

# Determining the business environmental factor constructs relevant to small and medium-sized enterprises trade credit management


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**Background:** Within the conceptual paradigm that the business environment of South Africa could significantly impact on small and medium-sized enterprises, (SMEs) management of trade credit, the need exists for internal and external business environmental factors to be constructed, in order to understand how SMEs rate these factors.

**Aim:** The research purpose was to identify and construct relevant internal and external business environmental factors and obtain SME ratings for these factors to statistically test the validity and reliability of the measurement instrument.

**Setting:** This study was conducted by administering an online questionnaire.

**Method:** Quantitative research design with purposive sampling as the sampling method, administrated to 10 450 SMEs within South Africa.

**Results:** A descriptive statistical analysis revealed that the highest quality internal and external business environmental components were managerial competencies and ethics, respectively. Factor analysis resulted in the formulation of five internal and six external business environmental factors. In addition, SMEs do not rate internal and external business environmental factors equally. Managerial competencies obtained the highest overall mean score for all business environmental factors, including the highest for internal factors. Small and medium-sized enterprise and debtor ethical performance obtained the highest means score for external factors.

**Conclusion:** The formulation of newly constructed internal and external business environmental factors relevant to SMEs' management of trade credit.

**Contribution:** As far as can be established, research identifying variables and constructing internal and external business environmental factors relevant to SME management of trade credit has not been conducted in South Africa. The newly formulated internal and external business environmental factors broaden SMEs' understanding of which business environmental factors are relevant to SMEs' management of trade credit, including how SMEs rate these factors.

**Keywords:** trade credit; internal business environment; external business environment; management; small and medium-sized enterprises.

## Introduction

South Africa is striving to make progress related to several United Nations Sustainable Development Goals (SDGs). However, the country is constrained by low economic growth that severely limits the attainment of these SDGs that include the eradication of poverty and inequalities. According to the World Bank (2022c), South Africa's poverty headcount ratio in 2014 (18.7%) is well above that of Middle East and North Africa in 2018 (7.0%), while an estimated 55% of the country's population is living below the national poverty line (World Bank 2022b). Income inequality, as a threat to economic development, is continually expanding as South Africa's Gini index increased from 59.3 in 1993 to 63.0 in 2014 (World Bank 2022a). In addition, given South Africa's rising unemployment rate (32.9%), poverty is likely to increase, thus extending the growing dependency on government grants (Statistics South Africa 2022). It is clear that economic growth holds the key to South Africa's hopes of accomplishing its SDGs. The intrinsic value of entrepreneurship in support of a country's economic development goals and elevating economic growth throughout Africa is paramount (Singer, Herrington & Menipaz 2018). One of the mechanisms to accomplish this is through small and medium-sized enterprises (SMEs). However,

**Note:** Additional supporting information may be found in the online version of this article as Online Appendix 1.

the National Export Survey (NES), part of the Global Entrepreneurship Monitor (GEM) South Africa Report for 2017/2018, suggests an ordinary entrepreneurial ecosystem showing hardly any improvement from 2016 to 2017 (Herrington & Kew 2018). The 2019/2020 GEM Report notes several challenges constraining South African entrepreneurs. Poor education stands out as a major constraint to the country's fourth SDG, namely quality education (Bosma et al. 2020). The 2017 and 2018 GEM South Africa Report suggests increased additional challenges experienced by SMEs related to the country's entrepreneurial ecosystem when considering the country's global competitive report rankings for 2016/17 versus 2017/18. The report shows a decline in the quality of education system from 134 to 114 and corruption (irregular payments and bribes) rising from 53 to 91 out of 138/137 countries. Other challenges such as business cost of crime and violence, and time required to start a business remained unchanged, while quality electricity supply declined from 112 to 97 out of 138/137 countries (Herrington & Kew 2018). Given the current state of the South African entrepreneurial ecosystem, ample business environment challenges impede the country's ability to address its SDGs, thus impairing the valuable contribution of SMEs to become strategic mechanisms in support of economic growth.

Furthermore, from a local entrepreneurial impact perspective, SMEs contribute 80% of gross domestic product (GDP) in South Africa (Baker, Kumar & Singh 2019); yet the contribution of the SME sector cannot be sustained without the creation of new SMEs (Gree & Thurnik 2003). Small and medium-sized enterprises' creation rate measured by numerous GEM Reports are termed total early-stage entrepreneurial activity (TEA) rate. South Africa obtained a TEA rate of 10.8%, with the country positioned 25th out of 50 participating countries, as observed in the 2019/2020 GEM Report, while the 2021/2022 GEM Report observed that South Africa's TEA rate for 2021 increased to 17.5% and ranked 11th out of 47 participating countries (Hill, Ionescu-Somers & Coduras 2022). Adding to this, GEM Reports provide data related to the South African population's 18 to 64 age group of the national population who agree that they are aware of good opportunities but are reluctant to start a business for fear it might fail. In 2017, South Africa had a fear of failure rate of 31.3%, increasing to 49.8% in 2019, positioning South Africa within the top 10 highest fear of failure rates for a participating country (Bosma et al. 2020; Singer et al. 2018). The 2021/2022 GEM Report data observed that South Africa obtained a failure rate of 53%, ranking the country 5th out of 47 countries (Hill et al. 2022). Two primary reasons contribute to SMEs business exit in South Africa, namely unprofitability and financial problems in all, contributing to SME business failure on a global scale (Bosma et al. 2020; Singer et al. 2018). As part of the financial problems leading to business exit, SMEs' ability to manage trade credit stands out among the numerous encountered by SMEs (Otto 2015; Otto 2018; Braimah et al. 2021; Singer et al. 2018), which cannot be separated from considerations about the business

environment (entrepreneurial ecosystem) in which SMEs operate. Because SMEs are exposed to several internal and external business environmental variables, while largely dependent on trade credit, the widespread failure of SMEs observed is not surprising (Bosma et al. 2020). This requires investigation. However, the risk perception of lending credit to SMEs first needs to be reduced in order for credit to be extended to SMEs (Fatoki 2010). Small and medium-sized enterprises are more dependent on trade credit; therefore, improving the management of trade credit for SMEs is one of the key factors to reduce South African SMEs' high failure rate, although business environment volatility raises SMEs' perceived risk (Organisation of Economic Cooperation and Development [OECD] 2006). The OECD (2020) argues that improving South Africa's business environment through prioritisation of reform is fundamentally important in attempting to raise the country's growth impact, given that SMEs' prosperity depends on strengthening the internal and external business environment (Beck & Demirguc-Kunt 2006). Small and medium-sized enterprises face numerous constraints affecting their viability and sustainability such as financial problems in the form of proper management of trade credit, due to ample business environment challenges impeding SMEs' ability to contribute effectively to South Africa's SDGs. Therefore, determining the internal and external business environmental factor construct relevant to SMEs management of trade credit is deemed important. There is, thus, the need to identify and construct these factors and provide evidence that the measurement is valid and reliable.

As far as can be established, research identifying variables and constructing internal and external business environmental factors relevant to SME management of trade credit has not been conducted in South Africa. The article's primary objective to identify, construct, and validate SME business environmental factors relevant to SMEs' trade credit management could be achieved through the following secondary objectives:

- Identify, from a review of the literature, internal and external business environmental variables relevant to SMEs' management of trade credit.
- Analyse and interpret SMEs' ratings, using appropriate descriptive statistical procedures, and determine validity and reliability of the questionnaire.
- Determine which individual questionnaire components 'belong together' by grouping them into factor constructs relevant to SMEs' management of trade credit and from that, determine if factors derived from the exploratory factor analysis (EFA) are rated equally by SMEs.

## Literature review

Trade credit finances approximately 90% of global merchandise estimated to be worth \$25 trillion and represents approximately 20% of world GDP over the past 25 years (Boissay, Patel & Shin 2020; Klapper, Leaven & Rajan 2012), while locally the usage of trade credit remains vast. Kwenda

and Holden (2014) observed that trade credit financed approximately 50% and 32% of current assets of total assets, respectively, as also confirmed by Machokoto, Areneke and Ibrahim (2020), documenting an 89% increase in South African companies' usage of trade credit as funding for corporate debt from 1991 to 2015.

The decision to extend trade credit is complex, because there is a credit risk for creditors extending trade credit to debtors as, in the event of default, the original investment could become non-salvageable (Smith 1987). Financial problems in the form of agency problems such as adverse selection and moral hazard are prone to affect SMEs' trade credit management, due to the phenomenon known as asymmetric information in SMEs (Nguyen & Ramachandran 2006). Due to the phenomenon of asymmetric information, the mismanagement of trade credit can occur because of the financial problems that impair the contractual stipulations agreed upon in the initial credit agreement entered into between a creditor and a debtor (Fatoki 2010).

### Asymmetric information

Asymmetric information theory, developed by Smith (1987), occurs when a situation of uncertainty arises concerning the debtor's financial health or creditworthiness, due to the presence of informational asymmetries. Trade credit acts as a contractual mechanism for assisting with informational asymmetry in establishing credit terms between both parties involved in the credit agreement that acts as a mechanism of display to provide valuable information specific to the debtors default risk. Specially in the case of trade credit, such information proves resourceful to creditors, as it acts as a strategic mechanism in assisting creditors to protect their investment or forecast for the possibility of default posed by the debtor.

Furthermore, the management of trade credit is of particular importance to SMEs, while various business environmental variables affect business sustainability for the majority of African SMEs making various business environment variables related to SMEs' management of trade credit relevant and in need of investigation (Bosma et al. 2020; OECD 2020). With the aim of the study in mind, the literature (first objective) reviewed eight business environmental variables: managerial competencies, collateral, financial and business information and networking (internal) and legal system, ethical management practices, macro-economic conditions and corruption (external).

### Managerial competencies

Managerial competencies allow SMEs to grow into sustainable businesses. Therefore, a high managerial competency level exhibited by SMEs will yield greater financial and business viability. Malinao and Ebi (2022) support this observation by revealing a positive correlation between new venture profits and greater levels of education and experience possessed by the business. Bosma et al. (2004) support this, by indicating

that human capital influences the entire set of performance measures, namely employment, profitability, and survival. In addition, should SME owners possess former industry experience similar to their current operating industry, this set of performance measures appears to improve including SMEs' survival and creation rate (Bosma et al. 2004). Studies by Veliu and Manxhari (2017) support this observation, as the importance of managerial competencies to SME success is amplified, becoming increasingly relevant in the case of South Africa that is regularly burdened by education system inequalities, thereby emphasising the relevance of managerial competencies to SMEs trade credit management (Bosma et al. 2020).

### Collateral

Creditors show a higher level of commitment and assurance and feel better protected with credit extension when collateral is available, given that collateral could reduce the risk of lending, thereby signalling debtor's capacity for credit repayment (Gassiah & Kikula 2022; Voordekkers & Steijvers 2006). However, asymmetric information is a regular occurrence for SMEs subjected to high trade credit interest rates that act as a display mechanism from which information pertaining to the debtors default risk portrays asymmetrically resulting in uncertainty related to debtors' creditworthiness (Smith 1987). Asymmetric information acts as an incentive for the extension of trade credit and the formulation of a credit policy as one of the main fundamental theories of trade credit that underpins this study (Smith 1987). Collateral solves several financial problems derived from information asymmetry, namely monitoring and screening costs and moral hazard that result in uncertainty specific to debtors' financial viability, given that collateral requirements mitigate the risk of debtors not committing to credit repayment improving SMEs trade credit management (Barbosa & Moraes 2004; Blumberg & Letterie 2008).

### Financial and business information

Concrete financial and business information is regularly unavailable for SMEs, resulting in a financial and business information supply gap that contributes to information asymmetry (Nguyen, Tran & Truong 2022). Vander Bauwheide, De Meyere and Van Cauwenberge (2015), as well as Palazuelos, Crespo and Del Corte (2018) support this observation as creditors feel more secure and willing to extend lending volumes to debtors. In addition, financial and business information availability is important to the entire SME sector as SMEs source credit as debtors, while facilitating credit supply as creditors termed a 'two-way transaction' (Otto 2015). Therefore, it is observed that SMEs directly contribute to the viability of their net trade credit positions, as the availability of financial and business information becomes essential to avoid a spill-over of information deficiency, given their interdependency (Otto 2015).

## Networking

Several authors argue in favour of networking, in order to improve SMEs' trade credit management. Networking opportunities position creditors to benefit from vital resources such as trust-based networks that facilitate the provision of valuable information pertaining to debtors' reputation, disclosing debtors' character and capacity, alerting to any possibility of default (Amoako & Matlay 2015; El Ghoul & Zheng 2016). However, creditor and debtor relationships usually fall victim to conditions of information asymmetry, although, if networking takes place, asymmetric information can be mitigated among same-sector SMEs, strengthening inter-SME trade credit management (Gulati & Gargiulo 2002).

## Legal system

From a legal system perspective, an inefficient legal system contributes to unprofitability because of business insolvency impeding operational viability, leaving creditors unprotected and subjected to lengthy judgement periods that regularly end up in liquidations. In practice, creditors remain unprotected in an attempt to resolve accounts in arrears because of business insolvency. The country's efficiency in enforcing creditor contracts is utterly low, thereby confirming the incapability of the South African legal system in support of SMEs (Palacin-Sánchez, Canto-Cuevas & Di-Pietro 2019). To this end, it is no surprise that SMEs in South Africa fail extensively, with unprofitability and financial problems observed as the two major reasons for SME failure within the 2017 and 2018 GEM South Africa Report (Singer et al. 2018). The study by Palacin-Sánchez et al. (2019) suggests a significant negative relationship between efficiency of the legal system and trade credit, given that trade credit depends on a country's institutional factors. The authors state that individuals responsible for formulating and implementing institutional policies should be mindful of how these regulations influence trade credit. Therefore, the efficiency of the legal system in South Africa could prove to be relevant to SMEs' trade credit management.

## Ethical management practices

In addition, the general risk perception in credit lending is increased when sound ethical perceptions are lacking as different sources of information will impact on SMEs' trade credit decision-making (Fatoki 2010). Ethics is instrumental in mitigating a variety of trade credit constraints in the business environment, namely adverse selection and moral hazard, due to information asymmetries (Howorth & Moro 2006). Therefore, ethics may well be the most important assessment criteria available to a creditor in extending credit to a debtor (Amoako, Akwei & Damoah 2020). Because the essence of successful lending revolves around mitigating asymmetric information, the disclosure of ethical information could limit debtors' incentives to default, thereby improving SMEs' trade credit management.

## Macro-economic conditions

Small and medium-sized enterprises should also consider macro-economic fluctuations such as inflation, interest rates, and foreign exchange rates, as these might challenge SMEs' operational abilities, leaving SMEs exposed to negative debt leverage (Lui 2020). However, SMEs' ability to fully comprehend macro-economic conditions is subjected to their managerial competency levels, as the understanding of macro-economic conditions can help SMEs better plan for disruptive future events as economic downturns impose a destructive influence on SMEs forcing SMEs to operate under a negative debt leverage (Kwenda & Holden 2014). In addition, South Africa's low economic growth prospects impede SMEs' ability to act as drivers of economic prosperity as the situation worsened from the devastating impacts of the coronavirus disease 2019 (COVID-19) pandemic on trade credit from a creditor's perspective (Lui 2020), raising the usefulness of determining macro-economic conditions as a construct relevant to SMEs' management of trade credit.

## Corruption

Numerous other external business environmental elements challenge SMEs' ability to adapt to institutional environmental variations, including being more exposed to variations in economic policy because of corruption (Rashid & Saeed 2017). Small and medium-sized enterprises incorporate 99% of all established businesses globally; yet the effect of corruption is prevalent within SMEs, while there is hardly any research on how corruption affects the smaller business (Le & Doan 2020). Literature does, however, distinguish between two perspectives, namely 'grease in the wheels', incorporating a positive implication because of business corruption, and 'sand in the wheels', incorporating a negative implication. According to Khwaja and Mian (2005), corruption places businesses in a better position to receive external funding by overcoming complex regulations that limit businesses, due to existing bureaucratic processes. This 'grease-in-the-wheels' viewpoint is supported by a number of authors stating that SMEs do decide to engage in corruption as a means of survival, due to problems combining regulatory compliance and bureaucracy, especially in developing countries burdened by defective government bureaucracy and the presence of private monopolies (Wellalage, Locke & Samujh 2019). Alternatively, corruption could influence the SMEs' repayment capacity once credit is granted. This could impair SMEs' management of trade credit, as several studies align with the 'sand-in-the-wheels' viewpoint incorporating negative corruption implications threatening SMEs' financial viability (Le & Doan 2020; Ullah 2020).

Bosma et al. (2020) observed that SMEs are exposed to several business environmental influences all relevant to their operational viability. The above literature shares a common similarity in that South African SMEs are exposed to numerous internal and external business environmental variables affecting their business success, particularly their trade credit management. It can be argued that SMEs do not

rate these variables equally and that a list of many criteria items can be clumsy with hardly any support in practice. Because SMEs' are critical to address South Africa's SDGs, the importance of constructing SMEs' internal and external business environmental factors to determine SMEs' ratings of these factors relevant to their trade credit management becomes essential, in order to mitigate SME failure as a result of business exits, due to financial problems.

## Research methodology

The article used a quantitative research design and the online survey method to collect primary data by means of a questionnaire as measuring instrument. Purposive sampling was used as the sampling method. According to Johnson and Duberley (2000), the positivism paradigm is, to a large extent, adapted in case of business-related research. The epistemology paradigm of this research is positivism, given the application of the survey research method by using a structured questionnaire to test theory and the use of inferential statistics in the research design. The first objective was attained through an extensive review of the literature. This led to the development of a questionnaire that included a set of internal and external business environmental variables that may be relevant to SMEs' management of trade credit. Exploratory factor analysis was performed to reduce the number of components into constructs. Descriptive statistics was applied to rank the individual components, variables, and factors according to their relative importance.

Data for the article was gathered by means of an online questionnaire.<sup>1</sup> The study applied the survey research method: the researcher chose a sample of respondents from a population to administer a standardised questionnaire. An e-mail questionnaire served as the measuring instrument and was designed to determine the impact of eight internal and external business environmental variables on SMEs' trade credit management effectiveness. The questionnaire was administered to 10450 SMEs consisting of two main sections, namely SME business environment and SME trade credit management, excluding the biographical section. For the purpose of this article, Section B of the questionnaire (SME business environment) included statements formulated for each of the eight sub-sections identified in the literature review. These 49 statements were closed-ended, and a 5-point Likert scale was used, except for biographical questions, to rate the responses with the options, 1 = 'Very poor', 2 = 'Poor', 3 = 'Average', 4 = 'Good', and 5 = 'Excellent' applicable to all business environment sub-sections, except corruption. In the case of corruption, the options were 1 = 'No extent', 2 = 'Small extent', 3 = 'Moderate extent', 4 = 'Large extent', and 5 = 'Very large extent'. Scale items were obtained from a combination of studying the literature for theoretical constructs and empirical conclusions, re-working the questionnaire based on the structure of an existing questionnaire used in a previous study designed to measure SMEs' management of trade credit (Otto 2015), and help

<sup>1</sup>The questionnaire will be available as an online appendix.

from experienced statisticians who set out to peer debrief the questionnaire statements. After all necessary contact information was obtained from the SMEs' sample, a letter was e-mailed to each SME. The letter detailed the title of the research project, a short introduction of the researcher, the time to completion of the questionnaire, the assurance that the completion of the questionnaire is voluntary alongside the needed ethical practices disclosure. The electronic link to the completion of the online questionnaire was also available in the letter sent to the respondents. The respondents opened the electronic link to the online questionnaire and thereafter completed the questionnaire. Repeated reminder e-mails, restricted to a maximum of three per respondent, were sent to respondents to attain a desirable questionnaire completion rate. Software used in administering the questionnaire were Typeform.com as administered by the services of iFeedback Consulting (Pty) Ltd, a private company specialising in data collection. After completion, the data for each questionnaire was saved for analysis.

The researcher followed and completed the required ethical clearance process stipulated by the University of Johannesburg. Ethical clearance was obtained from the School of Accountancy Research Ethics Committee (SAREC20180502-02).

The population of South African SMEs totalled ( $n = 658719$ ) in 2018 (SEDA 2018). The population frame of SMEs was obtained from insights drawn from similar studies in the past and from expert advice obtained from iFeedback Consulting (Pty) Ltd. Using Interactive Direct Business Database, the population of SMEs totalled ( $n = 45313$ ), the researcher purposively sampled ( $n = 10450$ ) as the population frame of SMEs. All SME names were cross-checked to eliminate double counting. The empirical study focused on SMEs operating in the following industries: retail, professional services, mining, manufacturing, information and communication technology (ICT), government, financial services, engineering and distribution. The sample size totalled 450 (SMEs) by applying the Zikmund sample size calculator at 5% margin of error and 95% confidence interval (Zikmund et al. 2010). The number of distributed questionnaires totalled 10 450, with 434 questionnaires returned, amounting to a response rate of 4.15% of the population total. Only a small number of respondents answered the questionnaire in a manner that would result in missing values, due to item non-response. The total sample size for the purpose of statistical analysis equalled 422 respondents (number of accepted questionnaires) who completed between 70.41% and 100% of the questionnaire, and the remaining 12 respondents (number of rejected questionnaires) answered between 0% and 69.39%. Missing values, therefore, presented a minute challenge for the researcher to start with the research results, although the number of component non-response cases might still differ because of missing data related to the sample.

Completed questionnaires were captured on Excel, data was analysed using SPSS 26 employing statistical techniques such as descriptive statistics, frequency distribution, mean,

standard deviation (SD), internal consistency, and factor analyses. Quantitative data from Section B was first analysed descriptively to establish the mean and SD of each of the 49 components. Thereafter, EFA was applied to determine which of those individual components 'belong together' and, in so doing, the components were loaded onto eight initial constructs through initial EFA. These components were evaluated statistically for sampling adequacy using the Kaiser-Meyer-Olkin (KMO) test and for sphericity using Bartlett's test, while Cronbach's *alpha* values were used to test for construct reliability, by indicating internal consistency of the construct expressed as a number between zero and one (Tavakol & Dennick 2001). The Pearson correlation coefficient (*p*-value) of less than 0.05 is significant for statistical tests, unless otherwise stated (Pallant 2016).

## Empirical results

The empirical results provided set out to determine the internal and external business environmental factors relevant to SMEs' management of trade credit and obtain SME ratings for these factors to statistically test the validity and reliability of the measurement instrument.

### Demographic data

Section A of the questionnaire collected demographic data revealing the average age of the respondent to be 52 years, predominantly classified as a White male. Close to half of the total respondent group is in possession of a postgraduate qualification, while their average trade credit management experience amounted to 18 years. Most of the SMEs were based in Gauteng, with close to half of the respondents total operating within the manufacturing industry and three quarters of the total group of respondents operating independently as an entity. In addition, over half of the total group of respondents employ up to 50 staff members, while both SMEs and individuals equally represent the largest percentage allocation as a description to respondents' clientele.

### Descriptive statistics related to small and medium-sized enterprise business environment questionnaire section

Table 1 shows the results of the 49 components in Section B of the questionnaire, which tested SMEs' ratings pertaining to internal and external business environmental variables relevant to SMEs' management of trade credit (second objective). The descriptive statistics mean value and SD are shown for each component. Table 1 tabulates descriptive statistics of Section B of the survey questionnaire before EFA.

### Validity statistics related to small and medium-sized enterprise business environment questionnaire section

The KMO measure of sampling adequacy demonstrates the suitability of the SMEs' business environment data for factor

analysis and the Bartlett's test indicates redundancy is not a problem amongst components (Table 2).

### Exploratory factor analysis for computed small and medium-sized enterprise business environment factors

A principal component analysis extraction method was used with Oblimin rotation to reduce the data from the 49 components to a more manageable number of factors for further analysis. Eigenvalues greater than 1.00 was the criterion used to identify factors. Items with factor loadings less than 0.300 were removed, and another round of EFA was carried out (Leech, Barrett & Morgan 2005). Eleven items were removed as a result of this process. Five internal and six external business environment factors were confirmed after EFA. To reach the third objective the results of the initial EFA were considered against the research reviewed in the literature section. Table 3 show the rotated factor loadings related to SMEs' internal and external business environment factors after EFA.

### Total variance explained for computed small and medium-sized enterprise business environmental factors

Table 4 shows eigenvalues for the 11 factors. The total variance explained for the internal and external business environmental factors totalled 70.374%.

### Component analysis for computed small and medium-sized enterprise business environmental factors

Cronbach's *alpha* was used to test the construct reliability (Table 5). Reliability for all 11 SME business environmental constructs is confirmed to be adequate. Table 5 presents a selected summary statistics for the 11 factors.

## Discussion of the results

### Outline and discussion of the research findings

This section starts with a discussion on the prioritisation of the 49 components (Table 1) in attaining the second and third objectives. The literature review (first objective) provided a basis to develop the questionnaire. These 49 individual components could easily be linked to existing studies. For a detailed review of the questionnaire, refer to (Otto 2022).

### Individual components and factor constructs revealing small and medium-sized enterprises ratings of business environmental variables

Table 1 provides the average mean score values of the set of business environmental components needed to understand SMEs' ratings of internal and external business environmental variables before EFA (second objective). Three of the four internal variables, consisting of several sub-variables, obtained a mean score of more than 3, revealing that respondents rated their business' credit management in case of managerial competency quality (4.02) as good and their

**TABLE 1:** Descriptive statistics for Section B of the questionnaire before exploratory factor analysis (*n* ranges from 411 to 422).

Business environmental variables	Mean	SD
<b>Managerial competencies</b>		
Business skills	3.98	0.773
Communication skills	4.03	0.755
Education	3.82	0.806
Experience	4.21	0.820
Problem-solving skills	4.09	0.866
Managerial competencies average mean and SD	4.02	0.804
<b>Collateral</b>		
Debtors of the business, availability of non-current assets to serve as collateral for the business (e.g. buildings to serve as collateral)	3.06	1.236
Business' availability of non-current assets to serve as collateral for creditors (e.g. buildings to serve as collateral)	3.03	1.239
Debtors of the business, availability of current assets to serve as collateral for the business (e.g. inventories to serve as collateral)	2.99	1.164
Business' availability of current assets to serve as collateral for creditors (e.g. inventories to serve as collateral)	3.04	1.181
The frequency with which business' debtors guarantee collateral	2.52	1.154
The frequency with which the business guarantees collateral to a creditor	2.57	1.162
Collateral average mean and SD	2.87	1.189
<b>Financial and business information</b>		
Business's access to transparent cash flow statement from its debtors	2.47	1.249
Creditors' access to a transparent cash flow statement from the business itself	2.98	1.237
Debtors' cash flow statement indicating a viable repayment of credit ability for the business	2.85	1.219
Business's cash flow statement indicating the business' viable credit repayment ability to its creditors	3.39	1.178
Debtor's financial information displaying financial viability for the business	3.05	1.150
Business's financial information displaying financial viability for its creditors	3.40	1.108
Debtors providing transparent business information disclosing its trade credit practices to the business	2.73	1.154
Business' provision of transparent business information disclosing the business' trade credit practices for its creditors	3.23	1.139
Financial and business information average mean and SD	3.01	1.179
<b>Networking</b>		
The quality of networking and/or business relationships between the business and its debtors	3.80	0.952
The quality of networking and/or business relationships between the business and its creditors	3.84	0.924
The number of networks and/or business relationships the business has with debtors	3.65	0.977
The number of networks and/or business relationships the business has with creditors	3.65	0.973
The extent to which the business belongs to a similar professional association as its debtors	2.68	1.257
The extent to which the business belongs to a similar professional association as its creditors	2.81	1.219
Networking average mean and SD	3.40	1.050
<b>Legal system</b>		
Being fair and impartial in dealing with the business' insolvent estates	2.98	1.071
Obtaining judgement when legal action is pursued against a debtor(s)	2.80	1.241
Obtaining judgement when legal action is pursued against a creditor(s)	2.83	1.178
Providing a reasonable waiting period for the business to obtain judgement when legal action is pursued against a debtor(s)	2.75	1.209
Length of time the business has to wait for judgement when legal action is pursued against the business	2.50	1.157
Enforcing court decisions	2.65	1.238
Legal system average mean and SD	2.75	1.182
<b>Ethics</b>		
Business's debtors for non-default to payments payable to the business itself	3.28	0.999
The business itself for non-default to payments payable to its creditors	3.69	1.046
Business's debtors for being honest in keeping to commitments payable to the business itself	3.23	1.137
The business itself for being honest in keeping to commitments payable to its creditors	4.20	0.933
Business's debtors providing accurate and truthful financial and business information to the business	3.18	1.071
The business itself providing accurate and truthful financial and business information to its creditors	4.06	0.962
Ethics average mean and SD	3.61	1.025
<b>Macro-economy</b>		
The current economic status	2.04	0.990
The current interest rate	2.45	0.869
The current inflation rate	2.36	0.944
The current unemployment rate	1.41	0.787
Macro-economy average mean and SD	2.07	0.897
<b>Corruption</b>		
Debtors (corporate and/or government customers) delay payment to the business, while having enough funds available for full payment to the business	2.78	1.109
The business avoiding payment to creditors (corporate and/or government suppliers), while having enough funds available for full payment	3.04	1.277

Table 1 starts on the next page →

**TABLE 1 (Continous...):** Descriptive statistics for Section B of the questionnaire before exploratory factor analysis (*n* ranges from 411 to 422).

Business environmental variables	Mean	SD
Debtors (corporate and/or government customers) delay payment, while giving preference to another business	2.89	1.067
The business avoiding payment due to creditors (corporate and/or government suppliers), while giving preference to other creditors for which payment is not due	3.04	1.281
Debtors benefit from the business approving loans that do not adhere to the basic financial criteria	2.58	1.054
The business benefits from creditors approving loans that do not adhere to the basic financial criteria	2.59	1.058
Debtors benefit from the business approving loans that have no potential to be repaid by the debtor	2.36	1.116
The business benefits from creditors approving loans with no potential to be repaid by the business itself	2.45	1.198
Corruption average mean and SD	2.72	1.145

SD, standard deviation.

**TABLE 2:** Validity statistics for section B of the questionnaire before exploratory factor analysis.

Questionnaire section before EFA	Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy	Barlett's test for component validity (df)	Barlett's test for component validity (Sig)
SME business environment	0.860	1176	0.000

EFA, exploratory factor analysis; SME, small and medium-sized enterprise.

business itself in case of networking (3.40) and financial and business information (3.01) quality between average and good. However, for collateral (2.87), respondents rated the business itself related to quality of collateral between poor and average. Only one of the four external variables, ethics (3.61), has a mean score of more than 3, indicating that SMEs rated either the business' debtors or the business itself to quality of ethics between average and good. For legal system (2.75) and macro-economy (2.07), the mean scores of less than 3 indicate that SMEs rated the quality of both variables between poor and average. Lastly, for corruption<sup>2</sup> (2.72), SMEs indicated that the extent to which corruption occurs from the perspectives of debtor to SME and SME to creditor is between small to moderate.

In relation to EFA results, six Section B factors have scale means above three out of five and five factors have scale means below two out of five (5-point Likert scale was used). In relation to determining if factors derived from the EFA are rated equally by SMEs (third objective), the following factors ranked from highest to lowest mean, indicating that SMEs do not rate these business environmental factors equally. MC (4.03) reveal the highest means score value of all internal factors, as SMEs rated this factor as good. This finding corresponds with the observations by Veliu and Manxhari (2017), Bosma et al. (2020), as well as Malinao and Ebi (2022), expressing the importance of managerial competencies to SME success. NET (3.73) obtained the second highest means score that aligns with the findings by Amoako and Matlay (2015), as well as El Ghoul and Zheng (2016) who observed the importance of networking in obtaining valuable information to create trust-based networks. FI (3.25) followed closely and showed an average rating that aligns with the findings of Vander Bauwheide et al. (2015) and of Palazuelos et al. (2018). Small and medium-sized enterprises rated COL (3.02) as average. This corresponds with the study by Voordeckers and Steijvers (2006) revealing a mediocre importance, less so compared to the previous three factors,

2. Corruption must be interpreted independently from the remaining seven business environment variables given that corruption was the only variable tested with different Likert scale question alternatives compared to the other seven variables.

of collateral in protecting creditors from information asymmetries. As a last internal factor, DED obtained a mean of 2.96, while DEP, external factors listed further, scored a mean of 3.49, which aligns with the studies by Howorth and Moro (2006) and Amoako et al. (2020), in that ethics is instrumental in mitigating financial problems associated with credit lending and therefore important. Small and medium-sized enterprises rated ELS between poor and average (2.75), which corresponds with Singer et al.'s (2018) viewpoint that the inefficiency of the country's legal system contributes to SMEs' reasons for business exits. MEC obtained a mean of 2.06 that corresponds with the observation by Lui (2020), in that SMEs are constrained by a poor macroeconomic climate furthermore impaired by the COVID-19 pandemic. Lastly, for corruption factors SME rated: CCP (3.04), CDPP (2.83), and DCUL (2.50), showing that SMEs rate the extent of corruption from creditor to SME as more prevailing than debtor to SME. Altogether, given that SMEs rated the extent of corruption between small to moderate, the results align with the viewpoints of Le and Doan (2020) and Ullah (2020), who observed the negative corruption implications ('sand-in-the-wheels' perspective) associated with corruption to SMEs' financial viability.

### Validity statistics for small and medium-sized enterprise business environmental variables

Table 2 depicts the results obtained after performing the KMO and Bartlett's test for item validity tests (second objective). The results for Section B are as follows: BTS at 1176 and the level of significance at *P* = 0.000, indicating that the data is appropriate with sufficient correlation between components for the purpose of factor analysis. The result of the KMO measure of sampling adequacy was 0.860 for Section B of the survey questionnaire, which indicates that there are sufficient components for each factor. Both tests support the appropriateness of the factor analysis technique, given that the results from the KMO were very high and statistically significant, indicating high validity for Section B of the questionnaire.

### Exploratory factor analysis and total variance explained for computed small and medium-sized enterprises business environmental factors

The results display the factorisation of individual questionnaire components into factor constructs (third objective) and each factor's eigenvalue (refer to Table 3 and

**TABLE 3:** Rotated factor loading values for small and medium-sized enterprises internal and external business environment factors after exploratory factor analysis.

Factor	Factor components	1	2	3	4	5	6	7	8	9	10	11	12
FI (internal)	B3.2 Creditors' access to a transparent cash flow statement from the business itself	0.854	0.016	0.005	0.084	-0.092	0.094	0.046	-0.048	0.082	0.034	-0.037	0.044
	B3.4 Business's cash flow statement indicating the business' viable credit repayment ability to its creditors	0.743	-0.107	-0.036	0.067	-0.078	-0.018	-0.009	0.010	-0.115	0.040	0.075	0.099
	B3.6 Business's financial information displaying financial viability for its creditors	0.727	-0.042	-0.057	0.043	0.106	0.081	-0.009	0.053	-0.047	0.150	0.171	-0.055
MC (internal)	B1.3 Education	0.014	-0.817	-0.021	-0.034	-0.068	0.003	0.005	-0.026	0.016	0.064	-0.063	-0.040
	B1.5 Problem-solving skills	-0.027	-0.813	0.007	0.016	0.019	0.036	-0.045	0.008	-0.011	-0.014	0.127	-0.081
	B1.2 Communication skills	-0.023	-0.799	0.039	0.052	-0.007	0.049	0.049	-0.075	0.003	-0.105	0.009	0.008
	B1.1 Business skills	0.113	-0.757	-0.022	-0.067	-0.037	-0.031	0.002	0.043	-0.033	0.012	-0.114	0.114
	B1.4 Experience	-0.066	-0.724	-0.034	0.090	0.022	0.060	-0.050	0.102	-0.002	0.060	0.065	-0.012
DCUL (external)	B8.7 Debtors benefit from the business approving loans that have no potential to be repaid by the debtor	0.021	0.021	0.839	0.099	0.041	-0.010	-0.029	0.079	0.008	-0.063	0.054	-0.073
	B8.6 The business benefits from creditors approving loans that do not adhere to the basic financial criteria	-0.014	-0.007	0.832	-0.011	0.035	0.011	0.065	-0.058	0.001	0.152	-0.018	0.102
	B8.8 The business benefits from creditors approving loans with no potential to be repaid by the business itself	-0.030	-0.027	0.811	0.064	0.011	-0.049	0.025	-0.096	0.000	0.136	-0.007	-0.048
	B8.5 Debtors benefit from the business approving loans that do not adhere to the basic financial criteria	-0.061	0.040	0.774	0.028	-0.048	0.184	0.019	0.132	0.022	-0.046	-0.001	-0.021
	B5.4 Providing a reasonable waiting period for the business to obtain judgement when legal action is pursued against a debtor(s)	-0.024	-0.043	-0.010	0.884	-0.032	-0.078	0.053	0.052	-0.040	-0.032	0.010	-0.037
ELS (external)	B5.2 Obtaining judgement when legal action is pursued against a debtor(s)	-0.032	-0.023	0.050	0.878	-0.004	-0.044	-0.021	-0.021	-0.008	-0.077	-0.029	0.053
	B5.3 Obtaining judgement when legal action is pursued against a creditor(s)	0.100	0.038	0.058	0.864	-0.008	-0.005	-0.053	-0.071	0.035	-0.012	-0.005	0.059
	B5.5 Length of time the business has to wait for judgement when legal action is pursued against the business	0.037	-0.002	-0.026	0.836	-0.015	0.000	0.050	-0.008	0.007	-0.006	-0.009	0.048
	B5.6 Enforcing court decisions	0.018	0.006	0.007	0.771	0.012	0.018	0.055	0.014	0.035	0.008	-0.026	0.080
	B5.1 Being fair and impartial in dealing with the business' insolvent estates	-0.019	-0.067	0.151	0.573	0.039	0.017	-0.004	0.087	-0.177	0.007	0.089	-0.095
	B6.5 Business's debtors providing accurate and truthful financial and business information to the business	-0.058	0.022	-0.021	0.055	0.664	0.136	0.081	0.071	-0.083	0.094	0.089	0.212
DED (internal)	B3.7 Debtors providing transparent business information disclosing their trade credit practices to the business	0.140	0.014	0.069	0.128	0.664	0.101	-0.042	0.071	-0.147	-0.077	-0.051	-0.181
	B4.2 The quality of networking and/or business relationships between the business and its creditors	0.110	-0.121	0.048	0.023	-0.060	0.816	-0.057	0.061	0.079	-0.090	0.033	0.006
NET (internal)	B4.4 The number of networks and/or business relationships the business has with creditors	0.071	-0.027	0.011	0.067	-0.04	0.799	0.049	-0.050	-0.049	0.100	-0.054	-0.057
	B4.3 The number of networks and/or business relationships the business has with debtors	-0.002	-0.033	0.026	-0.050	0.097	0.794	0.074	-0.061	-0.079	-0.032	0.001	0.062
	B4.1 The quality of networking and/or business relationships between the business and its debtors	-0.057	-0.120	0.072	-0.086	0.099	0.759	0.024	0.054	-0.031	-0.132	-0.019	0.130
	B7.2 The current interest rate	0.051	-0.025	0.026	0.017	-0.078	0.029	0.858	-0.079	-0.074	-0.065	0.049	0.145
MEC (external)	B7.3 The current inflation rate	0.008	0.079	0.124	-0.035	-0.084	0.074	0.829	-0.032	0.014	0.007	0.090	0.064
	B7.1 The current economic status	-0.077	-0.049	-0.083	0.101	0.189	0.096	0.631	0.062	-0.055	-0.061	-0.138	-0.050
	B7.4 The current unemployment rate	0.041	0.009	-0.050	0.037	0.058	-0.144	0.565	0.166	0.041	0.104	-0.058	-0.220
	B8.1 Debtors (corporate and/or government customers) delay payment to the business, while having enough funds available for full payment to the business	-0.023	-0.018	-0.009	0.034	-0.084	-0.021	0.035	0.886	0.036	-0.068	0.025	0.085
CDPP (external)	B8.3 Debtors (corporate and/or government customers) delay payment, while giving preference to another business	-0.033	-0.006	0.041	-0.053	0.086	-0.042	-0.001	0.879	0.040	0.068	0.030	-0.017
	B2.2 Business's availability of non-current assets to serve as collateral for creditors (e.g. buildings to serve as collateral)	0.003	0.028	-0.039	0.012	-0.058	-0.050	0.013	-0.084	-0.870	0.058	0.006	0.025
COL (internal)	B2.3 Debtors of the business, availability of current assets to serve as collateral for the business (e.g. inventories to serve as collateral)	-0.050	-0.048	0.038	0.030	0.004	0.000	0.024	0.044	-0.857	-0.075	0.046	-0.036
	B2.1 Debtors of the business, availability of non-current assets to serve as collateral for the business (e.g. buildings to serve as collateral)	-0.026	-0.037	-0.016	-0.041	0.118	-0.070	0.018	-0.044	-0.839	-0.053	-0.004	0.015
	B2.4 Business's availability of current assets to serve as collateral for creditors (e.g. inventories to serve as collateral)	-0.013	0.019	-0.018	0.043	-0.060	0.108	0.003	0.026	-0.789	0.101	0.019	-0.026

Table 3 starts on the next page →

**TABLE 3 (Continous...):** Rotated factor loading values for small and medium-sized enterprises internal and external business environment factors after exploratory factor analysis.

Factor	Factor components	1	2	3	4	5	6	7	8	9	10	11	12
CCPP (external)	B8.4 The business avoiding payment due to creditors (corporate and/or government suppliers), while giving preference to other creditors for which payment is not due	0.032	-0.038	0.294	-0.128	-0.041	-0.085	-0.026	0.068	-0.065	0.681	-0.067	0.061
	B8.2 The business avoiding payment to creditors (corporate and/or government suppliers), while having enough funds available for full payment	0.182	-0.118	0.275	-0.125	-0.015	-0.148	-0.004	0.032	-0.079	0.617	0.010	0.117
DEP (external)	B6.1 Business's debtors for non-default to payments payable to the business itself	0.029	-0.042	-0.018	0.180	-0.016	-0.008	0.041	0.103	-0.026	-0.012	-0.078	0.786
	B6.2 The business itself for non-default to payments payable to its creditors	0.099	-0.016	-0.017	0.051	-0.007	0.122	-0.019	0.013	-0.002	0.106	0.200	0.680

FI, Financial information; MC, Managerial competencies; DCUL, SME and debtor corruption through approving unviable loans; ELS, Efficiency of the legal system; DED, Debtor's ethical disclosure of accurate and transparent financial and business information; NET, Networking; MEC, Macro-economic conditions; CDPP, Corrupt debtor payment practices through forcefully delaying payments due to the SME; COL, Collateral; CCPP, Corrupt SME payment practices through forcefully delaying payments due to creditors of the SME; DEP, SME and debtor ethical performance.

**TABLE 4:** Eigenvalues and total variance explained for small and medium-sized enterprises internal and external business environmental factors.

Factor	Eigenvalues total	Cumulative variance explained %
FI	12.249	24.998
MC	3.845	32.846
DCUL	3.254	39.487
ELS	2.734	45.066
DED	2.086	49.324
NET	2.020	53.446
MEC	1.770	57.059
CDPP	1.635	60.396
COL	1.522	63.502
CCPP	1.208	65.967
Unlabelled factor <sup>3</sup>	1.095	68.201
DEP	1.065	70.374

FI, Financial information; MC, Managerial competencies; DCUL, SME and debtor corruption through approving unviable loans; ELS, Efficiency of the legal system; DED, Debtor's ethical disclosure of accurate and transparent financial and business information; NET, networking; MEC, Macro-economic conditions; CDPP, Corrupt debtor payment practices through forcefully delaying payments due to the SME; COL, collateral; CCPP, Corrupt SME payment practices through forcefully delaying payments due to creditors of the SME; DEP, SME and debtor ethical performance.

Table 4). The rotated factor loadings for SME business environmental factors delivered five internal business environmental factors and six external business environmental factors relevant to SMEs' management of trade credit. Factor one – Financial information included three components: B3.2, B3.4, and B3.6. The following components were removed, due to cross loading: B3.3, B3.8, and B3.1. Factor two – Managerial competencies matching theoretically and empirically, included five components: B1.3, B1.5, B1.2, B1.1, and B1.4. Factor three – DCUL – SME and debtor corruption through approving unviable loans. Debtor's ethical disclosure of accurate and transparent financial and business information included four components: B8.7, B8.6, B8.8, and B8.5. Factor four – Efficiency of legal systems, matching theoretically and empirically, included six components: B5.4, B5.2, B5.3, B5.5, B5.6, and B5.1. The fifth factor – Debtor's ethical disclosure of accurate and transparent financial and business information included two components: B6.5 and B3.7, with component B3.5 removed, due to cross loading. Factor six – Networking included four components: B4.2, B4.4, B4.3, and B4.1. The resultant factor seven – Macro-Economic conditions is exactly as originally conceptualised and included four components: B7.2, B7.3, B7.1 and B7.4. Factor eighth – Corrupt debtor payment practices through

<sup>3</sup>The initial EFA produced 12 factors. The eleventh most important factor was unlabelled and not used because the factor included components with a weak loading and cross loadings.

**TABLE 5:** Summary statistics.

Factor	Mean	SD	Cronbach's alpha
FI	3.25	1.02	0.824
MC	4.03	0.64	0.855
DCUL	2.50	0.94	0.871
ELS	2.75	0.99	0.915
DED	2.96	0.98	0.707
NET	3.73	0.83	0.888
MEC	2.06	0.66	0.722
CDPP	2.83	0.99	0.763
COL	3.02	1.00	0.852
CCPP	3.04	1.17	0.798
DEP	3.49	0.92	0.750

SD, standard deviation; FI, Financial information; MC, Managerial competencies; DCUL, SME and debtor corruption through approving unviable loans; ELS, Efficiency of the legal system; DED, Debtor's ethical disclosure of accurate and transparent financial and business information; NET, Networking; MEC, Macro-economic conditions; CDPP, Corrupt debtor payment practices through forcefully delaying payments due to the SME; COL, Collateral; CCPP, Corrupt SME payment practices through forcefully delaying payments due to creditors of the SME; DEP, SME and debtor ethical performance.

forcefully delaying payments due to the SME, the second corruption factor, included two components, B8.1 and B8.3 and factor nine – Corrupt SME payment practices through forcefully delaying payments due to creditors of the SME included four components: B2.2, B2.3, B2.1, and B2.4. Factor ten – SME and debtor ethical performance.

CCPP, the third corruption factor, included two components: B8.4 and B8.2 with components B6.4, B4.5, B6.6, B4.6, and B2.5 removed, due to cross-loading. Lastly, factor eleven DEP included two components: B6.1 and B6.2, with component B6.3 removed due to cross-loading.

Table 4 displays factors with eigenvalues greater than one, as, according to the rules of factor analysis, only factors that have eigenvalues greater than one should be retained. The Initial eigenvalues for Section B's cumulative percentage is 70.374%, with the total factor count amounting to 11.

### Component analysis for computed small and medium-sized enterprises business environmental factors

Table 5 displays the reliability (second objective) and summary statistics for SMEs' internal and external business environmental factors. A Cronbach's *alpha* coefficient value above 0.7 is regarded as a reliable scale, with the provided results indicating that all SME internal and external business

environmental factors have a Cronbach's *alpha* coefficient higher than 0.7, ranging between 0.915 and 0.707, indicating high factor reliability for all factor constructs.

## Conclusion

For the set of internal variables, descriptive results (second objective) illustrated that SMEs rated the quality of their own managerial competencies as good relative to the business' management of credit. Small and medium-sized enterprises rated their quality of networking and financial and business information between average and good. However, SMEs rated collateral provision between poor and average. For the set of external variables, SMEs rated their quality of ethics between average and good, while rating the quality of the legal system and macro-economic conditions between poor and average. Small and medium-sized enterprises rated the extent to which corruption occurs as small to moderate. Both tests for validity support the appropriateness of the factor analysis technique and the results revealed high factor reliability for all factor constructs (second objective). Through a review of literature, followed by quantitative empirical approaches by performing EFA, this article constructed internal and external business environmental factors relevant to SMEs' management of trade credit in order to determine SMEs' ratings of these factors (third objective). Five internal business environmental factors, namely FI, MC, DED, NET and COL including six external business environment factors namely, DCUL, ELS, MEC, CDPP, CCPP and DEP were constructed. Exploratory factor analysis results showed that SMEs do not rate internal and external business environmental factors equally, with the highest rated internal and external factors being MC (highest rated overall factor) and DEP, respectively. Overall, SMEs rated internal business environmental factors higher compared to external business environmental factors. For corruption, the results varied, revealing SME debtor corruption as slightly lower compared to SME creditor corruption and, therefore, more prevalent from creditor to SME.

The article contributes to existing theory by Fatoki (2010) and the Author (in press Otto 22), in that it prioritised the 49 individual components that were found in the literature. Within the conceptual paradigm that the business environment could significantly impact on SMEs' management of trade credit, the value of this article centres around the formulation of newly constructed internal and external business environmental factors relevant to SMEs' management of trade credit. These factors are important to broaden SMEs' understanding related to the South African business environment by using the study results to improve their own operations. In conclusion, it is evident that a strong set of internal and external business environmental factors were constructed that display high validity and reliability. Therefore, the next step is to examine how these internal and external business environmental factors affect SMEs' management of trade credit.

## Limitations

Only internal and external business environmental factors in South Africa that impact on SMEs' management of trade credit were considered as other relevant variables were excluded from SMEs' business environment, namely the international business environment that could be important to further confirm the findings of this article and should be considered for future research. The article focuses on trade credit management alone as funding source, although future research could focus on an extensive survey to determine the impact of internal and external business environmental factors on SMEs' management of total capital (debt and equity). This could help confirm the findings of this article. Additional guidance can be given to further improvements in data-collection and measurement methods.

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## Competing interests

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

## Authors' contributions

W.H.O.: main author/contributor to the study. I.B.: main supervisor (providing supervising guidance to the study). G.S.: co-supervisor (providing additional supervising guidance to the study).

## Ethical considerations

All participating respondents gave their consent before completing the questionnaire. All respondents were properly informed as to the completion of the questionnaire being entirely voluntary, while any and all information, supplied by respondents alongside the identity of each respondent, was treated as strictly confidential. The summary of all data collected will be reported on as a whole, as the researcher was restrained from reporting the particulars of any individual respondent response. The researcher also encouraged sharing a summary of the research results with any respondent wishing to obtain such a report. Required information relating to the study title and the purpose of the study was disclosed, along with the needed credentials for both the researcher and the supervisor that included the researcher's contact details. The latter followed and completed the required ethical clearance process stipulated by the University of Johannesburg. Ethical clearance was obtained from the School of Accountancy Research Ethics Committee. SAREC20180502-02.

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## Data availability

The authors confirm that the data supporting the findings of this research project are available within the article.

## Disclaimer

The views and opinions expressed in this article are those of the authors and do not necessarily reflect the official policy or position of any affiliated agency of the authors.

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