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Impact assessment of funding on technology acquisition by small businesses

A case study of hair salons in a South African municipality

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Abstract

Purpose – This study aims to examine the influence of funding on the technology acquisition by small businesses in a metropolitan municipality, Mangaung, which governs Bloemfontein and surrounding towns in the Free State province of South Africa.

Methodology/design/approach – A case study using survey research strategy of 110 small businesses in a South African municipality informed the research design for this study. The structured questionnaires were quantitatively analysed yielding both descriptive and regression results to address the research objectives.

Findings – The findings suggest that the prime sources of public funding for hair salon businesses are the National Youth Development Agency and the Small Enterprise Development Agency. The results also demonstrate that public funding has a negative and significant impact on technology acquisition, perhaps suggesting the complexity of debt financing and the exorbitant interest rates charged on principals borrowed by foreign nationals.

Originality/value – The study recommends the judicious acquisition of inexpensive technologies (e.g. social media platforms) and cautionary utilisation of complex technologies and personal savings before resorting to external borrowing.

Keywords South Africa, SMMEs, Public funding, Hair salons, Technology acquisition

Paper type Research paper

Introduction

The study examines the impact of public funding on the technology acquisition of small, micro and medium enterprises (SMMEs), particularly Afro hair salons in the Mangaung

This is a revised and extended version of a previous paper presented at the Central University of Technology in April 2017.

Mpiti, N. and Rambe, P. (2017). Impact of Public Funding on SMMEs' Acquisition of Technology: A Hair Salon Business Perspective. Unit for Enterprise Studies, Faculty of Management Sciences, Central University of Technology, Free State Hosted at the Hotel School 5-7 April, (pp. 212-226). Proceedings of the 1st International Conference on Entrepreneurship Development (ICED) 2017. ISBN: 978-0-9946995-0-3. available at: www.cut.ac.za/wp-content/uploads/2016/08/CUT-1st-ICED-Conference-proceeding-17-09.pdf#page=225

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Metropolitan Municipality (3M) in the Free State province of South Africa. This group of entrepreneurs are arguably an under-represented community, as they are neither well researched in the literature nor acknowledged for their contributions to the economy at large. The National Credit Regulator (NCR) of South Africa defines a small business as a separate and distinct business entity, including co-operative enterprises and non-governmental organisation that are managed by one owner or manager (NCR, 2011:24). Afro hair salons fall under SMMEs because they are distinct entities independently owned by one or more owners.

The importance of examining the impact of public funding on technological acquisition of SMMEs of hair salons arises from the fact that, because most small enterprises, especially foreign-owned ones, tend to be excluded from public funding – for reasons ranging from their high-risk borrowers due to the diverse nationalities of their owner/managers (Quaye, 2011; Maloka, 2013), lack of collateral (Badulescu, 2011; Quaye, 2011), lack of an established borrowing history (Katwalo and Madichie, 2008; Badulescu, 2011) and the high volatility of income, which makes loan repayments uncertain (Obamuyi, 2011).

The need to explore the impact of public funding on technology acquisition also arises from the limited technological capabilities of most SMMEs, especially those in the Afro hair salon sector. Whilst SMME owner/managers are compelled to use technology to successfully operate in their enterprises, most of their staff are technologically challenged, busy or do not have time to attend technology training (Hanclova *et al.*, 2015a). Apart from acute skill shortages, SMMEs considerably lack the critical skills and knowledge required to use technology effectively (Hanclova *et al.*, 2015a). Perhaps, this dearth of technological and technical skills explains the limited use of technology such as blowers, hair dryers, relaxer chemicals and computers in most hair salon SMMEs in South Africa.

The study's focus on the relationship between public finance and technological acquisition was motivated by the untested claim in entrepreneurship literature that much funding that comes from public agencies in developing economies, including South Africa, is normally devoted to the overhead costs of running the business such as salaries, electricity and water (Sibisi, 2016; Madichie and Madichie, 2016; Fanta *et al.*, 2017). As such, there is limited literature that professes that the funding that SMMEs acquire from public agencies is also devoted to acquisition and effective deployment of such new technologies. This is particularly the case for the cosmetological businesses such as hair salons, which are increasing technologically dependent for their services and for which a considerable proportion of funding is directed towards technology acquisitions. Such technological acquisitions could range from simple technologies to the most sophisticated, depending on scale of operations, number of years of business operations and size of financial budgets. In addition, disproportionate devotion of public funding to technological acquisitions could have long-term implications for future business operations and overall long-term sustainability. Overall, the main objectives of this study are to explore the impact of funding on the technology acquisition of hairdressing SMMEs; assess the correlation, if any, between these two variables; and highlight areas of targeted intervention for these businesses.

Literature review

This study explores the impact of public funding on technological acquisition of hair salon businesses. In the hairdressing and beauty industries, it is very important to keep abreast of the latest technology and developments. Successful salons use the latest computer technology to streamline day-to-day administration (AIAS, 2012). Indeed, "Barbershops" are no longer what they used to be – i.e. a chair, hand clippers, fans etc. They have also been impacted by globalisation and technological advancements – even changed nomenclature

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(hairdressing, beauty salons, grooming services) – capacitated by state-of-the-art grooming apparatus – electric clippers, shavers, chemicals and sanitisers (Druker *et al.*, 2005).

The inaccessibility of funding for technology acquisition purposes poses a serious constraint for SMMEs, as it requires additional inflows of capital to support expansion and growth (Nieuwenhuizen and Groenewold, 2004, p. 9). Financial support is crucial for hair salon operations such as the acquisition of hair dryers, relaxers, straighteners, hair pieces and the payment of employee salaries (Kitching, Hart and Wilson, 2015). Even the management of the business is often determined by the availability of finance, an absence of which is often reported as the major obstacle to business success (Brink and Cant, 2003). Yet, many hair salons struggle to get finance for various reasons, such as lack of reliable financial records and inflexible business locations, which make tracking after extending loans difficult. Furthermore, most of these businesses are not registered and have a high temptation to evade tax payment, which makes lending them money risky.

Some studies have shown that SMMEs in developing countries have problems in accessing funding (Katwalo and Madichie, 2008; Maurel, 2008; Storey, 2003; Gurbiel, 2002). This failure to access funding arises from the fact that most SMMEs are considered as not financially viable, which makes it difficult for them to apply for funding as owner/manager usually cannot qualify for loans owing to their businesses often lacking audited financial statement. Furthermore, the start-up capital is very difficult to accumulate for one to start trading and fund growth.

The main preoccupation with funding options in this study also stems from the ambivalence about what constitutes public support for SMME development. For instance, although lack of government support is highlighted as an obstacle to the local growth of most hair salons, the nature of such support, whether financial or in the form of business skills, is never clarified in most studies (Nwankwo *et al.*, 2010). Mbonyane's (2006) exploration of factors that lead to the failure of small businesses indicates that the nature of South African government support has been complicated and alleged that government support has been piecemeal and lacking coherence. It is also argued that there has been limited financial and business support, a lack of coherent financial policies and procedures from national government, and provisions by multi-agency provisions have done little to assist small business.

The lack of financial support to finance technology acquisitions is very disappointing, especially in view of the critical role that SMMEs play in economic development, employment creation and income generation. Financial access is important for SMMEs growth and development, and the availability of external finance is positively associated with growth and productivity. Yet, access to financial services remains a difficulty for most SMMEs growth and development.

Although there is compelling evidence that the use of modern *state-of-the-art* technology contributes directly to the improved performance (increased sales, profitability increased return on investment) of SMMEs (Duan *et al.*, 2009; Labonte, 2015), most of these small businesses such as hair salons rely on outdated and inefficient technologies (Mpiti and Rambe, 2016), due to the lack of finance (Fatoki, 2014; Mpiti and Rambe, 2017). Whilst the provision of sufficient funding is often conceived as a critical contributor to the success of SMMEs, the same way technology use is integral to the success of small firms, what remains under-explored in literature is the contribution of public funding to the acquisition of technology by these firms.

Public funding challenges

Government support/public funding provides a range of direct financial assistance packages to the SMMEs which include subsidies, grants, tax benefits such as tax rebates

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and deductions, which play an important role in assisting the growth of SMMEs (Xiang and Worthington, 2013). For Storey (2003), public funding is defined as the various means through which the government intervenes to fill/close the funding gap left by private financing (Storey, 2003:483). However, Xiang and Worthington (2013) argue that the role of the government is to ease the SMME financial constraints by helping them to generate additional cash flows or assisting them in obtaining finance. Whilst there are institutions that can provide public funding to SMMEs, the highly competitive nature of such funding exerts funding challenges for most hair salon (Maurel, 2008, p.18) owner managers may who may not have sufficiently mastered the art of grant proposal writing. This view is buttressed by a growing body of research (Chandra's *et al.*, 2001; Fatoki and Garwe, 2010) which reports that public funding sources, such as government agencies, church and community groups, contribute far less (about 5 per cent) to SMME funding in comparison to private savings, family savings, individual savings and retained earnings from a previous business (i.e. private sources of funding).

From an enabler perspective, the task or role of the government/public funding is to provide financial assistance to the SMMEs to improve their production facilities and working environments (Xiang and Worthington, 2013). They elaborate that the government also assists SMMEs with the education and training critical to improving and identifying, evaluating and investigating projects or activities for the expansion of their enterprises (Xiang and Worthington, 2013; Preisendoerfer, Bitz and Bezuidenhout, 2014). The government justifies providing support to SMMEs in various ways – that SMMEs are generators of employment, are critical vehicles for poverty reduction and serve as mechanism for employment creation.

In the South African context, the Department of Trade and Industry (DTI) has identified various supporting programmes which are: Khula Enterprise Development Fund (Khula), the National Youth Development Agency (NYDA), the Small Enterprise Development Agency (SEDA) and the Tsumisano Trust (NCR, 2011:38). Khula Enterprise Development Fund is government's small business finance organisation that was established in 1996 to help fund small businesses/enterprises. Khula is a wholesale finance institution which operates across the public and private sectors through a network of channels that supply funding to small business. According to Mutezo (2005), Khula does not provide financial assistance directly to SMMEs/entrepreneurs, but this wholesale financer is responsible for financing SMMEs through various delivery mechanisms, including commercial banks, retail financing intermediaries (RFIs) and lastly, the micro credit outlets (MCOs). The financing that is offered by Khula includes credit guarantee schemes and loans. Khula provides guarantees to registered commercial banks and other private sector financial institutions to help finance the SMME sector (Mutezo, 2005:43). Hence, as Rwigema and Venter (2004:396) note, "These guarantees serve as collateral for SMMEs, and are based on a risk sharing arrangement, whereby Khula assumes a portion of the risk associated with lending to the SMME sector".

The NYDA was created in 2009 out of a merger between the National Youth Commission and the Umsobomvu Youth Fund. The NYDA aims to assist the youth with their career skills and to help them start their own businesses. The NYDA funds training and gives out loans to small businesses (National Credit Regulator, 2011). At the community level, the NYDA encourages young people to be catalysts for change in their communities through involvement in community development, social cohesion, national youth service programmes, dialogues and activities. At a provincial and national level, the NYDA facilitates the participation of youth in developing key policy inputs, through its policy development, partnerships and research programmes, which shape the socio-economic

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landscape of South Africa (NYDA, 2015). The SEDA is an agency of the DTI, directed to support small enterprises, which was formed out of a merger between the Ntsika Enterprise Promotion Agency, National Manufacturing Advisory Centre (Namac) and the Community Public Private Partnership Programme (CPPP). The Godisa Trust and the Technology Programmes were integrated into SEDA in 2006, becoming SEDA Technology Programme (STP) (National Credit Regulator, 2011:28).

Access to technology challenges

According to Wahab, Rose and Osman (2012:62) "technology consists of two primary components: a physical component which comprises of items such as products, tooling, equipment, blueprints, techniques, and processes; and the informational component which consists of know-how in management, marketing, production, quality control, reliability, skilled labour and functional areas". The physical component of technology readily adopted and used in the hair salon businesses includes blowers, dryers, hair chemicals (imported/local), reliable power supply, hair food and hair relaxers. The information component involves knowledge of the latest trends in hair styles and skin treatments, knowledge of manicure, pedicure styles and hair chemical product ranges preferred by clients. Thus, SMMEs need to keep abreast with modern technology to be more knowledgeable about consumer preferences and trends.

Access to modern technology, however, is a milestone around the necks of SMMEs that struggle to have financial breakthroughs. The reality is that, whilst technology may not guarantee SMME success, those SMMEs that make effective use of technology tend to be more competitive than those that do not (SME Survey, 2007; Cass, 2012). As the use of technology is costly (Chimucheka, 2013), many new start-ups may not afford it because of their survivalist orientation. Even in situations where SMMEs owner/managers may have the luxury of accessing technologies, they may lack the technological skills and digital competencies to make effective use of them. Even where they have some digital competencies to use these technologies effectively, they may face the conundrum of the high opportunity cost of scarce management time learnt from technology and isolating the cash flows relating to the project they want to use the technology for (Mbonyane, 2006). Hence, a limited use of technology is a barrier to the growth and development of the enterprises.

Factors that affect the implementation of technology in the SMME sector

At the risk of conducting a simplistic PEST (political, economic, social, technological) analysis of the section, these are clearly evident, given the nature of the enquiry – i.e. technology acquisition in a rather turbulent economic environment with social implications. Consequently, this section starts off from a broader context before narrowing down to the more specific economic (funding issues), technological and organisational impact of these.

The environmental factors relate to the immediate and broader context in which an organisation operates, which may have a bearing on technology adoption. This includes government regulations, technology support, infrastructures, size and structure of the organisation and competitors (Abubakar, Patricia, Samuel, and Totolo, 2017). Other environmental factors include compliance with regulations, which is an influential factor that can make a firm reluctant to move into adoption of new technology. The lack of IT standards is a real problem that might also obstruct adoption decisions the same way competitive pressure, defined as the degree of pressure that an organisation faces from competitors may also facilitate or hinder successful technology adoption (Borhani, 2016; Mudzingwa and Kabote, 2014). For instance, in a highly competitive industry, an

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organisation encounters pressure from competitors to adopt new technologies, leading to efficient distribution of ICT resources and attainment of better operational efficiency (Apulu *et al.*, 2011).

Economic factors

Even though technology is an economic factor that brings economic and financial benefits to the firm, it also serves as a cost driver for SMME owner/managers (Hanclova *et al.*, 2015a) whose finance options are limited (Druker *et al.*, 2005; Katwalo and Madichie, 2008; Minifie and Otto, 2011; Tengeh *et al.*, 2012; Onsongo and Muturi, 2015). Yet, when technologies such as hair dryers, blowers and hair chemicals are harnessed as efficiency enhancers, they have the potential to create multiplier effects that create economic advantages for the firms. Hanclova *et al.* (2015a) argue that the possession of technology enables an enterprise to access global markets and new markets, improves communication channels with other enterprises and maintains a market position in the community. The dilemma is that, despite the acknowledged economic advantages of communicative technologies, production tools and techniques, the acquisition and effective use of such technologies is constrained by lack of financial resources, tweak speed of technological changes and limited digital technologies of hair salon owner/managers. Access to modern technology is a huge challenge for the SMMEs that struggle to have financial breakthroughs. The use of technology is too costly (Chimucheka, 2013) for many new start-ups' budgets.

Technology factors

Notwithstanding the hype around the capacity of technology innovations to promote the development of the SMMEs, the ability of SMMEs to adopt new technology with the appropriate potential is integral to their long-term sustainability in a highly competitive market (Afolayan and de la Harpe, 2015). Therefore, even though the awareness of the applicable technology, its functionality and features may be fundamental to the smooth implementation of specific business processes, the appropriation of such technology in appropriate contexts would ensure that potential benefits are realised and associated risks are minimised. The Global Information Technology Report (2013) notes that low standards of educational systems obtainable in most developing countries contribute to inadequate ICT knowledge and business skills required of business managers/owners and employees. These hair salon owner/managers may struggle to make technologically informed operational decisions, leading to the delivery of compromised services. SMMEs have limited access to ICT-related information that prevents them from understanding the implications of adopting new technology, severely undermining their capacity to respond to and manage competitors' pressure and pace, determining business and customer needs and the ability to make strategic and sustainable decisions in the market (Global Information Technology Report GITR, 2013; Mpiti and Rambe, 2016, 2017).

Organisational factors

Besides both the economic and technology factors, there are also organisational factors at impacting or impeding successful technology acquisition and deployment. For instance, whilst some business owner/managers may have the competence to use technology to successfully operate in their enterprises, their staff may be technologically ill-equipped as they may not have time to partake in technology skills training (Urban and Naidoo, 2012; Hanclova *et al.*, 2015a; Visser *et al.*, 2016). Apart from limited training and the shortage of staff to run these entities efficiently, SMMEs often lack the necessary skills and knowledge required to use technology effectively (Hanclova *et al.*, 2015a) to execute their operations

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successfully. Perhaps, the lack of technological skills in addition to financial constraints explain the limited use of technology such as blowers, hair dryers, relaxer chemicals and computers in the hair salons. Lastly, a successful technology adoption in an organisation also requires an effective support system and organisational tendency to invest in new technologies, as well as provide required training to upgrade users' skills (Borhani, 2016).

Methodology/design/approach

This study adopts a survey research design, which is considered desirable when the researcher intends to test associative and predictive relationships between independent and dependent variables. In this context, a case study protocol was deemed appropriate and discussed as part of the sample demographics. The scope of the empirical enquiry was limited to SMMEs, particularly Afro hair salons in the 3M in the Free State Province of South Africa. The Free State Development Corporation (FDC) estimates that there are about 500 Afro hair salons in the 3M (FDC, 2015). A sample of 150 Afro hair salons was drawn from the population using a sample size calculator. Simple random sampling was adopted for this study, as the technique ensures that each element of the population is given an equal chance of being selected (Zikmund *et al.*, 2013, p. 396).

In conformance with the quantitative design, the measurement instrument is a structured questionnaire, which was designed, distributed and completed by the respondents. As Dzansi and Okyere (2015) point out, "the determination of what is to be measured should flow from the research problem and objectives of the study". Given that the focus of this study was to determine the impact of public funding on the acquisition of technology in the hair salon industry, a survey design best suited this investigation (Igwe *et al.*, 2018a; Mpiti and Rambe, 2016, 2017; Onsongo and Muturi, 2015; Olawale and Garwe, 2010). The collected data were analysed using the latest version of Statistical Package for the Social Sciences (SPSS). The data analysis used was descriptive analysis and inferential statistics. Descriptive statistics was used to describe the characteristics of the study subjects (Neuman, 2011, p. 386) – i.e. the mean, mode, standard deviation of variables, whilst the inferential statistics analysis was used to test the relations of associations between concepts. Lastly, Cronbach's α was used to determine the reliability of instrument items. The self-constructed, structured questionnaire instrument was validated for reliability using Cronbach's α, which generated a value of 0.937. With R = 0.937, the questionnaire was regarded as reliable. The construct of technology acquisition consisted of seven questionnaire items with very high internal consistency (Cronbach α = 0.911); hence, it is reliable. The construct retained all seven items as they have high coefficients (all positive and above 0.750) which shows that it is well constituted.

Findings

In reporting the findings from this study, the descriptive statistics are first reported with the business profile of the sample provided in Table I, and closely followed by the demographic profiles in Table II. The regression analysis is then presented in the next two tables.

Business profile

From Table I, it can be seen that most (61.8 per cent) of the respondents come from businesses owned by sole proprietors, whilst 39 per cent of the respondents are owner/managers. Whilst most small firms are owner-managed, some are not quite so. Indeed, Madichie and Hinson (2014), in their four-country case study on women entrepreneurs in Africa, highlight some of these differences, especially in the light of one business

Demographic information	Category	Frequency	(%)
Gender	Female	51	46.4
	Male	59	53.6
Age	< 25 years	12	10.9
	25-34 years	61	55.5
	35-44 years	27	24.5
	45-54 years	8	7.3
	55 and above	2	1.8
Highest academic qualification	None	1	0.90
	Primary school	4	3.60
	Matric and below	38	34.50
	Tertiary certificate	37	33.60
	Diploma/Degree	28	25.50
	Postgraduate	2	1.80
Nationality*	SA citizen	53	48.2
	Non-SA citizen	56	50.9
Native language	English	1	0.9
	Afrikaans	3	2.7
	Setswana	13	11.8
	Sesotho	17	15.5
	Xhosa	10	9.1
	Zulu	5	4.5
	Other language	61	55.5
Other languages	Shona	30	49.2
	Igbo	9	14.8
	Swati	1	1.6
	Hausa	8	13.1
	Yoruba	8	13.1
	Ndebele	3	4.9
	Tsonga	2	3.3

Note: *One respondent was an outlier in the nationality question as a permanent resident of South Africa and equation to 0.9 per cent of the missing percentage

Table I.
Respondent profiles

owner who had a separate manager – i.e. Lize Krueger, owner of "Life On Third" in the Melville area of Johannesburg and her manager, Damien. In terms of the number of employees, most of the businesses have between two and five employees (47.3 per cent) with only one business having more than 20 employees – an obvious outlier. Furthermore, and as indicated in Table I, most of the businesses had a turnover of less than R100,000, just as the majority (75.2 per cent) of the businesses have been in existence for not more than six years.

Demographic profile

As illustrated in Table II, there is a moderately balanced representation of male Afro hair salon owner/managers (53.6 per cent) and female Afro hair salon owner/managers (46.4 per cent). About 55.5 per cent of Afro hair salon owner/managers are a youthful population aged between 25 and 34 years. Table II also illustrates that there are 15.5 per cent Sesotho-speaking owner/managers in the hair salon industry in 3M. The table shows that the majority (50.9 per cent) of the hair salon owner/managers respondents were non-South Africans. Table II shows that most (61.8 per cent) of the respondents come from businesses owned by sole proprietors, whilst 39 per cent of the respondents are owner/managers. It can

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Business/job profile	Category	Frequency	(%)
Form of business	Sole proprietor	68	61.8
	Partnership	42	38.2
Age of business	1-3 years	39	35.8
	4-6 years	43	39.4
	7-10 years	11	10.1
	11-15 years	9	8.3
	16+ years	7	6.4
Number of employees	1 employee	17	15.5
	2-5 employees	52	47.3
	6-10 employees	34	30.9
	11-15 employees	6	5.5
	16+ employees	1	0.9
Business role	Owner	27	24.5
	Manager	20	18.2
	Owner/Manager	43	39.1
	Employee	20	18.2
Nature of job/position	Stylists and technicians	81	74.3
	Receptionist	4	3.7
	Salon assistant	23	21.1
	Other	1	0.9
Years of experience in management	Below 1 year	11	10.0
	2-5 years	56	50.9
	6-10 years	31	28.2
	11-15 years	6	5.5
	16-20 years	4	3.6
	Over 20 years	2	1.8
Years of experience on the job	Below 1 year	5	4.5
	2-5 years	52	47.3
	6-10 years	35	31.8
	11-15 years	12	10.9
	16-20 years	4	3.6
	Over 20 years	2	1.8
Gross turnover per annum	Below R100 000	93	84.5
	Between R100,000 and R499,999	16	14.5
	From R5,000,000 to R9,999,999	1	0.9
Return on investment for previous year	Loss making	21	19.1
	Breakeven	46	41.8
	up to 2%	35	31.8
	3-5%	5	4.5
	More than 5%	3	2.7

Table II. Business and role profiles

also be seen that most of the businesses had a turnover of less than R100,000, just as the majority (75.2 per cent) of the businesses have been in existence for not more than six years.

In Table II, the comparatively higher participation of males in such business is surprising as the establishment and operation of hair businesses has traditionally been a female domain. This, perhaps, shows the increased interest of males in such businesses. This finding, thus, contradicts other studies conducted on hair salon businesses in South Africa. For instance, Mosweunyane's (2013) survey on hair salon SMMEs owner/managers operating in the DR Ruth Segomotsi Mompati District Municipality area, in the North West Province of South Africa, revealed that a majority (60 per cent) of the owner/managers were female. The age of the owner/managers can be interpreted that most of the respondents

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belong to the economically active population of the nation. This finding buttresses Mosweunyane's (2013) findings that the economically active groups normally establish and operate hair salons. The 15.5 per cent Sesotho language demographic clearly resonates with the Statistics (2012) which indicates that the main language spoken in the Free State is Sesotho. In fact, this centrally located province within South Africa is generally known for Sesotho-speaking people. Statistics (2012) further reveals that the dominating languages in the Free State province are Sesotho (63 per cent). About 50.9 per cent respondents were non-South African, although a sizable number of South African nationals are operating hair salon businesses, the statistics show that slightly greater number of foreign nationals are in this trade, even if those with national residency status were discounted. In terms of respondents' views on technology acquisition, Table III shows that most (85.5 per cent) viewed technology important in daily activities, whilst 89.1 per cent also concurred that they use technology to adapt to routine activities. SMMEs in this sector must have adequate and up-to-date equipment and technology to affect their current practices.

Mudzingwa and Kabote's (2014) study on the adoption of modern technology adoption in Zimbabwe's beauty therapy industry supports the view that the use of technology assists employees with their daily activities and enhances their job performance. Most hair salon SMME owner/managers investigated (88.2 per cent) claimed that they acquire latest technology, and that technology makes their job easy (87.2 per cent). A sizable percentage (69.1 per cent) of entrepreneurs also indicated that public funding helps in acquiring latest technology (69.1 per cent). When hair salon businesses source public funding to acquire the latest technology, the work of employees simplified, and new customers are attracted to the salons using latest technology. Mudzingwa and Kabote's (2014) demonstrate the multiplier effects associated with the acquisition of new technologies such as clients' increased satisfaction with services of salons, increased services for the businesses and increased efficiency of the cosmetology sector.

Table IV presents the correlations between the various public funding variables and technology acquisition. All four variables of public funding have a negative and significant impact on technology acquisition. Accessibility to public funding institutions (correlation = –0.424, p-value = 0.000), attractiveness of interest rates of public funding institutions (correlation = –0.328, p-value = 0.000), accessibility of public equity financing (correlation = –0.419, p-value = 0.000) and accessibility of public debt financing (correlation = –0.368, p-value = 0.000), all have a significant, negative and medium impact on technology acquisition. Table IV shows the correlations between the various public funding variables and technology acquisition. All four variables of public funding show a negative and significant impact on technology acquisition. Accessibility to public funding institutions (correlation = –0.424, p-value = 0.000), attractiveness of interest rates of public funding institutions (correlation = –0.328, p-value = 0.000), accessibility of public equity financing (correlation = –0.419, p-value = 0.000) and accessibility of public debt financing (correlation = –0.368, p-value = 0.000, all have a significant, negative and medium impact on technology acquisition.

The negative relationship in Table IV is instructive as it cuts across access to public finance, and technology acquisition could mean that SMMEs are borrowing from multiple sources of public funding, creating the pressure to service these loans simultaneously, thus eroding hair salons' revenue base required to acquire the latest technologies. The negative relationship between accessibility of public equity and debt financing and technology acquisition can be interpreted to mean that, with the increased accessibility of public debt and equity financing for business start-up or working capital, the capacity of the salons to access technology dwindles significantly. This also means that, with increases in the

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Technology acquisition	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	% agree/Strongly agree	Mean	SD	Latent factor Coefficient
	Frequency distribution						Descriptives		
Q57. Technology helps in the daily activities in the company									
Count	2	1	13	44	50	85	4.26	0.84	0.885
%	1.8	0.9	11.8	40.0	45.5				
Q58. Acquiring the latest technology helps to keep up to date									
Count	1	3	9	51	46	88.2	4.25	0.79	0.883
%	0.9	2.7	8.2	46.4	41.8				
Q59. Use of new technology to adapt daily routines									
Count	0	4	8	52	46	89.1	4.27	0.75	0.810
%	0.0	3.6	7.3	47.3	41.8				
Q60. Technology makes one's job easier									
Count	0	3	11	48	47	87.2	4.28	0.76	0.805
%	0.0	2.8	10.1	44.0	43.1				
Q61. Public funding helps to acquire latest technology									
Count	3	11	20	36	40	69.1	3.90	1.09	0.792
%	2.7	10.0	18.2	32.7	36.4				
Q62. Public funding enables the purchase of needed equipment									
Count	4	12	17	38	39	70.0	3.87	1.13	0.760
%	3.6	10.9	15.5	34.5	35.5				
Q63. Public funding helps the business to keep up to date with latest technology									
Count	4	14	17	36	39	68.2	3.84	1.15	0.793
%	3.6	12.7	15.5	32.7	35.5				
Cronbach's α								0.911	
% of total variation accounted for by latent factor								67.13	

Table III. Technology acquisition by hair salon SMMEs

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Table IV.
Correlations between public funding and technology acquisition

Pearson's correlations	Public funding Accessibility to public funding institutions	Attractiveness of interest rates of public funding institutions	Accessibility of public equity financing	Accessibility of public debt financing	Technology acquisition
Public Funding					
Accessibility to public funding institutions					
Correlation					
p-value	–				
N					
Attractiveness of interest rates of public funding institutions					
Correlation	0.848**				
p-value	0.000	–			
N	108				
Accessibility of public equity financing					
Correlation	0.760**	0.757**			
p-value	0.000	0.000	–		
N	109	109			
Accessibility of public debt financing					
Correlation	0.861**	0.859**	0.816**		
p-value	0.000	0.000	0.000	–	
N	109	109	110		
Technology acquisition					
Correlation	–0.424**	–0.382**	–0.419**	–0.368**	
p-value	0.000	0.000	0.000	0.000	–
N	108	108	109	109	

Note: Correlation is significant at the 0.01 level (two-tailed)

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attractiveness of interest rates of public funding institutions and accessibility of public debt financing, the ability of the firm to source technology also dissipates considerably. The shrinking of technology acquisition capacity of the hair salons with increases in accessibility of public financing suggests that perhaps the strict payment terms and the short grace periods for public loans repayment could be contributing to the diversion of money reserved for technology acquisition. This interpretation somewhat corroborates Gurbiel's (2002) finding on the impact of innovation and technology transfer on economic growth, which found that most businesses must deal with lack of funds to undertake necessary investments – a barrier to offering a competitive supply of technology. Whilst in the current study, increases in public borrowing (i.e. increased availability of funding) were associated with a decline in technology acquisition, this finding somewhat contradicts Gurbiel's (2002) study where public funding was conceived to be limited.

The attractiveness of interest rates of public funding institutions was negatively associated with the acquisition of technology. This could be interpreted to mean that, when frugal hair salon owner/managers are bestowed with more attractive public loans, they are induced to immediately pay off large sums of their principal debt and interest, which result in a fiscal squeeze which complicate the acquisition and adoption of new technology for their businesses. Similarly, the opportunity cost that hair salon owner/managers must bear for their increased access to public equity and debt finance is their reduced capacity to purchase new technology such as computers, laptops, hair dryers and other technologies relevant to the cosmetology industry. In the current case study, public debt and equity financing was conceivably available even though the burden of its repayment could have exerted pressure on hair salon businesses to pay back immediately.

There is a distinction between public equity finance and public debt finance. Debt financing is one way for an organisation to raise money through financing of its debt, whilst public equity finance is one way for an organisation to raise capital by selling shares in their entity, that is, through ownership interest. In debt financing, the organisation borrows money by issuing bonds, bills or notes to individual and/or institutional investors who become the creditors in exchange for a loan that will be repaid (Weil, 2017). The scale of equity financing can vary greatly, from small entrepreneurs raising a moderate sum (thousands) to large publicly listed companies raising significantly greater amounts (Weil, 2017). In cases where public loans are short term, the payment period is often compressed, thus compelling borrowers to start repayments immediately after securing these loans, hence making finances unavailable for the purchase of technological tools and resources relevant to the businesses. The National Credit Regulator's (2011) popular view that public funding was created to support small enterprises but perhaps this should transcend the barriers of accessibility but considerably low interest rates to support small start-ups.

Discussion

Hairdressing is not only part of the service industry, with the characteristics of a fragmented industry, but is also labour-intensive with high skills, and is thus a knowledge-based industry. Outputs of the hairdressing industry differ from the tangible products of manufacturing, as the services provided by the hairdressing industry are intangible and involve design, creativity and ingenuity. Service industries like the manufacturing sector are starting to focus on knowledge management. In the hairdressing industry, if the manager can ensure that his/her human capital is not broken-up or disturbed, he/she will be able to ensure that the relevant skills and knowledge will be kept, and thus potentially gaining competitive advantage. This study posits that highly involved consumers perceive greater

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relational benefits when engaged in a high contact, customised service (e.g. at a hair salon) versus a more standardised, moderate contact service (e.g. at a fast-food restaurant) (Kinard and Capella, 2006). The personality traits of frontline service employees have a strong effect on interaction quality and consumer satisfaction (Ekinci and Dawes, 2009). In other words, human resource skills are very important in the hairdressing industry and are keys to successful business operation. Generally, operating a small hair studio or working as a hairdressing apprentice is often mistaken as a simple and straightforward process; there are numerous constraints that require equally diverse interventions.

Another interesting paper that uses a similar methodology (i.e. survey) is Hanclova *et al.* (2015b), which explored IT adoption by SMEs in the Czech–Polish border areas.

From a methodological standpoint, although Igwe *et al.* (2018a) adopted "a mix-method research approach to explore a rural setting", the quantitative element involved the use of "a multi-nominal regression [. . .] to examine the determinants of diversified artisanal livelihoods". This enabled the authors model investigated "differences between farming livelihoods that have not diversified, compared to those also involved in the artisanal activity or wage employment and the intensity of participation".

As Druker *et al.* (2005, p. 8) pointed out, "the hairdressing sector makes a significant contribution to economic activity in the UK". She goes on to highlight that, "there are currently estimated to be around 38,000 hairdressing salons in the UK according to HABIA (2007), mostly providing general hairdressing services (cutting, styling, permanent waving and colouring)". A range of beauty services may also be offered on hairdressing premises (e.g. waxing, pedicure, etc.). The number of businesses and the scale of employment both expanded following the introduction of the NMW and by June 2002 there were just over 103,000 employees, a figure that had increased from 91,984 in June 1998 at about the time that the NMW was introduced (HABIA, 2007). Recruitment problems were reported at that time by two-fifths of salon owners. The proportion of hairdressers working part time is increasing, with more than 50 per cent now working part time (LPC, 2003: 98) The industry is labour-intensive and small scale, with 80 per cent of the employees working in salons with fewer than 10 employees. About 65 per cent of the salons are single-outlet businesses with the manager working alongside the employees. The industry has a small number of bigger companies – for example Vidal Sassoon, Regis, Toni and Guy – some of which are franchises. Hairdressing salons are to be found throughout the country, with distribution varying primarily because of population density. Most salons are found in town centres or suburban areas (HABIA, 2007).

From the respondent profiles (Table I), the home language was about 56 per cent, which seems to be representative of the wider population in this sector of the economy. Furthermore, as also shown in Q4 of Table I, languages ranged from Shona (49.2 per cent), total 41 per cent Igbo, Hausa and Yoruba – three main tribes in Nigeria, accounting for 14.8 per cent, and 13.1 per cent each. Indeed, a recent paper by Igwe *et al.* (2018b) talks about the entrepreneurial resilience of the Igbos in Nigeria. In terms of years of experience, nearly 52 per cent had been less than five years, and 32 per cent between six and 10 years. In total, for those with up to 10 years' experience in the business, the sample size is 84 per cent – this has obvious implications business longevity in this sub-sector of the economy, which has come to be dominated by a younger generation of individuals and groups who are tech-savvy and interact in the virtual environment.

Research limitations/implications

As is usual in most single-case studies of this nature, there are obvious limitations ranging from the scope of the study (one province), the method of analysis – notably

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quantitative with some heavy slant on correlations and arguably limited choice of variables – both dependent and independent. However, it is worth pointing out that these do not obscure the contribution of yet another municipality (Munguang) and a relatively unexplored sector (hair salons) to the fragment, but ever-increasing study of SMMEs in South Africa.

First, in terms of the quantitative slant to the study, future research might benefit from adopting the approach by Igwe *et al.* (2018a) on the validation of the instrument through follow-on focus groups. However, it is worth adding that qualitative studies are equally critical in studies of this nature (Igwe *et al.*, 2018b). Second, and on the matter of the limitations associated with single-case studies, it can be argued that this study is not a complete outlier as numerous related studies have taken this approach – notably Mutezo (2005) on the obstacles in the SMME finance in the City of Tshwane; Mbonyane (2006) on small business failure in Kagiso township; Nieman *et al.* (2008), Apulu, Latham and Moreton (2011) on SMEs in Lagos; Tengeh *et al.* (2012) on African immigrants in Cape Town metropolitan area; Maloka (2013) on SMMEs in Mankweng township in the Limpopo Province; Mosweunyane (2013) on records management practices of hair salons in Dr Ruth Segomotsi Mompati District Municipality. Preisendoerfer, Bitz and Bezuidenhout, (2014); Onsongo and Muturi (2015) in a survey of hair salon enterprises in Kisii Town in south-western Kenya; Grant and Daniel Thompson (2015) on inner-city Johannesburg; and Visser *et al.* (2016) on small business skills in the City of Tshwane, Gauteng province.

Conclusion and implications

The study was conducted against the widely held assumption that many SMMEs such as foreign-owned hair salon owner/managers struggled to access funding from public agencies, leading to their incapacity to acquire new technology, which is quintessential for the performance of their daily operations. The study also acknowledged the lack of studies that explore the nexus between public funding (access to loans, interest rates charged on these loans, use of equity and debt finance) and acquisition of technology.

There was limited evidence to substantiate the claim that foreign-owned hair salon SMMEs have constrained access to public funding options even though there were negative relationships between various public funding options and acquisition of technology by the businesses. However, a negative significant relationship was observed between private funding options (public debt and equity financing) and acquisition of new technologies. Future research may need to further consider the mechanisms of improving funding for foreign immigrant-owned businesses as they are the critical vehicles to the economic growth, job creation and poverty reduction in South Africa. Future studies may also need to explore hair salon SMMEs' acquisition of inexpensive ubiquitous technologies (e.g. social media platforms, low-grade blowers and dryers) before the gradual adoption of complex technologies. The studies may then establish the impact of various funding sources on the acquisition of such technologies.

In view of the negative relationships between access to public funding, the attractiveness of interest rates, public debt and equity financing and the acquisition of technology, three strategies may need further reflection. First, the focus of public funding for hair salon SMMEs should shift from improved accessibility of public funding to increasing the period for loan repayments. Even though this could imply increases in loan interest repayments in the long term, the duration for loan repayments will reduce the principal payable in the short term, thus availing some income for other business commitments such as the acquisition of technology by the business. Second, whilst the

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attractiveness of interests on loans would ideally compel hair salon SMMEs to immediately pay back loans, the public funders may need to procure latest technologies for well-performing hair salons in exchange for equity stakes in such businesses in the short term. This will allow such SMMEs to service their loans, whilst at the same time, acquire technology for use in their daily operations. Third, the hair salon's possible servicing of multiple public loans simultaneously due to the increase availability of such loans could be putting these businesses under intense financial pressure. As such, debt counselling and debt restructuring for such businesses would be critical to the financial stability of their businesses. Debt restructuring would mean progressively reducing public debt financing and gradually increasing equity funding to reduce the increased chances of debt traps – and ultimate failure of these SMMEs.

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