The Southern African Journal of Entrepreneurship and Small Business Management
ISSN: (Online) 2071-3185, (Print) 2522-7343

Self-service banking and financial literacy as prognosticators of business performance among rural small and medium-sized enterprises in Zimbabwe

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Dates:
Received: 21 Feb. 2018
Accepted: 14 Sept. 2018
Published: 24 Oct. 2018

How to cite this article:
Maziriri, E.T., Mapuranga, M. & Madinga, N.W., 2018, 'Self-service banking and financial literacy as prognosticators of business performance among rural small and medium-sized enterprises in Zimbabwe', *Southern African Journal of Entrepreneurship and Small Business Management* 10(1), a180. https://doi.org/10.4102/sajesbm.v10i1.180

Background: This investigation breaks new ground by examining an inventive monetary approach (the utilisation of technology-based self-service banking, borrowing financial literacy and budgeting financial literacy) that, if embraced by rural small and medium-sized enterprises (SMEs), can enhance business performance. Despite the expanded readiness of technology, the significance of rural SMEs has largely been overlooked, particularly in developing countries of Southern Africa. Therefore, the principal objective of this study is to fill this void.

Aim: The current study aims to investigate the impact of technology-based self-service banking, borrowing financial literacy and budgeting financial literacy on the business performance of rural SMEs within the agricultural sector of Zimbabwe.

Setting: In this study, data were collected in the rural area of Bindura, Zimbabwe.

Method: The study utilised a quantitative research design using a structured questionnaire. Data was collected from 151 managers, SME owners and heads of accounting departments within rural SMEs that are operating in the rural area of Bindura. Smart partial least squares was used to analyse the data.

Results: Technology-based self-service banking, borrowing financial literacy and budgeting financial literacy had a positive and a significant impact on business performance. Therefore, all three hypotheses were supported. Hence, the study's findings validate the assertion that prognosticators such as technology-based self-service banking, borrowing financial literacy and budgeting financial literacy are instrumental in stimulating business performance among rural SMEs in Zimbabwe. A robust relationship was also found between budgeting financial literacy and business performance.

Conclusion: This study offers fruitful implications to academics by making a significant contribution to finance, accounting and small business management literature by systematically exploring the impact of technology-based self-service banking, borrowing financial literacy and budgeting financial literacy on business performance. This study stands to add new knowledge to the present body of finance, accounting and small business management literature in Africa – a context that is often ignored by academics in developing countries.

Introduction

In most economies, small and medium-sized enterprises (SMEs) are the largest contributors to economic activity (Burgstaller & Wagner 2015; Struwig & Lillah 2017). Additionally, Abor and Quartey (2010:218) concur that 'small- and medium-sized enterprises (SMEs) form a crucial part of emerging economies'. Gama and Geraldes (2012) elucidate that in Europe, SMEs are seen as key sources of jobs, and almost two-thirds of jobs are produced by SMEs. Small- and medium-sized entities also develop the innovative entrepreneurial spirit of markets (Bishop 2018). Globally, SMEs are seen to be the foundation of economic growth and, as a result, find themselves in a competitive environment as they need to directly compete with larger entities in the same markets (Bishop 2018).

In the contemporary African business environment, the economy of Zimbabwe has struggled to operate on a steady state path since dollarisation in 2009 (Nyoni & Bonga 2017, 2018) and continues to be characterised by company closures, with many workers losing their jobs through retrenchment (Nyathi, Nyoni & Bonga 2018). Sibanda, Hove-Sibanda and Shava (2018) have pointed out that since the collapse of the formal economy in early 2000, Zimbabwe has experienced unprecedented growth of SMEs. In addition, Sibanda et al. (2018) claimed that the sector became

important mainly because the majority of large firms were downsizing and, in the worst scenario, closing shop. However, as a blessing in disguise, the massive loss of jobs has paved the way for the growth and dominance of SMEs in Zimbabwe (Nyoni & Bonga 2018). In addition, Nyathi et al. (2018) are of the view that SMEs have become the safety net where the majority of Zimbabweans have found their means of survival. Further, Mugozhi and Hlabiso (2017) are of the view that, in Zimbabwe, SMEs are indeed a means to many families' survival because of high levels of unemployment and the continual closure of companies as economic conditions continue to deteriorate. The remarkable development of SMEs in Zimbabwe is mostly because of the general population's longing to be self-employed and not because it is easy to establish and manage an SME; rather it is a strategy to survive. Because SMEs are such a vital part of the economy of Zimbabwe, they are assuming a critical role in the recuperation of the Zimbabwean economy.

Given the growing importance of SMEs in Zimbabwe, numerous authors have examined SMEs in different settings by focusing on challenges facing SMEs in Zimbabwe (Gombarume & Mavhundutse 2012); determinants of SMEs' failure in Zimbabwe (Chigusiwa et al. 2011); evaluation of the factors affecting growth of SMEs in Zimbabwe (Chiwara 2016); the influence of innovation on the performance of SMEs in Zimbabwe (Makanyeza & Dzvuke 2015); SME policies and challenges: a comparative analysis of Zimbabwe and South Korea (Majoni, Matunhu & Chaderopa 2016) and Information and Communication Technology (ICT) adoption and use in Zimbabwean SMEs (Makiwa & Steyn 2016).

Deducing from the aforementioned, there is a lacuna in studies that have investigated technology-based self-service banking (TBSSB), borrowing financial literacy and budgeting financial literacy as prognosticators of business performance among rural SMEs within the agricultural sector of Zimbabwe. Therefore, this article suggests a set of variables that are crucial for an SME to enhance business performance among rural SMEs in Zimbabwe. According to Bussmann et al. (2015), executives and owners of SMEs are tracking the many developments in consumer technology in particular, the conveniences brought about by Web-based services and mobile apps, and wondering why such features are not available in their interactions with banks. Hence, there is a need for TBSSB in entrepreneurial ventures to enhance business performance. In addition, Agyei (2018) contends that financial literacy levels of owners of SMEs can influence their financial decisions in the area of control of financial resources, proper allocation of funds and proper selection of investment vehicles and awareness of growth funding options that can enhance the performance of firms. Thus, financial literacy (borrowing financial literacy and budgeting financial literacy) may lead to improved business performance.

The rest of this article is apportioned as follows: the next section outlines the problem statement. This is followed by the review of literature and the development of the conceptual model as well as the hypotheses. The methodology that guides the study is then discussed. Finally, the results of the study, discussions, implications, recommendations and conclusions are provided.

Problem statement

There is an accord among improvement specialists and scholars that the advancement of SMEs in Zimbabwe will launch destitution mitigation and financial development (Olawale & Garwe 2010). Endeavours are being made by the administration and its improvement agents to energise the development of SMEs. The SME is seen as the foundation of the nation's monetary recuperation endeavours and an answer to the national issues of business creation and destitution diminishment. In addition to unemployment and poverty problems, López and Hiebl (2014) illustrate that SMEs require uncommon care in the area of administrative bookkeeping because they have limited capital; additionally, they often have financial and accounting challenges. Be that as it may, there is a need to investigate how innovation-based SMEs can manage an account; get money-related proficiency and money planning education and the effect this has on business execution among rural SMEs inside the agricultural sector. Hence, this article seeks to critically examine the impact of TBSSB, borrowing financial literacy and budgeting financial literacy on business performance among rural SMEs within the agricultural sector in Zimbabwe.

Empirical literature

This section of the literature review discusses the different research variables undertaken as part of this study.

Technology-based self-service banking

The banking sector is the most influential as it searches for methods for relating with clients, to lower costs, enhance effectiveness and separate items and administrations. One pattern in this line is simply the utilisation of self-service technology (Perumal & Shanmugam 2004). Technology is never an idea in retrospect, illuminating and forming association's methodology, yet it is the genuine reason and driver (Kalakota& Robinson 1999). Branch banking is continuously being supplanted by TBSSB. TBSSB alludes to saving banking charges by clients utilising electronic money channels, with no communication with bank employees (Sindwani & Goel 2015). TBSSB involves systems such as ATMs, Internet banking, mobile banking and telebanking.

Borrowing financial literacy

The capacity to make credit decisions consistent with customer inclinations requires an understanding of credit terms and markets. Individuals with more learning can proficiently scan for lower borrowing rates. Money-related information may likewise enhance a borrower's capacity to oversee credit, making them more attractive to loan specialists (Huston 2012). Individuals with lower levels of debt literacy

pay a higher share of fees on credit cards than borrowers with higher levels of debt literacy (Lusardi & Tufano 2009). A credit card market study finds that as respondents learn more about their credit cards, they settle on better decisions (Agarwal et al. 2008). This research suggests that a person's finance-related insight and aptitudes impact the SMEs' business execution. As indicated by Huston (2012), financial literacy is characterised by estimating how well an individual can comprehend and utilise individual bank-related data. Nonetheless, little is known about how borrowing financial literacy influences the execution of SMEs. A few studies incorporate general human capital, estimated through formal training or experience (Kim, Aldrich & Keister et al. 2006), while others incorporate more particular human capital estimated through money-related learning questions (Lusardi & Tufano 2009; Robb & Sharpe 2009). Credit card studies that incorporate financial knowledge, centre essentially around debt levels, as opposed to borrowing financial literacy.

Budgeting financial literacy

Ostergren and Stensaker (2011) stated:

> Budgeting can be characterized as a necessary piece of administration control frameworks that goes for advancing coordination and correspondence among sub-units inside a venture, provides a framework for judging performance and finally motivating managers and other employees. (p. 152)

Warue and Wanjira (2013) additionally depicted a budget as an impression of administration assumption with respect to the association's wage stream and money-related position in fiscal terms. Absence of budgeting financial literacy among SMEs greatly affects their performance. Financial literacy is comprehended as the 'capacity to make educated judgments and to take viable activities with respect to the present and future utilize [*sic.*] and administration of cash' (Basu 2005:2).

Financial literacy incorporates the capacity to comprehend monetary decisions. For example, money-related proficiency likewise calls for astute spending. This implies planning budgets, following consumption, paying bills on time and guaranteeing that credit card accounts are paid every month. Monetary proficiency influences budgetary basic leadership. Obliviousness about fundamental budgetary ideas can be connected to retirement planning, absence of investment in the stock exchange and poor financial conduct (Lusardi 2008). Studies conducted in Zimbabwe by different authors have demonstrated that few SMEs execute proper budgets. These practices might be utilised to characterise private company monetary administration. These incorporate planning and income administration, account possession, utilisation of credit, investment funds conduct and resource gathering (Davis & Lopez-Carr 2014). Budgeting is an essential feature of business and it is viewed as indispensable for administration control. Therefore, Cohen and Karatzimas (2011) contend that constrained utilisation of a budget as a component of execution assessment was the result of a lack of knowledge. Be that as it may, Warue and Wanjira (2013) suggest that one reason why SMEs fail is an absence of budgeting.

Business performance

Understanding the significance of business performance is essential for estimating and overseeing organisational performance (Armstrong et al. 2011). According to Hove, Sibanda and Pooe (2014), business performance alludes to how the total innovation-empowered execution impacts every firm action, for example, cost reduction and income improvement. Vieira (2010) states that business performance may be characterised as far as taking every necessary step, and in addition, as far as the outcomes are accomplished. Reijonen (2008) conducted an empirical study in craft and rural tourism microbusiness. The author characterised business performance as a pointer that measures the business's productivity and adequacy in accomplishing its objectives. Business performance can likewise be examined by a business's capacity to create connections to set targets (O'Regan, Sims & Gallear 2007). Wongrassammee, Gardiner and Simmons (2003) demonstrate that business performance alludes to how well the business fulfils the needs of workers, clients and different partners, as well as its capacity to accomplish its business objectives. Gibson and Cassar (2005) embrace a comparative position by expressing that business performance is concerned with how many goals are accomplished. From the above depictions, it can be noted that business performance includes the viability and effectiveness of a business in accomplishing the set objectives and the degree to which the business can exceed expectations in addressing the requirements of every one of its partners. Therefore, entrepreneurial ventures need to evaluate their performance as often as possible.

Conceptual model

A conceptual model describes the relationship between variables investigated in the study (Gunzler & Morris 2015). In addition, Sekaran and Bougie (2016) add that a schematic diagram of the conceptual model helps the reader to visualise the theorised relationships between the variables in the model and thus to obtain a quick idea about how you think that the management problem can be solved. In this study, the conceptual model suggests that TBSSB, borrowing financial literacy and budgeting financial literacy are the independent or predictor variables. According to Flannelly, Flannelly and Jankowski (2014) the term *predictor* refers to a variable that can predict another variable, that is, the magnitude of the predictor (independent variable) can predict the magnitude of another variable (dependent variable). Moreover, the dependent or outcome variable for the current study model is business performance. A dependent or outcome variable is the variable under investigation and is depicted by the letter γ. It is always the predicted or the estimated variable (Russell & Purcell 2009). Based on a synthesis of the converging literature related to the research variables, a conceptual model was proposed to guide the empirical study as shown in Figure 1.

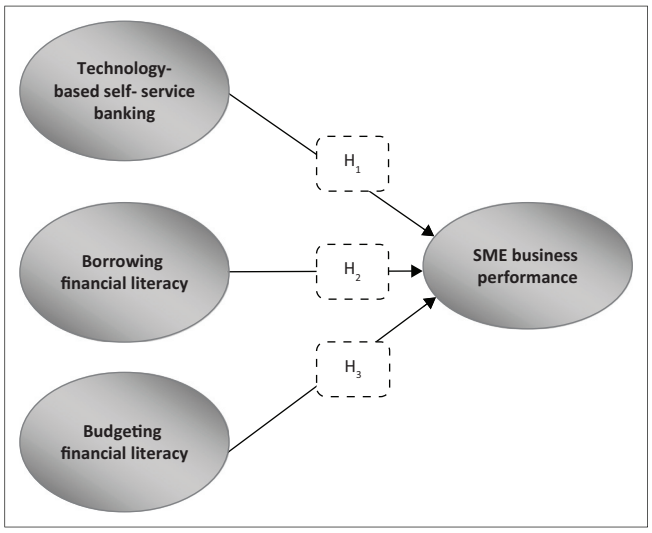


FIGURE 1: Conceptual framework.

Given the discussion above, the following hypotheses can be stated:

H_1: Technology-based self-service banking has a positive impact on business performance.

H_2: Borrowing financial literacy has a positive impact on business performance.

H_3: Budgeting financial literacy has a positive impact on business performance.

Methodology

The study utilised a quantitative research design using a structured questionnaire. The design was suitable to solicit the required information relating to TBSSB, borrowing financial literacy, budgeting financial literacy and business performance. In addition, the approach enabled the examination of the causal relationships with the constructs used in the study.

Data collection

The data for this research was collected from rural SMEs within the agriculture sector of Mashonaland Central Province in Zimbabwe. Specifically, the target population was restricted to managers, SME owners and heads of accounting departments within rural SMEs operating in the rural area of Bindura. In terms of the sampling frame, a list of rural SMEs, registered within the database of small businesses, was used as a sampling frame.

The database of the rural SMEs (small businesses) was obtained from the Bindura Rural District Council (BRDC). Therefore, a simple random sampling technique was used in this study, because each element of the population had an equal and known chance of being selected as part of the sample (Weideman 2014) – for instance, where every name within the list of SMEs registered within the data of the BRDC had an equal chance of selection. The questionnaires clearly stated that the anonymity of the participants would be guaranteed and that the study was purely for academic purposes.

The Raosoft calculator for sample size was used to calculate the size of the sample (Raosoft Incorporated 2004). The calculation took into account the population of approximately 301 rural SMEs officially registered with the BRDC in the year 2018, a 5% margin of error, 90% confidence interval and the recommended 50% distribution, and returned a minimum sample size of 170 respondents. Of the 170 questionnaires distributed, 151 returned questionnaires were usable, yielding a response rate of 88%.

Measurement instrument and questionnaire design

Research scales were operationalised, mainly on the basis of previous work. Proper modifications were made in order for them to fit the current research context and purpose. Technology-based self-service banking was measured, using a 20-item scale, adapted from Sindwani and Goel (2015). In addition, borrowing financial literacy was measured, using a five-item scale, adapted from Chepngetich (2016). Furthermore, budgeting financial literacy was measured, using a four-item scale, also adapted from Chepngetich (2016). Business performance was measured using a four-item scale from Mgxaji (2015). All were measured on a five-point Likert-type scale, 1 (strongly disagree) to 5 (strongly agree), in order to express the degree of agreement.

Respondent profile

Table 1 displays the depiction of the participants. The respondents were requested to report their demographic data, including gender, age, marital status and kind of business inside the agriculture segment. The respondents were mainly females (57.6%). The average age of the respondents was under 30 years (54.3%). Fifty-seven per cent of the respondents were single. Around 69.53% of the respondents demonstrated that they were occupied with agro-processing types of businesses, for example, meat butcheries and cooking oil fabrication. In addition, 30.46% of

TABLE 1: Sample demographic characteristics.

Characteristics	Frequency	%
Gender		
Male	64	42.4
Female	87	57.6
Total	151	100.0
Age		
≤30	82	54.3
31–60	51	33.8
≥60	18	11.9
Total	151	100.0
Marital status		
Married	65	43.0
Single	86	57.0
Total	151	100.0
Type of business within the agricultural sector		
Farming	46	30.46
Agro-processing	105	69.53
Total	151	100.0

the respondents disclosed that they were occupied with cultivating organisations, for instance, domesticated animal farming, business ranches, dairy cultivating, trim generation and ranger services.

Data analysis

The research model developed in the present investigation was tested using partial least squares (PLS), a variance-based, structural equation modelling approach (Subramaniama, Shamsudinb & Alshuaibic 2017). Monecke and Leisch (2012:3) elucidate that 'SmartPLS is stand-alone software specialized for PLS path models and it is built on a Java Eclipse platform making its operating system independent'. Partial least squares has the ability to facilitate the assessment of both the measurement and structural models (Subramaniama et al. 2017). This study utilised PLS for two main reasons: firstly, the aim of the study was oriented towards prediction of the dependent variable (Chin 2010), and secondly the latent variable scores were used in the subsequent analysis for predictive relevance (Hair, Ringle & Sarstedt 2011). Futhermore, Hair et al. (2011) further stressed that these arguments have led to the widespread acceptance of PLS in research. Specifically, this study used the smart PLS approach introduced by Ringle, Wende and Will (2005).

Reliability analysis

The researchers checked the measurements' reliability and validity. Reliability was mainly checked using the composite reliability (CR) and Cronbach's alpha values. To ensure convergent validity, the researcher checked if items loaded on their respective (a priori) constructs with loadings greater than 0.5, while discriminant validity was checked by average variance extracted (AVE) value and ensuring that there were no significant inter-research variable cross-loadings (Chin 1998). Moreover, the statistical measures of accuracy tests, as shown in Table 2, specify the different measures that were used to assess the reliability and validity of the constructs for the study.

Factor loadings (standardised regression weights) are required to be above 0.5 to ensure that there is convergent validity, and in the instance that certain factor loadings are below this threshold, they should be removed. Because the factor loading scores of two items were below the acceptable threshold, they were removed and did not take part in the statistical analysis process to ensure the study remained valid. These items were TBSSB1, TBSSB14, TBSSB16 and BP3. These items had factor loadings of 0.325, 0.315, 0.413 and 0.430, which are evidently below 0.5 and, therefore, could not be analysed further to ensure statistical

TABLE 2: Accuracy analysis statistics.

Research construct		Mean values	SD values	Item to total correlation values	α value	CR	AVE	Highest shared variance	Factor loading
Code	Code items								
TBSSB	TBSSB2			0.601					0.684
	TBSSB3			0.699					0.645
	TBSSB4			0.622					0.666
	TBSSB5			0.601					0.692
	TBSSB6			0.699					0.685
	TBSSB7			0.710					0.643
	TBSSB8			0.655					0.720
	TBSSB9			0.622					0.759
	TBSSB10	4.17	1.700	0.810	0.936	0.935	0.578	0.339	0.740
	TBSSB11			0.555					0.745
	TBSSB12			0.622					0.770
	TBSSB13			0.852					0.716
	TBSSB16			0.568					0.646
	TBSSB17			0.721					0.654
	TBSSB18			0.852					0.734
	TBSSB19			0.568					0.711
	TBSSB20			0.721					0.696
BRFL	BRFL1			0.567					0.728
	BRFL2			0.512					0.827
	BRFL3	3.79	1.454	0.564	0.846	0.891	0.622	0.296	0.817
	BRFL4			0.702					0.844
	BRFL5			0.664					0.719
BTFL	BTFL1			0.741					0.857
	BTFL2	3.91	1.358	0.718	0.861	0.905	0.704	0.195	0.821
	BTFL3			0.705					0.830
	BTFL4			0.658					0.849
BP	BP1			0.618					0.874
	BP2	3.01	1.551	0.705	0.764	0.815	0.598	0.269	0.670
	BP4			0.658					0.763

α, alpha; CR, composite reliability; AVE, average variance reliability; TBSSB, technology-based self-service banking; BRFL, borrowing financial literacy; BTFL, budgeting financial literacy; BP, business performance.

TABLE 3: Inter-construct correlation matrix.

Research construct	BP	BRFL	BTFL	TBSSB
BP	1.000	-	-	-
BRFL	0.578	1.000	-	-
BTFL	0.582	0.544	1.000	-
TBSSB	0.519	0.401	0.441	1.000

BP, business performance; BRFL, borrowing financial literacy; BTFL, budgeting financial literacy; TBSSB, technology-based self-service banking.

accuracy and significance throughout the data analysis and interpretation procedure, as well as to ensure that there was convergent validity. As can be seen (Table 2), all items have loadings greater than 0.6 (Nunnally & Bernstein 1994), indicating that they explain at least 60% of what they expected to measure (convergent validity). The lowest AVE value is 0.578, which exceeds the recommended 0.5 (Fornell & Larcker 1981) – an indication of the existence of discriminant validity.

The CR values illustrated in Table 2 indicate that all the CR values meet the minimum threshold of 0.6 as they range from CR values of 0.815 to 0.935. According to Yang and Lai (2010), when conducting reliability analysis, it is recommended that the CR value exceed a value of 0.7, which was clearly achieved as demonstrated in Table 2. Again, based on the values presented in Table 2, it can be concluded that all the measurement instruments are reliable on the basis that the Cronbach alpha values are required to be above or equal to 0.6 and, in this case, all the values substantially exceeded this threshold.

The values ranged from 0.764 to 0.936 and thus the measurement instruments are deemed reliable (Morar, Venter & Chuchu 2015). According to the accuracy table presented above (Table 2), the mean value for all the constructs ranges between 3 and 4, indicating that the majority of the respondents had either a neutral standpoint (3 on the Likert scale) or they agreed (4 on the Likert scale) with the statements provided. The standard deviation specifies the extent to which the respondents deviated from the mean. Preferably, this value should be less than 1 but is recommended to at least encompass a value of less than 2 to ensure that there is not an issue of outliers (Drost 2011); however, as seen in the accuracy in Table 2, all the remaining constructs had standard deviation values that were substantially below 2. The item to total statistics for each item analysed through SPSS are required to be above 0.5 to assess convergent validity (Morar et al. 2015). According to the accuracy table (Table 2), the majority of the instruments met the threshold of 0.5.

The inter-construct correlation matrix is used to assess the validity of measurement instruments, specifically discriminant validity. Correlations among constructs were evaluated to see if they were lower than 1. The higher the correlation between variables, the lower the validity of those variables. The inter-construct values are required to be below 0.6 and in some cases below 0.85 to indicate discriminant validity. According to Table 3, the highest correlation value was 0.578 and the lowest correlation value was 0.401. These correlation values are below 0.6 and, therefore, it can be concluded that there is discriminant validity between all the constructs (Morar et al. 2015). Discriminant validity was also established by checking if the AVE was greater than the highest shared variance value (HSV) (Nusair & Hua 2010). The HSV was calculated by squaring of the highest correlation coefficient between latent constructs. Table 2 shows that all the AVE values (0.578, 0.622, 0.704 and 0.598) were above the highest shared variance (HSV) values (0.339, 0.296, 0.195 and 0.269) respectively for all the research constructs, thereby confirming the existence of discriminant validity.

Path model results and factor loadings

The PLS estimation results for the structural model, as well as the item loadings for the research constructs are shown in Figure 2.

Outcome of hypotheses testing

In this study, testing of the hypotheses was determined by path coefficient values, as well as the *t*-values for the structural model obtained from the bootstrapping algorithm. According to Beneke and Blampied (2012), *t*-values indicate whether or not a significant relationship exists between variables within the model, while path coefficients demonstrate the strength of the relationships in the model. Two-tailed *t*-tests were conducted at the 5% significance level.

Outcome of testing hypothesis 1: Technology-based self-service banking has a positive impact on business performance

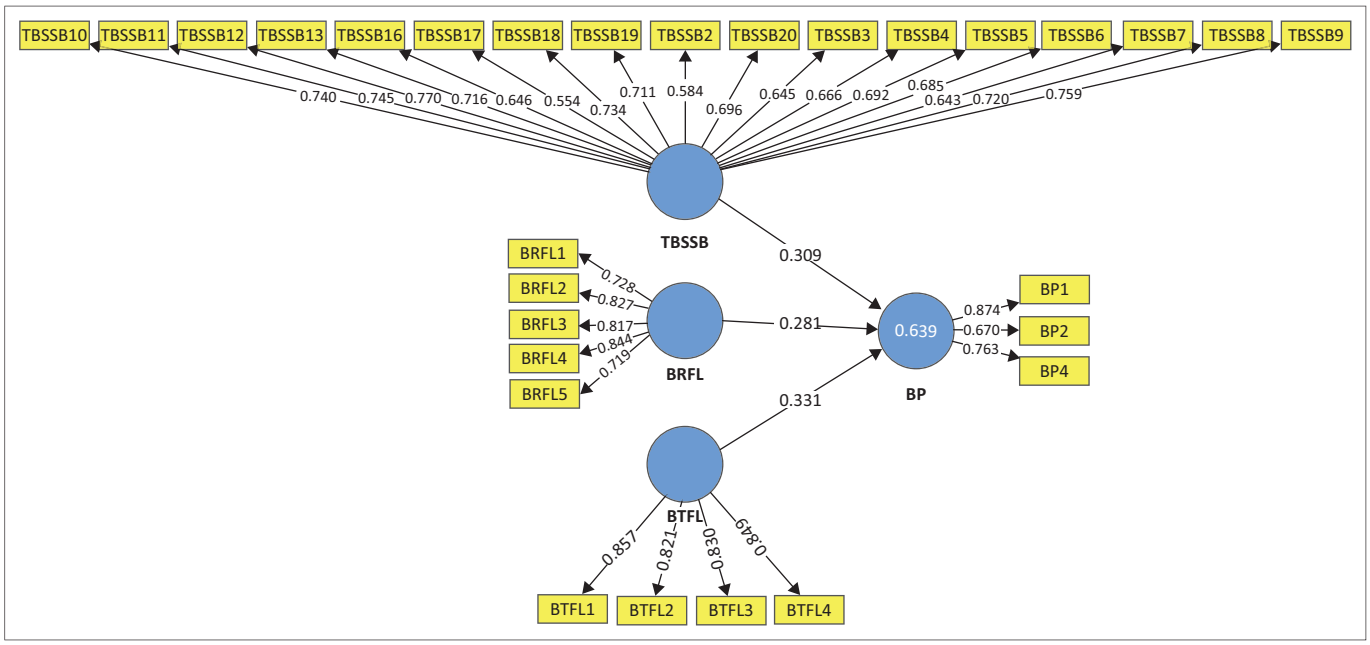
Figure 2 and Table 4 indicate that H_1 is supported by the hypothesis finding ($\beta = 0.309$) and is significant at *t*-statistics 3.766. The strength of the association is indicated by a path coefficient of 0.309. This implies that TBSSB is positively related to business performance in a significant way.

Outcome of testing hypothesis 2: Borrowing financial literacy has a positive impact on business performance

Figure 2 and Table 4 depict that H_2 is supported significantly. The *t*-statistics is 4.397. The strength of the relationship is indicated by the path coefficient of 0.281. This finding suggests that borrowing financial literacy has a direct strong positive effect on business performance. So, the more owners and managers are equipped with borrowing financial literacy skills, the more they are able to enhance their business performance.

Outcome of testing hypothesis 3: Budgeting financial literacy has a positive impact on business performance

Moreover, it is depicted in Figure 2 and Table 4 that H_3 is supported significantly. The *t*-statistics is 4.685. The strength of the relationship is indicated by the path coefficient of 0.331. This finding suggests that budgeting financial literacy has a direct strong positive effect on business performance. So the more owners and managers are equipped with budgeting financial literacy skills, the more they are able to enhance their business performance.



TBSSB, technology-based self-service banking; BRFL, borrowing financial literacy; BTFL, budgeting financial literacy; BP, business performance.

FIGURE 2: Measurement and structural model results.

TABLE 4: Results of structural equation model analysis.

Path	Hypothesis	Path coefficients (β)	T-statistics	Decision
Technology-based self-service banking → Business performance	$H_1(+)$	0.309	3.766	Positive and significant
Borrowing financial literacy → Business performance	$H_2(+)$	0.281	4.397	Positive and significant
Budgeting financial literacy → Business performance	$H_3(+)$	0.331	4.685	Positive and significant

Discussion of results

The statistical analysis exposed that technology-based self-service banking has a positive impact on business performance. This finding has ample support from previous empirical research studies, such as that conducted by Odawa (2016), who discovered that self-service technologies, such as Internet banking, ATMs, Smart cards, credit cards and mobile banking were important for the commercial banks as they resulted in improved service delivery, reduced operating costs, increased convenience to customers and are mostly secure. Another closely related study is the one conducted by Abbasi and Weigand (2017) focusing on the impact of digital financial services on a firm's performance; in the literature review of their study, the authors emphasised that diversified digital financial services or TBSSB help the organisations (service providers) to improve their firm's performance and to remain competitive in the market. The findings of this study also authenticate the existence of a positive connection between borrowing financial literacy and business performance.

The results obtained in the current study are also not without empirical support. In her study, entitled, 'Effect of Financial Literacy and Performance SMEs. Evidence from Kenya', Chepngetich (2016) found that borrowing financial literacy has a significant effect on SME performance. Empirical evidence was also found in this research that confirmed that there is a positive association between budgeting financial literacy and business performance. The findings obtained from this study are in line with literature; Siekei, Wagoki and Kalio (2013) elucidated that the effective implementations of financial literacy skills lead to improvement in business performance because of an improved ability to track business events from the record systems. Joshi, Al-Mudhaki and Bremser's (2003) examination of budgeting financial literacy by a survey of 54 medium-sized and large companies in Bahrain found that an increase in firm size leads firms to implement a more comprehensive budgeting process to achieve better performance. Chepngetich (2016) also found that budgeting financial literacy has a significant effect on SME performance. The result obtained from testing this hypothesis is also in agreement with a survey conducted by Maziriri and Mapuranga (2017), who examined the impact of management accounting practices on the business performance of SMEs in South Africa and found that budgeting positively influences the business performance of SMEs. Moreover, a study conducted by Chidi and Shadare (2011) in Nigeria, focusing on challenges confronting human capital development in SMEs, found that lack of understanding of the budgeting process was detrimental to the performance of the SMEs.

Managerial implications

The present study offers implications for academics. For example, an investigation of the research findings indicates that TBSSB and business performance have a strong influence on each other, as indicated by a path coefficient of 0.309. Therefore, for academics in the field of finance,

accounting and small business management, this finding enhances their understanding of the relationship between TBSSB and business performance, as this is a useful contribution to existing literature on these two variables. On the practitioners' side, therefore, this study submits that managers and employees within rural SMEs in Zimbabwe can benefit from the implications of these findings. For example, given the robust relationship between budgeting financial literacy and business performance, as indicated by a path coefficient of 0.331, managers and employees within rural SMEs in Zimbabwe ought to pay attention or should put more emphasis on equipping themselves with budgeting financial literacy skills, so as to improve the business performance of their entrepreneurial ventures within the agricultural sector.

Recommendations

The results of this study cannot be overlooked and may be seen as opportunities for rural SMEs in Zimbabwe. Therefore, based on the analysis of the literature, and specifically in the light of the findings of the empirical research, the following recommendations are offered:

- From the management perspective, SME owners and managers of rural SMEs need to make use of TBSSB because this will change the way they interact with customers or even suppliers. For instance, through cell phone banking, a transaction can be made without physically going to the bank.
- It is also recommended that rural SME managers need to acquire some financial literacy competencies – specifically, borrowing financial literacy and budgeting financial literacy – in order to make good financial decisions.
- Centres of financial education for entrepreneurs should be established in the rural areas of Zimbabwe where SME managers can have financial literacy classes. If financial literacy coaching is obtained, SMEs would embrace more risky ventures, diversify investments and raise capital to grow and transform into more solid enterprises.

Limitations and future research suggestions

This study has several limitations that should be highlighted. Firstly, because of the use of a relatively small sample size, one cannot generalise the findings, even though a number of demographic questions were used in an effort to determine how representative the sample was of the defined target population. In future research, a wider population, including several rural SMEs, should be studied. All the data in the study were collected quantitatively, which led to the common method bias inherent in quantitative methods. Future studies could try to focus on triangulation methods to avoid this bias. Future research scholars could also focus on other factors that influence the business performance of rural SMEs. For instance, future research scholars could investigate the use of mobile technologies, cloud computing and motivation strategies as antecedents to the business performance of SMEs. Furthermore, comparative studies between the results of this study and those obtained from other firms in different sectors or through meta-analyses could also be considered in the future. This could lead to other thought-provoking insights that were not captured in the present study.

Conclusion

This study was conducted with the intention of investigating the impact of TBSSB, borrowing financial literacy and budgeting financial literacy on the business performance of rural SMEs within the *agricultural sector* of Zimbabwe. In addition, the study validates the assumption that factors such as TBSSB, borrowing financial literacy and budgeting financial literacy are instrumental in stimulating SMEs' business performance. Technology-based self-service banking was positively correlated with business performance in a significant way. Borrowing financial literacy was found to have a stronger impact on business performance. A robust relationship was also found on the nexus between budgeting financial literacy and business performance. The results support all the postulated hypotheses. Managerial implications of the findings were discussed and limitations and future research directions were indicated. Above and beyond, this study contributes new knowledge to the existing body of finance, accounting and small business management literature in the African setting – a research context that is neglected in academics.

Acknowledgements

The authors acknowledge the rural SME managers for taking part in this research study.

Competing interests

The authors declare that they have no financial or personal relationships that may have inappropriately influenced them in writing this article.

Authors' contribution

E.T.M. was the project leader, formulated the concept, devised the structure of the article, wrote the article and analysed the collected data. M.M. and N.W.M. were responsible for the review of empirical literature, as well as writing the research design and methodology of this article. All the authors conducted the interviews with rural SME managers.

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