male	115	57.5
Female	85	42.5
Age		
< 25	13	6.5
26–30	15	7.5
31–35	31	15.5
36–40	30	15
41-45	56	28
46–50	38	19
> 50	17	8.5
Education		
Primary school	16	8
Secondary school	90	45
Diploma	37	18.5
Bachelor's degree	47	23.5
Master's degree	5	2.5
Doctorate	3	1.5
Others	2	1
Marital status		
Single	37	18.5
Married	135	67.5
Widowed/divorced	28	14
Race		
Malay	114	57
Chinese	78	39
Indian	7	3.5
Other	1	5
Business experience		
Yes	116	58
No	84	42
Period of managing/owning business		
< 5 years	40	20
5–10 years	83	41.5
11–15 years	52	26
16–20 years	16	8
21–25 years	5	2.5
> 25 years	4	2

education represented 8% of the sample, 2.5% at the master's degree level, and 1.5% at the doctoral level. Finally, 1% indicated other educational level.

Most of the respondents (67.5%) in this study were married. The other marital statuses, namely single and widowed/divorced, represented 18.5% and 14%, respectively. The majority of respondents were Malay (57%), followed by Chinese (39%) and Indian (3.5%). The minority (1%) indicated other ethnicities. Furthermore, in terms of business experience and the period of managing the existing business, the majority (58%) of the respondents had business-related experience before opening their current business, while the rest (42%) did not. Meanwhile, a small number of respondents (2%) had been in business for more than 25 years. Respondents who had managed the business for 5–10 years were the majority at 41.5%, while 26% had managed the business for 11–15 years, and 20% for less than 5 years. The remaining 8% of respondents have managed the business for 16–20 years, and 2.5% of respondents have managed the business for 21–25 years. Table 8 summarises the demographics of respondents.

Firm's profile

Table 9 shows the distribution of SME demographic profiles. The majority of SME firms consisted of SME firms from Kedah (43.5%), followed by Perlis (32.5%) and Penang (24%). Based on the legal status, 46% of SMEs were registered as private

	Frequency	Percentage
State		
Kedah	87	43.5
Perlis	65	32.5
Penang	48	24
Legal status		
Sole proprietorship	83	41.5
Partnership	23	11.5
Limited liability partnership	2	1
Sdn. Bhd.	92	46
Sector		
Service	98	49
Manufacturing	79	39.5
Agriculture	6	3
Mining and quarry	10	5
Construction	7	3.5
Duration of business		
< 5 years	31	15.5
5–10 years	70	35
11–15 years	62	31
16–20 years	17	8.5
21–25 years	11	5.5
>25 years	9	4.5
Number of employees		
< 10	118	59
10–20	30	15
21–30	10	5
31–40	7	3.5
41–50	6	3
> 50	29	14.5

Table 9
Firm's profile

limited (Sdn. Bhd.), sole proprietorship (41.5%), partnership (11.5%) and the limited liability partnership represented approximately 1%. The feedback obtained in terms of the sector showed that the majority were from the services and manufacturing sectors, at 49% and 39.5%, respectively, while the rest were from the mining and quarry sector (5%), the construction sector (3.5%) and the agricultural sector (3%). In terms of the duration of doing business, most SME firms (35%) had been in business for 5-10 years, while 31% were aged 11-15 years and 15.5% were less than 5 years old. The remaining SMEs had been in business for 16-20 years (8.5%), 21-25 years (5.5%), or more than 25 years (4.5%). The distribution of the number of employees owned by SMEs shows most SMEs (59%) had less than 10 employees, while the fewest (3%) had 41-50 employees.

Reliability test results

Table 10 shows that the Cronbach's Alpha coefficients for financial literacy and SME performance are above 0.6, being 0.885 and 0.930, respectively. Therefore, items on financial literacy and SME performance are reliable (Sekaran and Bougie, 2010). Thus, all items in both variables are retained.

Table 11 shows the mean value for each element of financial literacy, overall mean value for financial literacy and mean value for SME performance. All elements of financial literacy have scored a mean value above 3.67, except for debt literacy. Overall, the mean value for financial literacy was relatively high at 4.26. This implies high financial knowledge among SME owners/managers. Accordingly, SMEs' performance was also found to be at a high level with a mean value of 4.25. The interpretation of the mean value is based on Mukminin and Hidayat (2013), as shown in Table 12.

Multiple regression analysis results

The Breusch Pagan and Koenker tests were conducted to detect heteroscedasticity issues, as shown in Table 13. The statistical values of the Breusch Pagan and

Table 10
Results of reliability test

Variable	Number of items	Cronbach's Alpha
Financial literacy	31	0.885
Performance	9	0.930

Table 11
Results of descriptive analysis for financial literacy and SME performance

	Mean
Financial Management	4.68
Saving literacy	4.68
Debt literacy	3.93
Investment literacy	4.33
Insurance literacy	3.99
Financial literacy	**4.26**
SME performance	**4.25**

Table 12
Mean score interpretation

Mean Score	Interpretation
1.00 - 2.33	Low
2.34 – 3.66	Medium
3.67 – 5.00	High

Source: Mukminin & Hidayat (2013)

Koenker tests (LM = 13.143, p = 0.156; LM = 15.226, p = 0.085) indicate that the null hypotheses cannot be rejected, thus indicating the absence of heteroscedasticity issues. Table 13 also shows the results from the multiple regression analysis. The value of $R^2 = 0.177$ suggests that 17.7% of SME performance can be explained by financial literacy, manager profile (gender, experience, age, and education), and SME-specific characteristics (sector, ownership, business age, and size). The remaining 82.3% is explained by other factors, which were not examined in this study. The low R^2 value also implies the low strength of the linear relationship between the independent variable and the dependent variable. However, a low but significant R^2 value could still draw important conclusions related to the influence of independent variable on the dependent variable (Morrison, 1973; Bonnie et al., 2013). Furthermore, Bonnie et al. (2013) also argued that the value of R^2 could be low in certain areas, such as in studies related to predicting human behaviour. The output also indicates F values=4.536 and p=0.000 <0.05, which suggests that the regression model can be applied to SME performance estimates.

As expected, the regression results showed that financial literacy has a positive and significant influence on the performance of SMEs at $\alpha = 1\%$ with p = 0.000. This finding supports the proposed hypothesis that financial literacy positively influences the performance of SMEs. In other words, the higher an SME entrepreneur's level of financial literacy is, the better the SME's performance will be. These results are consistent with the findings of Aribawa (2016); Chamwada (2015); Cherugong (2015); Dahmen and Rodriguez (2014); Fernandes (2015), Kimunduu et al. (2016); Muraga and John (2015); Njoroge (2013); Sabana (2015); and Salome and Memba (2014). A higher level of financial literacy means SME entrepreneurs possess the capability to manage their finances, including debt management, savings and investment, as well as risk management through the utilization of insurance. Indeed, the lack of financial literacy among SME borrowers has been highlighted as one of the key challenges among SMEs in ASEAN countries (AEM-METI Economic Cooperation Committee, 2021). Financial literacy allows SME entrepreneurs to be informed regarding the available sources of financing and to subsequently utilize diverse strategies in seeking business financing.

In addition, this study also shows that experienced SMEs managers perform better than less experienced managers, as shown by the positive sign of the parameter for EXP at $\alpha = 0.10$ with p = 0.085. This finding is consistent with those of Ndlovu et al. (2018) and Stelate et al. (2018). This result is unsurprising, as it is intuitive to assume that a more experienced manager may possess greater skills in managing a business, from financial matters to human resources management. Furthermore, the business sectors in which SMEs are involved also significantly affect the performance of SMEs at $\alpha = 0.10$ with p = 0.093. In particular, non-service sectors such as manufacturing, agriculture, mining and quarry, and construction outperformed service sectors. Consistently, Essel et al. (2019), Mallinguh et al. (2020), and Mothibi (2015) also found a significant relationship between the industry sector and SMEs' performance. On top of this, the educational background of managers has a significant and negative impact on the performance of SMEs at $\alpha = 0.10$ with p = 0.055. Specifically, managers with non-tertiary education show better performance than those with tertiary education. In fact, previous studies such as those of Ndlovu et al. (2018) and Essel (2019) also found evidence on the influence of education level on SME performance. Other factors such as gender, age, ownership, business age, and firm size had no significant influence on SME performance.

MANAGERIAL IMPLICATIONS IN THE SOUTHEAST ASIAN CONTEXT

The results of this study are consistent with the call from the ASEAN Strategic Action Plan for SME Development 2016-2025 under Strategic Goal (B) to strengthen the financial literacy of SMEs. It is crucial to ensure SMEs possess high awareness of information regarding financial resources and the availability of supporting programs. Under the same strategic goal, SMEs are encouraged to use various sources of financing to minimize financial risk.

Furthermore, the lack of financial literacy and/or resources to manage financial matters were among the top 10 challenges faced by financial institutions in providing financing to SMEs in ASEAN (AEM-METI Economic and Industrial Cooperation Committee, 2021) Indeed, Finance Forward, Southeast Asia (2021) reported that countries in Southeast Asia have the lowest scores related to financial literacy (below 25%). Therefore, it is timely for The Association of Southeast Asian Nations (ASEAN) to energize the formulation of strategies and implementations to improve the level of financial literacy of SMEs. Strategic collaboration can be established among SME bodies and SME financial institutions among member countries to foster integrated financial literacy programs among SMEs.

THEORETICAL IMPLICATIONS

This study contributes to the growing body of studies on financial literacy, particularly in the SME context. In particular, this study has shown the importance of financial literacy in driving SME performance in Malaysia. In other words, entrepreneurs with a good level of financial literacy contribute to a better SME performance. According to Gavigan (2010), financial literacy is the ability to adequately

Table 13
Regression analysis results

Variable	B	SE_B	β	t	p
Outcome: SMEPer					
Constant	2.592	0.344		8.036	0.000
FinLit	0.370	0.085	0.310	4.329	0.000*
GEN	-0.107	0.083	-0.090	-1.285	0.200
AGE	-0.003	0.026	0.007	0.101	-0.919
EXP	0.137	0.079	0.115	1.734	0.085**
SEC	-0.154	0.091	-0.131	-1.686	0.093**
OWN	-0.069	0.091	-0.058	-0.760	0.448
BIZAGE	-0.047	0.036	-0.101	-1.321	0.188
SIZE	0.002	0.002	0.085	1.089	0.277
EDU	-0.071	0.037	-0.139	-1.928	0.055**
R^2	0.177				
Adjusted R^2	0.134				
F	4.536	p = 0.000			
Breusch Pagan	LM=13.143	p = 0.156			
Koenker	LM=15.226	p = 0.085			

*significance at $\alpha = 0.01$; **significance at $\alpha = 0.10$

oversee business financial resources and link them effectively to financial products and services. Furthermore, financial literacy promotes the understanding and decision-making towards better financial management. Arguably, financial literacy is needed by entrepreneurs to conduct day-to-day business operations to gain a competitive advantage and subsequently generate positive and profitable business performance. Therefore, the examination of financial literacy has widened the scope of the RBV from the SME perspective.

CONCLUSIONS

This study was conducted to obtain empirical evidence regarding the influence of financial literacy on the performance of SMEs. The analysis was conducted based on 200 responses from respondents covering SMEs from northern Malaysian states of Perlis, Kedah, and Penang. The regression results found that financial literacy has a positive and significant influence on the performance of SMEs after controlling for managers' profiles and SME-specific characteristics. Furthermore, control variables such as managers' experience and education level, as well as the business sector in which SMEs operate, significantly influenced the performance of SMEs. As these variables were used to control the causal effect of financial literacy on SME performance, their influence is not discussed further.

The findings of this study have shown that in the Malaysian environment, financial literacy among entrepreneurs can improve the performance of SMEs. In addition, the findings of this study can add value to previous studies whilst further highlighting the existence of a significant influence of financial literacy on SME performance. SME managers, owners, and entrepreneurs must make various decisions in running their businesses, and some of the most challenging of these decisions are related to business finances. Managers, owners, and entrepreneurs with better financial literacy skills will better understand business-related financial concepts such as matters related to debt, investment, savings, and financial management, among others. Accurate financial decisions can help SMEs reduce administrative costs, conduct cost-benefit analysis, minimise staff turnover, engage in profitable investment schemes, and reduce internal conflicts, among other advantages. Decision-making in such situations will be rational based on the financial information obtained. Thus, SMEs can optimise sales and maximise profits, resulting in better performance. Undeniably, financial literacy is important for managers and owners of SMEs.

In light of the importance of financial literacy among entrepreneurs, government agencies such as SME Corp need to further accelerate their efforts to educate entrepreneurs, especially young entrepreneurs, to ensure that they possess an adequate level of financial literacy before starting their business. Although various awareness and training programs exist, their approaches might need to be improved so as to better foster financial literacy. This study found that literacy on debt management had the lowest mean value. Therefore, entrepreneurs need to learn effective debt management strategies in order to generate profit. To this end, guidance and monitoring in terms of financial management in the first five years of business would greatly support entrepreneurs in learning the complexities of finance in business.

One feasible strategy is that of collaboration between SME Corp or similar institutions and a higher learning institution to providing formal education related to financial literacy. Collaboration with other agencies can also be undertaken to implement non-formal entrepreneurial financial education for young people who lack the opportunity to obtain a formal education.

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