

# THE EFFECT OF THE USE OF TECHNOLOGY ON THE PERFORMANCE OF IMMIGRANT-OWNED SMMEs IN THE EASTERN CAPE PROVINCE, SOUTH AFRICA

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## ABSTRACT

*The objective of this study was to investigate the effect of the use of technology on the performance of immigrant-owned small, micro and medium enterprises (SMMEs) in the Eastern Cape province of South Africa. A quantitative research design was adopted and data was collected from 400 immigrant entrepreneurs who were selected using snowball and purposive sampling techniques. Correlation and regression analysis were used to test the hypothesis. This study concluded that the use of technology has a positive effect on the performance of immigrant-owned SMMEs in South Africa. Thus, one of the ways to improve performance of the SMMEs sector in South Africa is the adoption and use of technology in this sector.*

**Keywords:** Technology, Immigrant Entrepreneurship, SMMEs, Performance.

## INTRODUCTION

Entrepreneurship is essential for the growth of any economy and is seen as the economic engine of many countries (De Vita et al., 2013; Bruwer, 2013). Although most entrepreneurs operate as small, micro and medium enterprises (SMMEs), they contribute significantly to the Gross Domestic Product (GDP), employment creation, poverty reduction and equitable distribution of income in developing countries (Cant & Wiid, 2013; Flowers et al., 2013). In South Africa alone, SMMEs comprise almost 95% of all enterprises, contributing 56% to the country's GDP and accounting for 75% of employment (Erasmus et al., 2013).

Although SMMEs play a central role in socio-economic development of South Africa, the majority of SMMEs fail within the first five years of operation due to the challenges they face (Cant & Wiid, 2013). This is in spite of several government programmes in place and institutions that were established to support these businesses (Cant & Wiid, 2013).

Due to the rise in migration, South Africa has also experienced a rise in the number of non-South Africans operating entrepreneurial ventures in different sectors of the economy (Kalitanyi & Visser, 2010). This means that some entrepreneurs in South Africa have different cultures, values, and business practices. Van den Tillaart (2007) described this as a global phenomenon which is known as immigrant entrepreneurship. Crockett (2013) stated that immigrant entrepreneurship has been of interest to researchers because the success rates of immigrant entrepreneurs outweigh those of their native counterparts. It remains unknown if their success is as a result of using technology or not.

## **Problem Statement**

One apparent anomaly emerging from the literature is that immigrant small business owners are more entrepreneurial than their native born counterparts and consequently more successful, with greater survival rates (Crockett, 2013). It is also raised in literature that not all SMMEs adopt and use technology despite the advantages that are associated with the use of technology. Consequently, it is argued that a study on the use of technology by immigrant entrepreneurs may reveal important insights about what drives the success of immigrant entrepreneurs.

## **Objective**

The objective of this study was to investigate the effect of the use of technology on the performance of immigrant-owned SMMEs in South Africa.

## **Hypothesis**

*H<sub>0</sub>: The use of technology has no effect on the performance of immigrant-owned SMMEs.*

## **LITERATURE REVIEW**

This section discusses immigrant entrepreneurship, immigrant entrepreneurship in South Africa, the Contribution of immigrant entrepreneurs, Challenges faced by immigrant entrepreneur and the use of technology by immigrant entrepreneurs. The relationship between the use of technology and performance of SMMEs is also discussed.

### **Immigrant Entrepreneurship**

In simple terms, immigrant entrepreneurship can be seen as self-employment within the immigrant group (Nestorowicz, 2011; Garg & Phayane, 2014). Thus, immigrant entrepreneurship is the label given to the phenomenon of self-employment and enterprise development among immigrants (Barrett & Vershinina, 2016). Chinomona and Maziriri (2015) defined immigrant entrepreneurship as personal commercial undertakings by immigrants as soon as they have arrived in a host country. Thus, immigrant entrepreneurship is defined as the process by which immigrants establish and operate growth-oriented business ventures in a country which they will have migrated to (the host country), which is not their country of birth or origin.

### **Immigrant Entrepreneurship in South Africa**

South Africa has witnessed an influx of migrants from different parts of the world since the advent of democracy in 1994 (Gebre et al., 2011; Tengeh, 2013). The majority of immigrants in South Africa, particularly those from African countries, hope to improve their lives once in South Africa (Tengeh, 2013). The total number of immigrants in South Africa is not known as there seem to be inconsistencies in numerous reports that have tried to document the number of immigrants in South Africa (Crush & Williams, 2005; Tengeh, 2013).

In South Africa, self-employment and rates of business ownership have grown rapidly amongst immigrants, particularly after the birth of democracy in 1994 (Van Scheers, 2010).

Immigrants have an important role in South Africa as they are involved in various economic activities (Adepoju, 2006). However, immigrant entrepreneurship is a nascent entrepreneurial phenomenon in South Africa (Van Scheers, 2010). Although other Africans, Asians and Indians have become visible as entrepreneurs and their enterprises are flourishing, there is still a lack of studies conducted on immigrant entrepreneurship in South Africa (Van Scheers, 2010).

Immigrant entrepreneurs in South Africa are visible in a narrow band of activities of SMMEs, mostly in retail and services sectors that are required by the neighbourhood or by their ethnic groups (Kalitanyi & Visser, 2010; Hohn, 2012). Immigrant entrepreneurs tend to target markets that are neglected by local entrepreneurs and large organisations (Garg & Phayane, 2014) and they are careful when choosing both business location and the target market. The contributions of and challenges faced by immigrant entrepreneurs in South Africa are discussed in the sections that follow.

### **Contribution of immigrant entrepreneurs**

Immigrant entrepreneurship creates employment opportunities for those who are excluded from the mainstream economy (Gibson et al., 2011; Kalitanyi & Visser, 2010). Immigrant entrepreneurship also help in reducing poverty and contributes positively to the economy of the host country (Bruton et al., 2013; Osorio et al., 2015).

### **Challenges faced by immigrant entrepreneurs**

In advancing the case for the support of immigrant-owned SMMEs that are said to have been neglected in South Africa, Tengeh (2013) argued that SMMEs face more challenges than larger businesses and also that immigrant entrepreneurs are more vulnerable to challenges compared to their local counterparts. Challenges faced by immigrant entrepreneurs which can also obstruct their performance include lack of capital, lack of skills, excessive compliance costs, excessive regulations, discrimination, language, lack of support, excessive tax and crime (Vargas, 2005; Dana & Morris, 2007). According to Fatoki and Patswawairi (2012) and Herrington et al. (2010), the challenges faced by immigrant entrepreneurs in South Africa include lack of professional networks, lack of skills and lack of finance, crime, weak market opportunities, language and lack of government support. Reporting on the obstacles that African immigrant-owned businesses encountered during the business start-up phase. Tengeh (2013) noted limited finance, lack of business space, lack of appropriate residence permits, insufficient demand, lack of expertise in the concerned business area, lack of information on business-related matters and lack of skilled employees.

### **The Use of Technology by Immigrant Entrepreneurs**

Technology affects all people in all enterprises and in all industries (Strydom & Nieuwenhuizen, 2015; Van Aardt et al., 2016). Azmat (2010) noted that technological advancement has blurred geographical boundaries which may have resulted in increased immigrant entrepreneurship.

According to Venter et al. (2015), technology is important to the study and practice of entrepreneurship as it is crucial for the success of growth-oriented ventures. Technology is defined as the application of scientific knowledge for practical purposes; it is thus the know-how required in the transformation of inputs into outputs. Technology also refers to the actual tools

and machines developed from this know-how which makes the transformation of inputs into outputs possible (Venter et al., 2015).

Acknowledging that technology is often specific to a particular industry, Venter et al. (2015) identified different types and forms of technologies. These include online technologies, computer and mobile technology, software, Apps, and manufacturing technologies. It is disappointing that SMMEs in South Africa have been slow to adopt technology (Mavimbela & Dube, 2016). This slow adoption of technology by SMMEs in South Africa is attributed to lack of infrastructure, lack of skills, and the high costs of technology (Venter et al., 2015; Mavimbela & Dube, 2016; Sitharam & Hoque, 2016). Without technology, SMMEs will always find it difficult to survive and grow (Sitharam & Hoque, 2016). Moore and Benbasat (1991) stated that not all firms are willing to adopt technology since it is viewed as costly and risky as it may not produce the desired results even after a significant investment (Rahman et al., 2013). Technology plays a significant role in stimulating innovation in firms, and encourages the diffusion, development, adoption and application of the very latest business practices. This is mostly applicable in developing economies where there is great potential for businesses to import and adapt technologies developed in industrialised countries (Urban & Hydenrych, 2015). For firms in developing markets, the rising trend towards globalisation presents multiple opportunities to adopt a technology that can provide the necessary competitive advantage to compete at an international level (Urban & Barreira, 2009; Urban & Hydenrych, 2015).

### **The Use of Technology and the Performance of SMMEs**

The use of technology enhances a firm's productiveness, responsiveness and customer service (Dewa et al., 2014). This therefore means that the use of technology is crucial if a firm is to improve on efficiency and productivity which are key indicators of firm performance (Reijonen, 2008; Dubihlela & Sandada, 2014). High failure rates of SMMEs can be attributed to lack of access and inability to use technology (Sitharam & Hoque, 2016; Asomaning & Abdulai, 2015). This may also suggest that SMME owners that have access to technology and are able to use it are more likely to be successful than those that do not have access and are unable to use technology in their enterprises (Jeong et al., 2006; Rhee et al., 2010; Strydom & Nieuwenhuizen, 2015) If a business does not keep abreast with changes taking place in the technological environment which is part of the macro environment that a business does not have control over (Erasmus et al., 2013), it may not survive competition in the business world. This therefore means that technology is important if a business is to improve its performance.

## **RESEARCH METHODOLOGY**

This study was conducted in the Eastern Cape Province of South Africa. The province also has high levels of unemployment and is the poorest in South Africa (Dodd & Nyabvudzi, 2014; Bhembe et al., 2014). The study followed a positivist paradigm and used a quantitative research design. The population for this study consisted of immigrant entrepreneurs operating SMMEs in the Eastern Cape Province of South Africa. Since there is no one trusted database with all details of immigrant entrepreneurs, it remains difficult to estimate the actual total number of immigrant entrepreneurs in this province. Snowball and purposive sampling techniques were used. Data was collected using a self-administered questionnaire. Cronbach's alpha was used to measure reliability of the scales in the questionnaires; 16 items were developed from literature to measure the use of technology (Cronbach's alpha=0.97) and

performance was measured using a 14 item scale (Cronbach's  $\alpha=0.98$ ). Factor analysis was also conducted to ensure validity of the scales used in the questionnaire. Correlation and regression analysis were used to test the hypothesis. Ethical clearance was obtained from the University of Fort Hare Research Ethics Committee.

## RESULTS

Of the 400 questionnaires distributed, only 378 were deemed usable. Thus the response rate was 95%. Ninety six (25%) of the respondents were female while 282 (75%) were male. 28% of respondents identified themselves as owners of SMMEs, 8% identified themselves as managers and the majority (64%) identified themselves as both owners and managers. About 2% of the respondents were below 25 years of age, 8% were between the ages of 25 to 30 years, 27% of the respondents were between 31 and 40 years of age. The majority (64%) of respondents were above 40 years of age. 22% of the respondents have been operating their businesses for three years or less while the majority (78%) have been in business for more than three years. 25% of respondents in this study operate micro businesses, 72% operate small businesses and only 3% operate medium businesses.

Respondents were from 27 different countries. The results also show that the majority of immigrant entrepreneurs operating in the Eastern Cape Province of South Africa are from other African countries. Nigeria had the highest number of respondents (11.9%), followed by Somalia (10.6%) and Zimbabwe (10.1%). Other countries that had more respondents include Ghana (9.8%), Ethiopia (7.1%) and Pakistan (6.1%). This is in line with what was noted by Ibeh et al. (2012) when they stated that Africa to Africa internationalisation has increased. About 56 percent of the respondents are members of at least one business association while 44% of respondents are not affiliated to any business association. About 2% of respondents were from the construction industry, about 3% were from the manufacturing industry, 47% were from the service industry, 48% were from the trading sector and less than 1% was from other sectors. It is clear from the results that the majority of immigrant entrepreneurs operate either in the trading sector or in the service sector. More than 61% of the respondents have attained at least high school in their education. However, 39% of the respondents indicated that their highest level of education is below that which can be attained at high school. The majority (92%) of immigrant entrepreneurs operate business in rented premises. Only 8% operate in premises that they own.

### **The Use of Technology by Immigrant-Owned SMMEs in the Eastern Cape Province of South Africa**

A total score for the use of technology was calculated for the 16 items in the questionnaire with a possible minimum of  $1*16=16$  and a possible maximum of  $5*16=80$ . The total sum of means (63.49) is above the expected average. The average mean score ( $M=3.97$ ;  $SD=1.05$ ) reflects that there was agreement among respondents that immigrant entrepreneurs use technology for business purposes.

The responses were spread from strongly disagree (1) to strongly agree (5). This means that in as much as all the mean scores are around 4 (agree), there are still some respondents who do not use technology.

Males ( $M=65.68$ ;  $SD=12.46$ ) reported significantly higher levels of the use of technology than females ( $M=57.39$ ;  $SD=17.64$ );  $t(126.055)=4.16$ ;  $p=0.000<0.05$ . This means that male

immigrant entrepreneurs use technology more than their female counterparts and the mean difference (8.19) is not by chance.

Respondents that belong to a business association ( $M=68.35$ ;  $SD=9.64$ ) reported significantly higher levels of the use of technology compared to those that do not belong to any business association ( $M=57.28$ ;  $SD=16.87$ );  $t(244.286)=7.46$ ;  $p=0.000<0.05$ . Since these results are statistically significant, it means that the mean difference (11.07) is not by chance.

The majority of respondents agreed that they had access to technology, which they can use in their businesses and they are prepared to spend on technology that is helpful for their businesses. Based on these results, it can be said that the majority of immigrant entrepreneurs operating businesses in the Eastern Cape Province use technology in order to succeed in business.

### Performance of Immigrant-Owned SMMEs in the Eastern Cape Province of South Africa

Table 1 shows the items that were used to measure SMME performance in this study.

Table 1 PERFORMANCE OF IMMIGRANT-OWNED SMMEs								
	Strongly disagree	Disagree	Neutral	Agree	Strongly Agree	Number	Mean	Standard deviation
<i>Generally, my business performs better than those of my competitors.</i>	7 (1.9%)	45 (12.1%)	32 (8.6%)	240 (64.5%)	48 (12.9%)	376	3.74	0.897
<i>My business is growing (in terms of assets).</i>	3 (0.8%)	50 (13.5%)	18 (4.9%)	215 (58.0%)	85 (22.9%)	271	3.89	0.938
<i>My business revenue is increasing (Sales growth).</i>	10 (2.7%)	39 (10.6%)	32 (8.7%)	162 (43.9%)	126 (34.1%)	369	3.96	1.047
<i>My business's profitability is increasing (Profitability growth).</i>	9 (2.4%)	38 (10.2%)	24 (6.5%)	153 (41.2%)	147 (39.6%)	371	4.05	1.044
<i>My business is growing in terms of employment capacity (Employment growth).</i>	6 (1.6%)	41 (11.1%)	27 (7.1%)	147 (39.6%)	150 (40.4%)	371	4.06	1.031
<i>The survival chances of my business are still high</i>	10 (2.7%)	37 (10.0%)	25 (6.7%)	187 (49.5%)	112 (30.2%)	371	3.95	1.006

<i>My return on assets is increasing.</i>	5 (30.2%)	41 (11.1%)	25 (6.7%)	182 (49.1%)	118 (31.8%)	371	3.99	0.975
<i>I sell my stock faster than competitors.</i>	4 (1.1%)	47 (12.7%)	18 (4.9%)	160 (43.1%)	142 (38.3%)	371	4.05	1.018
<i>My business is sustainable.</i>	5 (1.3%)	46 (12.4%)	11 (3.0%)	163 (43.9%)	146 (39.4%)	371	4.08	1.019
<i>I have acquired property using profits generated from this business.</i>	2 (0.5%)	57 (15.1%)	22 (5.8%)	255 (67.5%)	42 (11.1%)	378	3.74	0.867
<i>I am able to pay all my employees using profits generated from this business.</i>	5 (0.5%)	51 (13.5%)	22 (5.8%)	253 (66.9%)	50 (13.2%)	378	3.79	0.857
<i>I am satisfied with the performance of this business.</i>	6 (13.2%)	45 (11.9%)	29 (7.7%)	151 (39.9%)	147 (38.9%)	378	4.03	1.043
<i>It is clear that my business is performing well.</i>	7 (1.9%)	39 (10.3%)	28 (7.4%)	150 (39.7%)	154 (40.7%)	378	4.07	1.029
<i>Judging from my business's financial records, my business is performing well.</i>	7 (1.9%)	43 (11.4%)	24 (6.3%)	166 (43.9%)	138 (36.5%)	378	4.02	1.026
Total							55.42	13.8
Average							3.96	0.99

A total SMME performance score was calculated for the 14 items in the questionnaire. The performance score had a possible minimum value of  $1 \times 14 = 14$  and a possible maximum value of  $5 \times 14 = 70$ . With a sum of means (55.42) above the expected average and an average mean score ( $M=3.96$ ;  $SD=0.99$ ) close to 4 (agree), there seemed to be an agreement among

respondents that businesses operated by immigrants are performing well in the Eastern Cape Province of South Africa.

Males ( $M=57.15$ ;  $SD=10.49$ ) reported significantly higher levels of performance than their female counterparts ( $M=50.19$ ;  $SD=15.37$ );  $t(125.736)=4.10$ ,  $p=0.000<0.05$ . This therefore means that when it comes to immigrants operating businesses in the Eastern Cape Province of South Africa, SMMEs operated by males perform better than those operated by females and the difference observed is not as a result of chance since it is statistically significant.

Respondents that belong to a business association ( $M=59.69$ ;  $SD=7.98$ ) reported significantly higher levels of performance than those that do not belong to any business association ( $M=49.85$ ;  $SD=14.54$ );  $t(236.633)=7.74$ ;  $p=0.000<0.05$ . Since these results are statistically significant, it means that the mean difference (9.84) is not by chance.

By observing the mean scores from Table 1, it can be observed that immigrant entrepreneurs agreed (means scores around 4) that their businesses are performing well and better than those of their competitors. The majority of respondents agreed that their businesses are growing in terms of sales, employment creation and also assets. The majority of respondents also indicated that they are satisfied with the performance of their businesses. Based on the results presented in Table 1, it can be said that the majority of immigrant-owned SMMEs operating in the Eastern Cape Province are performing well.

### **The Use of Technology and Performance of Immigrant Owned SMMEs in the Eastern Cape Province of South Africa**

To determine the association between the use of technology and performance of immigrant-owned SMMEs, Pearson product moment correlation analysis was used and the results are presented in Table 2. Based on the results presented in Table 2, the p-value of  $0.00<0.05$  indicates that there is a statistically significant relationship between the use of technology and performance of immigrant-owned SMMEs, with the positive Pearson R (0.933) meaning that the relationship is positive. The coefficient of 0.933, which is very close to 1, indicates that the association is strong.

		Total SMME performance score	Total use of technology score
Total SMME Performance score	Pearson Correlation	1	0.933**
	Sig. (2-tailed)		0
	N	369	362
Total use of technology score	Pearson Correlation	0.933**	1
	Sig. (2-tailed)	0	
	N	362	370
**Correlation is significant at the 0.01 level (2-tailed).			



Although association was established, the effect of the use of technology on performance cannot be determined using correlation analysis only. Hence, there is need for regression analysis.

### Regression Analysis

Simple linear regression analysis was conducted, with the dependent variable being performance and the explanatory variable being the use of technology. The results are shown in Table 3.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	0.933 <sup>a</sup>	0.871 <sup>b</sup>	0.87	4.442	1.427
a. Predictors: (Constant), Total use of technology score					
b. Dependent variable: Total SMME performance score					

The model summary presented in Table 2 shows that the use of technology explains about 87% (0.870) of the variation in performance of SMMEs. This, therefore, means that successful SMMEs also make use of technology. This model is considered fit, F (2422.475) is large and statistically significant with a p-value < 0.05.

Table 4 shows the coefficients of the explanatory variable (the use of technology), detailing whether there is an effect, the pattern of the relationship (positive or negative), and the magnitude of the effect.

Model	Non standardised Coefficients		Standardised Coefficients	T	Sig.	
	B	Std. Error	Beta			
1	(Constant)	4.475	1.06		4.221	0
	Total use of technology score	0.802	0.016	0.933	49.219	0
Dependent variable: Total SMME performance score						

The results show that there is a relationship between these two variables since the p-value (sig.) of 0.00 is less than 0.05. These results also show that the relationship is positive, with a unit increase in the use of technology increasing performance score by 0.802 units.

Given these results, the null hypothesis is rejected at a 95% confidence level in favour of the alternative hypothesis.

## CONCLUSION AND RECOMMENDATIONS

This study concludes that the use of technology has a positive effect on the performance of immigrant-owned SMMEs operating in the Eastern Cape Province of South Africa. These findings are in line with what was observed by other researchers (Sitharam & Hoque, 2016; Strydom & Nieuwenhuizen, 2015; Allah et al., 2013; Rahman et al., 2013; Liu & Barar, 2009; Urban, 2010) on the relationship between the use of technology and the performance business enterprises.

It is recommended that immigrant entrepreneurs invest in technology applicable and relevant to their businesses since the effective use of technology reduces costs and also enhances efficiency in business organisations, including in SMMEs. Employees also need to be trained to use technology if it is to be of benefit in immigrant-owned SMMEs. The government and government agencies should provide the necessary support to ensure SMMEs access and use technology if South Africa is to be successful in supporting the SMMEs sector.

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