

ICT Usage and its Effect on Export Performance: Empirical Evidence from Small and Medium Enterprises in the Manufacturing Sector in Zimbabwe

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ABSTRACT

Small and medium enterprises (SMEs) in Zimbabwe have been considered as the future driver of economic development. And yet they are not spared from global competition that threatens their existence. Adoption of information and communication technology (ICT) has been regarded as one of the strategies for survival in this global competitive environment. However, there is a paucity of empirical evidence on the effect of ICT usage on export performance of SMEs. This study was, therefore, undertaken to examine the effect of ICT usage on the export performance of SMEs in the manufacturing sector in Zimbabwe. A cross-sectional survey of 243 SMEs was conducted in Harare, the capital city of Zimbabwe. Results show that overall ICT usage positively predicts the export performance of manufacturing SMEs. However, the ICT's prediction of the export performance is dimension-specific. Of the three dimensions of ICT usage, only relationship building capabilities significantly predicts export performance while market intelligence and marketing capabilities do not significantly predict export performance. The paper recommends that the use of ICT should be aligned with the goals of the firms.

Keywords: export performance; firm performance; information and communication technology; innovation; small and medium enterprises

INTRODUCTION

Small and medium enterprises (SMEs) make significant contributions to many economies (Rogerson 2001; Bowen, Morara and Mureithi 2009; Robson, Haugh and Obeng 2009; Moorthy, Tan, Choo, Wei, Ping and Leong 2012; Gjini 2014). SMEs play a pivotal role in economic growth, employment creation and ensure that income is distributed equitably

within an economy (Moorthy, Tan, Choo, Wei, Ping and Leong 2012; Gjini 2014; Manyani, Hove, Mudzura and Chiriseri 2014). In support of this, Zindiye (2008) points out that SMEs play a big role in the creation of a country's wealth. In developing countries, SMEs have been regarded as one of the major sources of employment, poverty alleviation and economic development (Torero and Von Braun 2005; Zindiye 2008; Manyani, Hove, Mudzura and Chiriseri 2014). Likewise, in Zimbabwe SMEs are regarded as the 'nerve centre' of economic development and empowerment (Ministry of Small and Medium Enterprises and Cooperative Development 2014). In this regard, Manyani, Hove, Mudzura and Chiriseri (2014) submit that the SME sector in Zimbabwe now contributes about 90% of employment.

With the acceleration of globalisation over the years, international trade barriers have weakened, resulting in increased movement of goods and services across national boundaries (Makanyeza 2015). As such, SMEs are no longer manufacturing products solely for the domestic market but they are now also actively pursuing international markets (Pezderka, Sinkovics and Jean 2012). However, SMEs have not escaped the increased global competition that is associated with globalisation (Torero and Von Braun 2005; Pezderka, Sinkovics and Jean 2012). Thus, SMEs—especially in developing countries such as Zimbabwe—find it difficult to survive in the global competitive market (Torero and Von Braun 2005).

Due to the significant role played by SMEs in many economies, various governments—including the Government of Zimbabwe—have promoted SMEs' adoption of information and communication technology (ICT) in order to boost their productivity (Chowdhury and Wolf 2003; Ashrafi and Murtaza 2008). Literature suggests that the use of ICT can increase the firm's competitiveness (Chowdhury and Wolf 2003; Morgan-Thomas and Bridgewater 2004; Tarutè and Gatautis 2004; Ashrafi and Murtaza 2008). In this view, Tarutè and Gatautis (2004) proclaim that the development of ICT has transformed business processes while Torero and Von Braun (2005) agree that the adoption of ICT has emerged as one of the factors that enable SMEs to survive in the global competitive environment. Similarly, Morgan-Thomas and Bridgewater (2004) suggest that the advent of the Internet has made it possible for exporting firms to venture into global markets.

Despite the general understanding that ICT usage can enhance the firm's performance, the study of the effect of ICT usage on the performance of firms is still in its infancy (Bharadwaj, Bharadwaj and Konsynski 1999; Tarutè and Gatautis 2004; Pezderka, Sinkovics and Jean 2012). More so, there is a paucity of studies that have empirically investigated the effect of ICT usage on the performance of SMEs especially in developing countries such as Zimbabwe (Chowdhury and Wolf 2003). Similarly, the effect of ICT usage on the export performance of SMEs is not well-understood in the public domain.

This study, therefore, sought to investigate the effect of ICT usage on the export performance of SMEs in the manufacturing sector in Zimbabwe. The research objectives are to predict export performance of SMEs using ICT usage, and further establish the individual influence of each of the dimensions of ICT usage on the export performance of SMEs.

Manufacturing SMEs were chosen because exporting is common within the manufacturing sector in Zimbabwe (Zimbabwe National Chamber of Commerce 2015). As such, ZimTrade (2015) observes that a significant proportion of total exports is in the form of manufactured goods in Zimbabwe. The manufacturing sector has strong linkages with other

sectors in Zimbabwe's economy such as food processing, textiles, plastic manufacturing, chemicals and leather. The linkages are strongest in the agricultural sector which is regarded as the backbone of the economy of Zimbabwe (ZimTrade 2015; Zimbabwe National Chamber of Commerce 2015). Although the contribution of the manufacturing sector has fallen to about 14% of the gross domestic product, it is still an important sector for economic development in Zimbabwe (ZimTrade 2015; Zimbabwe National Chamber of Commerce 2015).

LITERATURE REVIEW, HYPOTHESES AND MODEL DEVELOPMENT

There is no universally agreed upon definition of SME. As such, the definition of SME varies from one country to the other or from one region to the other (Gibson and Van der Vaart 2008). For example, in USA the term SME describes an entity that is owned, operated independently and whose activities are not dominant in its field of operation (Zindiye 2008). In Europe, a small enterprise is an entity that employs less than 50 people while a medium enterprise employs less than 250. More so, in Europe SMEs are regarded as entities that employ less than 250 people and whose annual turnover is not more than 50 million euros or those enterprises whose annual balance sheets do not exceed 43 million euros (Zindiye 2008). According to Ashrafi and Murtaza (2008), the term SMEs refers to enterprises that employ between 10 and 250 people. Gibson and Van der Vaart (2008:18) define SME as "a formal enterprise with annual turnover, in U.S. dollar terms, of between 10 and 1,000 times the mean per capita gross national income, at purchasing power parity, of the country in which it operates". SMEs are defined in Zimbabwe as "enterprises registered under the Companies Act or the Cooperative Companies Act, with employment levels not exceeding a hundred employees (Chinomona, Lin, Wang and Cheng 2010, p.184). In support of this, Zindiye (2008) and Manyani, Hove, Mudzura and Chiriseri (2014) expanded the definition of SME as a registered firm with 100 employees at most and a maximum sales turnover of US\$ 830,000 per annum. The operational definition of SME in this paper is thus, *a registered enterprise in Zimbabwe that employs not more than 100 employees and whose activities are not dominant in the sector in which it operates.*

The term manufacturing is used to describe the process of converting raw materials or components into finished products that meet the requirements of the customer (Business Dictionary 2015). In this regard, Chinomona, Lin, Wang and Cheng (2010:184) define manufacturing SMEs as those small and medium enterprises that are "engaged in the manufacturing sector of the economy". The main activities of manufacturing SMEs include "food processing, toiletry making, garments, leather, rubber, metal fabrication, furniture manufacturing, construction and art" (Chinomona, Lin, Wang and Cheng 2010, p.184). The working definition of manufacturing in this study is thus, *a process designed to convert raw materials, components or parts into finished products that satisfy the customer.*

SMEs make important contributions to the economy of a particular country (Lages and Montgomery 2004; Tarutè and Gatautis 2004; Ashrafi and Murtaza 2008; Robson, Haugh and Obeng 2009; Chinomona, Lin, Wang and Cheng 2010; Moorthy, Tan, Choo, Wei, Ping and Leong 2012; Gjini 2014; Manyani, Hove, Mudzura and Chiriseri 2014). SMEs bring

about economic stability because they represent an integral part of the development of a country's economy and generation of employment (Daniels 2003; Ashrafi and Murtaza 2008). In support of this, Tarutè and Gatautis (2004) and Gjini (2014) suggest that the SME sector plays an important part in the development of economies, employment creation and poverty alleviation. More so, Lages and Montgomery (2004) posit that SMEs play a significant role in ensuring economic security in a nation especially during periods of recession and slow economic growth. Likewise, SMEs ensure that income is equitably distributed and that there is sustainable economic development within a country (Moorthy, Tan, Choo, Wei, Ping and Leong 2012; Manyani, Hove, Mudzura and Chiriseri 2014).

In Europe, the European Commission (2005:3) noted that "micro, small and medium enterprises are the engine of the European economy. They are an essential source of jobs, create entrepreneurial spirit and innovation in the EU and thus crucial for fostering competitiveness and employment". In many developing economies, SMEs contribute to a significant share of production and generation of employment as well as poverty alleviation (Matambalya and Wolf 2001). For example, SMEs in the manufacturing sector make significant contributions to the development of East African economies especially in employment creation and value addition to raw materials (Matambalya and Wolf 2001; Chowdhury and Wolf 2003). In Zimbabwe, SMEs play a crucial role in economic development, employment generation and alleviation of poverty (Chinomona, Lin, Wang and Cheng 2010). In this regard, the SMEs sector is described as the major driver of economic development in Zimbabwe (Zindiye 2008; Chinomona, Lin, Wang and Cheng 2010; Manyani, Hove, Mudzura and Chiriseri 2014; Ministry of Small and Medium Enterprises and Cooperative Development 2014).

As the process of globalisation intensified over the years, international trade barriers have weakened, ushering in a new era characterised by increased movement of products across national boundaries (Makanyeza 2015). The orientation of SMEs is no longer to manufacture products for the local market alone but also for foreign markets (Pezderka, Sinkovics and Jean 2012). However, the survival of SMEs in the global competitive market is a daunting task (Torero and Von Braun 2005; Pezderka, Sinkovics and Jean 2012). In this regard, significant efforts to support the growth of SMEs in the global competitive environment have been made by various governments (Rogerson 2001; Bowen, Morara, and Mureithi 2009; Robson, Haugh and Obeng 2009). ICT usage has emerged as one of the major factors that can ensure competitiveness and, therefore, survival of SMEs in this global competitive environment (Chowdhury and Wolf 2003; Ashrafi and Murtaza 2008).

ICT is a broad term that includes computerised information and communication technologies such as computers, handheld devices, wired or wireless technologies, and business productivity software (Ashrafi and Murtaza 2008). It represents an integration of information, computers and communication (Ashrafi and Murtaza 2008; Ghalandari 2013). The working definition of ICT in this study is thus, *any information and communication hardware and software, and its associated applications used by firms involved in exporting.*

The use of ICT has become a critical ingredient for the success of both governments and firms the world over. Firms use ICT in order to provide an efficient customer service while nation governments adopt ICT in order to improve service delivery to their citizens (Ashrafi and Murtaza 2008). With the adoption of ICT, firms can process information and products

faster and can transform their business processes (Tarutè and Gatautis 2004; Ghalandari 2013). By adopting ICT, firms can dramatically improve their business practices, management, and internal organisation thereby improving firm performance (Lucchetti and Sterlacchini, 2004; Morgan-Thomas and Bridgewater 2004; Bassant, Commander, Harrison and Menezes-Filho 2006).

The use of ICT in marketing involves three dimensions, namely information search, supporting sales and service activities, and customer relationship building (Ghalandari 2013). However, Beckers, Pauwels, De Ruyter, Wetzels and Lages (2007) suggest that, for one to understand the influence of the firm's Internet activity on the export performance of a firm, there is a need to focus on the Internet capabilities of the organisation. Internet capabilities refer to "a firm's capacity to systematically develop and implement particular Internet tools in four functional areas: in informational, transactional, interactive exchanges with customers and in connecting with suppliers" (Beckers, Pauwels, De Ruyter, Wetzels and Lages 2007, p.1). Likewise, Lucchetti and Sterlacchini (2004) suggest that when studying the impact ICT has on firms, it is useful to categorise technologies based on their typical functions. They identified three broad categories of technologies that can be adopted by firms, namely general-use ICTs (email and Internet access), production-integrating ICTs (local area network, electronic data interchange and Intranet) and market-oriented ICTs (use of such tools as web sites for marketing). Drawing insights from this discussion, in this study ICT usage is conceptualised as three-dimensional i.e. ICT usage among exporting SMEs in Zimbabwe is based on three functions, namely market intelligence capabilities, marketing capabilities and relationship building capabilities. Market intelligence capabilities describe the use of ICT to gather and analyse information that the firm requires in order to access market opportunities, to increase the firm's competitiveness and to gain market share. Marketing capabilities refer to the firm's use of ICT to enhance marketing promotions and transactions. Relationship building capabilities is the application of ICT in order to enhance the firm's relationship with its customers, suppliers and partners.

Exporting represents the commonest form of entry into foreign markets by firms in most developing countries such as Zimbabwe (Muranda 2003). This view is also supported by Lages and Montgomery (2004; 2005). They point out that exporting is a preferred mode of entry into foreign markets by SMEs mainly because they are not able to compete with well-established firms in international markets especially on pricing.

According to Ghalandari (2013), export performance refers to the extent to which management is satisfied with exporting. Marandu (1995) also supports this view that export performance is based on the extent to which management is satisfied with the exporting activity within a particular firm. The operational definition of export performance in this study is thus, *the extent to which the manager or owner of an enterprise is satisfied with the exporting function in terms of volume, growth, intensity and profitability.*

The use of ICT makes it possible for firms to extend their businesses into foreign markets by reducing costs involved in managing international operations, by making it possible to manage value chains that spurn across national boundaries, and by positively contributing to firm performance and future growth (Bharadwaj, Bharadwaj and Konsynski 1999; Cainelli, Evangelista and Savona 2004; Kraemer, Gibbs and Dedrick 2005). Similarly, Torero and Von Braun (2005) suggest that adopting ICT enables SMEs to survive in the global competitive

environment. Likewise, in the Indian garment industry, ICT usage has enabled firms to be competitive on the international market (Torero and Von Braun 2005). Evidence also suggests that there is a strong correlation between ICT investment and firm productivity in Brazil and India (Basant, Commander, Harrison and Menezes-Filho 2006). However, Bharadwaj, Bharadwaj and Konsynski (1999) observe that information technology has weakened entry barriers thereby making it difficult for firms to sustain competitive advantage. This view is contradicted by Beckers, Pauwels, De Ruyter, Wetzels and Lages (2007) who provided evidence that the Internet, a form of ICT, has had a positive influence on the export performance of firms especially in promoting global visibility at a minimal cost and allowing firms to collect data from foreign markets more effectively. More so, Koellinger (2006) reported that ICT and innovation are correlated with productivity and growth at the level of the firm.

It should be noted that the influence of ICT on firm performance varies with the sector or region. Similarly, a study of European firms found that ICT investments positively impact productivity—the greater impact on firm productivity was found in the services sector than the manufacturing sector (Matteucci, O'Mahony, Robinson and Zwick 2005). Ghalandari (2013) conducted a study to explain the influence of ICT on the export performance of firms in Tehran and found that ICT significantly influences export performance. However, the effect of ICT was dimension-specific i.e. it varied with how the firm used ICT. A study by Ashrafi and Murtaza (2008) found that the use of ICT positively influences the performance of SMEs. As such, Chowdhury and Wolf (2003) observed that ICT improves the performance of the enterprise through cost reduction and increased productivity. The same applies to a study by Gera and Gu (2004) in Canada. The study found that ICT usage is correlated to improved firm performance. In a study to determine the role of ICT for the performance of SMEs in East Africa, Matambalya and Wolf (2001) found that ICT positively influences total factor productivity. However, there is a time lag between ICT investment and the realisation of benefits i.e. ICT investments tend to give benefits in the long run.

Based on the foregoing discussion on the effect of ICT usage on firm performance, the following research hypotheses are proposed:

- H₁*: ICT usage positively predicts the export performance of manufacturing SMEs in Zimbabwe.
- H₂*: Market intelligence capabilities positively predict the export performance of manufacturing SMEs in Zimbabwe.
- H₃*: Marketing capabilities positively predict the export performance of manufacturing SMEs in Zimbabwe.
- H₄*: Relationship building capabilities positively predict the export performance of manufacturing SMEs in Zimbabwe.

Based on these hypotheses, the following conceptual framework (Figure 1) is proposed for the study.

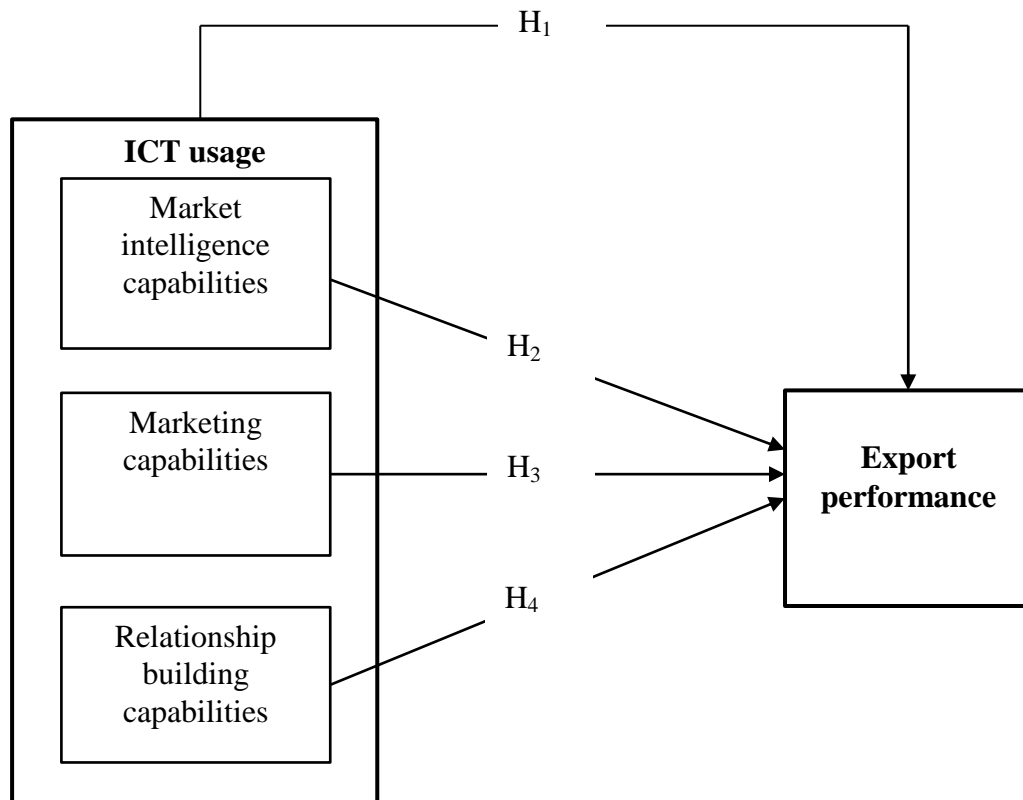


Figure 1: Conceptual framework and associated hypotheses

RESEARCH METHODOLOGY

Measurement Instrument

Following the recommendation that it is useful to categorise ICT usage or technologies based on their typical functions (Lucchetti and Sterlacchini 2004), the concept of ICT usage was conceptualised in terms of three dimensions, namely market intelligence capabilities, marketing capabilities and relationship building capabilities. The items used to measure each of the capabilities were adapted from previous related works (Cavusgil and Zou 1994; Marandu 1995; Muranda 2003; Lucchetti and Sterlacchini 2004; Lages, Lages and Lages 2005; Ghalandari 2013). The items were based on a 5 point Likert scale anchored by 1 ‘strongly disagree’ and 5 ‘strongly agree’. The items are illustrated below.

Market intelligence capabilities (MI)

- MI1* This organisation uses ICT for market evaluation.
- MI2* This organisation searches for information on competitors using ICT.
- MI3* This organisation solicits for customers using ICT.
- MI4* This firm accesses market information using ICT.

MI5 ICT helps this firm to select markets with the best prospects.

MI6 ICT helps this firm to be competitive.

Marketing capabilities (MC)

MC1 This firm uses social media to market its products abroad.

MC2 This firm makes use of online order processing.

MC3 The firm makes use of online brand activation initiatives.

MC4 This firm uses ICT to enhance its visibility worldwide.

MC5 This firm uses ICT to market its products.

Relationship building capabilities (RBC)

RBC1 This firm uses ICT to build relationships with customers.

RBC2 This firm uses ICT to build relationships with its customers.

RBC3 The firm uses ICT to build networks/connectivity with other partners.

RBC4 This firm builds trust with its suppliers and customers through ICT.

RBC5 ICT enhances the firm's responsiveness to customers.

After consulting previous related works (Tippins and Sohi 2003; Tarutè and Gatautis 2004; Kraemer, Gibbs and Dedrick 2005; Tabatabaie 2008; Solberg and Olsson 2010; Ghalandari 2013), it was decided to measure export performance based on the perceptions of managers using the items listed below.

Export performance (EP)

EP1 Market share growth

EP2 Export sales volumes

EP3 Export profitability

EP4 Export intensity

EP5 Cost leadership

The respondents were asked to rate each of these items since the adoption of ICT based on 5 points, namely 1 'decreased', 2 'slightly decreased', 3 'did not change', 4 'slightly increased', and 5 'increased'.

Sampling and Data Collection

The sample was drawn from Harare Metropolitan Province. Harare represents the capital city of Zimbabwe and it houses the majority of manufacturing SMEs in Zimbabwe. The population of registered manufacturing SMEs in this region was approximately 1,500 (Chinomona and Pretorius 2011). From this target population, 400 SMEs were randomly selected to participate in the study. Self-administered questionnaires were hand-delivered to the participating SMEs. The person with overall responsibility in the running of the enterprise was requested to complete the questionnaire on behalf of the firm. This ensured that only a competent individual would complete the questionnaire on behalf of the enterprise (Chinomona and Pretorius 2011). The respondents were given about three weeks to complete the questionnaires. Before collecting the questionnaires, each respondent was telephoned to check whether or not they were through with the exercise. A total of 243 questionnaires were completed and found usable. The characteristics of the sample are presented in Table 1.

Table 1: Sample profile

Description	Frequency	Percent
Gender		
Male	118	48.6
Female	125	51.4
Age		
≤ 25 years	68	28.0
25 – 34	87	35.8
35 – 44	72	29.6
≥ 45	16	6.6
Highest level of education		
Advanced level	4	1.6
Diploma	22	9.1
Bachelor's degree	117	48.1
Master's degree	81	33.3
Doctoral degree	19	7.8
Number of employees		
≤ 10	70	28.8
11 – 50	132	54.3
>50	41	16.9

Table 1 shows that manufacturing small and medium entrepreneurs in the Harare Metropolitan Province were slightly dominated by females (51.4%) than males (48.6%). The majority (65.4%) of the respondents were found to be aged between less than 25 and 45 years while the majority (81.4%) of the respondents had attained Bachelors' and Masters' degrees. The majority (83.1%) of the manufacturing SMEs were found to employ not more than 50 employees.

Validity and reliability

Before testing research hypotheses, there was a need to determine whether or not the measures were valid and reliable. Initially, data were tested for sampling adequacy and whether or not data permitted exploratory factor analysis (EFA) to be executed. This was done using Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO) and the Bartlett's Test of Sphericity, respectively. The sample was found to be adequate and data permitted EFA to be conducted (KMO = 0.771; Approx. Chi-Square = 1,375.066; Degrees of freedom = 210; $p < 0.001$). This decision was made based on Field's (2009) recommendation that the KMO value close to 1 indicates an adequate sample while the Bartlett's test should be significant ($p < 0.05$) for factor analysis to be executed. Factors extracted from the data, items, item mean and standard deviation (SD), scale mean and SD, factor loadings and Cronbach's alpha (α) are presented in Table 2.

Table 2: Results of exploratory factor analysis

Factor	Items	Item mean ± SD	Scale mean ± SD	Factor loadings	Cronbach's α
Relationship building capabilities	RBC1	3.94 ± 0.653	3.96 ± 0.750	0.728	0.781
	RBC5	3.86 ± 0.865		0.705	
	RBC2	4.00 ± 0.763		0.682	
	RBC4	4.01 ± 0.716		0.678	
	RBC3	3.98 ± 0.755		0.649	
Market intelligence capabilities	MI5	4.09 ± 0.795	4.12 ± 0.763	0.797	0.657
	MI4	4.14 ± 0.811		0.729	
	MI6	4.13 ± 0.683		0.618	
Export performance	EP3	3.81 ± 0.872	4.11 ± 0.803	0.734	0.643
	EP2	4.40 ± 0.734		0.711	
Marketing capabilities	MC4	4.11 ± 0.649	3.92 ± 0.764	0.876	0.683
	MC2	3.72 ± 0.879		0.839	

- Extraction Method: Principal Component Analysis.
- Rotation Method: Oblimin with Kaiser Normalisation.
- Rotation converged in 18 iterations.
- Based on Eigenvalues > 1.00
- Total variance explained = 67.107%
- Loadings of less than 0.4 were suppressed

Seven components were extracted from the data. Analysis of the items loading onto these components showed that four items were cross-loading, namely MI2 ‘This organisation searches for information on competitors using ICT’, EP1 ‘Market share growth’, MC3 ‘The firm makes use of online brand activation initiatives’, and EP4 ‘Export intensity’. These items were deleted because they caused confusion (Field 2009). After deleting cross-loading items, three out of seven components were each left with a single item. Hence, these three components were dropped because a single item is not likely to measure a construct reliably (Eisinga, Te Grotenhuis and Pelzer 2013).

As expected, four components remained namely relationship building capabilities, market intelligence capabilities, export performance, and marketing capabilities as illustrated in Table 2. All items loading onto these components were significant as indicated by factor loadings that ranged between 0.618 and 0.876. According to Field (2009), a factor loading should be at least 0.4 for it to be acceptable. All components were measured reliably as denoted by the Cronbach’s α ranging between 0.643 and 0.781. A Cronbach’s α of at least 0.60 represents an acceptable level of reliability (Bryman 2008; Zikmund, Babin, Carr and Griffin 2010).

As shown in Table 2, the scale mean values were approximately equal to 4 for each of the components. This suggests that firms agreed that they have used ICT for relationship building, market intelligence and marketing, and that the export performance has slightly increased. In order to be very sure about discriminant validity, squared inter-construct

correlations (SICs) and average variance extracted (AVE) were considered as presented in Table 3.

Table 3: Squared inter-construct correlations and average variance extracted

Factor	MI	MC	RBC	EP
Market intelligence capabilities (MI)	0.516			
Marketing capabilities (MC)	0.011	0.736		
Relationship building capabilities (RBC)	0.026	0.166	0.515	
Export performance (EP)	0.010	0.035	0.040	0.522

Note: Diagonal elements in bold represent AVE

Fornell and Larcker (1981) suggest two conditions that must be satisfied in order to ensure discriminant validity. The first condition is that AVE should be greater than 0.5. The second condition is that AVE should be greater than the corresponding SICs. As shown in Table 3, AVE values ranged between 0.515 and 0.736 and were greater than the associated SICs. This indicates that there was discriminant validity.

ANALYSIS AND RESULTS

Simple regression analysis was used to test research hypothesis H₁. Multiple regression analysis was used to test research hypotheses H₂, H₃ and H₄. The results are presented in Table 4.

As shown in Table 4, overall ICT usage was found to positively predict export performance ($\beta = 0.202$, $t = 3.196$, $p = 0.002$). H₁ was, therefore, supported. Market intelligence capabilities were found to have an insignificant prediction on export performance ($\beta = 0.005$, $t = 0.081$, $p = 0.936$). H₂ was, therefore, not supported. Marketing capabilities were found to have an insignificant prediction on export performance ($\beta = 0.126$, $t = 1.825$, $p = 0.069$). H₃ was, therefore, not supported. Although a weak prediction, relationship building capabilities were found to predict export performance ($\beta = 0.148$, $t = 2.111$, $p = 0.036$). H₄ was, therefore, supported.

Table 4: Results of regression analyses

Hypothesis	Prediction	β	t	p	Decision on hypothesis
H ₁	ICT usage → Export performance	0.202	3.196	0.002	H₁ is supported
H ₂	Market intelligence capabilities → Export performance	0.005	0.081	0.936	H ₂ is not supported
H ₃	Marketing capabilities → Export performance	0.126	1.825	0.069	H ₃ is not supported
H ₄	Relationship building capabilities → Export performance	0.148	2.111	0.036	H₄ is supported

β = standardised Beta coefficient, t = T statistic, p = probability

DISCUSSION

The study found that overall, ICT usage positively predicts export performance. This implies that ICT usage enhances export performance of manufacturing SMEs. In other words, manufacturing SMEs that make use of ICT are likely to do well when exporting. This finding is in line with the general view in extant literature that the adoption of ICT enhances the performance of firms involved in international business (Bharadwaj, Bharadwaj and Konsynski 1999; Cainelli, Evangelista and Savona 2004; Kraemer, Gibbs and Dedrick 2005). Similarly, ICT increases enterprise competitiveness and enables firms to survive in the global competitive environment (Torero and Von Braun 2005; Bassant, Commander, Harrison and Menezes-Filho 2006; Beckers, Pauwels, De Ruyter, Wetzels and Lages 2007; Ghalandari 2013).

The study also found that out of the three dimensions of ICT usage, namely relationship building capabilities, market intelligence capabilities, and marketing capabilities, only relationship building capabilities were found to predict export performance of manufacturing SMEs in Harare. The implication of this is that manufacturing SMEs in Harare are likely to enhance their export performance when they use ICT for relationship building. The term relationship building capabilities is conceptualised in this study as the application of ICT in order to enhance the firm's relationship with its customers, suppliers and partners. Thus, the study shows that SMEs using ICT to cultivate relationships with customers, suppliers and partners are realising benefits in terms of better export performance. Insights are drawn from Lucchetti and Sterlacchini (2004), Beckers, Pauwels, De Ruyter, Wetzels and Lages (2007) and Ghalandari (2013) that the application of ICT is dimension-specific i.e. there is a need to categorise ICT usage if one is to have a sound understanding of the effect of ICT on business performance.

CONCLUSIONS

The study sought to predict SMEs' export performance using ICT usage, and to establish the individual effect of each of the dimensions of ICT usage on the export performance of SMEs. It is established that overall, ICT usage positively predicts the export performance of manufacturing SMEs. The study also establishes that only one dimension of ICT usage, namely relationship building capabilities, positively predicts the export performance of manufacturing SMEs. As noted in literature (Bharadwaj, Bharadwaj and Konsynski 1999; Chowdhury and Wolf 2003; Tarutė and Gatautis 2004; Pezderka, Sinkovics and Jean 2012), there is a paucity of studies of this nature. The present findings thus, make significant contribution to the current body of knowledge by providing empirical evidence on this phenomenon especially in developing countries such as Zimbabwe.

The study recommends that manufacturing firms make use of ICT if they are to enhance their export performance. Firms need to pay particular attention to the specific use of ICT. As such, the study recommends that more emphasis should be placed on the use of ICT to build relationships as this is likely to result in enhanced export performance. Such technologies as email, Internet, Intranet and web sites may be used to build and maintain the firm's relationships with its customers, suppliers and partners locally and abroad thereby enhancing the firm's export performance.

This study is not without limitations. The study only considered one province in Zimbabwe. It is, therefore, recommended that future researches consider other provinces when studying this phenomenon. Apart from SMEs, it may also be useful to consider large business entities in developing countries in order to have a more enlightened understanding of this phenomenon. Lastly, this study is one of the pioneering researches to investigate this phenomenon especially among developing countries. Therefore, a call is being made to conduct similar studies especially in other developing countries to enhance our understanding of the effect of ICT usage on the export performance of firms.

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