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**The use of mobile phones by SMMEs in a developing economy: The case in South Africa**

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## THE USE OF MOBILE PHONES BY SMMEs IN DEVELOPING ECONOMIES: THE CASE IN SOUTH AFRICA

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### Abstract

*SMMEs are seen as an important avenue for promoting the economic development in South Africa. With the high prevalence of mobile phones in the country, these devices are seen as a means of leapfrogging the typical technological development path and providing SMMEs with the benefits of mobility and Internet access. A nationwide survey was conducted amongst SMMEs in South Africa to gain an understanding of: their characteristics including the demographics of the owner/manager and characteristics of the business, the use of mobile phones in the business, the relevant skills of the SMMEs' owner/managers, their means of Internet access, and their business operations challenges. The main findings indicated that despite relatively high levels of education, and despite strong uptake of mobile phones, their usage was very basic and the true benefits of mobile telephony and Internet access were not being realized by the SMMEs. Conclusions are drawn and recommendations made to address the situation.*

Key words: mobile phones, SMME, Internet access, South Africa, economic development

# 1 INTRODUCTION

In the 21<sup>st</sup> century information communication technology (ICT) is seen as an essential tool for businesses, helping them remain competitive in domestic as well as international markets. ICT provides a means of communication and access to information, predominantly through the Internet. The *Global Competitiveness Report 2008 – 2009* regards this type of connectivity as a way to narrow the digital divide between developed and developing nations, and also between urban and rural areas within countries.

More recently mobile phones have emerged as one of the most popular forms of ICT with over 3.3 billion handsets worldwide (Intomobile 2009). Although, in the past, the developments of the Internet and mobile phones have followed two separate paths, within the last decade these technologies have converged, making possible a vast range of wireless data communication technologies such as the wireless Internet (Scornavacca et al. 2006). As a result, the proliferation of mobile Internet enabled devices is creating an extraordinary opportunity for business to leverage the benefits of mobility (Yuan & Zhang 2003; Tilson 2007). This technological revolution is deeply affecting the way many organizations do business, allowing firms to expand beyond the traditional limitations of the fixed-line personal computer (Kalakota & Robinson 2002; Junglas 2007)

However, the implementation of ICT in the developing world is often inhibited by the poor quality or lack of infrastructure, human capital development and financial resources (Weiner & Rumiany, 2007). This then has the adverse effect of increasing the digital divide within countries such as South Africa (Wolf, 2001).

One way in which the global competitiveness of a nation is assessed is according to its technological readiness (*Global Competitiveness Report 2008 – 2009*). Technological readiness comprises four indicators: the number of fixed telephone lines, the number of mobile phone users, the number of Internet users, and the number of personal computers per inhabitant (Toure, 2007). The Digital Opportunity Index discussed in the *Africa Competitiveness Report 2007* includes these indicators and adds the geographical coverage of mobile services, tariffs, and the availability of high-speed Internet access (Toure 2007).

Overall, South Africa's technological readiness rating is mediocre (Blanke 2007). The uptake of ICT on an absolute basis seems fairly impressive, particularly mobile phones where the number of phones have quadrupled from 2002 – 2006 (Blanke 2007). However, South Africa lags behind the rest of the world in terms of Internet access. While 83.3 per 100 inhabitants in South Africa subscribe to a mobile phone – predominantly because of the lower costs compared to landlines - only 10.5 per 100 inhabitants have Internet access. This could be ascribed to the relatively poor uptake of the use of personal computers (PCs) and the perception that PCs, rather than mobile phones, are for Internet access.

## 1.1 Importance of SMMEs

Since 1994 South Africa has placed considerable focus on its small, medium and micro sized enterprises (SMMEs) in an attempt to promote the general economic development of the country. These businesses present a huge opportunity to alleviate general poverty and provide employment to millions. Prior to 1994 the SMMEs were hampered by a number of restrictive regulations which impeded the potential of their economic contribution. However, although a number of initiatives, such as the Ntsika Enterprise Promotion Agency, have been established, accurate statistics on the numbers and status of SMMEs nationwide have been hard to acquire, and those that are available differ widely with a maximum current figure of SMMEs being close to 300,000. Furthermore, the sustainability of these enterprises is shaky with few lasting longer than three years. However, the intention of the government is undeterred and ways are being sought to foster these businesses.

Given the opportunities for development provided by ICT, and the widespread uptake of mobile telephony, mobile devices and services might well provide the key to enhanced growth and performance amongst SMMEs in South Africa. They might furthermore be the solution to leapfrogging the typical technological development path of ICT adoption (Kotelnikov 2007) and enable progression from basic to advanced communications while skipping out the interim stages. Mobile phones thus have the potential to play an important role in reducing the digital divide (Kelly & Biggs 2007) and facilitating access to the Internet without the reliance on fixed line technology (Morris 2006).

### **1.2 Benefits of mobile phones and Internet access**

As with other mobile devices, mobile phones exhibit the key characteristics of interactivity, spatial mobility, temporal mobility, contextual mobility (Kakihara & Sorenson 2002) - in other words, the perception of being contactable anywhere, any time (Jarvepaa et al., 2004). These characteristics are seen as particularly empowering. They provide the user with flexibility, connectivity, ubiquity (Barnes 2002), and location awareness (Henfridsson & Lindgren 2003). Organizations see these as especially advantageous in facilitating more efficient and effective operations (Barnes 2002).

In addition to the mobility-specific advantages, many of the advantages of Internet access are encompassed by mobile phones. These include facilitating more efficient production, distribution and marketing of products and services, and helping to gain an understanding of international markets – both as potential markets or as potential competitors. Businesses and their customers benefit from the new ways of exchanging information, communicating and conducting trade (Rayport & Jaworski 2004).

These benefits are especially meaningful for the economic development of SMMEs (Konde 2007). In a study in Nigeria, Jagan et al. (2007) found many positive impacts of the use of mobile telephony for small businesses. Trading generally became quicker, cheaper and less risky. The speed and access to information increased; communication costs decreased; travel requirements were reduced, and buyers could deal directly with suppliers and customers – all resulting in greater efficiency.

Kotelnikov (2007) cautions, though, that instead of increasing the efficiency of business operations, reducing transaction costs, improving communication with both suppliers and customers, and accessing new business opportunities, businesses with limited usage of ICT could lose out on business opportunities.

### **1.3 Factors influencing mobile phone use by SMMEs**

A number of studies have explored the factors that influence the adoption of mobile technology, specifically mobile phones, from a business perspective. Apart from the technology and mobility attributes already listed, the usage costs emerged as an important influence (Zhang & Yuan 2002), as well as personal attributes of the user, the influence of others and the motivation of the user (Hooper & Zhou 2007).

These findings accord with those in the literature regarding the adoption of new technologies by SMEs: characteristics and competitive strategies of the firm, influence of external parties (suppliers and customers), and characteristics of new technologies. Mehrrens et al. (2001) also found that perceived organizational benefits, and organizational readiness (financial ability and technological knowledge of all staff) influenced the adoption of electronic commerce by SMEs. By implication, these factors would apply to the uptake of mobile phones as well.

Furthermore, ICT adoption, including the use of mobile phones, in SMMEs is strongly influenced by the owner/manager (Sundstrom 2006), and the relatively uncertain environment in which SMMEs operate, which results in them often having a short-term planning horizon (Wolf 2001).

In terms of the obstacles to ICT adoption by SMMEs, Kotelnikov (2007) offers a number of reasons for the low adoption rate. These are echoed by a number of other researchers:

- Poor infrastructure, limited access and high costs (Maier & Nair-Reichert 2007)
- Limited financing (Frempong 2007)
- Legal infrastructure/security concerns (Frempong 2007; Maier & Nair-Reichert 2007)
- Limited ICT skills of owner (Frempong 2007)
- Limited ICT skills amongst employees (Frempong 2007)
- Customers not ICT literate
- Inappropriate selection of ICT applications (Duncombe & Molla 2006)
- More advanced ICT products designed for larger firms

In addition, the social structure can have a significant effect on the uptake of ICT by women. In many societies women are seen as inferior so lack access to education and business opportunities. They also often have to bear the bulk of domestic responsibilities (Maier & Nair-Reichert 2007).

While the majority of these obstacles could apply to mobile phone usage as well, given the high uptake of mobile telephony but the low uptake of Internet use in South Africa, it might well mean that the barriers to ICT usage are having a spin-off effect and hindering the realization of the benefits of Internet access via mobile technology.

The potential of mobile technology, especially mobile phones, for developing SMMEs and decreasing the digital divide is undeniable. However, there is a lack of data regarding South African SMMEs and the extent of their use of mobile devices for business purposes. In addition, South Africa exhibits a large gap between Internet access and mobile phone usage. This research was thus undertaken with the main purpose of determining the status of mobile telephony uptake for business purposes by South African SMMEs and which factors evidenced a relationship with, or exerted an influence on, that uptake.

## **2 RESEARCH METHODOLOGY**

The main aim of the study was broken down into the following objectives:

To ascertain and develop a better understanding of:

- The SMME characteristics including demographics of the owner and characteristics of the business
- The use of ICT, particularly mobile phones, in the business
- The skills of the SMMEs' owner/managers with respect to various mobile devices
- Access to, and use of, the Internet
- Business operations challenges of SMMEs

Although the research was intended to be exploratory, it was designed to gather as wide a range of data as possible in order to obtain an accurate profile of a population. A quantitative research methodology was adopted with a nationwide survey as data collection method. The survey questionnaire consisted predominantly of closed ended questions but included a few open-ended questions.

Face-to-face structured interviews were used to collect data. Given the variable levels of literacy and access to technology, using self-administered or online questionnaires were not options. Accordingly a standard schedule was used for each respondent, but the interviewer was available for clarification. A pilot study was conducted to test the questionnaire and interviewing procedure for clarity, ambiguity and for ease of completion – for both interviewer and interviewee. A number of questions were found to be ineffective and changes were made accordingly.

Probability sampling was employed with a random stratified sample of 1 914 potential respondents (SMMEs) that was representative of the nine provinces being selected. Lists of SMMEs were provided by the Small Enterprise Development Agency (SEDA). The interviews were conducted with the owners/managers of the SMMEs between April and August 2008. Sixty interviewers, all of whom had the highest school qualification (matric), conducted the interviews, averaging 35 interviews each.

The researchers coded the responses according to a pre-coded format, except for the open-ended questions which required coding according to categories as they emerged. When all questionnaires had been coded and the data cleaned, the responses were captured in a database.

The analysis was predominantly in terms of descriptive statistics for each category of responses, except for responses to the open-ended questions which were coded and grouped into higher order categories as they emerged. The findings were then compared with the literature and interpreted.

### 3 FINDINGS

The findings are reported according to the objectives, together with reference to the literature.

#### 3.1 Demographics of SMME owners/managers and descriptors of the businesses

As far as the owners/managers of the SMMEs were concerned, 59% of the sample were male and 41% female. This accords with the *2006 South African GEM Report* (2006) which found that more men than women in South Africa were entrepreneurial<sup>1</sup>.

At least 44% of the businesses were owned/managed by respondents classified as the youth (younger than 35 years of age). A further 18% and 25% of the businesses were owned/managed by respondents between 35 - 40 years and 41 – 50 years old respectively, with 12% of the sample being over 50 years old.

The majority of the respondents (75%) were black African. This is considerably higher than the black African component of the population which is 63.6%.

The educational level of the respondents was high with 13% possessing a tertiary degree, 32% a tertiary certificate, and 37% the highest school qualification. When linked to the preponderance of male respondents and young respondents, this might highlight the more traditionally privileged treatment of males, as well as the fact that after 1994 education became more accessible to many more people in general.

With regard to their competency in different business skills, both male and female respondents felt most competent with respect to their operations and marketing skills, and least competent with respect to IT skills. These responses could raise the question of whether the education that the respondents seemed to be completing to a relatively high level is adequate in terms of dealing with modern life, especially given the heavy reliance on IT of some sort. This is even more disconcerting when most of the respondents were young, i.e. recently educated. This echoes the inhibiting nature of the lack of human capital development identified by Wiener and Rumiany (2007).

In terms of the businesses themselves, the majority (54.1%) operated from formal business premises, with a third (34.9%) operating from home, or less formal business premises (5.4%). The less formal business premises included street trading, craft markets, containers or a friend's home. It is not

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<sup>1</sup> In this context, "entrepreneurial" is interpreted as meaning SMMEs or start-up businesses. It does not necessarily relate to being driven by an entrepreneurial vision because many of these enterprises are purely survival driven. Entrepreneurial is seen as similar to starting a business venture.

unexpected that more females operated from home so as to have the opportunity to exercise their domestic responsibilities along with their business.

Most of the businesses (37.2%) had been operating for between 1-3 years, a good number (20.3%) between 3-5 years, 26.4% were older than 5 years and 16% had been operating for less than a year. This seems to indicate that the higher levels of education equip the business owners/managers with the necessary knowledge to ensure survival. Global Entrepreneurship Monitor (GEM) research has shown a consistent association between higher levels of education and higher levels of entrepreneurial activity, better firm survival rates and improved job-creation potential. Entrepreneurs with higher educational levels also tend to have a more positive perception of their skills and abilities to run a business. GEM research has also shown that South African start-ups have a low survival rate relative to other countries. According to GEM 2008, 77% of the businesses had been in existence for less than 3.5 years so this sample presented a positive picture.

The overwhelming majority (89.4%) described their environment as urban (59.9%) or semi-urban (29.5%). Only 7.7% of the respondents described their environment as rural, with a further 2.9% describing it as semi-rural. Rural business owners were particularly negative in their perceived competence with respect to IT skills when compared to urban business owners. In these cases, the cost of ICT, which is much higher in the rural areas, is likely to outweigh any benefit (Zhang & Huan 2002; Sahlfeld 2007), and the owner may become resistant to any ICT investments (Sundstrom 2006).

The majority (65%) of the businesses fell into the lowest income category - R0–R25,000 per month which is low. This is disconcerting, given the length of time most of the businesses had been in existence, as well as the high education level of the respondents. It might point to the inappropriate education, i.e. not equipping the students with sufficient IT skills. On the other hand, the education levels of the respondents could earn them more if they were employed by more corporate businesses so their staying with the SMMEs seems to indicate commitment.

### **3.2 Use of ICT, particularly mobile phones, in the business**

In order to determine the potential of mobile telephony, it was necessary to ascertain the extent of general ICT uptake so that the level of expertise and possible expectations could be gauged.

Male respondents were more likely to use a computer in their business, with 62.9% of male and 54.0% of female respondents indicating that they did so. The assumption is that the use of a computer would imply Internet access. Maier and Nair-Reichert (2007) indicated that there are a number of barriers facing women with respect to ICT adoption, namely lack of basic literacy, lack of ICT training, inability to converse in the language of the Internet i.e. English, lack of access to computers, and the high costs of necessary hardware and software. While these issues are not faced exclusively by female business owners, they are compounded by poverty and social structures that see women as inferior (Maier & Nair-Reichert 2007). In addition, women often have different economic priorities and bear a heavier burden of domestic responsibilities. Given the breakdown of family units and the devastation caused by HIV in many communities in South Africa, significantly more women may resort to self-employment because of family commitments.

There are, nevertheless, positive impacts that the access to and effective use of ICT have on the economic and social lives of women in developing countries. These include: women become more marketable as a result of developing a greater range of skills that allow them to generate income; increased confidence, self-esteem and the ability to assume greater responsibility for decisions affecting them; improved networking capacity; improved communication and information gathering and sharing; and better access to a variety of educational opportunities (Maier & Nair-Reichert 2007).

However, in terms of both genders and in comparison to the use of other ICT, such as PCs, fax machines and landline telephones, mobile phones were overwhelmingly the most popular form of connectivity with 94.2% of male and 94.5% of female respondents respectively indicating that they



used a mobile phone for business purposes. Interestingly mobile phones are the one form of ICT which is used more by females than males. This highlights the opportunities identified by Kelly and Biggs (2007) and Morris (2006).

Educational levels appeared to bear no relationship to the use of a mobile phone for business purposes. Over 94% of all respondents, regardless of level of education, used a mobile phone for business. However, a very clear distinction emerged with regard to Internet access and those without it, with a definite correlation between level of education and Internet use. About 80% of tertiary educated business owners had access to the Internet, while this percentage decreased according to level of education with only 8% of those without education having Internet access.

In a study in South Africa Wolf (2001) found that businesses using no ICT or only a telephone had lower levels of schooling than businesses using a greater range of ICT. Modern ICTs, particularly Internet-based services, are knowledge intensive and therefore require users to have a certain level of formal education to be able to use them effectively in a business situation (Frempong 2007).

In terms of location, regardless of whether the owner considered the business to be operating in an urban or a rural setting, mobile phones were used within the business by almost all of the respondents. The usage of mobile phones was, in fact, marginally higher in rural businesses than in urban-based businesses. This accords with Konde's (2007) findings of a survey of SMMEs in 14 African countries that indicated that the most commonly used communication tool was the mobile phone. Sahlfeld (2007) argues that mobile phones offer a good alternative to computers for accessing the Internet. They have the additional benefits of being mobile and relatively inexpensive, the infrastructure to use them already exists and, as many individuals are already familiar with the workings of mobile phones, they will require lower levels of computer literacy to be able to use the mobile phone to access the Internet. This emphasizes the opportunities identified by Kelly and Biggs (2007) but if mobile phones are not used optimally, and with only 28.4% of the rural businesses, and 46.4% of semi-rural businesses using a computer, it also echoes the concern of Wolf (2001) that a rural location might further broaden the digital divide.

### **3.3 Skills with respect to various mobile devices**

If mobile phones are going to play an important role in allowing SMMEs to "leapfrog" over the need to progress from a basic computer to more sophisticated ICT and thus Internet access, they would need to become familiar with the greater sophistication offered by mobile phones and other mobile devices (Frempong 2007). To gauge how familiar the respondents were with such devices, they were asked to indicate whether they had never used, were still learning, were skilled or expert users of each of the following: mobile phone, computer, smart phone, Pocket PC and a personal digital assistant (PDA). Figure 1 shows that the majority of the male respondents indicated that they were proficient in the use of both a mobile phone and a computer. Fifty-two percent indicated that they were skilled (40.9%) or expert users (11%) of a computer and an overwhelming majority (92.8%) indicated that they were skilled (62.2%) or expert users (30.6%) of a mobile phone. The vast majority of female respondents indicated that they were extremely proficient in the use of a mobile phone, with 66.4% indicating that they were skilled users and 26.8% considering themselves expert users. However, most of the female respondents (53.8%) did not consider themselves to be skilled or expert at using a computer.

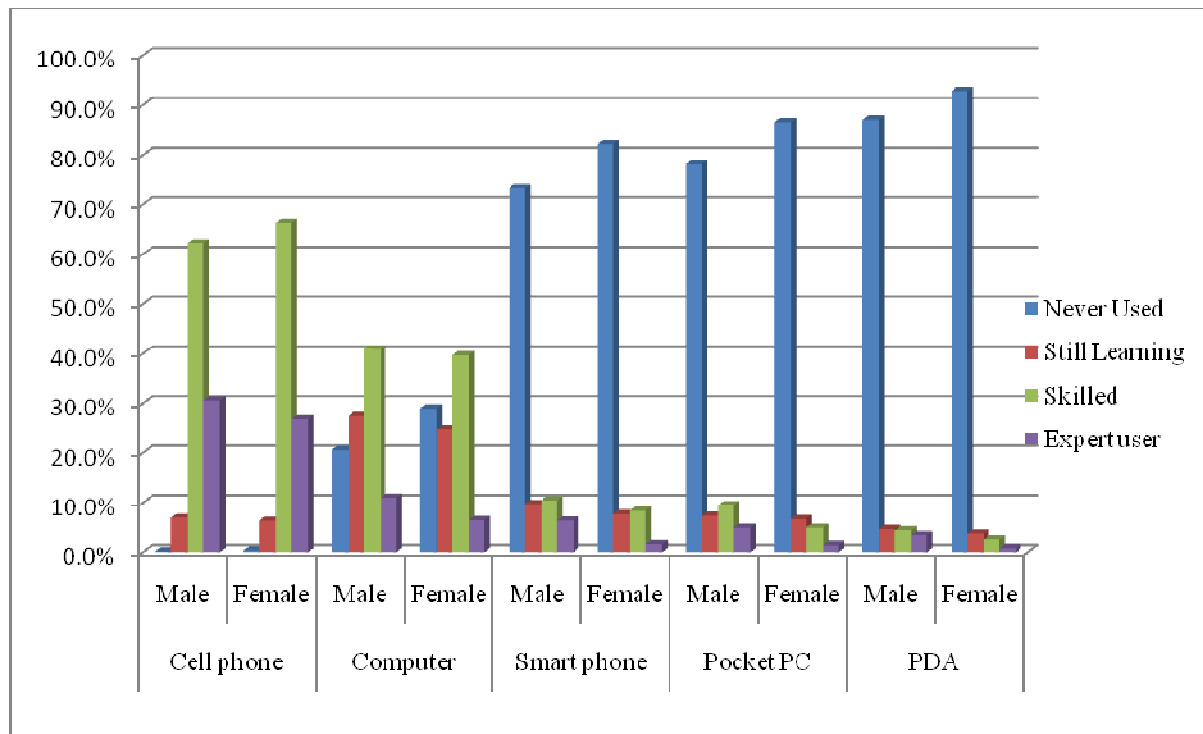


Figure 1 Skills with various technological devices, by gender

Despite the high percentage of respondents being skilled or expert mobile phone users, a significantly lower number were familiar with the more technologically advanced smart phones. Almost three-quarters of the male respondents (73.4%) and even more (82.2%) of the female respondents had never used a smart phone. In contrast to the overwhelming majority that considered themselves extremely proficient in using a mobile phone, only 16.9% of male and 10% of female respondents considered themselves either skilled or expert users of a smart phone. The difference in phone familiarity between a mobile phone and a smart phone seems to indicate that the majority of phones used were basic handsets that allow for voice and short message services. Familiarity with Pocket PCs and PDAs was even lower than with a smart phone. However, the 23.1% and 10.7% of the respondents that did use a smart phone and PDA respectively is a positive indication of future potential.

One needs to be aware of Goldstuck's (2005) caution, though, that "the low ranking of new mobile technologies is an indication of the fact that SMMEs operate in the here-and-now, with budgets oriented almost entirely to practical demands, rather than the nice-to-haves, the unknowns, and the cutting edge technologies." Although Goldstuck (2005) found similarly low figures amongst SMEs in terms of smart phone and PDA usage he noted that the competitiveness of the SME was significantly more enhanced with the use of these devices than with any other standard hardware.

In terms of the uptake of the more advanced mobile devices in the rural areas, it was less than in the urban areas with only 14.3% using a smart phone and 7.7% regarding themselves as proficient users. The lack of familiarity with these devices raises questions about the viability of being able to piggyback on the proliferation of mobile phones as a solution to the lack of Internet access and of closing the digital divide (Sahlfeld 2007).

### 3.4 Internet access

As Dumcombe and Heeks (2001) indicated, small businesses are more likely to have a greater need for information and therefore need to access a variety of information sources. The Internet provides a host of information and communication benefits, so it was slightly disappointing to find that only 68.8% of respondents had Internet access – and this despite the high levels of education.

In order to determine their preferred means of accessing the Internet, respondents were asked to indicate all means that they used regularly. They could thus indicate more than one. Their responses are recorded in Table 1.

Office computer	Home computer	Mobile phone	Internet cafe
57.5%	30.8%	22.9%	31.3%

Table 1. *Means of Internet access*

Over a fifth of the respondents (22%) accessed the Internet via a mobile phone. This was a positive indication that computers might not be regarded as necessary for Internet access and that the value of the mobile phone was being appreciated. However, the vast majority (90%) used a mobile phone to complement, rather than replace, a computer in their business. Sixty-seven percent of the respondents that accessed the Internet via a mobile phone were male. Most of these respondents were urban-based (93.5%), with the majority operating from a formal building (62.3%) with a further 26.9% operating from home.

In terms of the urban/rural split of all the respondents accessing the Internet, irrespective of means, 61.5% were urban and only 30.9% were rural.

Research by the South African Foundation has indicated that the cost of Internet access in South Africa is 400% greater than in 13 other comparable countries. While Internet costs have been decreasing, South African charges are still considerably higher than in many developing countries (Morris, 2006). The high costs would most certainly affect rural and micro businesses more, and may partially explain the lower Internet usage by rural and less formal businesses.

The language of the Internet, as well as lack of connectivity could also be responsible for the lower uptake in the more isolated and less sophisticated rural areas. Sahlfeld (2007) questioned whether, in developing countries, sufficient local content would be available to benefit SMMs. She also raised the concern that local languages are not accommodated on the Internet.

With regard to the specific business purposes for which the Internet is used, a number of studies on SMEs in various parts of the world have found different focuses. For instance, a 2004 United Nations study found that the most common uses were for researching new product ideas and monitoring the market; an ECLAC (2004) study in Latin America found the most common uses to be communication, searching for information, banking, and monitoring the market; and a Trigrammic Consulting (2004) study of South African SMEs found a far greater focus on building up customer relations, supplier relations and monitoring the competition.

In this survey, conducting business research (85%) and finding new business ideas (52.9%) were the most common uses of the Internet (Table 2). Less than half of the businesses (47.3%) used the Internet for banking.

<b>Banking</b>	<b>Business research</b>	<b>Finding new business ideas</b>	<b>Finding new partners</b>	<b>Promoting the business</b>
47.3%	85.0%	52.9%	24.9%	46.3%

Table 2. *Businesses usage of the Internet*

In terms of placing orders with suppliers, the preferred method with both urban and rural respondents (59.5% and 67.2% respectively) was by phone, both landline and mobile. E-mail was only used by 14.6% of urban respondents and minimally by rural respondents. The preference for phone contact appears to indicate the need for personal interaction and also the ability to discuss and negotiate the various contractual arrangements.

By far the most preferred method of paying suppliers was by cash – 67.2% of urban respondents and 81.95 of rural respondents. Interestingly, electronic payment (EFT) was the second most popular method with 35.4% of urban and 14.7% of rural respondents preferring this means.

In similar vein, cash was the preferred means of receiving payments from customers – 74.3% and 85.3% by urban and rural respondents respectively. In this instance, electronic payment was also the second most popular method, with 38.2% of urban and 21.1% of rural respondents indicating this.

It was evident that level of education demonstrated a strong correlation with both supplier and customer payment preference. The majority of the lower educated groups preferred cash payment and the majority of the more highly educated respondents preferred electronic payments.

Apart from educational level, the preponderance of cash payments both with regard to supplier and customer payments might point to any number of other reasons, such as lack of IT skills or lack of familiarity with other means of payment. However, an important consideration is the political relic of the lack of trust in systems which could trace your activities, and also the desire to keep out of the taxation system (Kew, Hooper & Herrington, 2009).

On the other hand, there seems to be a strong reliance on the tangible with the majority of both urban (71.9%) and rural (90.7) respondents preferring manual means of stock control over computerized or other means.

### 3.5 Business challenges

Indications are that the adoption of ICT in a business is only likely to have tangible benefits if it is effectively integrated into the business. Research (Sundstrom 2006) has also argued that smaller businesses often do not see any real benefits from their ICT investments because the owners do not have the basic business skills to fully understand their own business processes.

Table 3 reflects the areas of business operation that the respondents found somewhat to very challenging. Although access to finance, especially in the rural areas, is often an obstacle that small businesses face, the ability to manage finances appears to be a much more prominent problem. Given the high levels of education, this is surprising and again draws into question the appropriateness of the education. Although much could be solved with the acquisition of various software packages, targeted training is needed.

If these findings are compared with the business usage of the Internet, it is surprising that while business research, finding new business ideas, promoting the business, and finding new business partners received considerable Internet attention, the respondents found areas that correlate to these activities, such as sales and marketing, procurement, inventory and production, and collaboration challenging. This seems to indicate that their usage of the Internet is not suitably targeted and that they need guidance in this regard.

Area of business operation	Somewhat to very challenging
Sales and marketing	54.8%
Finance and accounting	53.2%
Procurement, inventory and production	47.8%
Compliance	44.0%
Collaboration	42.0%
Human resources and administration	36.0%

Table 3. *Challenging areas of business operations*

## 4 CONCLUSION

This research set out to determine the status of mobile telephony uptake for business purposes by South African SMMEs, and which factors evidenced a relationship with, or exerted an influence on, that uptake.

A very clear picture emerged of the SMMEs and their owners/managers. The majority of the business owners/managers were young, Black, males and most respondents had a high level of education. Most of the businesses were formal and based in urban areas. They also manifested an ability to survive. However, their incomes were low. This seemed to indicate that, despite the level of education, they did not have the knowledge and skills to thrive – IT skills being an area in which they felt least confident. Furthermore, they did not suffer the typical disadvantages of a rural situation. On the positive side, their ability to survive indicates a commitment to their businesses.

The uptake of mobile phone usage was very high – amongst both males and, particularly, females. However, the business usage was relatively basic and only a minority were proficient with the use of more sophisticated mobile devices. Access to the Internet was limited as well and most respondents appeared to be under the impression that computers were for Internet access while mobile phones were for basic communication and texting. Education levels manifested a correlation with the use of more sophisticated mobile telephony usage and Internet access, and males were the more prominent users. With regard to use of the Internet for specific business purposes, it seemed that the SMMEs were using their Internet access to exercise functions in which they, nevertheless, indicated a need to greater knowledge – so their efforts were not paying off.

These findings seem to indicate that although education levels are high, they are not necessarily appropriate for a SMME sector which is seen as potentially contributing to economic development in a significant manner. IT skills, including mobile commerce, need greater focus and this needs to be accompanied by business skills. The owners/managers need to be shown the benefits to be derived from mobile telephony. The uptake is high and it would be cavalier not to leverage that acceptance. In addition, there is the opportunity for the upliftment of female owners/managers and rural SMMEs.

Education is a hard task to shoulder and the official channels as well as the various supporting organizations can contribute significantly. However, the mobile phone companies and those providing any related service or product can provide a very meaningful addition to this cause as well, and it would be advisable for policy makers to consult with, and utilize them to the utmost.

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