“An empirical study of optimal access to external finance by small and medium enterprise start-ups”

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AN EMPIRICAL STUDY OF OPTIMAL ACCESS TO EXTERNAL FINANCE BY SMALL AND MEDIUM ENTERPRISE START-UPS

Abstract

The aim of this study is to empirically examine the relationships between the determinants of start-up SME success, namely start-up awareness and management skills, and the finance suppliers. This study has proposed a framework that improves the ability of start-up SMEs to access external finance. Through descriptive and inferential statistical analyses of data from a survey of a sample of SMEs in South Africa, it was ascertained that the framework which maps the entrepreneur's start-up awareness and requisite management skills with the finance providers' requirements will make up a tool to assist start-up SMEs in developing optimal financing options to grow their businesses.

INTRODUCTION

Although there is financial support for SMEs, access to the various sources of finance remains problematic and a challenge for SME start-ups. The various reasons being inter alia, a high rate of business failure, lack of collaterals, and lack of awareness of available support programs by start-up entrepreneurs should be noted. In light of the above, the aim of this study is to empirically examine the relationships between the determinants of start-up SME success, namely start-up awareness and management skills, and the finance suppliers. Three external sources of finance for SME start-ups are explored, namely, Government grants, commercial bank funds, and private equity finance. Respectively identified as Government source of Finance (GF), Corporate source of Finance (CF), and Personal/Social source of Finance (PSF). The funding requirements of these financial institutions are identified and analyzed, and a framework is proposed that improves the ability of start-up SMEs to access external finance.

1. LITERATURE REVIEW

Small and medium-sized enterprises (SMEs) continue to play a critical role in the economic growth of most countries (Lekhanya, 2016), and small businesses have been central in the development of several developing countries, often serving as the primary source of livelihood (Bongini, Ferrando, Rossi, & Rossolin, 2017, p. 2). According to Domeher, Abdulai, and Yeboah (2016, p. 165), SMEs account for over 60% of the GDP and over 70% of total employment in low-in-
come countries; over 95% of total employment and about 70% to the GDP of middle-income countries. The European Central Bank (2013) reported that SMEs are the backbone of the Euro area economy, since they constitute about 98% of all Euro area firms, employ around 75% of the Euro area employees and generate around 60% of value added (Coëtée, 2013, p. 1). The SME sector also acts as an absorbent of retrenched people coming from the private and public sector (Smit, 2012).

Most small businesses in South Africa (SA) do not progress beyond the ‘Start-up’ phase, and their 75% failure rate is one of the highest in the world (Fatoki & Garwe, 2010; Bisseker, 2014; Wagner, 2015). SMEs in SA are expected to be an important vehicle to address the challenges of job creation, sustainable economic growth, equitable distribution of income and the overall stimulation of economic growth (Ayandibu & Houghton, 2017, p. 136). The SA government through the Department of the Presidency and the National Planning Commission, launched the National Development Plan (NDP) 2030, which aims to eliminate poverty and reduce inequality by 2030 (Manuel, 2012). Although priority is given to enabling SMEs to access banking services, SA banks do not extend sufficient credit to smaller firms (Manuel, 2012).

Rupeika-Apoga and Solovjova (2017) argued that during the past three years in general, access to finance for start-up SMEs has improved, nevertheless wide divergences remain across the euro area countries. According to European Central Bank (2016), access to finance remained the dominant concern for SMEs in Greece (31%), while 13% of SMEs in Italy and 12% in both Ireland and the Netherlands named access to finance as the most important problem, compared with only around 6% of SMEs in both Austria and Germany and 8% in Finland. In Latvia in 2016, the most important problems faced by SMEs were finding customers (20%), availability of skilled staff or experienced managers (15%), competition (13%), costs of production or labor (12%) and finally access to finance with 10% as the fifth most pressing obstacle (Kwaak & Zeijden, 2016).

Many determinants are considered for the purpose of explaining the challenges of accessing external finance by start-up SMEs. In the context of UK, it is believed that access to finance by SMEs is closely affected by the differences in commercial banks or the practices and the policies of the supply side of finance. It is argued that most of the commercial banks in UK differ in terms of the relationship between those lending institutions and the entrepreneur (Osano & Languitone, 2016). A number of factors have been identified by the World Bank (2003) that constitute constraints by start-up SMEs to access external finance. These factors include distortions of financial sectors, lack of know-how on the finance supply side, information asymmetry (access to business information), and the high risk in lending to Start-up SMEs.

The study conducted by Beck (2007) ascertained that the weaknesses in financial and legal systems in the developing countries constitute an obstacle in accessing finance products. When Beck analyzed 70 developing countries, he further concluded that the local government has actually the entire responsibility to build finance institutions, and market activities should be undertaken in friendly manner in order to provide a proper regulatory framework to reduce financial constraints by start-up SMEs.

Small business ventures in SA are fraught with uncertainties, and limited knowledge is available in this area because of the complex relationship between the determinants of start-up business success and access to external finance by SMEs (Chawla, Khanna, & Chen, 2010, p. 2; Fatoki & Odeyemi, 2010). The aforementioned has, however, not prevented managerial prescriptions from being devised on what to do and which determinants to use in order to improve access to external finance for these organisations (Simpson, Padmore, & Newman, 2011, p. 265).

Although it is reasonable to expect finance providers to require that certain fundamentals or indicators (determinants) of business success be in place before considering granting finance to SMEs, there is no general consensus on the determinants of business success. Katwalo (2010, p. 140) suggested that a determinant of start-up business success is any competitive asset or competence that is needed to win in the market place, whether it is a strategic competitive advantage, represent-
ing a sustainable advantage or merely parity with the firm’s competitors. The list of determinants of start-up business success can be very exhaustive, however, for this study 22 (Table 1) are examined (Doom, Milis, Poelmans, & Bloemen, 2009; Fatoki & Odeyemi, 2010; Smorfitt, 2008).

**Table 1. Determinants of start-up business success**

<table>
<thead>
<tr>
<th>Start-up awareness</th>
<th>Management skills</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Opportunity awareness</td>
<td>1 General management skills</td>
</tr>
<tr>
<td>2 Differentiating factors</td>
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</tr>
<tr>
<td>3 Business model</td>
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<tr>
<td>4 Strategy</td>
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<tr>
<td>5 Feasibility study</td>
<td>5 Financial management skills</td>
</tr>
<tr>
<td>6 Business plan</td>
<td>6 Leadership skills</td>
</tr>
<tr>
<td>7 Location</td>
<td>7 Communication skills</td>
</tr>
<tr>
<td>8 Amount of seed capital</td>
<td>8 Inventory management skills</td>
</tr>
<tr>
<td>9 Source of seed capital</td>
<td>9 Marketing skills</td>
</tr>
<tr>
<td>10 Decision-making ability</td>
<td>10 Contingency management skills</td>
</tr>
<tr>
<td>11 Controls and systems skills</td>
<td>11 Growth oriented skills</td>
</tr>
</tbody>
</table>

It is against the above background that this study investigates the relationship between the determinants of the success of start-up SMEs and their access to external financing in the SA context, with the intention of developing a Framework for these SMEs to access external finance. More specifically, the relationship between the SME owner-managers’ “start-up awareness” and their access to external sources of start-up finance, as well as the relationship between the SME owner-managers’ management skills and their access to external sources of start-up finance, will be empirically explored using inferential statistical techniques to analyze survey data.

## 2. DETERMINANTS OF SME SUCCESS

### 2.1. Start-up awareness

As reflected in Table 1, the business is likely to fail if there is a lack of opportunity, since a good idea is not enough to make profit within an existing market (Short et al., 2010, p. 40; Chell, 2013, p. 11). After understanding the business opportunity, the entrepreneur will define the way he/she can gain a competitive advantage in the market. Furthermore, as reflected in Table 1, the business model is critical, since it will reflect a tentative thought on how it will deliver “what value” and “to whom”. The fundamental strategic question that will be raised is how does the entrepreneur build sustainable competitive advantage and make abnormal profit? According to Teece (2010), a business strategy conceived as “think out in advance, is valid only in some cases, in which the business model is a complex system that has been conceived in advance”. Abraham (2013, p. 31) opined that “while the business model determines who the company’s customers are, and how to make profit by providing value, business strategy will look at how the company will beat its competitors through differentiation”. Therefore, a business strategy will require more analysis, calculations and choices that is reliable information available in the entrepreneur’s hands (Philipson, 2016, p. 2). Blackburn, Hart, and Wainwright (2013, p. 11) argued that “small businesses are likely to use strategies that emerge over time and are flexible and unconstrained. Business planning is more likely to be considered in small businesses than just developing a written document for strategy formulation. A good strategy, resulting from a proper planning process, is necessary for keeping high performances and preserving success (Braun, Latham, & Porschitz, 2016, p. 3; Ghezzi, 2013, p. 1327). However, due to change, strategy should be adaptive or of resilient nature, which will create endogenous innovation or catch up exogenous changes, so as to maintain an adequate strategic fit between the firm’s strategy and the surrounding internal and external environments (Louw & Venter, 2013, p. 179; Ghezzi, 2013, p. 1327). In addition, sometimes change is not only incremental, it is configured as a discontinuity which radically departs from the original state and introduces unexpected, unplanned and often dramatic variations (Louw & Venter, 2013, p. 179; Ghezzi, 2013, p. 1327).

A viability study includes market research, which serves the company to ensure the existence of demand for the new product or service, and it would determine if the market is large enough and if the competitive sphere will easily accommodate the new product or service. A viability study will
assist the company define its marketing strategy (Greene, 2008). Schiraldi and Silva (2012, p. 7) pointed out that although “a business plan is a compulsory requirement for loan applications or co-investors, it is an important instrument for internal management”.

After establishing the plan and strategy of the start-up business, the entrepreneur needs to solve the issue of seed capital, inter-alia, the amount and source, which are very important in starting a business. An incorrect source of seed capital will lead to inability to raise finance, and consequently business failure (Burke, 2006; Mmako et al., 2017).

Fatoki and Odeyemi (2010, p. 131) noted that market potential and growth opportunities are also influenced by the location of a new business. Freeman and Style (2014, p. 182) pointed out that “geographical location implications on the new firm exist in its access to markets and resources”.

### 2.2. Management skills

Fatoki and Odeyemi (2010, p. 2766) examined the importance of management competencies in the success of SME start-ups and found that lack of managerial experience, skills and personal qualities as well as other determinants such as adverse economic conditions, poorly thought out business plans and resource starvation are the main reasons why SME start-ups fail. According to Chell (2013, p. 7), entrepreneurship and innovation skills are likely to be specific to those activities, and aim to produce particular outcomes, which vary from business funding, growth and sustainability of an enterprise. The SME start-up will, therefore, be capable of developing innovative products and services, enabling enterprises to compete locally, nationally or globally (Chell, 2013, p. 7; Gill & Bigger, 2012, p. 658).

Dane and Pratt (2007, p. 33) emphasized that decision-making skills enable the entrepreneur to make both fast and appropriate decisions in the organization. Obiajunwa (2013, p. 65) stated that the lack of technical skills or related experience in the chosen business also has an enormous impact on the ability of the business to succeed. Thus, the SME owner-managers should have adequate technical skills and a good working knowledge of the business. The acquisition of sufficient knowledge of the technology of the business is necessary to enable the managers to understand all aspects intelligently (Obiajunwa, 2013, p. 65).

Nieuwenhuizen (2011, p. 64) stated that financial management skills and systems are important criteria in the ongoing success of a business, and key to these skills is the ability to interpret financial statements. Nieuwenhuizen (2011, p. 38) and Mmako et al. (2017, p. 73) pointed out that a lack of leadership skills can be crucial in a SME, where the entrepreneur might be the only manager at the enterprise, leading to poor management of staff. Leadership skills in any business are critical, but at a SME, individual leadership skills play an even more important role due to the lower numbers of managers in the organization. Entrepreneurs are not by default great leaders or managers, they, therefore, need to do a detailed self-assessment and gain the skills required to fill the gaps in his/her skills portfolio (Kearns et al., 2015, p. 713).

According to Jones and George (2015), the ability to create demand for the businesses’ products or services is totally dependent on how well the business communicates. Communication systems, such as e-mail, are also critically important in any communication system today, and the use of intranet and extranet systems will also enhance the firm’s communication and information systems (Westhead, Wright, & McElwee, 2011). Bambacas and Patrickson (2009, p. 111) suggested that “the ability to manage staff is closely related to communication, management and leadership skills”. Those who are managing a small group of subordinates are expected to have good personal communication which later builds to effective relationships in growing business, and establishing trust, credibility and high integrity as they progress to the latter part of their businesses (Bambacas & Patrickson, 2009, p. 111).

According to Swart (2013), inventory management skills include financial and inventory controls. Uncontrolled growth, together with poor financial and inventory control, are also major contributory factors to business failure, and poor controls within a business lead directly to business failure (Burke, 2006). Bushuev et al. (2015, p. 285) further observed that “key segments of the total...
problem area such as managing information and uncertainty and the integration of inventory and production planning systems have still been overlooked by researchers”.

Jones and George (2015) pointed out that marketing skills in a business are critical to the success of every business, as are contingency management skills, which allow the owner to adapt to ever-changing circumstances. There will also be a greater requirement for contingency management in that small and medium businesses are not market leaders or market challengers but market followers and market niches (Bamata 2013). Thus, they need to change in response to changing circumstances within their environment more than the market leader would need to and, would often have to change in response to changes implemented by the market leader (Smorffit, 2008, p. 46).

Management control systems are vehicles for organizations to achieve their goals by securing organizational conformity with underlying social expectations, which is the source of legitimacy and resources (Schäffer, Strauss, & Zecher, 2015, p. 395). According to Swart (2013), in the current information age, in which businesses find themselves, systems that meet the current and future needs for information are essential components in a firm’s portfolio of criteria for success. Too many firms have a reactive response, rather than a proactive strategy, to the implementation of information technology. These integrated systems need to include an accounting function, a sales management function, communication systems (e-mail) and a marketing intelligence management system (Mariotti & Greene, 2014).

2.3. SME financing options and challenges in South Africa

According to Azeem and Chughtai (2013, p. 144), the financing needs of SMEs is during three stages, namely, start-up, expansion and rehabilitation. The focus in this study is on the start-up phase, since many businesses fail at this stage due to inter-alia, lack of finance. According to Irwin and Scott (2010, p. 245), large firms have the advantage of accessing the capital market and getting quick financing at low cost, but this is not the case with SMEs in SA. Sources of finance for SMEs are very minimal, which compels them to rely on finance from government grants, bank loans and private sources. The requirements of lending institutions do not exactly match the ability of SMEs by making it tougher to get financing at appropriate and affordable terms and conditions (Abor & Biekpe, 2009, p. 84). The SA government launched different entities through the Department of Trade and Industry (DTI), Small Development Agency (SEDA), NPO and donors, to boost the performance of SME sector. However, Smit and Watkins (2012, p. 6326) opined that although sufficient funds have been made available by the SA government for SME support, access remains problematic, especially for SMEs at the start-up phase. Furthermore, significant number of start-up businesses applications for external finance are declined.

The 2010 FNB and Endeavor Report (2010, p. 15) indicated that the issue is not so much a lack of access to capital but the stringent and lengthy process required to access external funding. This is exacerbated by the general lack of awareness about the procedures and the courses of action involved in gaining equity funding, which leaves entrepreneurs under-prepared and under-researched. The application process tends to be bureaucratic and heavily laden with protocols and red tape as funders endeavor to gain confidence and assurance when granting funding to entrepreneurs (FNB & Endeavor, 2010, p. 15).

With a better understanding and use of the Financing Framework for start-up SME’s access to external finance, it is possible to draw a more realistic picture of the financing needs of SA SMEs, with due consideration of the three main sources of external finance, namely, government, commercial banks and private equity (Burke, 2006, p. 117).

2.4. Conceptual model and hypotheses development

Uvar and Guzelyurt (2015, p. 286) suggested that the lack of finance is one of the major issues influencing the establishment and development of SME start-ups in SA. Thus, this indicates the presence of a significant gap in the existing and preferable finance options for SME start-ups. The choice of a type of external finance is
so important that most small business failures are attributed to its inadequacy or inappropriateness (Kumar & Rao, 2015, p. 100). Since small firms differ from large firms in several respects, they use different financing options and methods. Unlike large and publicly traded businesses, SMEs have limited or no access to certain types of external financing such as long-term debt and issuing equity. They, therefore, are more dependent on short-term debt in many cases (Uyar & Guzelyurt, 2015, p. 286).

The above scenarios justify the need for developing a framework for SMEs to access external finance, which framework must be built on a combination of the determinants of an entrepreneur’s business awareness and management skills, with business processes that lead to preferable external finance options for SMEs. As financing needs and options change with the size and age of a firm, it becomes imperative to design a framework that can provide guidelines for the identification and analysis of business success factors that would improve SME access to external finance during start-up phase. Sources of external finance for SME start-ups include finance from the South African government grants, commercial bank finance and private equity finance. Therefore, to evaluate the link between the determinants of business success and access to external finance by SME start-ups, it is hypothesized that:

**H1:** There is a relationship between start-up awareness and management skills.

**H2:** There is a positive relationship between start-up awareness and the choice of personal/social networks as a source of finance.

**H3:** There is a positive relationship between start-up awareness and the choice of government as a source of finance.

**H4:** There is a positive relationship between start-up awareness and the choice of corporate as a source of finance.

**H5:** There is a positive relationship between management skills and the choice of personal/social networks as a source of finance.

**H6:** There is a positive relationship between management skills and the choice of government as a source of finance.

**H7:** There is a positive relationship between management skills and the choice of corporate as a source of finance.

The above hypothesized relationships will be empirically examined using the methodology described below.

### 3. RESEARCH METHODOLOGY

Although there are three main research approaches, namely quantitative, qualitative and mixed methods research (Sedmak & Longhurst, 2010, p. 81), in this study, a quantitative approach was adopted, since this is the only way to test the various hypotheses postulated. The targeted population is all SME owners and managers in Pietermaritzburg, and the population is members of the Pietermaritzburg Chamber of Business (PCB), which is a registered NPO affiliated to the SA Chamber of Commerce and Industry (SACCI). Government and non-government organizations, schools and honorary members of PCB were excluded, which resulted in the population being reduced to 678, from which a random sampling of 252 participants were selected.

A questionnaire was used to collect primary data from a sample of 252 respondents from different SME start-ups. The researcher hired and trained a fieldworker who visited the premises of the selected participants in Pietermaritzburg and personally handed questionnaire. The participants were requested to return the completed questionnaires by e-mail, after a week, and where this was not done, the fieldworker travelled to the premises of the non-compliant respondents and collected the questionnaire, as well as answered any queries the respondents may have had. During the two-month period of field research, the researcher and the fieldwork managed to collect 253 completed questionnaires. The Statistical Package for the Social Sciences (SPSS) version 24 was used to analyze the responses from the structured questionnaires.
4. FINDINGS

4.1. Reliability

The reliability of the measurement instruments was assessed using both the Cronbach’s alpha coefficients and composite reliability (CR) indicators. According to Kipkebut (2010), values for Cronbach’s alpha range between 0 and 1, and Hair et al. (2009) indicated that values higher than 0.6 were considered as being reliable. In the current study, the lowest Cronbach’s Alpha value was 0.688, while the highest value was 0.929, which indicates that the Cronbach’s alpha values exceeded the recommended threshold of 0.6, hence, authenticating that the measures that were used in the study were all reliable as presented in Table 2.

Ramayah et al. (2011) indicated that the CR indicators show the extent to which research variables identify the latent variable. Urbach and Ahlemann (2010) posited that CR values that are acceptable are normally between zero and one, and according to Vicente, Abrantes, and Teixeira (2015), it is recommended that CR values must exceed 0.7. The CR test result was calculated using the following formula:

\[ CR = \frac{(\sum \lambda y_i \cdot 2)}{(\sum \lambda y_i \cdot 2 + \sum \varepsilon_i)} \]

CR = (square of the summation of the factor loadings)/(square of the summation of the factor loadings) + (summation of error variances).

The current study’s lowest CR value was 0.701, while the highest was 0.941. Table 1 reflects the CR values, which were all greater than 0.7, thus further confirming the reliability of the measures.

4.2. Validity

Table 1 presents the estimates of the factor loadings/standardized regression weights that were all greater than 0.5, showing greater convergent validity. The lowest loading or regression weight was 0.522, representing corporate finance (CF), while government finance (GF) had the highest value among the loadings with 0.950. This result indicates that all the measurement instruments used in this study explained at least 52% of what they are supposed to measure.

The thresholds presented in Table 2 ranged from 0.500 to 0.615, which is consistent with that of Fraering and Minor (2006) and Hair et al. (2006). The values were calculated using Amos software and these were again cross-checked with manual calculations using the formula below, which resulted in same values.

\[ V_{\eta} = \frac{\sum \lambda y_i \cdot 2}{\sum \lambda y_i \cdot 2 + \sum \varepsilon_i} \]

\[ AVE = \frac{\{(\text{summation of the squared of factor loadings})\}}{\{(\text{summation of the squared of factor loadings}) + \text{\{(summation of error variances})\}} \}

AVE values greater than 0.5 further confirmed convergent validity of the research constructs.

Inter-construct correlation matrices and Average Variance Extracted (AVE) compared to Shared Variance (SV) were used to assess the discriminant validity in the current study. The discriminant validity of the study was examined through an examination of the correlation values of the research constructs. A low correlation between research constructs indicates that the research constructs are unique and distinct from one another, while the reverse indicates the absence discriminant validity. Theoretically, a correlation value less than 0.6 is deemed an indicator of discriminant validity. However, practically, a correlation value that is less than 0.85 is still regarded as marginally acceptable (Chinomona, 2011). As reflected in Table 2, the highest correlation value is 0.407, hence, confirming the existence of discriminant validity of the research constructs used in the current study.

Table 2. Correlation between the constructs

<table>
<thead>
<tr>
<th>Research constructs</th>
<th>SUA</th>
<th>MS</th>
<th>PSF</th>
<th>GF</th>
<th>CF</th>
</tr>
</thead>
<tbody>
<tr>
<td>SUA</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MS</td>
<td>0.173</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PSF</td>
<td>0.243</td>
<td>0.407</td>
<td>1.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>GF</td>
<td>0.228</td>
<td>0.155</td>
<td>0.404</td>
<td>1.000</td>
<td></td>
</tr>
<tr>
<td>CF</td>
<td>0.338</td>
<td>0.362</td>
<td>0.182</td>
<td>0.018</td>
<td>1.000</td>
</tr>
</tbody>
</table>

Note: ** Correlation is significant at the 0.01 level (2-tailed). SUA = start-up awareness, MS = management skills, PSF = personal/social source of finance, and GF = government source of finance, CF = corporate source of finance.
The discriminant validity was further verified by comparing the AVE and HSV (highest shared variance) by comparing either the AVE with the HSV or through a comparison of the square root of the AVE for each construct and its relationship with other constructs (Fornell & Larcker, 1981, p. 337). The HSV which was determined by squaring the highest shared correlation value among constructs is reflected in Table 3. A construct that is unique and distinct from other research constructs is expected to have HSV, which is less than its Average Variance Extracted (AVE) (Chinomona, 2011). As can be noted from the results in Table 3, the HSV are all less than the AVE coefficients, hence confirming the existence of discriminant validity. Alternatively, as suggested by Fornell and Larcker (1981, p. 337), discriminant validity was also achieved when a square root of an AVE for each research construct was found to be greater than the correlation with the other construct, showing that discriminant validity has been achieved. Table 3 provides a summary of the descriptive statistics and the measurement model assessment statistics. The mean values provided below indicate that the majority of the respondents agreed with the measures asked (> 3 – < 5). The standard deviations were less than 2, therefore, indicating that the mean values are a correct reflection of the majority average perceptions.

### 4.3. Model fit summary

Unlike the covariance based approach, which provides the absolute fit indices, incremental fit indices as well as the parsimony fit indices (Hair et al. 2010:665), Smart PLS provides limited model fit indices. These are Chi-square $\chi^2$/df), the Normed Fit Index (NFI), and the Goodness-of-Fit Index (GFI), which are manually calculated based on a formula provided by Tenenhaus, Vinzi, Chatelin, and Lauro (2005). It is evident from Table 4 that the Chi-square (CMIN/DF) was 2.332, falling below the recommended threshold of 3 (Chinomona, 2011). The Normed Fit Index was 0.857, which exceeded the acceptable level of 0.800 suggested by Hooper, Coughlan, and Mullen (2008).
Following the formulae provided by Tenenhaus, Vinzi, Chatelin, and Lauro (2005), the global goodness-of-fit \((GoF)\) statistic for the research model was calculated using the equation:

\[
GoF = \sqrt{AVE \cdot R^2}.
\]  

(3)

As reflected in Table 4, the calculated global goodness of fit \((GoF)\) is 0.421, which exceeds the threshold of \(GoF > 0.36\) suggested by Wetzels, Odekerken-Schröder, and van Oppen (2009). Thus, it can be concluded that the research model has a good overall fit, since the results of the fit indices of the initial assessment of the measurement model of all the manifest variables and their indicators were all acceptable as presented in Table 4. Thus, the findings from the measurement model showed that the conceptual model was a depiction of the data collected for the study. Pungchompoo and Sopadang (2015) observed that, once a good fit is obtained for a hypothesized model, the path significance of each association in the research model and the variance ought to be estimated. The path modelling, and its hypotheses testing are interpreted in the next section.

The coefficient of determination \((R^2)\) value for each of the endogenous constructs in the structural model is presented in Table 5. It is evident that the \(R^2\) values range from 0.053 to 0.598, and \(R^2\) values of 0.75 are considered to be substantial with significant predictive power, 0.50 moderate with modest predictive power and 0.25 weak with poor predictive power. It is evident from the results that the exogenous constructs linked to Start Up Awareness (SUA) – Management Skills (MS) account for 59.8% of the variance, while GF, CF and PSF accounted respectively for 5.3%, 14% and 17.9% of the variance in this construct. Therefore, the predictive power of these determinants in the current study is considered to be ranging from weak to moderate.

In assessing collinearity, the following sets of exogenous and endogenous constructs were analyzed, namely, \(SUA \rightarrow CF; SUA \rightarrow GF; SUA \rightarrow MS; SUA \rightarrow PSF; MS \rightarrow CF; MS \rightarrow GF\) and \(MS \rightarrow PSF\). It is evident from the results contained in Table 6 that none of the variance inflation factor (VIF) values exceed the maximum threshold of 5, which would indicate critical levels of collinearity. Therefore, with VIF values only ranging between 1.000 and 2.488, collinearity among the exogenous constructs is not an issue to be considered when further evaluating the model.

### Table 4. Model fit summary

<table>
<thead>
<tr>
<th>Model fit indices</th>
<th>Acceptable threshold</th>
<th>Current study threshold</th>
<th>Decision: acceptable/unacceptable</th>
</tr>
</thead>
<tbody>
<tr>
<td>SRMR</td>
<td>–</td>
<td>0.104</td>
<td>Acceptable</td>
</tr>
<tr>
<td>d_ULS</td>
<td>–</td>
<td>3.535</td>
<td>Acceptable</td>
</tr>
<tr>
<td>d_G</td>
<td>–</td>
<td>2.075</td>
<td>Acceptable</td>
</tr>
<tr>
<td>Chi-Square value: (x^2/df)</td>
<td>&lt; 3</td>
<td>2.332 (857.225/df)</td>
<td>Acceptable</td>
</tr>
<tr>
<td>Normed fit index (NFI)</td>
<td>0.800</td>
<td>0.857</td>
<td>Acceptable</td>
</tr>
<tr>
<td>Goodness-of-fit index (GFI)</td>
<td>&gt; 0.36</td>
<td>0.421</td>
<td>Acceptable</td>
</tr>
</tbody>
</table>

*Note:* Correlation is significant at the 0.01 level (2-tailed).

### Table 5. Coefficient of determination \((R^2)\)

<table>
<thead>
<tr>
<th>Variables</th>
<th>(R^2)</th>
<th>(R^2) adjusted</th>
</tr>
</thead>
<tbody>
<tr>
<td>CF</td>
<td>0.140</td>
<td>0.122</td>
</tr>
<tr>
<td>GF</td>
<td>0.053</td>
<td>0.033</td>
</tr>
<tr>
<td>MS</td>
<td>0.598</td>
<td>0.594</td>
</tr>
<tr>
<td>PSF</td>
<td>0.179</td>
<td>0.162</td>
</tr>
</tbody>
</table>

### Table 6. VIF results in the structural model

<table>
<thead>
<tr>
<th>Research constructs</th>
<th>CF</th>
<th>GF</th>
<th>MS</th>
<th>PSF</th>
<th>SUA</th>
</tr>
</thead>
<tbody>
<tr>
<td>CF</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>GF</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>MS</td>
<td>2.488</td>
<td>2.488</td>
<td>–</td>
<td>2.488</td>
<td>–</td>
</tr>
<tr>
<td>PSF</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>SUA</td>
<td>2.488</td>
<td>2.488</td>
<td>1.000</td>
<td>2.488</td>
<td>–</td>
</tr>
</tbody>
</table>

*Note:* **Correlation is significant at the 0.01 level (2-tailed). SUA = star-up awareness, MS = management skills, PSF = personal/social source of finance, GF = government source of finance, CF = corporate source of finance.

### 4.4. Structural model assessment and hypotheses testing

Figure 1 is an illustration of the structural model also known as the path model, which depicts the results of the hypotheses tested. In the structural model, Start-Up Awareness is depicted to have direct effects on Management Skills (MS), Government Finance (GF), Corporate Finance...
Table 7. Hypothesis test results

<table>
<thead>
<tr>
<th>Proposed hypothesis relationship</th>
<th>Hypothesis</th>
<th>Path coefficients</th>
<th>T-statistics</th>
<th>P-values</th>
<th>Rejected/Supported</th>
</tr>
</thead>
<tbody>
<tr>
<td>SUA → MS</td>
<td>H1</td>
<td>0.773</td>
<td>21.777</td>
<td>0.000</td>
<td>Supported and significant</td>
</tr>
<tr>
<td>SUA → PSF</td>
<td>H2</td>
<td>0.180</td>
<td>0.961</td>
<td>0.339</td>
<td>Supported but insignificant</td>
</tr>
<tr>
<td>SUA → GF</td>
<td>H3</td>
<td>0.269</td>
<td>2.669</td>
<td>0.009</td>
<td>Supported and significant</td>
</tr>
<tr>
<td>SUA → CF</td>
<td>H4</td>
<td>0.145</td>
<td>1.167</td>
<td>0.246</td>
<td>Supported but insignificant</td>
</tr>
<tr>
<td>MS → PSF</td>
<td>H5</td>
<td>0.547</td>
<td>3.600</td>
<td>0.000</td>
<td>Supported and significant</td>
</tr>
<tr>
<td>MS → GF</td>
<td>H6</td>
<td>0.053</td>
<td>0.381</td>
<td>0.704</td>
<td>Supported but insignificant</td>
</tr>
<tr>
<td>MS → CF</td>
<td>H7</td>
<td>0.250</td>
<td>2.047</td>
<td>0.043</td>
<td>Supported and significant</td>
</tr>
</tbody>
</table>

Note: SUA = start-up awareness, MS = management skills, PSF = personal/social source of finance, GF = government source of finance, CF = corporate source of finance. Levels of significance: p < 0.05, t > 1.96.

![Figure 1. Structural model results](http://dx.doi.org/10.21511/ppm.17(3).2019.20)
(CF) and Personal/Social Network (PSF). Table 7 provides the results of structural model path coefficients, and the significant results. The results of the path coefficient, the interpretation of the stated hypotheses with their corresponding factor loadings, the probability value (P-value), as well as the outcome of their respective relationships are also presented in Table 7 provided.

It is clear from Table 7 that, while all proposed hypotheses are supported, only four are significant. In assessing the probability or the P-value, it was observed that six of the hypotheses were significant at the level of 0.05 as shown in Table 7. The summary of the hypothesized relationships is presented in the path diagram in Figure 1.

5. DISCUSSION OF THE FINDINGS

The results indicate that Start-up Awareness has a strong positive and significant effect on Management Skills ($\beta = 0.773$, $t = 21.77$, p-value = 0.00), which implies that start-up awareness in South Africa can possibly explain about 77.3% of the entrepreneur’s desire to acquire management skills that are necessary for their small enterprises to succeed. The results are consistent with the study done by Katwalo (2010), who stated that the relationship between managerial competency and critical success factor development is an avenue for achieving sustainable micro and small enterprises in Africa.

The results also reveal that Start-up Awareness has a weak positive but insignificant effect on Personal or Social Network source of finance ($\beta = 0.180$, $t = 0.961$, p-value = 0.339), which means that start-up awareness in SA can possibly explain about 18% of the entrepreneur’s desires to utilize personal or social sources of finance. These results are supported by Smit and Watkins (2012, p. 6326) who pointed out that a lack of credit is also a major constraint experienced by emerging African SMEs, who depend on personal savings or loans from relatives and friends, as their main source start-up capital.

It also became evident that Start-up Awareness has a relatively strong positive and significant effect on the choice of Government as a source of enterprise finance by entrepreneurs ($\beta = 0.269$, $t = 2.669$, p-value = 0.009). This finding implies that start-up awareness in SA can possibly explain about 26.9% of the entrepreneurs’ desire to choose government as the first source of enterprise finance, compared to personal/social finance ($\beta = 0.180$, $t = 0.961$, p-value = 0.339) and corporate finance ($\beta = 0.145$, $t = 1.167$, p-value = 0.246), respectively. The results are consistent with that reported by Fatoki and Garwe (2012), who found that managerial skills significantly positively impact the SME start-ups’ access to government funding.

The findings also reveal that Start-up Awareness has a relatively weak positive and insignificant effect on the entrepreneurs’ desires to choose the Corporate (e.g., banks) as a source of finance ($\beta = 0.145$, $t = 1.167$, p-value = 0.246), compared to government finance ($\beta = 0.269$, $t = 2.669$, p-value = 0.009) and personal/social source of funding ($\beta = 0.180$, $t = 0.961$, p-value = 0.339). This finding means that start-up awareness in SA can possibly explain about 14.5% of the entrepreneurs’ considered choice of the corporate as a source of finance. The results are supported by previous studies conducted by Fatoki and Garwe, (2010), where it was reported that prior market research and related factors significantly positively impact accessibility by SME start-ups to different types of bank funding.

It was also ascertained that management skills have a stronger positive and significant effect on the entrepreneurs’ decision to choose their Personal or social networks as a possible source of finance ($\beta = 0.547$, $t = 3.600$, p-value = 0.00), compared to corporate finance ($\beta = 0.250$, $t = 2.047$, p-value = 0.043) and government finance ($\beta = 0.053$, $t = 0.381$, p-value = 7.04), respectively. This finding implies that management skills in SA can possibly explain about 25% of the entrepreneurs’ choice of personal/social networks as a first source of finance of their enterprises. The results are consistent with the study done by Mariotti and Glackin (2012) who pointed out that priority when borrowing money from the inner circles of the family should be a business-like manner, honesty and openness about the potential and risks the business bears.
Management skills have the weakest positive and insignificant effect on the choice of Government as a source of finance ($\beta = 0.053$, $t = 0.381$, $p$-value = 7.04), compared to personal/social finance ($\beta = 0.547$, $t = 3.600$, $p$-value = 0.00) and corporate finance ($\beta = 0.250$, $t = 2.047$, $p$-value = 0.043). This finding means that social influence in SA can possibly explain only about 5.3% of the entrepreneurs’ desire to choose government as a source of finance. The results are consistent with Fatoki and Akinwumi (2010, p. 2768) who found that the determinants of business success relatively impact the accessibility of all types of financing for SME start-ups.

Finally, management skills have a relatively strong positive and significant effect on corporate finance ($\beta = 0.250$, $t = 2.047$, $p$-value = 0.043). Thus, entrepreneurs with management skills are likely to choose corporate finance as a second choice to personal/social network finance. This finding also implies that management skills in South Africa can possibly explain about 25% of the entrepreneurs’ likely desires to choose the corporates such as banks as the alternative source of business finance. The results are consistent with Gomezelj (2013), who found that managerial competencies significantly and positively impact the accessibility to all bank financing to SME start-ups.

The statistical tests have shown that all the determinants of start-up business success do not equally impact access to external finance by SME start-ups. The Framework for access to external financing by SME start-ups comprises three components, namely Entrepreneurial Awareness, Business Process and Financing Options.

6. ENTREPRENEURIAL AWARENESS

Based on the findings, it became apparent that the first component of the Framework, namely, Entrepreneurial Awareness, is composed of start-up awareness and management skills. Start-up awareness comprises determinants such as market research, business strategy, business plan, amount and source of seed capital, and location. Management skills included general management, strategic management, financial management, communication and marketing skills. All of the aforementioned affected access to all types of sources of business financing.

At this stage, the business owner-manager should understand and apply the different key determinants of a successful start-up, by equipping him/herself with the necessary knowledge of the industry in which he/she wants to start the business, as well as the necessary management skills that will enable him to operate and function effectively. Therefore, the achievement of the key determinants of a successful start seems critically important at the start-up stage.

7. FINANCING OPTIONS

The third component of the Framework comprises three types of external finance, namely, Government finance, bank finance (corporate source) and private equity (personal/social) finance. The financing option will depend on which requirements the business start-up entrepreneur can meet.

Figure 2 encapsulates in diagrammatic form the proposed framework recommended for start-up SMEs to access external finance.
CONCLUSION

SMEs are the major driving force of economic activity in any country, yet they face financing constraints. Therefore, there is a need to understand the financing preferences of SMEs and develop policies and strategies to alleviate the situation. The study found that the majority of the start-up SMEs are aware of external funding sources, however, the greatest challenge to accessing these funding is the complicated application procedure for both government grants and bank financing, followed by the bank interest rates that are generally perceived as high despite the bank or the sector of the business.

Figure 2. Financing framework for SME’s access to external finance
The proposed Framework will contribute to addressing the aforementioned challenge faced by SMEs in general, and start-ups in particular. By understanding and utilizing the Financing Framework, SME start-ups would be able to plan their financing needs and choose from among three main sources of external finance. The acquisition of relevant vocational, technical and business skills is generally regarded as a source of competitive advantage for start-up SMEs. In addition, entrepreneurial awareness is seen as particularly important in enabling South African SMEs to advance from survivalist activities to larger and better earning enterprises.

RECOMMENDATIONS

It is strongly recommended that business owner-managers understand the determinants of business awareness and requisite management skills in order to improve their ability to access external finance. During the start-up process of business, the entrepreneur must be aware of the business opportunity, as without an opportunity there is no sustainable business potential. In an effort to gain a competitive advantage, differentiation of the business must be highlighted, the business model formulated, and the strategy clearly defined. A business plan weaving all these determinants must be developed in order to understand, among other things, the amount of seed capital required and from where to source the required capital.

To sustain and grow the business, the entrepreneur should consider that general management experience is of vital, as is strategic management. A lack of technical skills can also cause failure of a start-up business, although this can be resolved through the employment of suitably qualified staff. However, the entrepreneur could still be at a disadvantage if he is totally dependent on staff, most specifically during the early stages of the business. A lack of understanding of financial management and poor financial management can also be a contributory reason in the demise of the business. A lack of leadership skills can be crucial in a SME, where the entrepreneur might be the only manager in the enterprise, leading to poor management of staff. This problem can be exacerbated by poor communication both internally and externally. Similarly, uncontrolled growth, together with poor financial and inventory control, are also major contributors to business failure. Marketing skills are critical to the success of every business, as are contingency management skills, which allow the owner-manager to adapt to ever changing circumstances. Most of all, the entrepreneur must be desirous of growth.

Banks should develop mature relationships with start-up SMEs and increase the availability of finance to these SMEs. Banks should be able to assess SME finance applications based on the determinants of the business success. Like commercial banks, private equity finance providers should also place emphasis on the determinants while evaluating start-up SMEs financing applications.

In addition, financial institutions and other providers should design special schemes for SME start-ups to cater for their specific financial needs, because most SME start-ups will not meet the requirements for funding of most providers if they use the conventional evaluation system. The government of SA in collaboration with finance providers should institute interest subsidies for SME start-ups based on their potential to succeed. This will make it less burdensome for such businesses, particularly younger ones, to access external finance.

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