

# UNDERSTANDING THE ROLE OF e-SKILLS IN THE UTILISATION OF ELECTRONIC SMALL BUSINESS DEVELOPMENT SUPPORT SERVICES

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A thesis submitted in fulfilment of the requirements for the degree of Master of  
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May 2013

# UNDERSTANDING THE ROLE OF e-SKILLS IN THE UTILISATION OF ELECTRONIC SMALL BUSINESS DEVELOPMENT SUPPORT SERVICES

Natasha Katunga

## KEYWORDS

Service Providers

Electronic Support (e-Support)

Small Business Development

Small Businesses

Electronic Skills (e-Skills)

Information and Communication Technology (ICT)

Electronic Government (e-Government)

Previously disadvantaged Areas (PDAs)

Technology Uptake

Electronic Communication



## ABSTRACT

Understanding the role of e-skills in the utilisation of electronic small business development support services

N. Katunga

The Internet is now facilitating the provision of an increasing number of services. Thus, technology has become a more integrated part of people's daily routine. Some of these technologies include electronic communication, online banking, and shopping as well as electronic learning - to name but a few. However, for various reasons, such as limited formal education (which is a key promoter of reading and writing skills), access and skills, not everyone has an equal opportunity to benefit from the use of these technologies. The unequal distribution of opportunities of such nature is often broadly referred to as the *digital divide*. That is the gap between those who have access to Information and Communication Technology (ICT) and those who do not.

One noted challenge that influences the use of ICT consists of socio-economic conditions, which together elicit high levels of poverty. An identified strategy for uplifting these areas was (and still is) entrepreneurship, notably small businesses. These small businesses however, generally have very short and mostly unsuccessful lives. As a result the government at all levels (national, provincial and local) has endeavoured to provide support to these businesses. Some of this support is provided through mediums, such as the Internet (here named "electronic support") to assist these small businesses.

This support, which comes from government, is however, not being fully utilised by the intended beneficiaries. Thus, the small businesses are not benefiting from the support provided. Consequently, many are still experiencing a short and unsuccessful existence. This research thus analyses the small businesses in areas of the greater Cape Town, which are characterised by high levels of poverty and unemployment.

Previous studies in these areas have reported the lack of ICT related skills, also known as electronic skills (e-skills), as one of the reasons for the low uptake of electronic support (e-support). This e-support is provided by various levels of government through selected agencies (service providers).

In essence, this study is aimed at investigating the influence of e-skills in the access and use of the provided e-support by owners of small businesses. Considering that the lack of adequate e-skills has been identified as influencing the use of e-support, the study also aims to identify the e-skills needed to fully utilise the provided e-support.

The approach to this investigation included a review of pertinent literature and devising a conceptual model. This model was then tested in the empirical setting of this study. This setting included: (i) Providers of e-support (various specialised government agencies) and (ii) the intended beneficiaries of this e-support, i.e. small businesses in the previously disadvantaged areas (PDAs) of the greater Cape Town.

Through the use of case study methodology and face to face interviews, it was found that many small business owners were not able to appropriately use the provided e-support. This was due to their lack of e-skills, which resulted in their inability to use ICT. Additionally, some were unaware of the existence of the e-support or the service providers.

During the review of pertinent literature done as part of the study, an e-skills framework was designed. The framework identified the e-skills considered necessary in order for small business owners to effectively utilise the provided e-support and other technologies. The e-skills framework suggested by this study could be used as a tool to assist: (i) The providers of e-support to understand the usage of their services and enable (ii) a more informed understanding of the need for appropriate e-skills among small business owners, in relation to their use of the provided e-support. Additionally, (iii) small business owners should be in a better position to recognise the benefits of using technology, especially the Internet.

The contribution of this study is seen as twofold. Firstly, it should assist the providers and users of e-support. This is done by addressing the practical side of the provision and usage of these services. Secondly, the study contributes an informative e-skills framework related to the effective use of e-support. This study also furthers academic knowledge in the area of the investigation, and suggests further directions for research.

Considering, the limited small business sample (only participants from three PDAs), the generalisation of this study is limited. This limitation does not however, influence the validity of this research, or the credibility of the findings.

May 2013



## DECLARATION

I declare that “***Understanding the role of e-skills in the utilisation of electronic small business development support services***” is my own work, that it has not been submitted before for any degree or examination in any other university, and that all the sources I have used or quoted have been indicated and acknowledged as complete references.

Natasha Katunga

Date

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## ACKNOWLEDGEMENTS

First and foremost, I would like to give thanks to God for never leaving my side and for continuing to bless me with more than just strength and encouragement.

I am very grateful to my supervisor and co-supervisor, Dr Zoran Mitrovic and Prof Leo Van Audenhove, for playing a leading role and for providing guidance and support during the course of the study. Thank you for your dedication and faith which have kept me focused and motivated.

I would also like to extend my gratitude to the VLIR/DBBS programme for the funding that allowed me to carry out my studies.

My genuine indebtedness also goes to Dr James Njenga, Prof Louis Fourie, Mr Walter Uys, Dr Felix Olu Bankole and Dr Grafton White - for their guidance and support.

To the strong and dedicated women of the IFS department who looked out for me, Albertina Mujawamilya, Womba Mwaba, Catherine Cebindevu and Lydia Kimani, thank you for your support, guidance and enduring friendship – I will treasure it always.

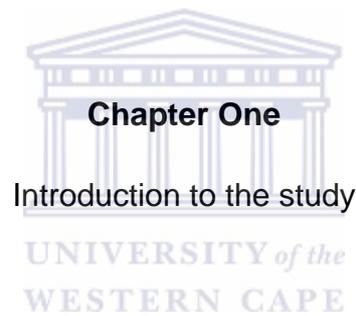
To Celio, thank you for your guidance, support and life lessons. You made the journey much easier.

To my close and dear friends, Tinashe Ruswa and Sam Mandebvu, thank you for standing by me every time I needed support. You have shown me the true meaning of *through thick and thin*. To Marcia, you have been a very bright light through dark times, I treasure your friendship. Nonnie, Tebby, Ricardo and Vasta - thank you for the unconditional friendship, jokes, support and motivation.

To my father and mother words cannot express my gratitude to you for your continued support despite the distance – this work and all my success I dedicate to you. Melissa, I could not have asked for a more loving and precious sister.

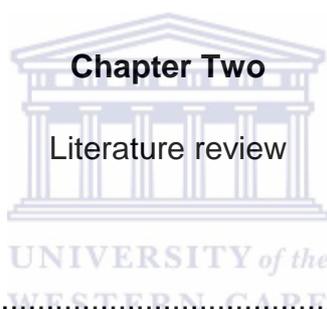
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## Abbreviations

<b>Acronym</b>	<b>Description</b>
<b>B &amp; B</b>	Bed and Breakfast
<b>CBD</b>	Central Business District
<b>CSM</b>	Case Study Methodology
<b>DEDT</b>	Department of Economic Development and Tourism
<b>DHET</b>	Department of Higher Education and Training
<b>DoC</b>	Department of Communication
<b>DTI</b>	Department of Trade and Industry
<b>E/ICDL</b>	European/International Computer Driving Licence
<b>e-CF</b>	Electronic Competence Framework
<b>e-mail</b>	Electronic Mail
<b>e-SI</b>	Electronic Skills Institute
<b>HIV/AIDS</b>	Human Immunodeficiency Virus/ Acquired Immunodeficiency Syndrome
<b>ICT</b>	Information and Communication Technology
<b>IS</b>	Information Systems
<b>IT</b>	Information Technology
<b>MDGs</b>	Millennium development Goals
<b>MTSF</b>	Medium Term Strategic Framework 2009 - 2014
<b>NeSPA</b>	National e-Skills Plan of Action
<b>PDA</b> s	Previously Disadvantaged Areas
<b>PIAC on ISAD</b>	Presidential International Advisory Council on Information Society and Development
<b>PGWC</b>	Provincial Government of the Western Cape
<b>QCA</b>	Qualitative Content Analysis
<b>QUAGOL</b>	Qualitative Analysis Guide of Leuven
<b>RED</b>	Real Enterprise Development
<b>SEDA</b>	Small Enterprise Development Agency
<b>SFIA</b>	Skills Framework for the Information Age
<b>SME</b>	Small Medium Enterprises
<b>SMME</b>	Small Medium and Micro Enterprises

<b>UNESCO</b>	United Nations Educational, Scientific and Cultural Organisation
<b>WSIS</b>	World Summit on Information Systems
<b>USB</b>	Universal Serial Bus

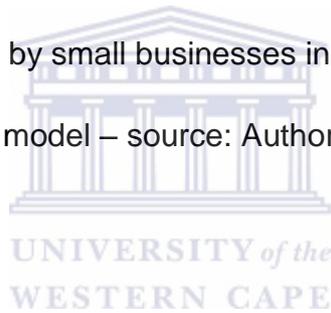


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## Chapter One

### Introduction to the study

#### 1.1 Introduction

In the modern days, the Internet contributes enormously to shaping the ways that people live their lives. This is mainly by affecting the manner in which they work, communicate and/or access information (Tan and Teo, 1998). The role of the Internet in shaping modern life can be dissected in many ways. For example, services such as banking, ticket sales, travel and holiday bookings, which were once conducted manually, are now offered electronically (Demunter, 2006). In the same vein, the transfer of information has since shifted from olden asynchronous modes (such as TV, radio, books, newspapers and cinema) to most recent digital synchronous technologies, which are enabled by the Internet (EAVI, 2011). However, the manner in which the Internet is used to facilitate these services is influenced by certain factors, such as the need to understand technology and the level of electronic skills (e-skills) (Demunter, 2006). As a result of this, Internet users and those willing to use on-line services are required to improve their understanding of technology and build their e-skills capacity. It is submitted, amongst others, that a composite of these factors enables people to understand and fully utilise Information and Communication Technology (ICT) (van Deursen and van Dijk, 2009) which are needed to make life much easier.

The assertion above is applicable to various settings, including ensuring access and use of electronic support (e-support) in South Africa, one of the countries in the world facing many questions around economic and developmental aspects. In this regard, the relatively recent electronic government (e-government) platform in South Africa aims to stimulate the growth of electronic small business development support (e-support) initiatives, in an attempt to deal with the economic hardship affecting the country. However, it must be understood that for the country's economy to become one fuelled by ICT, the Internet needs to be more accessible. Moreover, citizens need to be equipped with the skills that are necessary for them to use these technologies effectively (McCormack, 2010).

The empowerment of citizens for economic growth is laudable. The United Nations Educational, Scientific and Cultural Organisation (UNESCO) has called for the empowerment of citizens through knowledge to enhance their participation in the economy. UNESCO has also advocated for the creation of societies, where people have convenient access to ICT (UNESCO, 2008).

In this regard, approaches such as the above mentioned e-support initiatives currently in place in South Africa, enable people to access the information which they need to improve their lives. This is consistent with UNESCO's proposition that, amongst other things, ICT helps citizens to realise their full economic potential (UNESCO, 2008).

Notwithstanding the developments above, many South Africans, especially owners of small businesses, are faced with challenges in accessing ICT. Often they lack the e-skills required to use these technologies. A survey by ITWeb (2008) estimated that South Africa lacked about 70 000 skilled professionals to fill positions requiring ICT expertise. It is not doubted that if people were trained and available many of them could fill these positions, across the country. Thus, the lack of skilled labour affects the entire economy of the country negatively. Similarly, in countries such as member states of the Organisation for Economic Co-operation and Development (OECD), including Japan, Mexico and Slovenia, the lack of basic e-skills amongst the population has had a negative impact on the economy (Chinien and Boutin, 2011).

Available information shows that a number of reports from other countries in the world also highlight a negative growth of the economy linked to the lack of e-skills amongst the population in these countries (Frinking, Ligtoet, Lundin and Oortwijn, 2005; Molawa, 2009). The situation in South Africa is no different. As it was noted above, the country ranks high in the level of citizens lacking e-skills (Wesso, 2010). This situation is worsened by the fact that, like other developing countries, the economy of South Africa is hampered by a multiplicity of factors including the high levels of poverty, scarcity of natural resources, unemployment and killer diseases such as the HIV/AIDS pandemic.

An absence of the e-skills required to use ICT has the effect of deepening social exclusion (ECDL foundation, 2009). Although it may be contested, it can also lead to the widening of the digital divide (Adeya, 2002), which translates the gap between

those who have access and those who do not have access to ICT. Moreover, the lack of e-skills among citizens contributes significantly to the failure of ICT as a strategy to alleviate poverty. Therefore, South Africans need to be furnished with basic e-skills and other complementary cognitive or meta-cognitive skills needed to operate a computer (Chinien and Boutin, 2011). The latter would entail the involvement of citizens in conscious intellectual activities including thinking, reasoning and remembering (merriam-webster online dictionary, 2013). These skills will enable them to participate meaningfully in the economy of the country by exploring the e-support services offered by the government.

As was mentioned, the severe lack of e-skills has prompted the South African government to devise initiatives to tackle the problem. Wesso (2010) noted that the government has a plan. This plan is facilitated by specialised initiatives envisaging to address the problem of the shortage of e-skills among the country's population. The objective of these initiatives is threefold. Firstly, the government provides the public with training, for instance, in e-skills and business related aspects. Additionally, it provides the public with free or low cost access to computers, the Internet, and other ICT technologies alike. Thirdly, the government provides different levels of e-support to owners of small businesses, targeting mainly those in previously disadvantaged areas (PDAs). Examples of some of these programmes include the Real Enterprise Development (RED) Door and the Smart Cape initiatives, which are based in the Western Cape. Through these initiatives the government ensures that all citizens have not only the e-skills, but also affordable and convenient access to ICT services. Hence, government creates a vibrant ICT sector that supports citizens as they aim to advance their socio-economic development goals, which are in line with the African Agenda (DoC, 2012).

The African agenda also emphasises the need for better socio-economic conditions by eradicating poverty. In order to achieve this, entrepreneurship (small businesses) was identified as one of the major role players. Small businesses in particular generate more employment opportunities for people at the lowest cost for each new employment (Hamburg and Cernian, 2006). Thus, by encouraging and supporting people in PDAs to start small businesses, government facilitates job creation and provides people with the means to improve and/or sustain their livelihoods.

Government is however failing to reduce poverty and create sufficient employment in PDAs. This is largely due to the fact that small businesses, which were identified as major role players have high failure rates. Within the first two years of trading sixty-three percent of these small businesses fail (Jacobs, 2010). Factors that contribute to the failure of these businesses include poor business management skills, the lack of funding, relevant e-skills and inaccurate information. In order, to address these factors there is need for government to provide improved small business support initiatives.

As a result, government at many levels (local, regional and national) is shifting towards ICT which facilitates e-government, as a means of providing better support. Through the e-government platform selected service providers are providing small business development support services. This type of support is also referred to as on-line or electronic support (e-support). Thus, small business owners can access and make use of this support through the Internet at any time and from any place (with access facilities).

According to the service providers, many small businesses are benefiting from using their e-support (Mitrovic and Bytheway, 2011). In spite of this claim, many intended beneficiaries of e-support (small businesses) are not benefiting fully from the e-support provided by the government agencies. This is particularly true for small businesses in the greater Cape Town area, including businesses in PDAs. The owners of these small businesses were generally unaware of the existence of the e-support provided by the service providers that government put in place. Furthermore, they lacked the e-skills needed to utilise the provided e-support (Mitrovic and Bytheway, 2009). As a result of these contributing factors, the provided e-support was not being fully utilised by the intended beneficiaries (small businesses).

This study provides some insight into the challenges faced by the owners of small businesses in the greater Cape Town, PDAs. In particular, the study contains details on some of the reasons explaining why these businesses are not benefiting from the e-support provided by the government affiliated service providers. Moreover, the study highlights the extent to which owners of small businesses accept and are prepared to use technology. Close attention is paid to explaining the role played by e-skills in ensuring access and use of e-support. Additionally, the study also identifies the e-skills considered necessary for the small business owners to fully use

other e-support services in addition to those provided by the government. Furthermore, the study documents the e-support that is available to these small businesses. Focus is placed on e-support provided by the following government agencies:

- National level: Small Enterprise Development Agency (SEDA)
- Provincial level: The Real Enterprise Development (RED) Door, and The Cape Gateway
- Local level: The Smart Cape Project

Three reasons underlie the decision to pay particular attention to small businesses in PDAs of the greater Cape Town. Firstly, PDAs have high levels of poverty and unemployment. Thus, they are in need of solutions, such as those provided by entrepreneurship. Secondly, the South African government is dedicated to providing support that enables the equal development of all citizens, particularly those from PDAs. Thirdly, on a more personal note the author is genuinely passionate about the use of technology to better lives, primarily those of people with limited opportunities to progress socially and/or economically.

It is also necessary to clearly define key terms of the study. Concepts such as e-skills and e-support do not have standard definitions that are acceptable in all contexts. The following section thus, provides working definitions of key terms as they relate to the study.

## **1.2 Defining the key terms of the study**

This section provides brief descriptions of the key terms used in this study, namely, e-skills, ICT, service providers, e-support, e-government, small businesses, digital divide, e-business, e-commerce, PDAs, e-competence and literacy.

### **1.2.1 Electronic skills (e-Skills)**

These skills are also referred to as ICT-user skills, digital skills, electronic literacy (e-Literacy) skills and/or computer skills. The term e-skills is an umbrella term, which includes different types of ICT-related skills. There is however no universally accepted definition of e-skills (Beyers and Koorbanally, 2010). On the other hand, Frinking et al. (2005) classify e-skills as the skills needed to design, develop, maintain and operate ICT based systems. These skills also include the skills needed

to use ICT to exploit any business opportunities. The different concepts of e-skills are discussed in more detail in Chapter Two, section 2.5.

### **1.2.2 Information and Communication Technology (ICT)**

ICT refers technology used to support the gathering, processing, distribution, use (Beckinsale and Ram, 2006) and presentation of information (voice, data, text, images) (Jimenez, 2006). Furthermore, this technology includes, communication media and devices, such as computers, the Internet, printers, telephones, fax machines, radios, television sets, video and audio equipment.

### **1.2.3 Service providers**

This study focuses on e-support provided by the Small Enterprise Development Agency (SEDA), the Real Enterprise Development (RED) Door, the Smart Cape and the Cape Gateway. These government agencies are referred to as service providers in the context of this study. They provide e-support intended for small businesses through mediums such as the Internet. They also provide easily and cost effective access to ICT based resources such as computers with Internet access, printers and photocopiers. The e-support that these particular agencies provided is documented and discussed further in Chapter Two, section 2.3.

### **1.2.4 Electronic support (e-Support)**

In the context of this study e-support refers to Internet-based support services provided by service providers put in place by government. In addition, e-support also includes convenient and economical access to ICT based resources. These resources include free or low-cost access to computers, printers, fax machines and the Internet, including other relevant technologies. The e-support assists the social and/or economic development of people in general, but small businesses in particular. Through e-support small business owners in PDAs are able to access the support and information they need.

### **1.2.5 Electronic government (e-Government)**

This concept refers to the use of ICT such as the Internet to advance efficiency and effectiveness of government, in the promotion of government systems, information and general, government accountability in service delivery (Haricharan, 2003).

## 1.2.6 Small businesses

According to the National small businesses Act No. 102 of 1996 Small businesses are separate and distinct business entities. They include co-operative businesses and non-governmental organisations. Small businesses, including any branches or subsidiaries are managed by one or more owners. These businesses can operate within any sector or sub-sector of the economy. Furthermore, there are five distinct categories of small businesses. The White Paper on National Strategy for the Development and Promotion of Small Business in South Africa Notice 213 of 1995 highlights four small business categories: Survivalist, micro, small and medium enterprises. Additionally, the National small business Act no. 102 of 1996 introduced another category - very small businesses. These five categories are summarised below in Table 1.

**Table 1: Small business categories<sup>1</sup>**

<b><u>SMALL BUSINESS TYPE</u></b>	<b><u>DESCRIPTION</u></b>
<b>Survivalist Enterprises:</b>	<ul style="list-style-type: none"> <li>• These entrepreneurs usually work as individuals – by themselves with the main aim of making enough money to survive. The income they generate is generally below the poverty line. These small business owners are usually unable to get paying jobs in society.</li> </ul>
<b>Micro Enterprises:</b>	<ul style="list-style-type: none"> <li>• These enterprises operate with between two and five employees. Some of the more successful enterprises have an estimated annual turnover of less than R150 000 and gross assets under R150 000,</li> <li>• Usually these enterprises involve only the owner, some family member(s), and at most one or two paid employees. They usually lack 'formality' in terms of a business licence, Value-Added Tax (VAT), registration, formal business premises, operating permits and accounting procedures. Most of them have a limited capital base and only rudimentary technical or business skills among their operators.</li> </ul>
<b>Very Small Enterprises:</b>	<ul style="list-style-type: none"> <li>• Very small enterprises have generally between six and twenty employees and an estimated annual turnover of between R200 000 and R500 000. They operate with gross assets of between R150 000 and R500 000, for more successful enterprises.</li> </ul>

<sup>1</sup> Source: White Paper Notice 213 of 1995 and National small business Act, 1996; no. 102 of 1996.

<b>Small Enterprises:</b>	<ul style="list-style-type: none"> <li>• The small enterprises usually operate with between twenty-one and fifty employees, with an annual turnover of between R2 million and R25 million and gross assets of over R2 million – all depending on industry.</li> <li>• Small enterprises constitute a noticeable bulk of the established businesses in South Africa. They are managed or directly controlled by the owner. These businesses usually operate from business or industrial premises. They must be tax-registered and meet other formal registration requirements (Richards, 2006).</li> </ul>
<b>Medium Enterprises :</b>	<ul style="list-style-type: none"> <li>• These enterprises generally have between fifty-one and two hundred employees, depending on the industry. The annual turnover is just under R4 million with gross assets between R2 million and R18 million, all depending on the industry.</li> </ul>

For the purpose of this study, the terms small business will be used to cover: Survivalists, micro, very small, small and medium enterprises. Moreover, the terms small business/es, Small Medium Enterprises (SMEs) and Small Medium and Micro-Enterprises (SMMEs) are used interchangeably. Furthermore, it is also necessary to highlight boundaries that were adopted in terms of sizes of small businesses. The boundaries presented in Table 2 below, are of the number of people involved in the business, including the owner.

**Table 2: Small business categories and parameters**

CATEGORY	PARAMETERS
<b>Survivalist:</b>	<ul style="list-style-type: none"> <li>• Only one employee who is also the owner</li> </ul>
<b>Micro-Enterprise:</b>	<ul style="list-style-type: none"> <li>• Between one and five employees, plus owner</li> </ul>
<b>Very Small Enterprise:</b>	<ul style="list-style-type: none"> <li>• Between six and twenty employees, plus owner</li> </ul>
<b>Small Enterprise:</b>	<ul style="list-style-type: none"> <li>• Between twenty-one and fifty employees, plus owner</li> </ul>
<b>Medium Enterprise:</b>	<ul style="list-style-type: none"> <li>• Between fifty-one and two hundred employees, plus owner</li> </ul>

### 1.2.7 The digital divide

Developing countries, such as South Africa, Botswana, Nigeria, Kenya, Zambia, and Zimbabwe, among others, generally face many challenges. One common challenge is the exposure and access to basic ICT (Basu, 2004). This particular challenge is widely referred to as the '*digital divide*'. The digital divide is the gap between people who have convenient access to technology (and the associated benefits) – and

those who do not (Dewon and Riggins, 2005). The gap is also based on income, race, ethnicity, gender, age and geographical challenges (Mossberger, Tolbert and Stansbury, 2003). It is also noted that the people who do not have access to basic ICT are usually less privileged and cannot afford to own ICT. As a result, this group of people is not benefiting from any technology put in place to provide e-support.

The concept of the '*digital divide*' however, is now shifting to digital inclusion. Digital Inclusion refers to a person's ability to access and make use of ICT (Institute of museum and library services, 2011). In addition digital inclusion also includes access to the available hardware, software, relevant content and services. Furthermore in order for a person to be digitally included they also need to have access to e-skills training that will equip them with the skills required to effectively use ICT (Institute of museum and library services, 2011).

#### **1.2.8 Electronic business (e-Business)**

This term is associated with the use of Internet based technologies to carry out day to day business transactions. These technologies allow the business to electronically communicate with other businesses, customers and suppliers, for trading purposes (Bo, Yufen, and Lishi, 2010).



#### **1.2.9 Electronic commerce (e-Commerce)**

The process of conducting transactions that would normally be done manually, electronically is referred to as e-commerce. Examples of some transactions are the exchange of documents and the participation of firms and people in the economy and society (Okello-Obura and Minishi-Majanja, 2010).

#### **1.2.10 Previously disadvantaged areas (PDAs)**

Within South Africa people who were forced to relocate to PDAs were excluded from participating fully in socio-economic activities during the Apartheid era. This era is known for being a time during which South Africans were classified according to race. Furthermore, citizens who were relocated to PDAs faced unjust discrimination in areas of "...*education, access to health care, employment, financial independence and security*" (Foster, Freeman and Pillay, 1997, as referenced by Weakley, 2006:13). Although this era ended in the 90's, the effects are still felt today. People who grew up in PDAs often lack adequate education and training. Moreover, they are also affected by high levels of poverty, unemployment, illiteracy, crime and

violence. Examples of PDAs within the greater Cape Town area include Guguletu, Khayelitsha, Langa, Nyanga and Mitchell's Plain, among others.

### **1.2.11 Electronic competence (e-Competence)**

These competences are a combination of knowledge, skills and attitudes. This combination is usually appropriate in the context being referred. Competences are needed for personal fulfilment, social inclusion, employment and active citizenship (Figel, 2007). Moreover, e-competences are a sub-set of e-skills and the technical and managerial capabilities that are needed to achieve objectives (Fonstard and Lanvin, 2009). In addition, Moeller, Joseph, Lau and Carbo (2010:35) state that a competence would be *"... more than just knowledge and skills"*, involving the *"... ability to meet complex demands by drawing on and mobilizing psychosocial resources (including skills and attitudes) in a particular context"*.

### **1.2.12 Literacy**

Literacy refers to the ability that one has to identify, understand, interpret, create and communicate information. This information can be visual, printed, or written material in different contexts. Additionally, literacy involves a range of learning by enabling people to achieve their goals, develop their knowledge and potential. When people are literate they possess the ability to participate fully in the community and society at large (Moeller et al., 2010). In the case of this study *"the traditional notion of literacy needs to embrace the complete set of e-skills and media competences required"* by people in order for them to use ICT and participate in society (Commission of the European Communities, 2007:5).

## **1.3 Background of the study**

South Africa faces many challenges in pursuing to improve the economy and the standards of living of its citizens. Some of these challenges include high percentages of poverty, unemployment, crime and the HIV/AIDS pandemic – to name a few. The challenge of high poverty levels, for instance has been a problem for government since 1994 (Mensah and Benedict, 2010). The country is worse off in relation to the inequality, unemployment and poverty scores, than other countries in similar developing regions (Mensah and Benedict, 2010).

Moreover, at least one in every four people in the country is affected by unemployment (Richards, 2006). In 2001, twenty-four percent (4.24 million people) of the South African labour force was unemployed (Richards, 2006). More recent statistics presented by Statistics-SA (2012) reveal the unemployment rate to have been twenty-four point nine percent (24.9 %) for the fourth quarter of 2012 [October–December 2012]. These figures raise concern about the levels of unemployment, particularly among people living in PDAs.

As previously stated in the introduction, one of the strategies identified by government to address the above mentioned challenges was entrepreneurship – particularly small businesses. These businesses are considered to be engines for economic growth (Mitrovic, 2008) and/or social growth (Branam, 2008), especially in PDAs. They create employment opportunities and promote equality in the country (DTI, 1995). As a result, their sustainability is an important focus area for government (PNC on ISAD, 2011). Branam (2008) estimated that there were between 1.8 and 2.5 million (formal and informal) small businesses in South Africa.

Although small businesses are important for the growth of the economy, it was found that these businesses have high failure rates. Baard and Van den Berg (2004) contributed that between seventy and eighty percent of newly established small businesses have a high chance of failing. It is not easy to start and sustain a small business in South Africa. There is often a lack of adequate support (RED Door, 2006). These businesses face different challenges, such as limited funds and access to resources (ICT), as well as a lack of adequate skills and business knowledge. As a result, these businesses need increased support from the different levels of government (national, provincial and local).

It is thus, important to investigate and understand why small businesses continue to have high failure rates, yet government provides different kinds of support to them. The government has even introduced a people centred e-government platform to provide public services and support. Through this platform government uses ICT to promote a more competent and effective government orientation towards better service delivery for all citizens, including those in PDAs (Haricharan, 2003). The support services that are provided through ICT are referred to as electronic support (e-support). Thus, in order to get more information about why e-support, in particular was not being effective a review of literature was carried out.

It was found that the support provided was not being effective for a number of reasons. Firstly, there is a general distrust of government services, among small business owners – especially those in PDAs (Mitrovic, Taylor and Bytheway, 2007). Secondly, some small business owners were unaware of the existence of any kind of support or service providers. Thirdly, some small business owners are unable to use ICT fully, they had limited electronic skills (e-skills), thus they could not use support provided through ICT (Mitrovic and Bytheway, 2009). Furthermore, access to ICT is still a challenge for many small business owners, particularly those in PDAs.

The government is providing e-support through different agencies. This study focuses on the following, the Real Enterprise Development (RED) Door, Small Enterprise Development Agency (SEDA), the Cape Gateway and the Smart Cape. These agencies were tasked with providing different kinds of support, including e-support to small businesses in PDAs. Details regarding the specific services that they provided are discussed in Chapter Two, section 2.3. Nonetheless, the e-support is provided through the Internet and through the provision of convenient access to ICT resources (computers and the Internet, among others). However, as previously stated the use of e-support by small business owners is still very low.

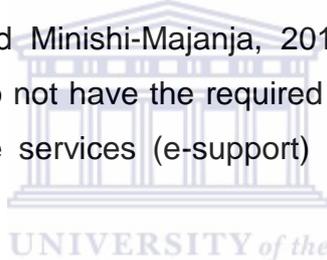
In the Western Cape area, some small business owners still complained about limited access to ICT, some areas do not have adequate infrastructure in place (Mitrovic, Taylor and Bytheway, 2007). Although, service providers such as the Cape Gateway and the Smart Cape have made these facilities available, some small business owners are unaware of their existence. However, many of the small business owners that were aware that this e-support was available complained about the limited time for use and very low Internet speed (Mitrovic et al., 2007). Admittedly, some lacked the necessary e-skills to use the computers and navigate the Internet (Inusa, 2006).

There is a noticeable lack of e-skills, or a scarcity of skilled people, especially in PDAs of South Africa (von Broembsen, Wood and Herrington, 2005). Von Broembsen et al. (2005) emphasize that the legacy of apartheid left the vast majority of South Africans with a lack of basic skills. It should be noted that the terms *scarce skills* do not only refer to high level specific skills, they also refer to general skills (Akoojee, Arends and Roodt, 2007). These general skills include some ICT end-user skills (keyboard skills, word-processing skills and e-mailing skills). These skills are,

however, not usually considered in debates around skills shortages (Akoojee et al., 2007).

Hence, if e-support is provided, while people do not have convenient access to ICT or e-skills to use it – the digital divide will continue to widen (Morris, 2009). People who do not have adequate e-skills to use ICT risk not being digitally included, as technology becomes a more important tool in society. Furthermore, the lack of these e-skills hinders them from taking up any learning based support or skilling opportunities made available through the Internet (Morris, 2009). In cases where employers advertise job opportunities and conduct recruitment processes solely online, people without basic e-skills will be at a disadvantage in finding and securing employment (Morris, 2009). A lack of e-skills prevents even the keenest person from participating fully in a digitally advanced society (Demunter, 2006).

In a society where people lack e-skills, the chances of gaining any benefits from ICT are limited (Okello-Obura and Minishi-Majanja, 2010). Similarly, if people (small business owners, included) do not have the required e-skills they will not be able to benefit from using any online services (e-support) (Commission of the European Communities, 2007).



The lack of e-skills among South Africans was one of the major issues discussed at the e-skills summit in 2010. The summary report on the proceedings revealed that e-skills were a pervasive matter which is fundamentally at the core of addressing almost every problem and opportunity that the country faces. At the summit, Wesso (2010) emphasised the challenge the country faces, in the following statement:

*... We have a major e-skills shortage in this country, is beyond doubt (with industry alone currently requiring 70,000 people). That this problem is growing is also unquestionable; and we all know that the power and impact of ICT across the full socio-economic spectrum of our country is growing at an exponential rate (Wesso, 2010:18).*

The above statement by Wesso (2010) highlights the gravity of the problem. Thus, people in the country need to develop their skills today, because they will be needed tomorrow (Lanvin, 2008). In Europe, for instance, there are millions of vacancies because of the lack of adequately skilled applicants. Euro-stat figures indicate that

about thirty-seven percent of the EU population have no computer skills whatsoever, with more than sixty percent of the people not educated beyond lower secondary level, thus having limited basic e-skills (Lanvin, 2008). It is essential for all people to have the necessary e-skills to participate in any society.

Although, service providers are providing support (e-skilling initiatives) that address these challenges, there was found to be a “... *gap between the support that was provided and that which is actually needed*” (Mitrovic et al., 2007:5). In regards to the poorer communities (PDAs), people need information, e-skills and convenient access to computers and the Internet (Duncombe, 2007) – in order to enable them to use the e-support. Furthermore, there is often mention in literature of support measures that have been made available to small business owners (Richards (2006). However, much of the support is available only to opportunistic entrepreneurs. This support remains largely out of reach for the survivalist small business owners in PDAs, who need it most (Richards, 2006). Service providers thus need to make sure that the e-support they provide is accessible to any person (including business owners) who needs it.

It must be noted however, that service providers also face challenges in providing any type of support. Some of these challenges are, limited or insufficient resources, particularly insufficient human resources, and the lack of adequately skilled staff (Mitrovic and Bytheway, 2009). The frequent failure of computers at the sites, as well as them being outdated (Inusa, 2006), is also a challenge. Moreover, in some cases the agencies also compete for funding from the same source - government (de Beer, 2010).

In regards to the Smart Cape Access initiative, it was found that in order to access the computers people, need to be members of the library. However, in order to become a member, a form needed to be filled in. Consequently, some people faced challenges because they were illiterate and not fluent in English. As a result, there was a demand for service providers to assist. However, the libraries were often short of volunteers to assist the people in using the technology (Valentine, 2004).

In the case of the Cape Gateway initiative, some people would not come to the centre because they felt threatened by the new technology. They were not confident in their abilities to use the technology (Levin and Dingley, 2004). This point highlights

the fact that a number of people do not have enough information or the e-skills to adequately use the provided e-support. Consequently, any initiatives to provide access to ICT will be a useless and wasteful expenditure, if people do not have the necessary e-skills to use it (Okello-Obura and Minishi-Majanja, 2010).

The Information Society Commission (2003) stated that no e-government initiative will be complete or successful unless people have the necessary e-skills. Accordingly, when people do not possess the necessary e-skills or business skills, their effective uptake of technology is compromised. Thus, government – in conjunction with education institutions, businesses and citizens – have major roles to play. They need to ensure convenient access to ICT, and that citizens have the e-skills to effectively utilise it, to among other things use e-support (OECD, 2004). It was suggested that in order to achieve this objective, a major educational initiative is needed (Information Society Commission, 2003).

Moreover, the need for formal education, as well as e-skills to use ICT cannot be over emphasised. It was found that low education levels also influence community members ability to understand and use e-support (Inusa, 2006). Globally, in 2005, there were about 800 million illiterate people in the world. This figure accounted for twenty-seven percent of the adult population, which is over fifteen years of age in developing countries, and two-thirds were women (Garner, 2005). In consequence, women entrepreneurs in developing countries tend to face greater difficulties in using and accessing ICT. This is as a result of them generally being poorer, facing greater social constraints, and untimely being less likely to be educated, or as literate as men (Harris, 2004). Thus, service providers need to take into consideration the different characteristics (gender, age and location – among others) of the intended beneficiaries of their support, so that each person who needs the support has equal access.

Furthermore, the poorer owners of small businesses in marginalised sections of society face many other impediments in the use of ICT – in much the same way that the poor might face impediments in using other resources (Harris, 2004). Hence, there is need for more improved e-support, to cater for their limitations. South African small businesses require a much broader and more effective range of external e-support, than what is currently available (Mitrovic et al., 2007). However, as previously mentioned, in order to access and use any e-support initiatives, the

business owners need to have the necessary education and e-skills. The lack of these e-skills has already been found to limit the use and uptake of computers (SEDA, 2009).

Further, investigations need to be done, in order to understand the influence of e-skills on the use of e-support. There is a lot of literature available focusing on for instance small business failure, success, contribution to employment and uptake of technology, among other topics. There has been limited research that focuses exclusively on the role of e-skills in the use of e-support, by small business owners in PDAs. Examples of similar studies include those done by Fortuin (2008), Fuchs and Horak (2008), Mitrovic and Bytheway (2009), Underwood (2009), Okello-Obura and Minishi-Majanja (2010), as well as Mporu and Watkins-Mathys (2011). There is limited scientific research available on the levels of e-skills among people in general (van Deursen and van Dijk, 2009).

This study attempts to address this gap in literature by providing relevant information on the topic. The study investigates the influence of e-skills in the use of e-support. In addition, the study also identifies the specific e-skills that are required for the successful use of e-support (computers and the Internet, among other relevant technologies). As highlighted in the description of terms (in section 1.2), the term e-skills refers to the different skills directly related to the use, or support the use of ICT. Furthermore, the e-support in question is directed towards the development of people, principally small business owners in PDAs. The concepts of e-skills and e-support are discussed in greater detail in Chapter Two.

#### **1.4 Research problem statement**

Numerous small businesses in South Africa, in general, and in the greater Cape Town area, in particular, are not able to effectively utilise the provided e-support services intended for their development, due to *inter alia* the lack of e-skills associated with the use of these services. This is clearly evident – particularly with small businesses from previously disadvantaged areas.

## 1.5 Research question

According to the identified research problem, the main research question is:

*Which e-skills are needed by small business owners in previously disadvantaged areas for the effective utilisation of the specific e-support provided for them?*

The research sub-questions include:

- What are the e-support services provided to small businesses in PDAs of the greater Cape Town?
- Which e-skills are needed for the effective utilisation of e-support services?
- Do small business owners possess the e-skills identified as being necessary to utilise ICT and effectively use e-support?

## 1.6 Research objectives

This study aims to:

- Obtain an overview of small business owners understanding of e-support services, and the extent to which they have adopted ICT.
- Investigate and document the e-support available to small businesses, particularly those in PDAs of the greater Cape Town area.
- Understanding the different constructs of e-skills and their relevance in the use of e-support.
- Propose an e-skills framework tailored to small business owners in PDAs, which identifies the e-skills needed to effectively use e-support.
- Provide recommendations on possible methods that could be used in e-skilling people.

## 1.7 Research methodology

The study investigated the use of e-support by the owners of small businesses in PDAs of the greater Cape Town metropolitan area. Their understanding and levels of e-skills were also investigated. Due to the nature of this study, the data were collected from small business owners in their natural setting using face-to-face interviews. The research methodology applied in this study was qualitative in nature. The sample study constituted sixteen purposively selected small businesses, located in Khayelitsha, Gugulethu and Langa, as well as nine service providers or representatives from support-providing agencies.

The data were analysed using the qualitative content analysis technique, which enabled the researcher to gain in-depth and significant findings grounded in the data. The Case Study Methodology (CSM) was the method of choice for this study. Further details regarding this methodology and why it was appropriate for the study can be found in Chapter Three, section 3.6.1.

### **1.8 Significance of the study**

As explained in the previous sections of this chapter, small businesses are currently regarded as being significant to the sustainability of the economy, thus their success is essential. The literature review revealed that small businesses in areas, such as the greater Cape Town, have a noticeable low success rate. This is in spite there being a number of initiatives put in place to provide e-support to them. The low success rate of the small businesses thus highlights the inefficiency of the provided e-support. Nonetheless, there is no guarantee that implementing new e-support initiatives would necessarily improve the success rate of small businesses.

Hence, it is necessary to identify the reasons why this e-support is proving to be unsuccessful (not being fully utilised). One of the main reasons highlighted in literature was the lack of e-skills, among small business owners. This study thus, further investigates the influence of e-skills on the use of e-support. In addition, the study also contributes an e-skills framework that identifies the e-skills considered necessary to use e-support. This e-skills framework could be used as a tool of reference, by service providers that provide ICT related training programmes to the public. The framework could also be used as a measuring instrument to estimate small business owners' levels of e-skills against those considered necessary. Morris (2009) stated that the consequences for adults who lack basic literacy and numeracy skills are known. However, in this digital age we need to better understand the effect that a lack of e-skills has on the participation of people in the society.

The findings of this study provide information that addresses this gap in literature. This was done by highlighting the consequences of the lack of e-skills among small business owners in PDAs of the greater Cape Town, in regards to their use of e-support.

Furthermore, the information collected through the interviews provided insight into the skills levels of people in general, including small business owners in PDAs.

Additionally, the challenges that owners of small businesses face in relation to accessing and using technologies, such as computers and the Internet are also revealed. Thus, the findings of the study provide information that can be used to design more strategically effective measures to ensure that the required e-support is provided and utilised efficiently.

### **1.9 Scope of the study**

The investigation focuses on e-skills, trying to understand the role of e-skills in the use of ICT in general and e-support in particular. The study also identifies the e-skills necessary to use particular online services that are specific to the service providers that the study investigates. Key sources of information were the intended beneficiaries (the owners of small businesses), the benefactors (the service providers) and available literature. The study is limited to PDAs (particularly Langa, Khayelitsha and Gugulethu) of the greater Cape Town area. Thus, the findings are limited to the areas of the empirical research. This limitation, however, does not limit the value of the findings. These findings could be tested in other empirical settings – in order to further the generalisability of this study.

### **1.10 Chapter outline**

This study is divided into five chapters.

Chapter One introduces the study. It presents brief summaries of the key terms used in the study. The chapter also provides the background of the research, the statement of the problem, the research question and the objectives of the study, as well as the research methodology. In addition, the chapter provides details on the importance and significance of the study.

Chapter Two is a literature review. It explores the environment for small businesses in South Africa. It further, presents an investigation of the providers of e-support for small businesses and documents the type of support that they provide. This investigation is followed by further analysis into small businesses and their relationship with ICT, e-skills and e-support. In order to increase the understanding and construct of e-skills, the chapter also presents a discussion on e-skills. Moreover, different national and international e-skills taxonomies, models and frameworks, were also analysed. The chapter concludes with a step-by-step process

into the design of an alternative e-skills framework, tailored for small business owners in PDAs. The framework identifies the e-skills necessary to use e-support.

Chapter Three, maps out the details of the research design and the methodology that were followed during the research process. The chapter includes a discussion on the research methodology, philosophical perspective, research paradigm and design. It also provides a detailed step-by-step process of the data analysis process. A discussion on the reliability and validity of the study is also presented. The chapter ends with the ethical statement, challenges faced, and a summary of the main points of the chapter.

Chapter Four presents a discussion of the substantive findings of the study. In this discussion the findings are divided into six categories (core themes). These themes are in line with the e-skills that were identified in the e-skills framework designed in Chapter Two. These findings were also empirically tested during the data collection stage, described in Chapter Three. The themes include: (i) Basic literacy (foundation skills); (ii) e-awareness; (iii) technological literacy; (iv) informational literacy; (v) digital literacy; and (iv) media literacy.

The chapter also introduces two additional concepts that emerged from the findings: (i) Attitudes (perceptions) towards technology; and (ii) barriers towards the uptake and utilisation of technology (computers and Internet). These concepts address the *GAP* identified in the research conceptual model (Figure 5). The chapter progresses with the core themes being recapitulated, and the research conceptual model being adjusted accordingly, concluding with a summary of the key points.

Chapter Five is the concluding chapter. It begins with an introduction. This is followed by a discussion on how the main research question was answered, and how the objectives were met. Additionally, the chapter also discusses some recommendations, particularly for practitioners (service providers) and for the intended beneficiaries of e-support (small businesses), as well as the role of government in e-skilling the nation. The chapter concludes by highlighting some limitations of the study, as well as some suggestions for future research.

## Chapter Two

### Literature review

#### 2.1 Introduction

As a country, South Africa aspires to compete globally with more developed countries in terms of ICT infrastructure. Although, the country has advanced greatly in the ICT industry, it still faces many challenges. These challenges affect the pace at which these advancements are achieved. Some examples of these challenges include: The HIV/AIDS pandemic, poverty, unemployment, inadequate resources (running water and electricity), the cost of ICT and limited bandwidth. The latter, which affect telecommunication and Internet access, are important in the ICT industry. Moreover, an absence of e-skills needed to use these technologies, coupled with poor literacy among the labour force also influence the speed of ICT development in the country (Molawa, 2009).

Paying particular attention to poverty and unemployment challenges, since the end of Apartheid in 1994 government has been trying to reducing poverty (Agupusi, 2007). It was estimated that fifty-seven percent of South Africans, of which over ninety-five percent were black, were living below the poverty line (HSRC, 2004). Furthermore, a study by the World Bank (World Bank Group 2008) showed that the gap between the poor and the rich in South Africa was one of the largest in the world. Moreover, thirteen percent of the population lived in conditions similar to people living in the first-world countries, while close to fifty percent of the population lived in conditions of a developing country (World Bank Group 2008). In the same vein, Agupusi (2007) noted that the high levels of poverty in South Africa were caused by a lack of jobs (high unemployment). As a result, emphasis has been placed on entrepreneurship (small businesses) and skills training in order to create employment and reduce poverty.

Skills training in particular is important because it provided people with the opportunity to gain the skills, especially ICT related skills needed to participate in society. The shortage of skilled labour for instance negatively influences all kinds of businesses (small businesses included). This is particularly true in relation to the

performance of businesses in both the developed and the developing countries. In the South African context, the notion of skills shortage however, is regarded as a vague concept, which relates to the shortage of skills in different fields: Education, health, as well as ICT (Daniels, 2007). The vagueness of this concept as described in the South African context stems from the fact that the demand of different aspects of certain skills exceed the supply thereof (Daniels, 2007).

It was found that research regarding the shortage of skills in South Africa is mostly based on the shortage of skilled professionals or expert labour. There is limited literature available that focuses particularly on the shortage of basic ICT skills (e-skills) among the owners of small businesses in PDAs. Moreover, literature that focuses on the influence of this shortage on the use of e-support is also limited. Most of the existing literature focuses on developed countries and regions of the world, such as Europe, the United States of America and Australia (Mpofu, Milne and Watkins-Mathys, 2009). Research in this area of study was still considered under-researched in African settings (Mpofu et al., 2009).

This study should thus accordingly contribute to this gap in literature, by providing information on the key concepts of e-skills. Additionally, the study identifies the e-skills needed by small business owners, in order for them to be able to use ICT (computers and the Internet) effectively. The study also discusses some of the challenges (lack of e-skills and access to ICT) faced by small business owners. Furthermore, the information that the study provides also includes an e-skills framework. This e-skills framework was designed principally for small business owners in PDAs. The framework identifies the e-skills considered necessary to use the provided ICT and e-support services. Moreover, the framework can be seen as an extra tool for government. This tool (e-skills framework) can guide government as they put in place effective training measures and e-support initiatives that can be used successfully by the intended beneficiaries.

The information that forms part of the study was obtained from online journals, university databases, newspapers, books, interviews and communication with academics and fellow researchers. The relevant literature reviewed provided more insight into for instance, the challenges faced by small businesses and the different concepts of the e-skills. Through the process of reviewing literature an increased

knowledge and in-depth understanding of the concepts in the scope of the study were gained.

This chapter also proposes various means for acquiring these skills successfully – by bringing together past and present findings, philosophies and discourse that are directly or indirectly related to e-skills.

This chapter is structured as follows; firstly a discussion that explores the environment for small businesses in South Africa is presented. This discussion is then followed by an investigation of the service providers. The study focused on the Real Enterprise Development (RED) Door, Small Enterprise Development Agency (SEDA), the Cape Gateway and the Smart Cape initiatives. This investigation is followed by an analysis of small businesses and their adoption of ICT, e-skills and their use of e-support. Additionally, the chapter discusses the various constructs of e-skills, and analyses different e-skills' taxonomies, frameworks and models. The chapter concludes with the design of an e-skills framework and an overview of the main points that emerged from the literature.

## **2.2 Exploring the environment for small businesses in South Africa**

Small businesses are important actors in the development of the economy, job creation, poverty alleviation and social equality. These businesses are now employing sixty percent of the African population, an increase from eighteen percent which was employable in 1998 (Jacobs, 2010). Thus, since the dawn of democracy, which occurred in 1994, the small business sector has been a key policy focus area for the South African government (DTI, 2010). Because of the importance of small businesses, it is necessary to understand their functionality. This will assist government in identifying the correct support measures to put in place, so as to provide the most effective support - thereby, reducing their very high failure rates.

South African small businesses face many challenges that often result in their poor performance levels and failure (Jocumsen, 2004). Some challenges faced by small businesses include a disabling legislative and regulatory environment, poor access to markets and to finance. Furthermore, small businesses face high costs and low availability of suitable business premises, inadequate technical and managerial skills, expensive labour, poor availability of appropriate technology, inadequate infrastructure and a heavy tax burden (RSA, 1995 as referenced by McGrath, 2005).

In addition, to the above mentioned challenges, the National e-Skills Plan of Action (NeSPA) document also highlights more challenges that are faced by small businesses. These challenges include high cost of Internet access in PDAs and rural areas, a lack of adequate support, increased financial pressure and traditional challenges (DoC, 2010).

Another prevalent challenge is the lack of ICT related skills among small business owners. Although, ICT now plays a leading role in the society, some of these particular small business owners do not regard having computer-related skills as a priority (Underwood and Jacobs, 2007). Thus, as a result of the shortage of these skills, many small businesses are weak in their use of ICT (Mcgrath, 2005). Furthermore, South Africa is not the only country in which small business owners face ICT-related challenges, because they do not have the necessary e-skills. Small businesses in countries, such as the UK, Poland and Portugal, face similar challenges. The most common is the lack of e-skills and ICT related knowledge (Duan, Mullins, Hamblin, Stanek, Sroka, Machado and Araujo, 2002).

As a result of the challenges mention above the survival rates of small businesses is relatively low. At national level, the failure rates of small businesses range from seventy percent to over eighty percent (Baard and Van den Berg, 2004). At provincial level, of the estimated twenty thousand people in the Western Cape province trying to start a new small business, almost half will fail within a short period of time (Underwood and Jacobs, 2007). Starting and growing a small business in South Africa is challenging (SEDA, 2010). There is need for more appropriate and effective small business development support services (e-support) (Mitrovic and Bytheway, 2009).

Although this study pays closer attention to e-support provided by government, small businesses are in need of many other types of support. They need support that is also provided by communities, private and public organisations, educational institutions and Non-Governmental Organisations (NGOs). It must be noted however, that small businesses in South Africa (survivalists, entrepreneurs, start-ups, and well-established businesses) are very diverse and have different needs (SBP, 2009). Some small business owners have very low levels of skills, while others are experienced. Informal small businesses in PDAs for instance, are usually

a result of push factors other than pull factors. Push factors arise when a person has no other choice but to become an entrepreneur because they do not have adequate skills to get a job (Stork and Esselaar, 2006). Nonetheless, any support initiatives are necessary in sustaining and developing successful small businesses.

The following section investigates the service providers. It also documents the support services that they provide, as indicated on their websites.

### **2.3 Investigating the providers of electronic small business development support services (e-support) and documenting the support they provide**

The e-support that is provided to small businesses is intended to assist the businesses at different levels. Firstly, potential small business owners are assisted with the start up of their business, in aspects such as proposal and business plan writing. Additionally, small business owners are provided with financial and legal services. Training in various skills, is also provided in order for them to develop and sustain the profitability of their businesses. The support also includes free or low cost access to ICT based resources such as computers, printers and the Internet - among others.

In order, for people in poorer communities to reap any benefits from ICT they need to have convenient and cost effective access. Thus, community-based electronic centres, also known as e-centres that provide this type of e-support are significant since the poor do not have these resources (Heeks, 2006). These e-centres are the only realistic means of accessing computers and the Internet for most people in PDAs (Harris, 2004).

It is thus, necessary to know the type of e-support that is provided to people in PDAs and how the e-support is provided. This study will investigate four key government agencies (service providers) providing e-support: (i) Small Enterprise Development Agency (SEDA); (ii) the Real Enterprise Development (RED) Door; (iii) the Smart Cape; and (iv) the Cape Gateway. These agencies were selected because they provide services for free, or at a low cost, intended to directly benefit small businesses in PDAs.

The information was collected primarily from service providers' websites, publications and telephonic interviews with the agency representatives.

### 2.3.1 Small Enterprise Development Agency (SEDA)

Established in December 2004 under the Department of Trade and Industry (DTI), SEDA is an agency that supports small businesses in South Africa. This agency was established through the merger of three organisations: Ntsika Enterprise Promotion Agency, the National Manufacturing Advisory Centre (NAMAC), and the Community Public-Private Partnership Programme (CPPP). The GODISA Trust and the Technology Programmes were integrated into SEDA in April 2006, becoming the SEDA Technology Programme (STP). In addition, the services offered by the Business Referral and Information Network (BRAIN) and the Franchise Advice and Information Network (FRAIN) were also integrated in to SEDA.

The development of the STP originated from a government decision. This decision was made in order to consolidate and rationalise any support interventions intended for small businesses across different government departments and agencies (SEDA, 2010). The STP supports businesses from all sectors: Science, engineering, agriculture and Technology Business Centres (TBCs). The STP also supports the development of technology transfer projects that focus on addressing the technology needs of the participating small businesses.

The STP, as a branch of SEDA<sup>2</sup>, is responsible for:

- *Increasing accessibility to technologies and management support for small businesses, through structured platforms, such as technology business centres;*
- *Facilitating the acquisition and transfer of technology to small businesses, particularly those operating in the second economy;*
- *Promoting the use of quality and standards by small businesses, in order to improve performance, productivity and competitiveness;*
- *Promoting entrepreneurial activity and [the] success of identified target groups, in particular, women and youth;*
- *Reducing the failure rates of small businesses.*

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<sup>2</sup> Small Business Development Agency (SEDA), see website <http://www.seda.org.za> [Accessed 10 May 2010].

The STP focuses on the above listed areas because they were identified as some of the main reasons for the failure of technology-based small businesses during the first three years of trading (SEDA, 2010). Thus, it is necessary to target these high-risk areas, in order to provide the most needed and adequate support for the small businesses.

Among the different platforms used by SEDA to communicate their services, their website not only draws attention, but it is seen as a first point of entry. Hence, for most business owners the website is the first form of contact with the agency. SEDA's integration of ICT as a means of service delivery highlights the key role that technology is now playing as a distributor of important information. The SEDA website contains over five hundred (500) pages of information. This information is useful for empowering entrepreneurs. Business newsletters, and a variety of booklets and brochures on issues that are of concern to entrepreneurs, both large and small, are also available through the SEDA website.

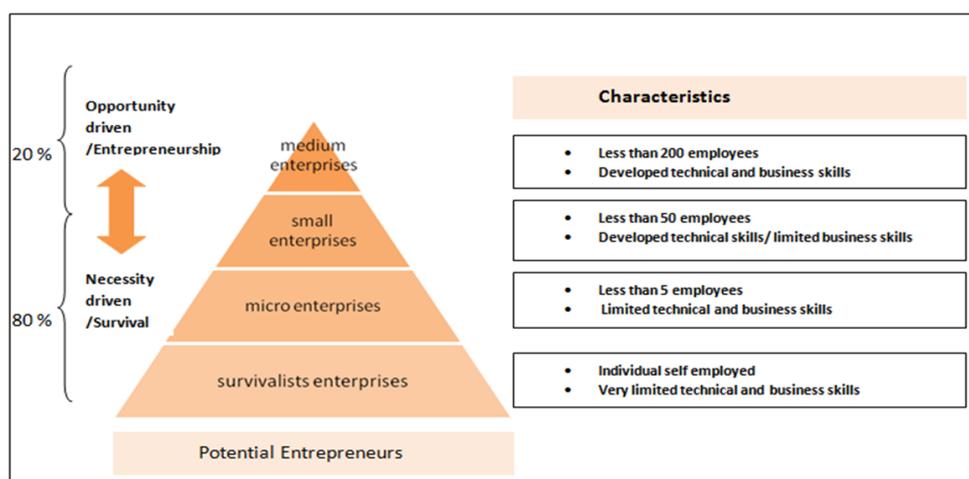
In addition, the website also provides information on the products and services, which entrepreneurs can access. Some of these products and services include business related advice, training and mentoring, business planning and registration, as well as incubation and technology transfer. Through the website, small business owners can also get information on sector-specific training and development programmes. The website is an important source of information with the objective of promoting, developing and supporting entrepreneurs all over the country. SEDA provides support in order to ensure the growth and continued sustainability of businesses, throughout the country.

This government agency operates nationally, through its continuously growing nationwide network. This network includes nine provincial offices, forty district branches, four mobile units, forty-six enterprise information centres, and twenty-nine technology incubators across the country. All the information on any of the services offered by SEDA is provided on the SEDA website. Hence, small business owners need to access the website to get more information. The SEDA agency is committed to building the business sector and developing small businesses nationally, especially in PDAs.

Moreover, SEDA offers support to small businesses of different types and sizes in various sectors. These types of small businesses were discussed in Chapter One, section 1.2.6. Additionally, Figure 1 highlights all the different categories and target markets of SEDA.

The support that is provided through the SEDA website includes:

- ***SEDA Business Talk:*** Provides practical answers and guidance to potential entrepreneurs who want to start their own business and get it right the first time.
- ***SEDA Business Start:*** Provides instruments and techniques to plan the business for enhanced success.
- ***SEDA Business Build:*** Provides professional services to help the entrepreneur build a stronger business.
- ***SEDA Business Grow:*** Provides the entrepreneur with skills and knowledge to increase the market share for the business.
- ***The Franchise Support Programme:*** Promotes the business of franchising to new and current entrepreneurs, by advising them on potential franchisees and franchisor opportunities.
- ***National Procurement Programme:*** Provides access for small businesses to procure and tender in the public and private sector.
- ***The Export Development Programme:*** Develops export-ready small enterprises that are globally competitive and able to grow markets – both locally and internationally.
- ***The Trade Point Programme:*** Forms part of the wider international initiative to help local small and medium enterprise participation in global trade.
- ***The Co-operatives Programme:*** Drives groups to unite to meet common needs through a jointly owned business based on co-operative principles.



**Figure 1: SEDA's target market<sup>3</sup>**

### 2.3.2 The RED Door

The Real Enterprise Development (RED) Door is an initiative from the Provincial Government of the Western Cape (PGWC). This initiative falls under the PGWC's Enterprise Development sub-directorate in the Department of Economic Development and Tourism (DEDT) (DTI, 2010). The RED Door caters to people, especially the owners of small businesses in the Western Cape Province, targeting mainly those in PDAs. The RED door advice centres can be found in Atlantis, Hermanus, Knysna, Mossel Bay and Oudtshoorn. The centres have been established to co-ordinate support services. They make sure that the support is easily available, when and where it is needed.

Furthermore, the RED door provides the support services in three languages: English, Afrikaans and Xhosa. This diversity increases their target demographics. Thus, the services cater for people who are not comfortable with using English as a medium of communication. In so doing the RED door lives up to its mandate, which is to build new businesses in all areas and sectors, particularly black-owned businesses.

The RED Door is a one stop shop. New and existing small businesses that need support at any level can contact the agency (DTI, 2010). This agency provides guidance when writing a business plan. Moreover, mentors from the agency can

<sup>3</sup> Source: SEDA's Strategic Plan 2007/8 – 2009/10 as referenced by Fortuin (2008).

identify and fix the weak points in the business. In addition, the RED door provides access to finance, accounting and legal services, as well as a network of business service providers. In the same vein the RED door provides ICT related skills and tendering training. The training focuses on teaching small business owners how to find out about government incentives, including how to import and export products. The Red Door offers monthly workshops, access to Internet facilities, small conference rooms, as well as community entrepreneurship outreach programmes for the youth, women, emerging farmers and people with disabilities.

Information about the RED Door and the e-support they provide can be accessed through their website. A link to the RED Door website is available on the Cape Gateway portal. The RED Door website provides information on the history and objectives of the organisation.

Although the RED door provides the necessary support, this agency admits that the current support that is provided is not enough. The agency acknowledges that more appropriate support services for small businesses are still badly needed.

Ironically, it must be noted that for reasons that were not further investigated, the RED door advice centres have since been closed. This initiative has thus been replaced by the RED Tape to RED Carpet, a call-centre type initiative. A provincial hotline has now been implemented. Through this hotline small business owners in the Western Cape now call to request assistance or any general information on starting and growing a business (PGWC, 2013). The support services that are provided by the RED tape were not further investigated, because they did not contribute any new relevant information to the study.

### **2.3.3 The Cape Gateway**

The Cape Gateway was established in 2001, as an initiative of the Provincial Government of the Western Cape (PGWC). It was the official website of the PGWC. This website provided access to government-related information and services for free through public access facilities. The initiative was described as the first and single point of access to government based services, facilities and information, intended for the citizens of the province (Cape Gateway, 2011).

The support services offered by the Cape Gateway were provided in three different languages: English, Afrikaans and Xhosa. The Cape Gateway was designed to

provide access to ICT facilities where they are not widely available. Additionally, the Cape Gateway also offered support to small businesses in the Western Cape Province, by providing information, resources and skills training.

The skills training that is offered also addresses literacy problems among adults in the province. Since in South Africa there are about 3.3 million adults that are illiterate (Cape Gateway, 2011), the initiative aimed to enhance the skills and competences of citizens. The Cape Gateway website thus offers links to various educational programmes targeting adults. These programmes include the Adults' Basic Education and Training (ABET). The curriculum of this particular programme includes various e-skills and e-business skills learning modules. All the course content on each of the modules offered is available on the website.

The Cape Gateway initiative was once hailed as one of the most successful e-government initiatives on the African continent. It was viewed as an African success, with over thirty thousand sections, links and pages. Furthermore, an estimated fifty thousand visitors accessed the website each month and positive client feedback was often received (Maumbe, Owei and Alexander, 2008). In 2005, the project gained international recognition. It was recognised at the World Summit Awards in 2005. As a result, the project was seen as an indispensable tool, which helped people that needed to access not only information, but also ICT-related resources, such as computers and/or the Internet at no cost.

On the other hand, the portal also faced many challenges, which resulted in a decline in the quality of the services provided (Maumbe and Klaas, 2009). The lack of ownership and funding, including investment also negatively affected the initiative. Furthermore, the Cape Gateway suffered from undefined governance processes, a lack of long-term service strategy, as well as little or no cross agency co-ordination and collaboration (Maumbe and Klaas, 2009). As a result of the above-listed challenges, the website was not effectively used as a business support tool.

#### **2.3.4 The Smart Cape access point project**

The Smart Cape Access Project was launched in July 2002. It is an initiative of the City of Cape Town's Directorate of Information Technology (IT). Through this initiative free computer and Internet access is provided to the citizens of Cape Town. The Initiative began with five computers distributed across six public libraries in the

City on a pilot basis. By the end of 2002, there were three thousand registered users (Valentine, 2004). As a result of the growing demand, the project was expanded to all ninety-seven public libraries across the City Of Cape Town. This process was made much smoother when the project was awarded the Bill and Melinda Gates Access to Learning Award by the Bill and Melinda Gates Foundation in August 2003.

Furthermore, since the computers are located in city libraries and use open-source software costs are minimized. Public access to the facilities is thus provided free of charge on a time limited basis to registered users, who must also be existing library members. Each access point (library) has six Internet-enabled computers, five for public access, and one for administration and library staff. The access points are regarded as an extension of the libraries' existing role as an information provider.

The goals of the Smart Cape project include:

- *To provide free public access to computers and the Internet;*
- *To demonstrate that open-source software is an affordable, appropriate technology for a public service to drive the digital divide initiative;*
- *To increase opportunities for members of disadvantaged communities;*
- *To allow individuals to be able to use the computers and the Internet for web browsing and e-mail at no monetary cost to the user;*
- *To place the physical facilities in a place where people already go for information;*
- *Individuals should be able to use the computers to search for jobs, place adverts, generate CVs, etc.*

In addition, the Smart Cape website provides information on a wide range of services, namely, health, a community notice board, business-related support information, career and job advice. The website also provides women-focused support, for instance, parenting advice and beauty tips. Through the website, the initiative gives users the opportunity to register, and thus become a member of an online community. This registration process also allows the user to generate an e-mail account upon registration. However, as a result of the overwhelming demand, the e-mail service was discontinued as of 20 April 2011. The space available was not enough to cater for the great demand. Moreover, the website also enables people to

give feedback on the services rendered. Hence, there is some interaction between the service providers and the end-users of the system.

The Smart Cape initiative has faced many challenges, particularly during the beginning stages. Slow Internet access and low quality technology were found to negatively influence the use of the website and any other support provided (Chigona and Licker, 2008). Although the City of Cape Town IT Department considered the initiative a success, other stakeholders, namely, the library staff and some end-users, were not as satisfied. The initiative however, still remains important in the provision of information on government-based services in the province.

Each of the service providing agencies discussed above is important. This is because they provided support that is intended for people in PDAs. These people usually do not have access to the necessary resources, such as computers or the money to pay for accessing the Internet. The small business owners in PDAs for instance often cannot afford to purchase ICT. Additionally, they are not confident in their abilities to use these technologies. Thus, these initiatives provide them with the skills and the resources that they need.

In addition, to the lack of e-skills, there are different factors that influence the use of e-support. The analysis of small businesses and their use of ICT (in the section to follow) will highlight some of these factors.

#### **2.4 Relating small businesses to ICT, e-skills and e-support**

Small businesses are considered an important strategy that facilitates socio-economic growth, by reducing poverty and creating employment opportunities (Tella and Olorunfemi, 2010). Additionally, ICT is also seen as a tool to help small businesses facilitate socio-economic growth. Hence, over the past decade many developing countries have put in place programmes to provide convenient access to ICT (Pather and Gomez, 2010).

It is thus important to understand the relationship between ICT and small businesses. This will help to make sure that small businesses are using ICT effectively and efficiently in order to get the utmost benefits. There are a growing number of studies worldwide that are focusing on the use of ICT by small businesses. Although debatable, in the African setting, this particular area of study is still considered to be under-researched. There is a lot of literature available that

focuses on small businesses in developed regions, such as Europe, the United States of America, Asia and Australia (Mpofu et al., 2009). According to Uzoka, Shemi and Seleka (2007) more can be done that focuses solely on the African context. The following sections thus summarise some relevant literature in order to shed more light on the relationship between small businesses and ICT. This review considers the significance of e-skills for small business development, as well as the issues that influence the use e-support.

#### **2.4.1 Small businesses and ICT**

The term ICT refers to a wide range of different technologies. Some of the more basic technologies include landlines, cell-phones and radios. More advanced technologies include broadband, distributed computer systems, web-enabled software packages, computer hardware and the Internet (websites). Additionally, communication devices that allow for the electronic exchange, storage and manipulation of information also fall under ICT. However, small businesses do not need to use all of the above technologies. They generally do not need to use ICT to the same degree of complexity as large businesses.

Small businesses are encouraged to use ICT. This is mainly because ICT is hailed as the key driver that facilitates the development of businesses and promotes socio-economic growth across the African continent (Gillwald and Stork, 2008). Moreover, with in South Africa, the Presidential National Commission on Information Society and Development (PNC on ISAD) has also stressed the importance of ICT as a major tool needed to develop the small business sector (PNC on ISAD, 2011). The PNC on ISAD further suggested that the need to encourage and accelerate the use of ICT by small businesses in different sectors of the economy cannot be overemphasized (PNC on ISAD, 2011).

Although, small businesses are encouraged to use ICT, they are usually less willing and slower to do so. This is because the risk of small business failure is greater. Moreover, some small business owners generally have limited experience in choosing, implementing and assessing any suggested ICT solutions (Dyerson, Harindranath and Barnes, 2008). Thus, changes brought about by the implementation of new ICT-based processes need to be well researched and a sure investment before being considered. Furthermore, unless the use of ICT to perform

operations electronically increases competitiveness and benefits the business, small business owners will not use it (Gatautis and Vitkauskante, 2009).

In that regard, the first ICT tools that most owners of small businesses consider adopting are usually basic communications. These technologies enable them to economically and conveniently carry out business activities (Kotelnikov, 2007). Additionally, small business owners consider using the Internet only if it suits their particular communication needs. These needs are generally rooted in a range of company structures and strategies that the business uses (Sadowski, Maitland and Dongen, 2002).

It is necessary to note that before small businesses can fully use ICT, even basic ICT they need to be ready. This form of readiness refers to electronic readiness (e-readiness). It encompasses the capability of the labour and infrastructure to use and apply ICT. Kollmann, Kuckertz and Breugst (2009) have affirmed that several researchers (for example, Grandon and Pearson, 2004; Molla and Licker, 2005, including Riemenschneider and McKinney, 2002) have provided empirical evidence – highlighting the e-readiness of a business as one of the most important precursors of technology use. However, the degree of e-readiness in relation to the use of the Internet varies. This is a result of some small business owners using the web for communication only, while others are heavily reliant on the Internet to facilitate their business processes (Beckinsale and Levy, 2004).

The use of ICT by small businesses is not without challenges. These challenges include diversity, cultural differences and the prominent use of English on many websites - as English is not a first language for many South Africans (Benjamin, 1999; HICTE, 2003). Additionally, illiteracy coupled with limited e-skills also challenge small business owners' use of ICT. The lack of e-skills especially is still one of the greatest obstacles to the adoption of ICT by small businesses (Mizzi, 2004). Infrastructural limitations of hardware and networks (Internet) also affect the effective use of ICT. Furthermore, electricity shortages and the lack of significant usage opportunities, also create significant challenges (Ngcobo and Herselman, 2007).

Another challenge that affects the use of ICT by small businesses is the owner's characteristics. If the owners of the business are, for example, biased and untrusting

of ICT they tend to steer the business away from using it. In other cases, the business is heavily influenced by the motivation, technical expertise and attitude of the owner towards ICT. Thus, the characteristics of the owner affect the ability and willingness of the business to engage with ICT matters (Harindranath, Dyerson and Barnes, 2008). Therefore, in order for businesses to be able to fully embrace ICT, and to efficiently use any e-support, the above mentioned challenges need to be addressed.

It is important for the South African government to understand the factors that influence the use of ICT by small businesses. This would allow government to provide the most effective support that targets the specific needs of small businesses. Since, these businesses are often pressured in to using ICT from both internal and external forces (suppliers, customers and government); adequate support needs to be provided. Additionally, the businesses need to be managed well, in order for them to successfully use ICT to facilitate business transactions (Okello-Obura and Minishi-Majanja, 2010).

In order to sustain an economy, all businesses in all sectors need to not only embrace, but also to exploit ICT (e-Skills UK, 2009). ICT has the potential to improve their performance and to assist with primary business processes: Record keeping, inventory control and money management (SEDA, 2009). Thus, in order to achieve the above mentioned small business owners need to develop their e-skills, thereby enabling the business to gain different benefits (Fink and Disterer, 2006).

An analysis of e-skills and small businesses is necessary, in order to understand their connection. This analysis will be discussed below.

#### **2.4.2 Small businesses and e-skills**

If used appropriately ICT can facilitate the growth of society in different sectors: Business, education, entertainment and health. Thus, it is necessary for the owners of small businesses in this case, to not only use ICT, but also to gain the e-skills needed to use it (Ashrafi and Murtaza, 2008). According SEDA (2009) half of the small businesses owners are not computer literate, while others are not at all familiar with ICT, such as computers. As a result, they are sceptical that any concrete benefits could be gained from using ICT. Moreover, these small businesses also cannot participate in a digital economy (Taylor and Murphy, 2004) or use e-support if

the owners do not possess the e-skills needed. According to the SBP (2009), many people, including small business owners in South Africa were left ill-equipped with the necessary skills, resources and confidence required to start up, run or manage a viable business of their own after the apartheid legacy (SBP, 2009).

However, in situations where small business owners have the will and finance to accommodate ICT, they are often at a loss when choosing the most appropriate technology. This is mainly due to their limited ICT know-how (e-skills). In other cases where government has provided free and low-cost ICT access through service providers (for example, the Smart Cape and Cape Gateway), the lack of e-skills among small business owners in PDAs is still high. This result thereby challenges the notion that simply making ICT available would lead to improved levels of e-skills. It is necessary to provide effective training to people. This will ensure that they not only have access to ICT, but also gain the e-skills needed to use them effectively.

Furthermore, as the use of ICT to facilitate service delivery and carry out day to day transactions increases, existing social disadvantages are also reinforced. This is because the marginalised people are excluded from participating in the same Information Society (Information society commission, 2003). This statement highlights the importance of giving all people equal opportunity to gain the e-skills that they need to participate in a society where ICT plays a large role.

In cases, where the owners of the small businesses are ICT enthusiasts and/or they have basic e-skills, the rest of the staff is often untrained (Kotelnikov, 2007). Training these staff members would cost the business money and time - resources that small businesses often lack. Nevertheless, without e-skills, ICT can neither be maintained nor adapted for local, social or business use. Hence, any existing e-skills gaps must be addressed (Mutula and Van Brakel, 2007).

Usually, small business owners are aware of their e-skills limitations, they know the type of skills that they need to have. According to SEDA (2009), the skills that small business owners did not have but regarded as important include financial management, using computers and bookkeeping skills. Furthermore, they find the ability to present a tender and write a business plan as necessary skills for any small business owner to have. The following were listed as the skills that the small business owners wanted to possess the most: (i) The skills to use web browsers and

e-mail (to send and retrieve information); (ii) using a search engine and conducting a critical analysis of results and (iii) using tagging and aggregators to collect market intelligence. Small business owners also want the skills that allow them to (iv) Use on-line applications and tools, such as file management; and (v) understand how to synchronise mobile devices with fixed equipment. In order to equip small business owners with some of the above mentioned skills, there is a need to implement improved e-skilling methods (DoC, 2010). In addition, these business owners especially those in PDAs also need access to computers coupled with the e-skills training (Ngcobo and Herselman, 2007).

If used effectively, ICT can be a tool to address some of the challenges faced by small businesses (DoC, 2010). Furthermore, increasing e-skills levels among small business owners would promote the use of ICT, thus increasing their efficiency and profitability (DoC, 2010). Considering that having access to ICT and the necessary e-skills are relevant to the use e-support, it is necessary to also understand the relationship between small businesses and e-support.

#### **2.4.3 Small businesses and e-support**

In the case of this study, the e-support is provided through ICT. This ICT refers to the Internet (online services) and ICT resources (computers, printers, fax machines and photocopiers – to name a few). The e-support is intended to benefit people in general, but small business owners in particular. The support provides access and information on various government services intended for the general public. Thus, through government initiatives (such as the Smart Cape and Cape Gateway) people in PDAs can access e-support, through computers set up in public libraries. These facilities are made available throughout the Western Cape, including the following PDAs: Gugulethu, Langa, Nyanga and Khayelitsha, where most owners of small businesses are in need of them.

Although the government has tried to make facilities available in most areas, the needs of rural communities in terms of ICT-related access are still unmet. As a result, many small business owners, not only in rural areas, but also in previously disadvantaged peri-urban areas, still cannot access the services provided through e-support. This is because they do not have access to ICT. Furthermore, they also do not possess the e-skills needed to use the e-support provided (Underwood, 2009). The community-based small businesses, especially those in PDAs, most often lack

adequate resources that facilitate their use of e-support services (Mitrovic and Bytheway, 2011).

The majority of the small business owners in these areas cannot afford to pay a third party to provide resources for them to access e-support. Thus, the initiatives from government that provide free and low cost access are important. The small businesses in the PDA of Alexandra for example, are in dire need of government provided support. These businesses face the challenge of limited access to ICT infrastructure. This particular infrastructure is considered important in order to develop a viable and sustainable business in Alexandra. Furthermore, there is a lack of government agencies that provide e-support to business in the area. Thus, with only limited skills and support, the small businesses suffer, and face a short existence.

Undoubtedly, there are different reasons that would result in the poor use of e-support by small business owners. These reasons include a lack of e-skills needed to use the e-support and the unwillingness of small business owners to use any support provided by the government because of a lack of trust. Additionally, limited information about the availability of the e-support also results in the poor use of it (Mitrovic, 2010).

Limited information about the existence of e-support among small business owners has been a contributing factor to the poor use of the support, for many years. Within Cape Town more than ten years ago, small businesses were generally not aware of the public support that was available for them (Berry, Von Blottnitz, Cassim, Kesper, Rajaratnam and Van Seventer, 2002). This is similar to the current state, small business owners are still relatively unaware of the existence of service providers or the support that they provide.

In regards to limited awareness of the existence of e-support among some small business owners, government has admitted that they need to adopt a more targeted approach in the provision of support (DTI, 2005). This targeted approach would ensure that as many business owners as possible have the necessary information about any support provided. Additionally, improved marketing strategies are also important. The lack of adequate marketing by service providers, including low efforts to involve the community members in the establishment of support services, is

evident. This is supported by the following findings, fifty-seven percent of small business in Johannesburg, and seventy percent in the Western Cape had never heard of any support-providing institutions (Berry et al., 2002). The lack of information on the existence of agencies that provide e-support was evident among the small business owners in the Western Cape. In order for these businesses to make use of the provided e-support more effort needs to be made to make them aware of the support so that they use it (Mitrovic, 2010).

Although, the small business owners in the Western Cape claimed that they were not benefiting from any available support services. This was in contrast to the service providers reports declaring publicly that their services were being used successfully (Mitrovic and Bytheway, 2009). This result highlights a clear difference in both parties' perceptions of successful adoption. The intended beneficiaries were only concerned with the outcome (business turnover), while the service providers were more concerned with outputs (number of businesses consulted) (Mitrovic and Bytheway, 2009). On the other hand, in some areas of the Western Cape and Gauteng, there was no lack of support services, but rather an uneven spread of where, how and in which fields the support is offered (Berry et al., 2002).

Nonetheless, there were a few owners of small businesses in the Western Cape that were aware of the e-support available. Some were able to adequately use the support for their business purposes. They however, complained about the complexity of some online procedures (Mitrovic et al., 2007). Others were not satisfied with the quality of the service. As a result of such claims, support services that are provided by government usually suffer from a crisis of credibility (Orford and Wood, n.d.). They also suffer from an unstable existence, since they all compete for the same government funding (de Beer, 2010).

Reasons that were provided by the small business owners for using e-support included: (i) Starting a new business; (ii) responding to customers; (iii) skills development; (iv) growth of the business; and (v) dealing with competition (Orford and Wood, n.d.). Thus, considering the importance of e-support the challenges that small business owners face in accessing the support need to be addressed - particularly the lack of e-skills needed to use the e-support. In this regard, it is necessary to further explore the various concepts of e-skills. The following section

thus discusses and evaluates the different types, descriptions and taxonomies of e-skills, so as to further understand e-skills and the role they play in the use of e-support.

## **2.5 Understanding the construct of e-skills and analysing different e-skills frameworks, models and taxonomies**

In order to determine the role that e-skills play in the use of e-support, it is necessary to better understand their construct. This process makes it easier to identify and categorise the different e-skills, into a context that is relevant and addresses the objectives of the study. The following section starts by identifying whether there is indeed a need for e-skills, it then analyses the available descriptions of e-skills. Thereafter, a detailed analysis of various frameworks, model and taxonomies is presented. The chapter concludes with suggestions on how to acquire e-skills and the design of an e-skills framework.

### **2.5.1 Is there really a need for e-skills?**

New advancements in technology are changing the way people operate. In today's society, everything from reading the newspaper, to shopping, banking and accessing government services can be done electronically. Technology continues to evolve and become even more integrated into most aspects of life. As a result, the e-skills that are needed to use the technology also need to evolve. The need for people to possess e-skills has been raised since as far back as the late 1960s (Martin and Grudziecki, 2006). This shows us that the relevance of e-skills has been emphasised throughout generations, and even more so as technology evolves.

In view of the fact that, ICT now plays a large role in society, globally the demand for ICT-related skills (professional and basic) has also increased (Beyers and Koorbanally, 2010). In Europe, for instance, technology has become such an essential element in the working lives of many people. Thus, in order to participate in such an economy, e-skills at all levels are as relevant as ICT itself (Frinking et al., 2005; Ianvin and Passman, 2008). Considering the popularity of the Internet especially, to use this technology people need to have e-skills that are complemented by a certain level of formal education (Ferro, Helbig and Gil-Garcia, 2010). Formal education (reading, writing and numeracy skills) make up basic literacy skills which are the foundation of e-skills. They are considered necessary, in

order for Internet users to use the Internet meaningfully. People who have basic literacy skills are more likely to access the Internet, and to have an increased usage than those who do not.

Moreover, people that have e-skills are in a better position to access opportunities available over the Internet. These people are able to carry out personal or business related transactions more efficiently through the Internet (Schmidt and Stork, 2008). Additionally, e-skills empower citizens by improving their job prospects, earning potential and development opportunities, as well as enabling them to be active workers and responsible members of their community. In the same vein, businesses now require employees to not only have e-skills, but to use these skills to benefit and grow the business (Shoemith, 2011). Furthermore, e-skills have become of central importance, determining the vertical and horizontal mobility of workers.

Thus, getting e-skills should not be considered a once-off event. These skills need to be continuously kept relevant (Mitrovic, Sharif, Taylor and Wesso, 2012). As a result of the shift of technology from being for the technically minded, to becoming an essential tool for every person, even non-professionals need e-skills. Moreover, professionals in different industries: Doctors, mechanics, architects and teachers, are now required to possess some level of e-skills. Technology has been incorporated into their professions, thereby increasing the demand for ICT-literate professionals in all sectors (ICT Task-force, 2006).

As a result of people not having the same levels of skills, it is necessary to understand the differences and similarities among Internet users (Ferro et al., 2010). Understanding these differences would make it easier to identify the factors that influence the use of technology, especially the Internet. Once these factors are understood, measures can be put in place to ensure that the required support is available.

Generally, there is limited research that explains how the different levels of e-skills could possibly offset the use of support (Schmidt and Stork, 2008). Hence, the necessity of this study, as it seeks to provide information that addresses this gap in the literature. The study provides information that will allow people to better understand the necessary e-skills to use the Internet, and how a person's level of skills influences their degree of Internet use (technology adoption).

Consequently, due to the severe e-skills shortage issue in South Africa, there have been some national policies and initiatives implemented by government. These initiatives are tasked with the socio-economic development of citizens. The initiatives thus try to find out which e-skills people need and identify methods of providing e-skills training. These initiatives have been documented and include the National Skill Development Strategy (NSDS III) 2011/12 – 2015/16 framework, the Sectoral Skills Plan (SSP), the National e-Skills plan of Action 2010 (NeSPA), and the Medium-Term Strategic Framework (MTSF) 2009-14, amongst others. The MTSF in particular, was described by Wesso (2010) as being the plan for government to address the e-skills shortage.

Additionally, the following initiatives have also been put in place, the Joint Initiative on Priority Skills Acquisition (JIPSA), the PNC on ISAD, and the Presidential International Advisory Council on Information Society and Development (PIAC on ISD). Including, Gauteng Online, the Meraka Institute, and the Khanya Project – to name a few (de Beer, 2010). A large number of the above listed initiatives have failed, and/or have been discontinued. In most cases, they also competed for funding from the same source - the government. On the other hand, the JIPSA initiative was suppose to have a life span of only three years. However, because of the severity of the skills shortage situation, the JIPSA initiative has continued past the anticipated termination time (DTI, 2008).

As a starting point to address the shortage of skills, the skills that people need to have in order for them to become cybercitizens have been suggested. These skills include knowing how to operate hardware devices (fixed, mobile and multimedia). Moreover, basic trouble-shooting skills, basic security and maintenance of computer hardware are other necessary skills. People also need to know how to transfer data from one medium to another, for instance between Digital Versatile Discs (DVDs), Universal Serial Buses (USBs) and Memory cards (IBSA, 2010).

Furthermore, people need to understanding what a network is, what the Internet is, and how to connect to it. The list of required skills continues, naming the understanding of graphics, video and audio software tools with a basic understanding of formats, image manipulation, sound and video recording as

necessary skills. The ability to edit and understand desktop productivity tools is also necessary.

A confident cybercitizen is able to facilitate word processing, spreadsheet design, presentation packages, and use the operating systems on appropriate devices. Cybercitizens also need the skills to use e-mail, digital calendars and contacts, as well as file attachments. They also require the ability to understand intellectual property and copyright matters. Lastly, the ability to understand the legal and social consequences of negative online behaviours, such as cyberbullying is also a very relevant and necessary skill (IBSA, 2010).

This extensive list of skills brings to light the degree of ICT-related skills and knowledge that people need to possess, in order to function fully in a digital society. However, not all the skills are necessary. People do not participate socially and economically to the same degree within given societies or communities. The following section thus attempts to define e-skills and identify an appropriate definition for the context of the study.

### **2.5.2 Describing e-skills**

Within this study, as well as many other societies, the terms 'e-skills' and 'ICT skills' are used interchangeably (Beyers and Koorbanally, 2010). Currently, there is no universally accepted or used definition of e-skills (Beyers and Koorbanally, 2010). Defining e-skills can be a challenge, since economies are constantly changing from being merely industrial to becoming knowledge based. Thus, any definition of e-skills constantly changes as the scope and purpose of such e-skills increases or changes (Lanvin and Passman, 2008). There is generally a lack of theoretical justification for a standard definition. As a result, there are different operational definitions, which tend to ignore the full scope of the skills concerned (van Deursen and van Dijk, 2009).

Furthermore, *“one of the complexities of the ICT skills analysis is the difficulty in finding a definition that could be suitable for different contexts and necessities”* (Romani, 2009:17). Similarly, Lanvin (2008) suggests that trying to define e-skills is an impossible task. Lanvin further emphasises that defining e-skills would require two conditions. These conditions are, *“a precise and stable description of relevant skills, to allow the building of time series and comparability across countries”* (Lanvin,

2008:4). The other condition is a “... *flexible approach to such a description, to make it resilient to future changes in technologies and processes, which are bound to modify the skills required to use and implement them*”. Although, there are common characteristics of e-skills that are accepted, there is yet to be a standard and uniform definition.

However, in an attempt to identify the characteristics that make up e-skills, Beyers and Koorbanally (2010) suggest that ICT skills are needed for modern life outside the workplace. These skills are seen as the combination of knowledge and skills that a person needs, to perform a specific task (Romani, 2009). Moreover, these skills are “... *formulated as follows: Skills to design, develop, maintain and operate ICT systems; and or to exploit business opportunities and organizational improvements provided by ICT systems*” (Frinking et al.,2005:24). Hamburg and Cernian (2006) contribute that, e-skills encompass a wide range of capabilities, namely, knowledge, skills and competences. Nevertheless, the closest definition of e-skills is in most cases characterised according to the various areas of ICT competences in question.

Although no standard definition of ICT skills exists, efforts are ongoing to characterise the different types of e-skills (Romani, 2009). There are a number of institutions (government, business, and educational) that have attempted to define, identify and/or categorise e-skills. These efforts have resulted in the design of many different e-skills taxonomies and frameworks. They are, however, not uniform to all countries and contexts. Some examples of frameworks include the California ICT Digital Literacy Framework, the Skills Framework Information Age (SFIA), and the European e-Competence Framework (e-CF) 1.0 and 2.0. Other organisations that have attempted to describe e-skills include the European e-skills forum, the National e-Skills Institute (e-SI), and the Organisation for Economic Co-operation and Development (OECD), among others.

The following section analyses the different taxonomies and frameworks, listed above, namely, the European e-skills forum definition of e-skills, the OECD e-competences, NeSPA taxonomy, SFIA and the e-CF. This is done in order to address the objectives of the study - which seek to identify the e-skills (South African context) that people in general and small business owners in particular, need to possess in order to be able to use the provided e-support effectively.

### 2.5.3 European e-skills forum composition of e-skills

The European e-Skills Forum (2004) categorises e-skills into three main categories: ICT-user skills, e-business skills and ICT practitioner skills. The definitions of the categories have, however, been adopted and improved by various European institutions, such as the European Centre for the Development of Vocational Training (CEDEFOP, 2006), as referenced by Romani (2009). The three categories and their descriptions are presented in Table 3.

**Table 3: e-Skills categories**

<b>e-Skill category</b>	<b>Description</b>
<b>ICT user skills</b>	<ul style="list-style-type: none"> <li>The capabilities required for the effective application of ICT systems and devices by the individual. ICT users apply systems as tools in support of their own work, which is in many cases, not related to ICT. User skills cover basic digital (or ICT) literacy, the utilisation of common (generic) software tools in an office environment, and the use of specialised tools supporting major business functions within a large number of user sectors.</li> </ul>
<b>e-Business skills</b>	<ul style="list-style-type: none"> <li>The capabilities needed to exploit opportunities provided by ICT, notably the Internet for specific industry or societal sectors. The skills needed to ensure more efficient and effective performance of different types of organisations. These skills are required to explore possibilities for new ways of conducting business/ administrative and organisational processes; and/or to establish new businesses.</li> <li>The e-business skills are strategic and innovative management skills, but not technology-management skills, which are part of ICT practitioner skills. These skills contain elements of both ICT practitioner and end-user skills. In addition they also contain a significant element of generic (non-sector specific) non-ICT skills.</li> </ul>
<b>ICT practitioner skills</b>	<ul style="list-style-type: none"> <li>The capabilities required for strategic planning, managing, producing, consulting, marketing, selling, integrating, installing, administering, maintaining, supporting and servicing ICT systems, for the benefit of others.</li> </ul>

The South African e-Skills Council (2008) has highlighted two additional categories of e-skills. These two categories are research and design skills, as well as e-literacy skills which are presented in Table 4.

**Table 4: Additional e-skills categories**

<b>e-Skill category</b>	<b>Description</b>
<b>Research and Design (R and D) skills</b>	<ul style="list-style-type: none"> <li>Capabilities required for researching, designing and developing ICT systems.</li> </ul>
<b>e-Literacy skills</b>	<ul style="list-style-type: none"> <li>Capabilities needed to socially incorporate ICT in local development. The term e-literacy is in some cases used interchangeably with the term digital literacy. An individual who is digitally literate is considered to be an individual with the ability to locate, organise, understand, evaluate, and create information using digital technology.</li> </ul>

## 2.5.4 The Skills Framework for the Information Age (SFIA)

The SFIA framework is considered “a common reference model for the identification of the skills needed to develop effective Information Systems (IS) making use of Information and Communications Technologies (ICTs)” (SFIA, 2011). The framework can be used by government, ICT practitioners, ICT users and employers, including education and training providers.

SFIA identifies the ICT-related skills that people need to have in Information Technology (IT) businesses. The framework identifies the particular skill that a person needs to have, in order to perform a specific business related task. The framework presents definitions of recognisable e-skills. These skills have been defined by IT professionals and employers, across seven levels of attainment – from new worker to a director. The SFIA framework uses a common language and a sensible, logical structure that users can easily follow and use to train and develop the needs of a very wide range of businesses. Additionally, it can be used ‘off the shelf’, as it does not need to be tailored to suit a specific IT business.

The framework enables any person who has IT professionals working for her/him to carry out a variety of activities related to human resources (HR) against a framework of common reference (SFIA, 2011). These references are limited to skill auditing, planning future skill requirements, development programmes, standardisation of job titles and functions, as well as resource allocation. The SFIA framework exists to encourage appropriate skills development of staff in the UK IT Industry. The framework was developed as a joint initiative of companies and professional bodies in the UK, IT Industry, led by e-skills UK (the Sector Skills Council for IT), and supported by the UK Government.

The framework is presented in a table format, which has the following five headings:

- (i) **Category:** This section shows six categories of possible business activities, which could also be referred to as departments within an organisation. They include strategy and architecture, business change, solution development and implementation, service management, procurement and management support, as well as client interface.
- (ii) **Subcategory:** Within the subcategory, the main categories listed above are broken down into different segments that make up that particular category.

Strategy and architecture, for example, is broken down into information strategy, advice and guidance, business IT strategy and planning and lastly, technical strategy and planning. This process is done for each of the main categories.

- (iii) **Skills:** For each of the subcategories, the SFIA assigns a set of IT-related skills. Thus, these skills represent the knowledge, skills and attitudes that a person needs to have, in order for them to be able to contribute or function within any of the subcategories.
- (iv) **Code:** A code is assigned to each of the identified skills. This code can be used to uniquely identify a specific skill.
- (v) **Levels of responsibility:** At this stage, the categories, subcategories and skills, as well as their codes have been identified. The levels of responsibility basically highlight at which level this particular skill is required. The seven levels that are recognised by SFIA include level one: Follow, level two: Assist, level three: Apply, level four: Enable, level five: Ensure and advise, level six: Initiate and influence, and level seven: Set strategy, inspire and mobilise.

More information and detail regarding the framework can be found on their website (<http://www.sfia.org.uk>).

### **2.5.5 National e-Skills Plan of Action (NeSPA)**

The e-Skills Institute is tasked with identifying and developing the e-skills that make up the e-skills taxonomy in the NeSPA document. This document was released in 2010. The e-skills are evaluated, based on employment readiness, effective e-governance and service delivery. Furthermore, business development, socio-economic development, and research, as well as development are also used to evaluate the identified skills (DoC, 2010). The NeSPA taxonomy draws attention to the sectors (areas) within which government has introduced ICT to facilitate service delivery. The sectors include: e-Literacy, e-Participation/ e-Democracy, e-Government/Governance, e-Business, e-User, e-Practitioner and e-Community (DoC, 2010). The taxonomy thus, also identifies and describes the e-skills needed to participate in the different sectors of the economy.

However the descriptions of the skills identified in the NeSPA document are not very extensive. They leave wide room for different interpretations. In consequence, it is

difficult to clearly point out the skills the small business owners in PDAs need, in order to use specific online services (e-support) – using NeSPA as a reference.

Table 5 provides descriptions of the NeSPA e-skills, as they relate to the associated government ICT focus areas in society.

**Table 5: NeSPA impact areas**

<b>e-Skill</b>	<b>Description</b>
<b>e-Literacy Skills</b>	<ul style="list-style-type: none"> <li>• These are the skills aimed at employment readiness (including starting small businesses), particularly targeting unemployed and unskilled youth and rural society.</li> </ul>
<b>e-Participation and e-Democracy Skills</b>	<ul style="list-style-type: none"> <li>• Skills focusing on enhancing citizen interactive engagement with communities, local, provincial and national governance processes to increase participation, self-reliance and equity.</li> </ul>
<b>e-Government/ Governance Skills</b>	<ul style="list-style-type: none"> <li>• Skills focusing on increasing efficiency and productivity interactive bimodal approaches to service delivery of governments and their agencies across all ICT platforms, including new cell-phone technology, community radio, and the like.</li> </ul>
<b>e-Business Skills</b>	<ul style="list-style-type: none"> <li>• Skills aimed at increasing organisational efficiency and productivity.</li> </ul>
<b>e-User Skills</b>	<ul style="list-style-type: none"> <li>• Skills focusing on enhancing the efficiency of public and private sector knowledge workers.</li> </ul>
<b>e-Practitioner Skills</b>	<ul style="list-style-type: none"> <li>• Skills aimed at enhancing the capacity of public and private sectors to manage, support and service ICT.</li> </ul>
<b>e-Community Skills</b>	<ul style="list-style-type: none"> <li>• Skills aimed at increasing self-reliance, participation and community support in a socio-economic setting to build social cohesion in ways that could better build local solutions to societal matters, such as crime, health, education and the like.</li> </ul>

### 2.5.6 The introduction of electronic competences (e-competences)

Generally e-competences refer to the “... *demonstrated ability to apply skills, knowledge and attitudes (e-skills), to achieve observable results*” (Mitrovic, 2010:1). Romani (2009:17) adds that competences are the “*ability to apply knowledge, know-how and skills in a habitual or changing situation*”. In regards to small businesses, e-competences are the technical and managerial capabilities that the owner would need to achieve his/her objectives (Fonstad and Lanvin, 2010).

Furthermore, “*e-competences are a sub-set of e-skills, which the European e-Skills Forum (2004) has defined as consisting of three types of skills: ICT user skills, ICT practitioner skills, and e-Business skills*” (Fonstad and Lanvin, 2010:7). It is necessary for all types of firms, whether small, medium or large, particularly in the ICT sector to possess e-competences (Fonstad and Lanvin, (2010). These skills allow them to utilise ICT fully, for business related transactions.

Although, conceptualising and defining e-competences that could be suitable for different contexts and requirements is considered a complex task, Romani (2009) identified five key e-competences: (i) e-Awareness, (ii) technological literacy, (iii) informational literacy, (iv) digital literacy, and (v) media literacy. These five competences are described below. Additionally, the competences are also presented in Figure 2, which illustrates their associated concepts.

- **e-Awareness:** Constitutes,

*Cognitive (thinking) skills characterized by a user's awareness of ICTs and appreciation of the relevance of these ICTs in the information-based society. It embraces familiarity with the technologies and understanding [of] how these are actually, or can be potentially, beneficial or prejudicial for the society (Romani, 2009:7).*

- **Technological literacy:** Technologically literate people have the confidence and abilities to use electronic media for study, work and leisure. They have the skills to use communication media. Moreover, they possess the capability to interact with hardware, software, productivity applications, communication devices and management applications. Furthermore, computer resources, such as word-processing, spreadsheets, databases and tools for the storage and management of information, are also resources they have the skills to use (Romani, 2009).

In addition, technological literacy embraces an understanding of the opportunities and potential risks associated with using the Internet. This literacy also includes the skills necessary for activities, such as networking, sharing information and electronic collaboration. Focusing more on Internet-based services, the abilities required include creating an account, composing an e-mail, attaching and downloading files, participating in an online discussion, using social networking sites, and creating blogs, among others (Romani, 2009).

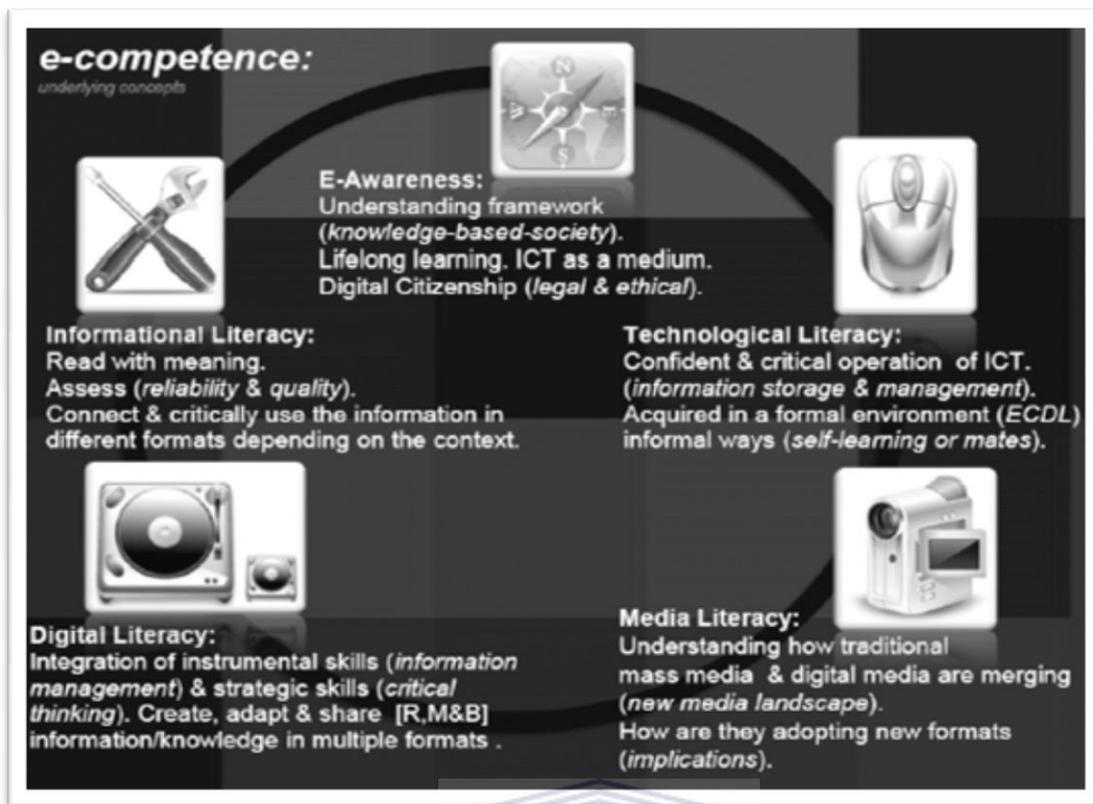


Figure 2: e-Competences and their five underlying concepts<sup>4</sup>

- **Informational literacy:** This literacy relates to people having the ability to understand, assess and interpret information from all kinds of sources. Informational literacy goes beyond being able to read and address information, to being able to read with meaning, understand critically, evaluate, connect and integrate different sets of information, data, knowledge and other sources. Acquiring informational literacy would give people the ability to make informed judgment about what is found on-line, or off-line (Romani, 2009).
- **Digital Literacy:** This literacy involves possessing the “*proficiency to build new knowledge, based on the strategic employment of ICTs*” (Romani, 2009:8). The attributes of digital literacy include knowing how to get relevant information, and

<sup>4</sup> Source: Romani, J.C.C. (2009). 21<sup>st</sup> century literacies and OECD (Work Team E-40: Digital Skills at Workplace). See website [http://isaleh.uct.ac.za/Assets/PDFs/2010/21st\\_century\\_literacies.pdf](http://isaleh.uct.ac.za/Assets/PDFs/2010/21st_century_literacies.pdf) [Accessed 1 May 2011].

how to manage and produce new knowledge. For any person, being digitally literate suggests that they embrace “... *using technology for information and knowledge, in order to access, retrieve, store, organize, manage, synthesise, integrate, present, share, exchange and communicate in multiple formats, either textual or multimedia*” (Romani, 2009:9).

- **Media Literacy:** Incorporates “*the understanding of how the traditional mass media and the digital media are merging, combining and evolving towards a new media landscape*” (Romani, 2009:9). The attributes of media literacy include comprehension of how media work, how it is organised, and how it is evolving to new formats. The different ways of communicating and interacting using different platforms, form part of media literacy. Lastly, understanding how different media platforms produce meaning (construct reality), as well as the social, legal, economic and political implications of using these platforms, are relevant skills. This literacy is necessary because it allows people to further “... *understand the phenomenon of the digital changeover*” (Romani, 2009:9).

### 2.5.7 European e-Competence Framework (e-CF)

The current version of the European, e-competence framework (e-CF) 2.0 is described as a framework of reference for ICT competences. It is simple and can be understood by any users, as well as practitioners of ICT, supply companies, managers, HR departments and the public sector. Any social and educational partners across Europe would also be able to understand the framework (e-CF, 2011). The e-CF is important for creating long-term competence development solutions for the European ICT community.

The e-CF lists competence areas, and identifies the characteristics (skills, attitudes and knowledge) associated with them. On the e-CF the proficiency levels of the characteristics required at each stage are also highlighted. The e-CF has been suggested as useful for promoting clearer understanding of company competence (skills, knowledge and attitudes) needs.

The e-CF framework is divided into four dimensions, which are shown in Figure 3. These dimensions represent the different levels of business and human resource planning requirements, as well as job proficiency requirements. The e-CF clearly identifies the competences (skills, attitudes and knowledge) that are needed and

used in any ICT working environment (Fonstad and Lanvin 2010). The e-CF highlights thirty-six competences that are classified, according to main ICT business areas. These competences are directly associated with the European Qualifications Framework (EQF).

<b>Dimension 1</b>	5 e-Competence areas, derived from the ICT business processes PLAN - BUILD - RUN - ENABLE - MANAGE
<b>Dimension 2</b>	A set of reference e-Competences for each area, with a generic description for each competence. 32 competences identified in total provide the European generic reference definitions of the framework.
<b>Dimension 3</b>	Proficiency levels of each e-Competence provide European reference level specifications on e-Competence levels e-1 to e-5, which are related to EQF levels 3-8.
<b>Dimension 4</b>	Samples of knowledge and skills relate to e-Competences in dimension 2. They are provided to add value and context and are not intended to be exhaustive.

**Figure 3: The e-CF dimensions<sup>5</sup>**

### **2.5.8 e-Competences identified by the Organisation for Economic Co-operation and Development (OECD)**

Although there is no universally used definition of e-skills, efforts are continuing to characterise the different types of e-skills, for instance through the European e-Skills Forum (2004) (OECD, 2005). The OECD has made tremendous strides in identifying the components of e-skills. This organisation highlights that the term 'skill' may be interpreted differently by employers and job seekers. Hence, in the process of trying to formulate a definition of e-skills it is important to start by adopt a standard definition of skills that can be applied in all contexts.

The OECD (2005) identifies three categories of ICT competences: ICT specialists, advanced users and basic users. These categories are further described in Table 6.

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<sup>5</sup> Source: The European e-Competence Framework, see website <http://www.ecompetences.eu> [Accessed 19 May 2011].

**Table 6: e-Competences categories<sup>6</sup>**

<b><u>e-Competences Categories</u></b>	<b><u>Description</u></b>
<b>ICT Specialists</b>	<ul style="list-style-type: none"> <li>The individuals, who have the ability to develop, operate and maintain ICT systems. ICT constitute the main part of their job – they develop and put in place the ICT tools for others.</li> </ul>
<b>Advanced Users</b>	<ul style="list-style-type: none"> <li>Competent users of advanced and often sector-specific software tools. ICT is not the main job but acts as a tool. Advanced users also have the ability to use advanced and often sector-specific tools for the administration and manipulation of data and digital media.</li> </ul>
<b>Basic Users</b>	<ul style="list-style-type: none"> <li>Competent users of generic tools (e.g. Word, Excel, Outlook, Power Point, Internet browsers, and e-mail options) needed for the information society, e-government and working life. ICT is seen as a tool, not the main job.</li> </ul>

After the discussion of various e-skills and e-competence models (above) that identify the different skills and competences necessary in a digital economy, the following section provides possible suggestions as to how to acquire these e-skills. The study focuses on the e-skills needed by the owners of small businesses in particular, primarily those in PDAs. These business owners prefer support that is provided by government and communities. This support is usually provided free-of-charge, or offered at a very low cost.

### **2.5.9 Acquiring e-skills**

ICT plays a large role in service delivery. Thus, in order to not only access, but utilise the services, one needs to have the appropriate skills. There is a continuous increase in the demand for skilled people (EU, 2002). This is a result of the constant development of the ICT that has become part of everyday life in society, education, health, entertainment and business.

Focusing on the business sector, for instance, the frontline workers are usually the ones who use ICT daily. Thus, it is important to concentrate staff training on the specific skills they require, rather than on the strategic benefits of ICT (Kotelnikov, 2007). In essence, the methods of training people should be appropriate for the specific skills they need. This section reviews possible options that could be used to

<sup>6</sup> Source: Organisation for Economic Co-operation and Development (OECD), see website <http://www.oecd.org/Internet/ieconomy/34769393.pdf> [Accessed 30 April 11].

help people gain e-skills. The stakeholders responsible for e-skilling the nation are also identified.

The South African government (at local, provincial and national level) has been chiefly tasked with the responsibility of e-skilling the nation (DoC, 2010). In addition, ICT training providers – both in the private and public sectors, Civil Society, Non-Governmental Organisations (NGOs), and Public Benefit Organisations (PBOs), were also identified, in NeSPA as important stakeholders. NeSPA further adds educational institutions: Higher institutions of learning, universities, Further Education and Training (FETs) colleges and basic education institutions, as important role players. Moreover, business and local/international funders are also responsible for training initiatives in the country. Lastly, the individual, citizens are responsible for their own wellbeing. Therefore it is their responsibility to show initiative, and incessant growth (DoC, 2010).

Although many stakeholders have been listed above, they are all grouped into the following categories: (i) Business; (ii) government; (iii) education; or (iv) civil society/labour. There is however debate, regarding the levels of responsibility, for each body (category). As mentioned previously, NeSPA identified government as tasked with the heavier burden. On the other hand Maharana and Mishra (2007) consider education to be the key body (category). This is because educational institutions, such as universities are key providers of information. Moreover, educational training qualifications are necessary to compete in the labour market, (CEDEFOP, 2006). Thus educational stakeholders must lead and position themselves in a role that enables them to provide the needed training (Maharana and Mishra, 2007). Education, however often cannot keep with the evolution of technology. Thus, there is usually an imbalance between what is taught (training), information available and what people need to know, in that moment because of the rapid advancements in technology (Maharana and Mishra, 2007).

Nevertheless, on behalf of the DoC (2010), the NeSPA document identifies the general strategies for e-skilling the nation. These strategies were the result of work groups and discussions by more than three hundred panellists and delegates at the e-Skills Summit in 2010. These panellists and delegates came from various countries (developed and developing): The UK, Egypt, South Korea, Spain, Ethiopia, Australia and South Africa. The delegates represented business, government,

education, civil society and labour (DoC, 2010). Some of the strategies identified by the DoC (2010:107) include:

- *Making infrastructure available in universities, FET colleges and secondary schools;*
- *ICT professional certification (determine quality);*
- *Establishing strong partnerships between higher education (HE) institutions and the private sector;*
- *Re-skilling of non-ICT graduates in ICT, for example, for the Business Processing Outsourcing (BPO) industry;*
- *Workplace readiness programmes supported by industry and government (e.g. medical doctors' training model);*
- *Addressing cultural issues on the pass rate (culture of accepting mediocrity);*
- *Exposing learners at secondary school level to generate an interest in ICT as a career.*

Additionally, Table 7 provides more category specific details of the main responsibilities of each stakeholder (government, businesses, education and civil society/labour) in relation to e-skilling the nation. These responsibilities are discussed further in the NeSPA document.

**Table 7: Stakeholders and their responsibilities (e-skilling the nation)<sup>7</sup>**

<b>Stakeholder</b>	<b>Strategy/ Responsibilities</b>
<b>Government</b>	<ul style="list-style-type: none"> <li>• Strengthen partnerships between local government, communities and civil society.</li> <li>• Making use of cell-phone technology to communicate with citizens.</li> <li>• Forming partnerships with private sector / NGO's in order to bring technology and e-skills to all citizens.</li> </ul>
<b>Business</b>	<ul style="list-style-type: none"> <li>• Sharing professional expertise and holding workshops which could be broadcast to many locations.</li> <li>• Government and business need to collaborate on which e-skills are needed by prospective employees, and to set a standard with regard to these e-skills.</li> <li>• Mobile Applications - increase security awareness for m-banking, m-commerce and m-government.</li> <li>• Skills development, re-skilling and up-skilling, share knowledge with</li> </ul>

<sup>7</sup> Source: National e-Skills Plan of Action (NeSPA). Compiled by The Information Society Institute (TISI). pp. 1-199.

	<p>government through workshops, training sessions.</p> <ul style="list-style-type: none"> <li>• Internship programmes need to be provided with a focus on business-specific e-skills.</li> </ul>
<b>Education (Public and Private) Sector</b>	<ul style="list-style-type: none"> <li>• Ensure that all school-leavers are e-Literate with sufficient foundational competence for further e-Skills development.</li> <li>• Role of FET Colleges, Sector Education and Training Authority (SETAs) and Universities - Understand the requirements of business in terms of what they need in the market. Incorporate these requirements into the curriculum; educate in more than just the technical arena, but also in matters of etiquette, presentation and appearance.</li> <li>• Education institutions need to align curriculum to business needs.</li> <li>• Role of FET Colleges, SETAs and Universities - Education can look at providing skills that the markets demand. In other words, do not focus on training on C++ but rather on C#.</li> <li>• Implement Government service delivery strategies and plans on e-skills initiatives as integrated part of its organizational operations.</li> <li>• Tertiary institutions/ FETs should focus on skills that are in demand, align curriculum better to business needs.</li> </ul>
<b>Civil Society/ Labour</b>	<ul style="list-style-type: none"> <li>• Development of modules to assist young and upcoming developers to enter markets.</li> <li>• Public participation and awareness campaign initiatives must be embarked upon aggressively.</li> <li>• Labour must be exposed to international norms and practices on e-skills initiatives and its impact to play a constructive role in the South African environment.</li> <li>• Form partnerships to have community centres with access points, where training can take place, Internet be available for free or at a low cost.</li> <li>• Adoption of an international standard where skills sets can be validated. The delivery and the validation of e-skills needs to be quality assured and have measureable outcomes.</li> <li>• Libraries provisioning Internet centres must act as conduits to provide workshops on e-government services and e-skills initiatives at no cost to the community.</li> <li>• Give the citizens free access to e-government services via Internet/community centres.</li> <li>• Training and development.</li> <li>• Create awareness.</li> </ul>

In addition to the strategies listed above the OECD also suggest possible methods of how people can be trained. The suggestions are however based on the three e-competences identified by the OECD, as highlighted in Table 6. Table 8 below presents the e-competences, their skills formulation and highlights the methods of acquiring them.

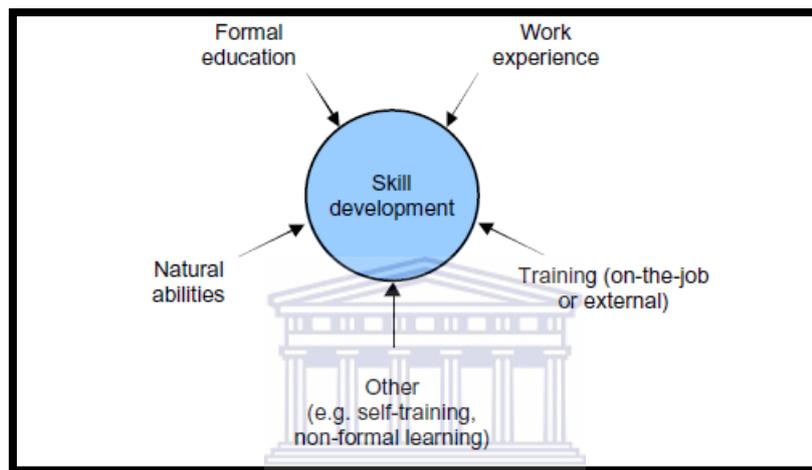
**Table 8: OECD e-competences, skills formation and skills acquisition<sup>8</sup>**

<b><u>e-Competence</u></b>	<b><u>Skills Formation</u></b>	<b><u>Skills Acquisition</u></b>
<b>Professional ICT skills</b>	<ul style="list-style-type: none"> <li>• Skills required to develop, use and/or service ICT professionally.</li> </ul>	<ul style="list-style-type: none"> <li>• Post-secondary education,</li> <li>• IT vendor certification.</li> </ul>
<b>Applied ICT skills</b>	<ul style="list-style-type: none"> <li>• Ability to use ICT in non ICT jobs.</li> </ul>	<ul style="list-style-type: none"> <li>• Post compulsory education,</li> <li>• Work place training.</li> </ul>
<b>Basic ICT skills</b>	<ul style="list-style-type: none"> <li>• Strong lifelong learning skills:</li> </ul>	<ul style="list-style-type: none"> <li>• Learning contexts: Schools</li> </ul>

<sup>8</sup>Source: López-Bassols (2002) with reference to the OECD based on multimedia Victoria (2000).

	Fluency to use ICT for learning, working and recreation.	(children), training (adults) (at work, formal courses, informal exposure).
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The EU (2002) also identified five methods of acquiring skills in Europe, namely (i) formal education, (ii) work experience, (iii) training (on the job or external), (iv) natural abilities and others such as (v) self-training. These methods are highlighted in Figure 4 below. The methods identified by the EU are similar to those suggested for the South African stakeholders. The difference would thus be the conditions, for instance, the availability of resources, context and the environment (developing vs. developed countries).



**Figure 4: How e-skills can be acquired<sup>9</sup>**

## 2.6 Designing an e-skills framework

Anticipating which skills will be needed, and when they will be needed, is no easy matter (DHET, 2010). Careful planning and clear understanding of the context where the skills are needed, is necessary to facilitate the process. Thus, as this study attempted to anticipate and identify the e-skills needed to use e-support, the process was planned and the context was specified. In regards to the context, the study focused on the owners of small businesses (formal and informal) in PDAs of the greater Cape Town. Furthermore, the e-support in question refers to the support that is provided by the South African government through selected agencies also known as service providers (SEDA, the RED Door, the Cape Gateway and the Smart

<sup>9</sup> Source: Synthesis Report, e-business and ICT skills in Europe, see website <http://www.edis.sk/ekes/finalreport1.pdf> [Accessed 18 June 2011].

Cape). The support is provided through electronic means such as the Internet. In addition, this e-support also includes convenient free or low cost access to ICT based resources: Computers, fax machines, printer, scanners and photocopiers. The focus of the support is intended to benefit people in the communities, especially small business owners.

Thus, the planning process of identifying precisely which e-skills are needed involved, reviewing relevant literature and analysing and comparing different (local and international) e-skills and e-competence frameworks, models and taxonomies. This was done in order to find a framework that is applicable to the context of the study - small businesses in PDAs of South African and their use of e-support (computers and the Internet).

Generally, developing countries are at a disadvantage in terms of the availability of resources. These countries face great challenges, for instance high percentages of poverty and unemployment. As a result people especially those located in PDAs are digitally excluded. They do not have equal opportunities to use or to learn how to use ICT. The following example is provided to illustrate the scale of the differences between developed and developing contexts. A student, who has completed secondary school in Norway, is more likely to have been exposed to computers and the Internet, in contrast to a similar student in Ethiopia (Schmidt and Stork, 2008). Consequently, since the environments in developing and developed economies are very different, the same ICT skills-measuring strategies (frameworks, models and taxonomies) cannot be used in both environments.

Most of the e-skills frameworks and taxonomies that were analysed were found to be applicable to small businesses in developed countries. The skills they identified were professional IT skills for businesses that fully integrate ICT into their day to day transactions and provide expert services. Since a noticeable number of small businesses in PDAs are informal they do not officially provide professional (expert) services. As a result majority of these frameworks and taxonomies were not applicable. Furthermore, as mentioned earlier in sections 2.2 and 2.4 small businesses in PDAs generally face great challenges in not only using ICT but accessing it as well. Thus, they cannot be considered businesses that have convenient access to ICT, which they can use in the day-to-day running of the business.

Some examples of e-skills frameworks that were analysed include a digital literacy framework for the 21st century cybercitizen and e-employee. This particular framework was developed by the Australian Communications and Media Authority and adapted from Osborne (2010) by Chinien and Boutin (2010). Another example is the ICT user digital skills framework, it is a nationally adapted framework developed in and for the United Kingdom (e-Skills UK Sector Skills Council, 2009).

Furthermore, the European Union DigEuLit Digital Literacy Framework (Martin and Grudziecki, 2006), the Netherlands Internet Digital skills Framework (van Deursen and van Dijk, 2008), the Digital Literacy and a conceptual framework for survival skills in the digital era (Eshet-Alkalai, 2004) are other examples. One framework that is even considered a European Union success story is the European/International Computer Driving Licence (E/ICDL). The framework is considered “... *a best practice with regards to the standardization, assessment and certification of digital skills*” (Chinien and Boutin, 2010:8).

There were however, very few of the analysed frameworks that were faintly applicable to the context of the study (developing countries). The skills they identified were relatable to the small business owners in PDAs. Examples included, the UNESCO Digital Literacy Framework (Catts and Lau, 2008), the SFIA (2011), the e-CF (2011), The NeSPA taxonomy (DoC, 2010) and the OECD (2005) e-competence model. Some of these frameworks are discussed further in the following section. This is done in order to determine the framework or model that is most applicable to the study context (this context was previously stated).

### **2.6.1 Steps followed during the design of the e-skills framework**

In order to design or identify an e-skills framework that is applicable to the developing context and tailored to the owners of small businesses in PDAs specific steps had to be followed. Firstly, an Internet use ladder was developed. Secondly, the key concepts of the framework were defined. Thirdly, the e-support available to the small businesses in PDAs was documented and categorised. Fourthly, relevant e-skills frameworks, models and taxonomies were analysed and lastly, the aligning of the identified e-skills and the documented e-support was done.

### **(i) Stage 1: Designing the Internet use ladder**

During the process of identify the e-skills needed to use e-support (which includes Internet based support and access to ICT based resources) it was helpful to first consider and understand the motivation, as well as the steps for using the Internet. It was easier to highlight these steps using a ladder type structure. The main reason for designing an Internet use ladder was to gain a more informed view of the different stages of Internet use, and not necessarily of technology adoption. At this stage a review of relevant literature was carried out.

It was found that Surman and Reilly (2003) made reference to an Internet appropriation ladder. This ladder was originally introduced by Camacho (2001) and Surman (2001). Surman and Reilly (2003) acknowledged the important role that the Internet and other technologies are playing in society. Moreover, they emphasise the need for people to learn how to use these technologies. People need to shift from being consumers of information, to producers of information (Surman and Reilly, 2003).

Thus, the Internet appropriation ladder they suggest highlights three distinct stages, in the use of the Internet (among other technologies). These stages include: (i) Access, then (ii) adoption, followed by (iii) appropriation. The first stage, access, which is at the bottom of the ladder, refers to having the resources to conveniently access the Internet. The second stage, adoption, is where the users develop the e-skills needed to use the Internet (or other technologies) in ways it was intended. At the third and last stage, appropriation, a person or organisations using the Internet (or other technologies) makes the technology their own. Thus, they use the Internet (or other technology) appropriately to meet any specific business or personal needs (Surman and Reilly, 2003).

Furthermore, the Innovation and Business Skills Australia (IBSA) also mentioned a summary of key areas that need to be considered when identifying the skills necessary for 'cybercitizens'. These areas fall under digital literacy. This literacy has been considered an important aspect of enabling people to gain the skills needed to function in a digital world (IBSA, 2010). The primary goal of the IBSA, however was to identify the skills needed by people in order for them to become cybercitizens. The

IBSA highlight the focus areas in order to facilitate the process of identifying the actually e-skills needed by the 'cybercitizens'.

The stages (areas) of focus for IBSA were, firstly access. At this stage people need to already have the informational literacy skills that are needed to find content and services. It is already assumed that people have access to ICT (IBSA, 2010). It is noted, however that for the Internet Appropriation ladder introduced by Surman and Reilly (2003), access to ICT is the first stage - before any actual skills are developed. The second area of focus for the IBSA was understanding and interpretation. This area focuses on the ability to understand, analyse and control any aspects of media content (IBSA, 2010). At this stage Internet use plays a large role. Thus, people need to have the basic skills to carry out day-to-day activities (shopping, banking and use of government services) online.

The third area is participation and creation. At this level users are now able to create and contribute information electronically in a creative sense (IBSA, 2010). This information can be in the form of a blog, forum or even any uploaded content. The fourth and last area is consumer protection and security. Once people have reached the stage where they receive, create and upload information electronically, they need to understand the associated security risks. Moreover, Internet users must be aware of other risks, for example phishing, scamming e-mails and even the legitimacy of security certificates when passing on credit card details over the Internet.

In addition, the basic elements of digital literacy, designed by the California Emerging Technology Fund (CETF) were also reviewed. The elements that are identified by the CETF (2008) were used to facilitate the identification of competences associated with digital literacy. The elements that are identified by CETF (2008) include:

- (i) Access: This element involves knowledge about information, including where to find it and how to retrieve it electronically.
- (ii) Manage: Applying an existing or new management system to organise the information currently possessed and to be obtained in future.
- (iii) Integrate: Using ICT to manipulate, synthesise, compare, contrast and summarise information retrieved from different sources.

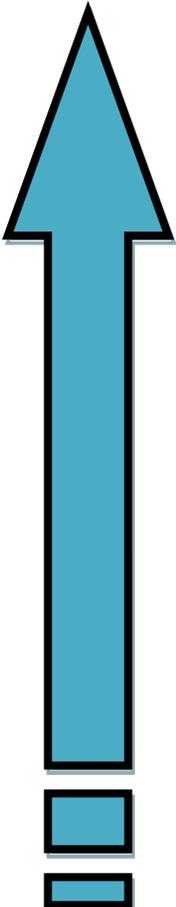
- (iv) Evaluate: The ability to judge information found on the Internet. Particularly the accuracy, timelines, appropriateness, adequacy and the authority of the information source.
- (v) Create: The use of ICT to generate or invent information.
- (vi) Communicate: The use of ICT to facilitate the sharing, exchange and uploading of information, using appropriate digital mediums.

The CETF further stated that “*existing international and national digital literacy frameworks and assessment instruments all share these common elements*” (CETF, 2008:3). This was found to be true, because after analysing the Internet appropriation ladder and the relevant areas identified by the IBSA (2010), it was noted that they had similar elements. It must be mentioned however that some of the elements from the different structures had similar titles but referred to different things – particularly the reference to *access*.

Consequently, after considering the contributions made by different authors, primarily those discussed above, key elements were combined. This was done in order to fill in some aspects that might not have been included in one single structure – not to suggest that any of them were incomplete. The end result was a detailed and informative Internet use ladder. This ladder is presented in Table 9. The ladder thus, highlights the different stages that Internet users will most likely go through.

The Internet use ladder is an important tool. It highlights different stages of using the Internet - from identifying a need, to actually benefiting from using the Internet to address that identified need. These stages have to be kept in mind when trying to determine the e-skills needed to utilise any online services (which form part of e-support).

**Table 9: Internet use ladder<sup>10</sup>**

	<b>KEY CONCEPTS (STEPS)</b>	<b>DESCRIPTION</b>
	<b>Appropriate</b>	<ul style="list-style-type: none"> <li>Strategically applying the relevant information obtained for personal or business development.</li> </ul>
	<b>Communicate</b>	<ul style="list-style-type: none"> <li>Communicating information and knowledge persuasively to meet the needs of various audiences personally or within the business through use of an appropriate ICT medium.</li> <li>Online participation.</li> </ul>
	<b>Construct/ Retrieve</b>	<ul style="list-style-type: none"> <li>Retrieving relevant information, generate digital content (solution to problem).</li> <li>Generating/inventing information by adapting, applying and/or designing information in ICT environments.</li> </ul>
	<b>Evaluate</b>	<ul style="list-style-type: none"> <li>Judge the currency, appropriateness, efficiency and adequacy of information and information sources for a specific purpose (including determining authority, bias, and timelines of materials).</li> </ul>
	<b>Integrate</b>	<ul style="list-style-type: none"> <li>Interpreting and representing information by using ICT tools to synthesise, summarise, compare, and contrast information from multiple sources.</li> </ul>
	<b>Understand/ Manage</b>	<ul style="list-style-type: none"> <li>Being able to understand and interpret the information being accessed.</li> <li>Organising information into manageable schemes or categories.</li> </ul>
	<b>Access</b>	<ul style="list-style-type: none"> <li>Knowing about ICT, Knowing how to use ICT to search for and retrieve information from various electronic sources such as the computer via the Internet.</li> <li>Using technology to interact with information.</li> </ul>
	<b>Identify a Need</b>	<ul style="list-style-type: none"> <li>Recognise the need for information (demand), identify what information is needed.</li> </ul>

The following section discusses the rest of steps that were followed during the design of the e-skills framework.

**(ii) Stage 2: Working definitions**

The main concepts of the e-skills framework are support, skills and competences. These concepts have different definitions. In regards to e-skills for instance, there is no standard definition that is accepted universally. Thus the second stage of designing the e-skills framework involved adopting working definitions of these terms. This was done for the benefit of the framework. The adopted definitions are summarised below.

<sup>10</sup> Adapted from: Surman and Reilly (2003); CETF (2008); Churches (2009); Rosado and Belisle (2006); IBSA (2010).

- *e-Support*: Support provided directly by the service providers (SEDA, RED Door, Cape Gateway and Smart Cape). The support is provided through the Internet. Additionally, this support also includes free or low cost access to ICT based resources (computers, photocopiers, printers, scanners and other relevant technologies).
- *e-Skills*: The knowledge, skills and competences associated with the use of ICT (European e-skills forum, 2004).
- *e-Competences*: The proven ability to apply skills (e-skills), knowledge and attitudes to achieve observable results (e-CF, 2011).

### **(iii) Stage 3: Documenting and categorising the e-support services**

The third stage in the design of the e-skills framework was collecting and documenting information about the services provided. This information was taken directly of the websites of the identified government agencies (service providers) that provide any sort of e-support to small businesses. The support was previously mentioned in section 2.3. The government agencies the study focused on are SEDA, the RED Door, the Smart Cape and the Cape Gateway. It was also noted that at each step of the design process, simplicity was important. This was because some of the small business owners that the proposed e-skills framework was targeting have low literacy levels. Thus the design of the framework needed to be easy to understand and user friendly.

All the documented e-support provided by the agencies was grouped into the following themes (i) Training; (ii) potential and existing business support; (iii) online information resources; (iv) ICT infrastructural support; and (v) small business promotion incentives. The full Table can be found in Appendix One.

### **(iv) Stage 4: Analysing and comparing relevant e-skills frameworks, models and taxonomies (local and international)**

After documenting and categorising the e-support, the next stage was to compare (local and international) e-skills and e-competence frameworks, models and taxonomies. It was found that among the frameworks and taxonomies analysed most were not applicable to small businesses in the developing context (PDAs). Furthermore, of those that were relatable to small businesses in PDAs, the definitions of the e-skills were either too advanced (designed for IT professionals) or

vague. The SFIA for instance, was relevant but designed for more successful and professional small business owners. The SFIA is applicable to businesses that are reliant on ICT to facilitate day-to-day transactions. These particular businesses are located in the United Kingdom (UK) and do not face challenges in acquiring ICT resources – much unlike small businesses in PDAs.

Nonetheless, the different models, frameworks and taxonomies were compared, in order to gain a better understanding of how to structure and design the proposed e-skills framework. The process of analysing and comparing the different frameworks brought to light numerous competences, skills, attitudes and knowledge associated with conducting business.

Since the e-support has been documented already (Appendix One), at this stage the goal was to identify the specific e-skills (attitudes, knowledge and skills) that are needed to use a particular type of support provided. The main frameworks, models and taxonomies that were found to be most relevant are discussed further below.

- *The Skills Framework for the Information Age (SFIA):*

The SFIA framework provides a common reference model. The framework is ideal for the identification of the e-skills needed to develop effective Information Systems (IS), through the use of ICT. Although SFIA clearly maps out these e-skills within the business context, this framework is designed to apply to well established and formal businesses. Moreover, these particular businesses need to operate within the Information Technology (IT) industry and have owners and workers that are IT professionals.

As a result, the majority of the e-skills identified in SFIA did not apply to the provided and documented e-support (Appendix One). Moreover, the e-skills identified by the SFIA could not be applied to small business owners in PDAs. The small business owners in PDAs are in some cases not very literate and they do not possess expert IT qualifications. Furthermore, a number of the small businesses in PDAs are informal, and have limited access to ICT. As a result the SFIA framework, including the e-skills it identifies, was not considered, in the design of the proposed e-skills framework.

- *The e-Competence Framework (e-CF):*

The e-CF is an ICT competence reference framework (e-CF, 2011). The e-CF can be used by ICT users and practitioners, as well as managers, HR departments and the public sector. Educational and social partners can also use the framework. The e-CF is applicable to small businesses in PDAs. However, after comparing the listed competences (skills, attitudes and knowledge) and trying to align them to specific e-support (Appendix One), the e-CF was not included in the design of the e-skills framework. Consequently, very few competences identified in the e-CF related to the provided and documented e-support. They were too few and proved insignificant. As a result, the e-CF did not provide any informative benefits. Thus, it was also not included in the design of the e-skills framework.

- *The e-Skills council model:*

The e-skills pyramid model identified in the report from the e-Skills Council to the PIAC titled 'Towards an e-Skills Development Concept for South Africa' (2008) was also reviewed. This was done, in order to determine whether any of the identified e-skills were applicable to the research context; and thus merited possible inclusion in the e-skills framework. This model highlights five categories of e-skills: (i) e-Literacy skills; (ii) e-business skills; (iii) ICT user skills; (iv) e-practitioner skills; and (v) R and D capable practitioner skills.

These e-skills categories have been adopted from the European forum model (2004) and already adjusted to apply to the South African setting. However, this model was not included in the design of the author's e-skills framework. The definitions and concepts of the e-skills were vague. They left much room for varying interpretations.

- *Basic Literacy Model – Romani Model:*

The e-competence model that was introduced by Romani (2009) identified five key competence areas, which are presented as literacies: (i) e-Awareness; (ii) informational literacy; (iii) technological literacy; (iv) digital literacy; and (v) media literacy. The Romani model was incorporated into the design of the e-skills framework because of its ability to relate (relevance). The model also proved to be very simple and the identified competences were applicable to the context of investigation - owners of small businesses in PDAs.

Additionally, the Romani model is also applicable to scenarios where people have very basic skills or advanced skills, as the model represents a gradual growth process. For each competency area (literacy), there is a detailed explanation of the attributes that make up that literacy. Thus, the skills, attitudes and knowledge needed to use specific e-support services were easily identifiable.

Furthermore, in order to support the credibility of the proposed e-skills framework, the descriptions of the e-competences identified by Romani were evaluated against literature. This process included analysing different descriptions of the e-competences (literacies). It was observed that some of the definitions found were more detailed than those provided by Romani. On the other hand, organisations such as UNESCO argued that there are “... *no universally accepted definitions of media literacy, information literacy, digital literacy, or even of “media” itself*” (Moeller et al., 2010:14). Hence, it was necessary to review the various definitions in order to determine those that were most applicable. As a result, the definitions of the e-competences (literacies) were adjusted and the contributing authors’ definitions were included. It must be noted that although, Romani uses the term literacies to contextualise the e-competence areas, for the sake of this research these literacies will be referred to as **e-skills**.

The Romani model was further adjusted. An additional e-skill - Basic Literacy was added. This was done in order to enhance the detail and scope of the original model, thus tailoring it more to the owners of small businesses in PDAs. Basic literacy was added because the skills, attitudes and knowledge associated with it directly address people’s reading, writing, oral communication and counting skills. Basic literacy thus, forms the pillar (foundation) for the other e-skills. Furthermore, it relates to small business owners thinking and problem solving skills, as well as their ability to determine, recognise, define and articulate the digital information needs of their businesses.

Basic literacy skills are considered to be foundational skills, educational building blocks, which are necessary in order for people to be able to participate in society. Thus, the final e-skills that formed part of the e-skills framework were (i) Basic literacy (foundation skills); (ii) e-awareness; (iii) technological literacy; (iv) informational literacy; (v) digital literacy; and (vi) media literacy. The full list of these e-skills and their detailed definitions can be found in Appendix Two.

#### **(v) Stage 5: Aligning the identified e-skills to the documented e-support services**

The e-skills framework was designed to highlight the compatibility of the identified e-skills and the provided e-support. In order to clearly show the aligning process, the e-skills framework was designed with two main dimensions. The first dimension contains the documented e-support. This e-support was grouped according to particular themes, namely (i) Training; (ii) potential and existing business support; (iii) online information resources; (iv) ICT infrastructural support; and (v) small business promotion incentives. The second dimension shows the identified e-skills required. The e-skills are thus matched to the e-support presented in the first dimension, highlighting which e-skill is needed to use each of the particular e-support services.

The aligning process was done by first going through each provided e-support service individually. Secondly, based on the descriptions of the e-skills (literacy clusters), the most appropriate e-skills needed to use a particular e-support service were identified by a tick. Hence, for example, in order to use provided ICT, such as computers to access the Internet, the necessary e-skills are basic literacy, e-awareness and technological literacy skills.

From the framework, it was found that basic literacy (foundation skills) and e-awareness skills are required to use any of the identified e-support. It must be noted, however, that this aligning process is purely a guideline. Although the description of the e-skills supported the e-support they were allocated to, the applicability of the e-skills to a particular e-support service is debatable. This is especially true since descriptions of these e-skills generally vary. The complete e-skills framework, showing the alignment of skills and services, can be found in Appendix Three.

#### **2.6.2 Development of the research conceptual model**

The e-skills framework was designed by considering that the appropriate use of the Internet does not only require technical skills, but also some underpinning complex meta-cognitive skills (Chinien and Boutin, 2011). These cognitive skills are related to, or involve conscious intellectual activity, for instance, thinking, reasoning and/or remembering. Meta-cognitive skills are the awareness or analysis of one's own learning and/or thinking processes (Merriam-webster online Dictionary, 2013). Moreover, small business owners who use the Internet, to search for information

need cognitive skills, coupled with technical skills. These skills allow them to find and use the information (UNESCO, 2008).

The small business owners that make use of e-support are generally looking for information on business-related services. Thus, they need information processing skills, as well as other relevant skills. However, as a result of low literacy levels many owners of small businesses in developing countries have low levels of informational literacy (information processing skills) (Tilvawala, Myers and Andrade, 2009). Furthermore, small business owners face other limitations that affect their use of ICT. Some of these challenges, which include the lack of e-skills have been discussed previously (Chapter Two, sections 2.2 and 2.4). Therefore, the lack of these particular e-skills is a challenge that needs to be overcome. This will ensure that the intended beneficiaries of e-support (small businesses) have convenient access to ICT based resources and the e-skills to use them fully.

Through the literature review process the provided e-support was documented and the e-skills needed were identified. The relationship between these concepts was highlighted in the e-skills framework. The purpose of the e-skills framework was to address the main research question. This question asked 'which e-skills are needed by small business owners in PDAs for the effective utilisation of the specific e-support provided for them?' The necessary e-skills were found to be (i) basic literacy (foundation skills); (ii) e-awareness; (iii) technological literacy; (iv) informational literacy; (v) digital literacy; and (vi) media literacy. The relevance of these e-skills however, was tested within the empirical setting. The results are discussed in Chapter Four, to follow.

Additionally, in order to further understand the relationships between the identified e-skills, e-support, government, small businesses and challenges that they face a conceptual model was designed. Thus, the problem statement (Chapter One, section 1.4) that the study identified is captured in the research conceptual model. A conceptual model or framework is an arrangement of concepts, assumptions, expectations, beliefs, and theories that aim to support, as well as provide information about a study (Maxwell, 2008). Furthermore, the research conceptual model also includes the actual ideas and beliefs that the particular researcher holds about the phenomena being studied - whether they are written down or not (Maxwell, 2008). In essence, the conceptual model is a formulation of what the researcher thinks is

going on with the phenomena being studied. It is “*a tentative theory of what is happening and why*” (Maxwell, 2008:222).

Apart from providing a graphical rendition of the problem, the research conceptual model facilitated the research-design process. The following section presents a detailed description of the steps that were followed during the design of the research conceptual model.

### **1. Identification of key stakeholders**

The main objective of the study was to identify the necessary e-skills. These are the skills, attitudes and knowledge that the owners of small businesses need to possess, in order to use the Internet (online services) and computers, including other relevant technologies. The required e-skills are identified in the e-skills framework<sup>11</sup>. The framework also aligned the e-support<sup>12</sup> to the specific e-skills needed to use them. Thus, for each of the identified e-support services the necessary e-skills were indicated. From this process, it became easier to identify the key stakeholders. These stakeholders were the government, the providers of the e-support and small businesses, because they were the intended beneficiaries of the e-support.

Thus, the conceptual model highlights the role of government as the key provider of e-support. Furthermore, the model presents the e-support provided and reflects the position of the small businesses as the end point of the process. This is due to the small businesses being the end-users (intended beneficiaries) of the provided e-support.

### **2. Addressing the research problem**

The research problem states that small businesses, the intended beneficiaries, are not benefiting from the e-support provided. Hence, there is a gap between what is being offered and what is being utilised. The *current status* of the use of e-support services is that there are poor/low levels of e-support use. Moreover, the desired vision for *the future* is an increased level of e-skills among the owners of small businesses in PDAs. Thus, after the causes of the current low levels of use have been addressed and a solution found, the preferred outcome is an increased

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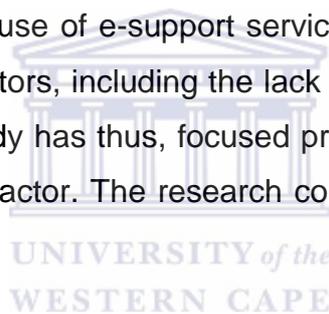
<sup>11</sup> These e-skills include (i) Basic literacy; (ii) e-awareness; (iii) technological literacy; (iv) informational literacy; (v) digital literacy; and (vi) media literacy).

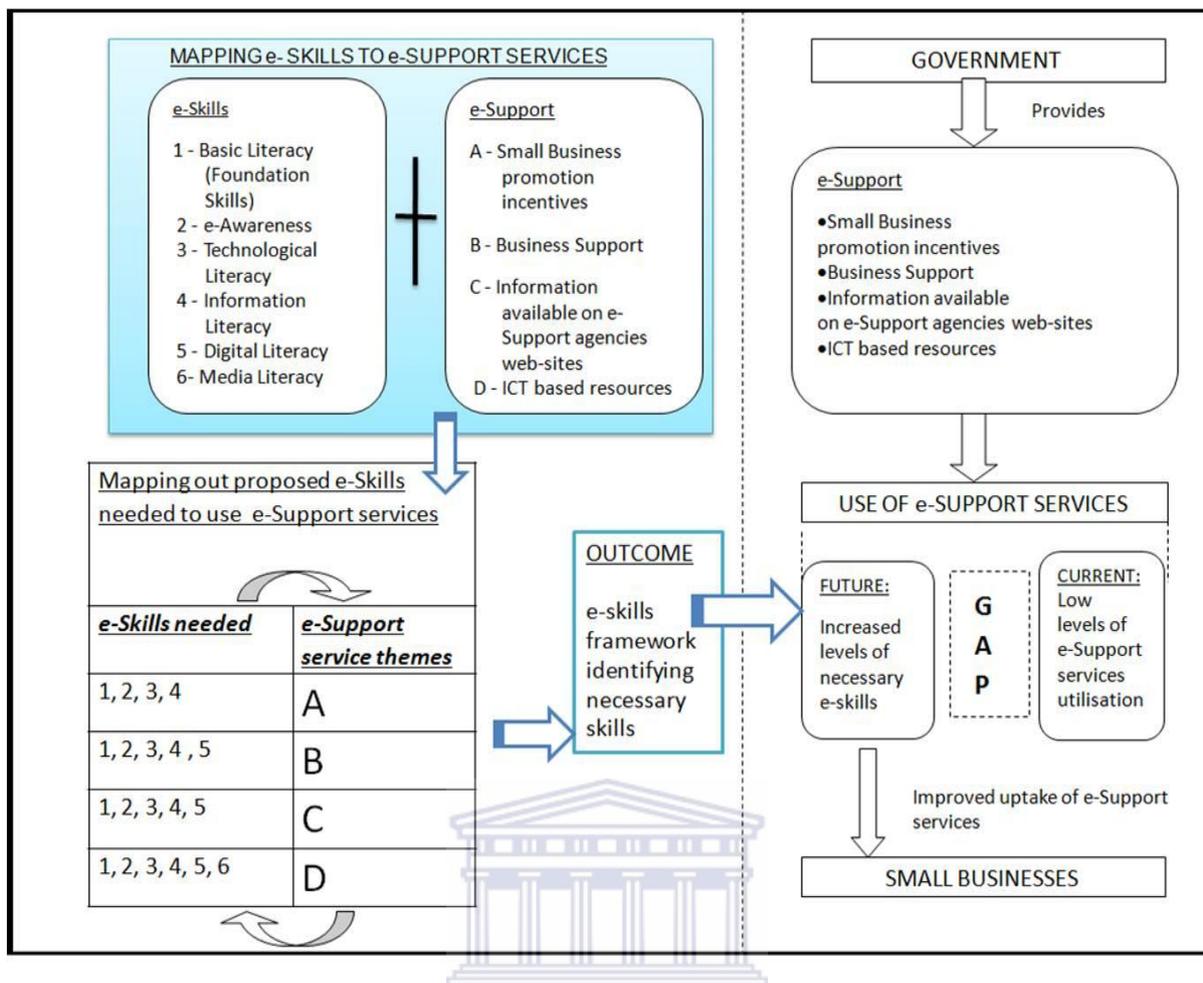
<sup>12</sup> The grouping was according to (A) Training; (B) business support; (C) information available on e-support agencies' websites; (D) ICT-based resources; and (E) small business promotion incentives.

awareness and use of e-support. It is hoped that this will promote the improved performance of small businesses, especially those in PDAs.

The review of literature supported the notion that the lack of e-skills *inter alia* among small business owners contributed to the low use of e-support. Furthermore, in order to reach the future goal of an improved use of e-support, it was necessary to align the e-support with the identified e-skills. The end result of the aligning process was a framework linking and identifying e-skills to specific e-support themes. Accordingly, the aligning process further emphasises the necessity of the e-skills identified in the e-skills framework. Additionally, this process shows how this framework can be used as a tool to further the future objective of improving the awareness and use of e-support.

The research conceptual model is a graphic representation. It represents the findings in literature. However, the concluding suggestion that an increase in the levels of e-skills would lead to improved use of e-support services cannot be guaranteed. This is because there are other factors, including the lack of e-skills that contribute to the low use of e-support. The study has thus, focused primarily on the lack of adequate e-skills as a key contributing factor. The research conceptual model is presented in Figure 5.





**Figure 5: The research conceptual model – source: Author**

## 2.7 Conclusion

South Africa has the desire and the ICT infrastructure to compete at different levels on a global scale with more developed economies. However, considering that South Africa is indeed a developing economy, it faces numerous challenges. These challenges include high levels of unemployment, unequal distribution of social income, high poverty levels, and disturbingly high crime rates, as well as an HIV/AIDS pandemic. Furthermore, the country also faces the challenge of a shortage of e-skills among the people.

The review of literature highlighted that initiatives have been put in place to address the challenges listed above. Entrepreneurship and ICT, for instance have been identified as tools that could assist the country in overcoming these challenges. As a result, through platforms such as e-government, the government is using ICT to facilitate improved service delivery to the people. However, not everyone has equal opportunity to benefit from ICT. This is as a result of a number of factors, some of

which are listed above. Thus, any initiatives to provided support are becoming increasingly important. Even more so, as ICT continues to advance and change the way in which the world functions.

The main focus of this study was thus on the relationship between e-skills and ICT, particularly computers and the Internet. Considering that small businesses (entrepreneurship) and ICT were identified as important strategies to overcome some of the challenges being faced by people, it was necessary to investigate them further. Hence, one of the main objectives of the study was to understand the role of e-skills among small business owners in PDAs of the greater Cape Town, on the use of government provided e-support. Furthermore, it was necessary to also identify the e-skills that are necessary to use the provided support.

In regards to the small businesses it was found that within the Western Cape there are roughly 1.8 to 2.5 million small businesses (Branam, 2008). However, investigation into the success of these small businesses has highlighted their poor performance and high failure rates. These results are cause for concern, as small businesses are seen as strategies to promote economic growth. Small businesses provide employment opportunities. Thus, they help to reduce poverty and unemployment.

In order to address the failure rates of small businesses government put in place agencies (service providers) to provide support. This study focused on the RED Door, SEDA, the Smart Cape and the Cape Gateway. These agencies provide e-support through the use of enhanced technologies, such as the Internet. Additionally, they also provide free or low cost access to ICT based resources (computers, as well as other relevant technologies). Unfortunately, even with the current e-support in place, in many areas small businesses are still failing. One noted reason is that the e-support is not being used fully. This is due to, among other things the lack of e-skills among the intended beneficiaries (small business owners). The provided e-support has to some degree failed small businesses (Basardien, 2003).

It is necessary for government to empower the owners of small businesses, by giving them the tools and skills to be able to function in a society where ICT plays an important role. Furthermore, there is evidence to suggest that the use of ICT by small business owners should improve their businesses. The improvement would be

in regards to the profitability, outreach, and operating capabilities (Matthews, 2007). Similarly Qureshi and York (2008) state that if small businesses are able to use information systems effectively, they could grow, potentially reaping the benefits from technology, and becoming profitable businesses.

Thus, it may be said that the shortage of e-skills among the intended beneficiaries of e-support does indeed play a role in the use, and eventually the overall effectiveness, of the e-support. It is thus important to empower these small business owners with the necessary e-skills that would allow them to function in society. This would also aid government in reaching its target goals, which are set out in the South African MTSF and the MDGs.

Additionally, government needs to adequately improve the methods of service provision and e-skills training among individuals. Considering the role that ICT plays in society all citizens need to possess the e-skills required to function. It must be noted, however, that ICT acts as an amplifier of underlying processes. Thus, ICT will not automatically transform bad development into good development, but would instead improve them (Harris, 2004). This chapter has also proposed an e-skills framework that identifies the e-skills necessary to use online services (e-support) and e-resources, such as computers. These e-skills are (i) basic literacy; (ii) e-awareness; (iii) technological literacy; (iv) informational literacy; (v) digital literacy; and (vi) media literacy). The chapter also identified the main stakeholders that are responsible from e-skilling the nation. The stakeholders represent one of the following groups/ categories, (i) business; (ii) government; (iii) education; or (iv) civil society/labour.

The next step in this study was to empirically test the conceptual model and the identified e-skills. It was necessary to select an appropriate research methodology that would guide the data collection and analysis. In Chapter Three, the research design, methodology and motivation are discussed.

## Chapter Three

### Research design and methodology

#### 3.1. Introduction

In essence, research is the process of examining the effect that one or more variables has on one or more dependent variables (Marczyk, DeMatteo and Festinger, 2005). In regards to this study, the challenge was to examine the influence of e-skills on the use of e-support. The study also documented the e-support provided to small businesses in PDAs. Furthermore, an analysis of the different concepts of e-skills also formed part of the study. This was done in order to identify the e-skills necessary to use the documented e-support (online-services, computers and other relevant technologies) fully. As a result, an e-skills framework clearly identifying the necessary e-skills was designed. The designed framework can be considered as a relevant and informative tool. It shows small business owners the e-skills that they need to have, in order for them to benefit from using specific e-support.

In spite of the numerous benefits that small businesses can gain from using ICT, many are still not benefiting socially and/or economically from using ICT. This is because among other things, computers and/or Internet access are not conveniently available or cost effective. Furthermore, some business owners do not have the e-skills needed to use computers and/or the Internet. The review of literature done in Chapter Two provided more insight into these challenges, and others. The e-skills framework is thus a possible solution as it highlights the e-skills that the owners of small businesses need to have. Once the small business owners have the relevant e-skills it is likely that their use of e-support will increase.

However, before the e-skills framework could be proposed as a reliable tool, it had to be tested in the empirical setting of the study. In that regard, this chapter sets out the research methodology and design. The chapter begins with a description of the research methodology. This is followed by a discussion on the philosophical perspective of the research. Additionally, the chapter presents a summary of the research paradigm and research design. Furthermore, detailed explanations of the applied case study strategy and the techniques of data collection are provided. The

chapter also presents a detailed narrative of the data analysis process, ethical considerations and challenges faced.

### **3.2. Research methodology**

Research within Information Systems (IS) can be carried out using different methodologies. Some of the more popular distinctions are between Quantitative and Qualitative research methodologies (Myers and Avison, 2002). These methodologies are briefly summarised below, in order to provide details on their underlying principles.

#### **3.2.1 Quantitative research methodology**

This methodology was originally developed in the natural sciences. It was designed to facilitate the study of natural phenomena (Myers and Avison, 2002). The social studies, which were initially considered heavily qualitative, have now accepted quantitative methods of carrying out research. Some examples of quantitative methodologies include survey methods, laboratory experiments and econometrics. Additionally, numerical methods, such as mathematical modelling are also considered quantitative methods (Myers and Avison, 2002). Though quantitative methods researchers can reach conclusions based on counting or measuring the characteristics of the world around them (Scott and Garner, 2012).

Furthermore, in quantitative studies research questions are generally formulated on the basis that answers will be numerically or statistically analysed.

#### **3.2.2 Qualitative research methodology**

Qualitative methodologies were developed in the social sciences (Myers and Avison, 2002). They are considered a type of scientific research. These methodologies seek to study and find answers to questions through the use of an organised set of procedures. Additionally, this type of investigation facilitates the collection of evidence, and produces findings that were not previously determined (Mack, Woodsong, MacQueen, Guest and Namey, 2005). These findings are generally applicable beyond the immediate scope of the study (Mack et al., 2005).

Furthermore, qualitative methodologies are most effective in obtaining information that is culturally specific about the opinions, values, behaviours and the social context of a given population (Mack et al., 2005). In some cases, qualitative research

can be used as a source of hypotheses for later testing in quantitative research (Marczyk et al., 2005).

This methodology enables researchers to study and understand people in their social and cultural contexts (Myers and Avison, 2002). Examples of this methodology include action research, case studies and ethnography. The sources of data are usually the researcher's impressions and reactions, as well as participant observation (field work), interviews, questionnaires, documents and text (Myers and Avison, 2002). Basic research designs associated with qualitative research generally produce information that is usually not readily or immediately in quantitative form (Scott and Garner, 2012). The results can, however, be converted to numerical form later in the research process.

In order to adequately achieve the desired outcome in regard to the objectives of the study (Chapter One, section 1.6) the qualitative research methodological approach was used. This approach was applied to both data collection and analysis. The data were collected from e-support providers' websites, government publications, and interviews with the service providers and intended beneficiaries (the owners of small businesses).

Furthermore, the qualitative approach was used because the interviewee's perceptions and levels of understanding were important. Quantitative methods, such as surveys or laboratory experiments, for instance, would not have been able to collect the rich data required. Such rich data are often hidden in meanings, gestures or even facial expressions (Myers and Avison, 2002). They cannot be captured accurately via quantitative means. Moreover, the natural settings and environments of the interviewees, particularly the owners of small businesses, played a large role. Their environments influenced their socio-economic development. The socio-economic environments have a profound effect on, for example, levels of skills, education and attitudes to technology.

Moreover, qualitative research is considered to be a type of scientific research that attempts to understand a given research problem from the perspectives of the local population it involves (Mack et al., 2005). This approach seeks to understand phenomena in context-specific settings, such as the real world (Patton, 2001). This

methodology is suggested to researchers who do not wish to manipulate the phenomenon of interest, but rather to understand and investigate it (Patton, 2001).

Thus, during the research process every effort was made to minimise the power relationship that is said to often exist between a researcher and the study participants (Creswell, 2007). This was done by empowering the participants. As a result, they felt free and motivated enough to share their stories, in their own voice (Creswell, 2007). Moreover, qualitative researchers do not particularly bring individuals into the lab (a contrived situation). They also do not typically send out instruments for individuals to complete (Creswell, 2007).

Thus, the data were gathered through talking directly to the participants and seeing them behave, as well as act in their natural environments. The latter sources of data (behaviour and actions) are unquantifiable data. Collecting rich data is in itself a major characteristic of qualitative research and one reason why some researchers use this methodology. Furthermore, the primary data were collected at the sites where the participants' experienced the issues or the problems under study.

Thus, speaking to the participants directly enabled the researcher to understand the participants' perspectives. These perspectives were in regards to which e-skills they had, in relation to which they considered necessary. Furthermore, participants were able to express their attitudes about their socio-economic conditions, which have an effect on their adoption of technology. Thus, it was necessary to get their views on what is happening around them. For instance, the end users of ICT (and those around them) can provide accurate information about whether the availability of ICT does indeed increase their e-skills and/or influences their use of the facilities. They are directly affected, thus they could possibly shed light on factors that had not been previously considered.

### **3.3. Philosophical perspective**

Whether research is conducted qualitatively or quantitatively it needs to be "... *based on some underlying assumptions about what constitutes valid research and which methods are appropriate*" (Myers, 1997:3). In that regard, there are five (qualitative and quantitative) research perspectives, also referred to as assumptions that guide research. These perspectives include the Ontology Assumption; the Epistemology Assumption; the Axiological Assumption; the Rhetorical Assumption and the

Methodological Assumption (Creswell, 1994). These research perspectives guide the research process.

Although all five perspectives are relevant, this research will provide brief summaries of the Epistemology assumption and the Ontology assumption only. This was done, in order to clearly identify their role in the research design. The summaries demonstrate awareness and understanding of the philosophical perspectives and how they influence the research process<sup>13</sup>.

### **3.3.1 The epistemological assumption**

Epistemology is the “... *theory of knowledge that deals with the nature of knowledge, its scope, and provides a set of criteria for evaluating knowledge claims and establishing whether such claims are warranted*” (Khazanchi and Munkvold, 2002:2). Moreover, epistemology is concerned with the relationship between the research participant and the researcher (Ponterotto, 2005). As a result, the epistemology assumption guides the researcher by focusing attention on the roles of the participant and the researcher in relation to the process of knowledge-building and interaction.

### **3.3.2 The ontological assumption**

This assumption is mainly concerned with the nature of reality and being. It addresses questions that ask, what the form and nature of reality are, as well as what can be known about that reality (Ponterotto, 2005). Furthermore, the interpretations of these realities are thus influenced by the selected research paradigm, which in the case of this study, is interpretive.

### **3.4. Research paradigm**

There are different research paradigms that can be used to guide a study. These paradigms set the context for the parameters of an investigator’s study. It is possible, although debatable, to incorporate different paradigmatic schemas in the same

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<sup>13</sup> For further reading and information on all five assumptions please read, Creswell, J.W. (1994). *Research design, qualitative and quantitative approaches*. Thousand Oaks, California. Sage Publication Inc.

study. Researchers would do this in order to conceptualise and classify their specific research (Ponterotto, 2005). A paradigm connects and categorises research techniques through underlying philosophical assumptions about the appropriate research practice (Kamali, n.d.).

Myers and Avison (2002) proposed three distinct epistemological categories: Positivism, Interpretivism and Critical research approaches. Although these three ideal epistemologies are philosophically diverse, in the practice of social research they are not always clearly distinct. Moreover, as briefly mentioned earlier, there is considerable debate about whether these research paradigms are necessarily opposed, or whether they could all be accommodated in one study (Myers and Avison, 2002).

Although it is noted that there are several other research paradigms, this study will only discuss the above mentioned paradigms (Positivism, Interpretivism and Critical research approaches). This discussion provides more insight into the paradigms, and in so doing supports the choice of the interpretive paradigm for the study.

#### **3.4.1 The positivist research approach**

A positivistic inquiry enables an explanation that would subsequently lead to a prediction and the control of a particular phenomenon (Ponterotto, 2005). Furthermore, this philosophical realism is closely linked to the hypothetic-deductive method (Ponterotto, 2005). As a result, positivists “*generally assume that reality is objectively given and can be described by measurable properties, which are independent of the observer (researcher) and his or her instruments*” (Myers, 2009:37).

Additionally, Flowers (2009) also emphasised the relationship between positivism and deductive reasoning. According to Flowers (2009) this approach is based on the values of reason, truth and validity. Moreover, the focus is purely on facts that are gathered through direct observation and experience. These facts are thus measured empirically using quantitative methods (Flowers, 2009).

#### **3.4.2 The critical research approach**

The critical-ideological paradigm is focused on emancipation and transformation. The researcher’s proactive values are considered central to the main task, purpose,

and methods of the proposed research (Ponterotto, 2005). Although the researcher's values are central to the task, their assumption is that the social reality is historically constituted, produced and reproduced by people (Myers and Avison, 2002). In the same vein critical research also focuses on the oppositions, conflicts and contradictions that affect modern-day society. Additionally, this approach seeks to help to eliminate the causes of alienation and domination in the society (Myers and Avison, 2002).

### **3.4.3 The interpretive research approach**

Interpretive research is also referred to as Constructivism. The interpretive position *"... espouses a hermeneutical approach, which maintains that meaning is hidden and must be brought to the surface through deep reflection"* (Ponterotto, 2005:129). This reflection is stimulated by the interaction between the researcher and the object of the investigation. Thus, only through this type of interaction can a deeper meaning be disclosed (Ponterotto, 2005). The emphasis is, therefore, placed on the interaction between the researcher and the object of the investigation, as they work together to co-construct *"... findings from their interactive dialogue and interpretations"* (Ponterotto, 2005:129).

An interpretive researcher starts out with the assumption that access to any reality (given or socially constructed) is only through social constructs. These constructs include language, consciousness and shared meanings (Myers and Avison, 2002). Furthermore, interpretive researchers attempt to gain a general understanding of the phenomena through the understandings or meanings that people have assigned to them (Myers and Avison, 2002).

Therefore, the research paradigm that was most appropriate for this study was the interpretive research paradigm. This paradigm was adopted because it facilitated an increased understanding of the complexities of human sense-making. The objective of the research was not to 'eliminate the cause of alienation and domination', as proposed in critical research. Neither was the research focused on presenting quantifiable results, which is achievable through positivist research. The phenomenon under investigation was underlined within the research participants' 'understandings or meanings' of the concepts of e-skills, e-support and technology adoption.

The interpretive research paradigm thus enabled the understanding of the participants' thoughts and actions, while they were in their social contexts (Klein and Myers, 1999). The use of this paradigm in Information Systems (IS) research is encouraged. It has the potential to help the researcher to get a deeper understanding of the IS phenomena (Klein and Myers, 1999).

It is noted, however that IS research “*can be classified as interpretive if it is assumed that our knowledge of reality is gained only through social constructions, such as language, consciousness, shared meanings, documents, tools, and other artefacts*” (Klein and Myers, 1999:67). Moreover, the socio-economic constructs of a society play a large role in shaping the way that the owners of small businesses think. These constructs can also influence their attitudes to different societal issues, such as education, unemployment, poverty and even technology use. Through the interpretive paradigm the researcher was able to apply a research design that facilitated the collection of rich data with valuable unquantifiable meanings underlined within the data.

### **3.5. Research design**

The research design is considered the plan that connects the conceptual research problems and the relevant, as well as the achievable empirical research (Van Wyk, 2012). The design articulates what data are required to answer the research question. This includes the methods which should be used to collect and analyse the data (Van Wyk, 2012). The logic of the research design enables the researcher to select and apply methods of data collection and analysis that are appropriate for the research project, thereby addressing the research question. The research design also reflects the purpose of inquiry. This inquiry can be characterised as being exploratory, descriptive, explanatory, predictive, evaluative or historical (Van Wyk, 2012).

Hence, in order to incorporate the main components of a qualitative study, and clearly highlight the purpose of inquiry and the related characteristics, Maxwell's *Interactive Model of Research Design* was used. This model has five components that address different areas of concern, crucial to the coherence of any study (Maxwell, 2008). The five components of the model include: (i) The goals; (ii) conceptual model; (iii) research questions; (iv) methods; and (v) validity. The following section discusses the model's five concepts.

### **(i) The goals**

Setting goals enabled the researcher to answer the following questions - Was the study worth doing? What issues would the research clarify? Why did the researcher want to conduct this study? What is the significance of the results? Through the process of addressing these questions, the researcher was able to gain more insight into the key underpinnings of the study. Thus, allowing the researcher to use data collection and analysis techniques that were appropriate.

The study was worth doing because it shed light on particular issues (for example, the lack of e-skills, education, funds and ICT access) that influence the use of ICT (computers and/or the Internet) by small business owners in PDAs. Moreover, the study proposed an e-skills framework tailored to small business owners in PDAs. This framework identified the e-skills that they needed to use e-support provided through the Internet and ICT based resources. The e-skills framework can assist government, training institutions, and other organisations, as it provides valuable and significant information regarding e-skills.

### **(ii) The conceptual model**

The design of the conceptual model (Chapter Two, section 2.6.1), guided the addressing of matters relating to the scope of the study. During the design of the conceptual model, a review of prior research was conducted, including the work from Inusa (2006), Steyn (2010) and Adeniran (2011). The analysis of the literature provided real examples and scenarios that informed the study.

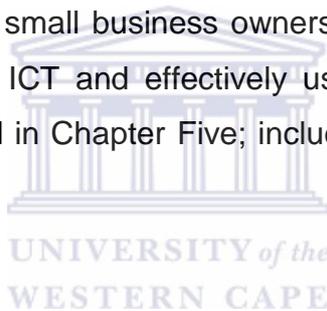
The model was designed to highlight the challenges faced by small business owners. Some of these challenges include high levels of poverty, unemployment, low literacy levels and limited access to ICT. As a result of these challenges there is a gap between the current situation – low levels of e-support utilisation and the desired future position - improved business performance.

The gap between the current situation and the desired future status highlights the mismatch in what is being provided (e-support) and what is actually needed (e-skills) by small business owners. This gap is highlighted in the conceptual model (Figure 5).

### **(iii) The research question**

The research question of the study played a large role in the research design process. This process ensured that the data collection, data sources, samples and data analysis process would yield relevant and reliable results. The results would sufficiently address the main research question that the study attempts to answer. This main research question asked, 'which e-skills are needed by small business owners in PDAs for the effective utilisation of the specific e-support services provided for them?'

The main research question was further broken down into sub questions. Thus, central concepts of the main question were focused on in depth. This allowed the researcher to adequately answer the main question. The sub questions asked were: (i) What are the e-support services provided to small businesses in PDAs of the greater Cape Town? (ii) Which e-skills are needed for the effective utilisation of e-support services? and (iii) Do small business owners possess the e-skills identified as being necessary to utilise ICT and effectively use e-support? The answers to these questions are discussed in Chapter Five; including how and where they were addressed in the thesis.



### **(iv) The methods**

The method aspect of the model helped the researcher to identify the methods of data collection and data analysis approaches and techniques. At this stage it was easier to understand how the combination of the selected approaches would constitute an integrated strategy.

The data were collected through face-to-face interviews with small business owners (intended e-support beneficiaries) and service providers. The interviews were held in the natural settings, the premises from which the businesses operated. Thus, the participants were comfortable enough to provide rich data that were analysed using qualitative-content analysis.

### **(v) Validity**

At this stage, the researcher was able to consider the notion that the findings might be inaccurate. The researcher also considered plausible alternative interpretations and validity threats, and how to deal with them. Additionally, measures were put in

place to reduce any corruption of the data as a result of the researcher being bias. The validity of the research is discussed further in section 3.9.

### **3.6. The research methodology**

The research design focuses on the type of study and results expected. The research methodology, on the other hand focuses on the actual research process, the type of tools and the procedures to be used (van Wyk, 2012). The Interactive Model of Research Design by Maxwell (2005) facilitated the research design process. The model brought to light different concepts relevant to the study – in line with answering the research question. Taking into consideration the logic of the study, the process facilitated the identification of appropriate techniques for collecting and analysing the data. The characteristics of the research methodology process are further discussed in detail below.

#### **3.6.1. Case study as a method of choice**

Qualitative research can be carried out through various methods: Action research, case-study research, ethnography and grounded theory. In relation to this study, the method of choice was the case study research approach. This was largely due to the contribution that case studies facilitate the examination of a phenomenon in its natural setting (Yin, 1984). Case studies employ multiple methods of data collection to gather information from one or a few entities, such as people, groups and/or organisations. Moreover, this approach stood out at bringing the researcher clearer understanding of associated complex issues. Furthermore, the use of case studies also allowed the researcher to strengthen knowledge already gained through previous research (Dooley, 2002), which is described further in section 3.6.2.

Although case studies are associated with qualitative research, they do not always entirely fall under an interpretive research approach. Case studies are flexible. They encompass the ability to embrace multiple cases, including quantitative and qualitative data approaches, as well as multiple research paradigms (Dooley, 2002). The case-study research methodology does not restrict researchers in terms of data collection techniques. Researchers are able to use multiple sources and techniques. As a strategy, case-study research focuses on understanding and interpreting the dynamics in single settings (Eisenhardt, 1989).

Case studies typically combine data collection methods, such as archives, interviews, questionnaires, and observations. The results of such case studies could be words, which are considered qualitative, or numbers which are considered quantitative – or even both (Eisenhardt, 1989).

Furthermore, in IS research the case study methodology is seen as a viable and valid research strategy (Klein and Myers, 1999). This is mainly because the researcher can study the IS in its natural setting, and thus be in a position to generate some theories from practice (Dooley, 2002). In addition, case study methods allow researchers to further understand the nature and complexities of the processes that would be taking place (Gable, 1994). It must be noted however, that there are some practical difficulties associated (directly or indirectly) with attempting to undertake rigorous and effective case study research methodologies (Darke, Shanks and Broadbent, 1998). Therefore, care needs to be taken during the research process.

For this study, a bounded (single) case study approach was applied. Thus, the focus was on the small businesses and service providers in three specific PDAs of the greater Cape Town. The case study approach encompassed a sample size of twenty-five participants (sixteen small businesses and nine service providers). The use of multiple cases in this study would have required the researcher to carry out the same study within different PDAs in other provinces, which was not required – thus a single case study approach of the greater Cape Town was used. Walsham (1995) suggested that the use of single cases allows researchers to not only be able to investigate phenomena in depth, but also to provide rich descriptions and understanding of the phenomena. The case study approach was appropriate for the study because it allowed the researcher to get an in-depth analysis of real life contexts, where the boundaries of the study were flexible.

Furthermore, the characteristics of this study are considered mainly descriptive, and to a lesser extent explanatory. Descriptive case studies have a somewhat narrower focus than purely explanatory cases. Generally, they are illustrative, exploratory and critical (Morra and Friedlander, 2009). Descriptive case studies describe the scenario in terms of what is happening and why, in order to provide a clear representation of the scenario.

### **3.6.2. Methods and techniques used for data collection**

In case study based research the data collection process can be extensive. It draws on multiple sources of information: Observations, interviews, documents, and audio-visual material (Creswell, 2007). In regards to this study, the methods and overall process of data collection were guided, by the goals (objectives) and research questions, including the research approach (qualitative case study). The key sources of data for the study included, an extensive literature review, as well as interviews with small business owners and service providers of e-support.

#### **(i) The literature study**

The literature study included reviewing service providers' websites and documenting the e-support they provide. Four government supported agencies were selected for the bases of the study. These agencies were selected based on their devotion and mandate to provide support to the owners of small businesses in PDAs – which constitute the key focus areas of the research. These agencies (SEDA, the RED door, the Cape Gateway, and the Smart Cape) provide support that is free, or at a very low cost. This type of support is badly needed in PDAs, considering the socio-economic conditions (high levels of poverty, crime and unemployment) of the business owners in these areas.

After documenting the e-support, discussions via the telephone and e-mail exchanges were conducted with representatives of these agencies. This was done in order to confirm with the service providers that the researcher had understood and accurately documented the e-support services highlighted on their websites.

The other aspect of the literature review process included investigating various national and international e-skills and e-competence models, frameworks, as well as taxonomies. Most of the e-skills frameworks, models and taxonomies found were most applicable to developed economies. Very few were applicable to PDAs of developing countries. Nonetheless, the e-competence model introduced by Romani (2009) was found to be most appropriate. However, the model was slightly adjusted in order to tailor it to the scope of the study. After these adjustments and the design of the e-skills framework, the following e-skills were identified as necessary to use e-support: (i) Basic literacy; (ii) e-awareness; (iii) technological literacy; (iv) informational literacy; (v) digital literacy; and (vi) media literacy).

Thus, in the design of the interviews and questionnaire, the questions were guided by the above listed e-skills and the themes used in the categorisation of the e-support services (Appendix One). This process was done so as to test the proposed e-skills in the empirical setting. The process included checking with the intended ICT end users (small business owners), which skills they had, in relation to which had been identified as necessary in the e-skills framework.

## **(ii) Research location**

PDAs are usually plagued by high levels of poverty, crime, poor literacy and unemployment. Small businesses have been identified as a solution to address these challenges. It has been found however, that these small businesses, especially those in PDA often have high failure rates. Thus, it is necessary to provide them with adequate support, because as a result of their continued failure they are not addressing the challenges. Moreover, although e-support has been put in place it was found that small business owners are not using the support. One of the main reasons for the poor use of the e-support was their lack of e-skills. Thus, in order to investigate this factor further it was necessary to select research samples located in PDAs.

The small businesses had to be located in PDAs of the greater Cape Town area, namely Gugulethu, Khayelitsha and Langa. These areas were easily accessible and they are some of the largest PDAs in the greater Cape Town region. Furthermore, service providers are already dedicated to providing support to small businesses in these particular townships.

While some service providers were located in the PDAs, the rest had main offices that were located in the – Central Business District (CBD). Thus, the interviews with them were held in town.

## **(iii) Sampling strategy**

The process of conducting qualitative research allowed the researcher to understand the particular context, and how this context influenced the participants' actions (Maxwell, 2008). Furthermore, qualitative researchers generally study a relatively small number of people or situations. This allows the researcher to preserve the individuality of each of the participants' responses during the data analysis process (Maxwell, 2008). Qualitative researchers have a clearer picture of how events,

actions or meanings are developed in the unique circumstances where they occur (Maxwell, 2008).

Considering the above characteristics of qualitative research, purposive sampling was used in this study. This sampling method falls under either non-probability or non-random sampling techniques. Purposive sampling ensured that the important and most relevant data sources were identified. In the case of this study the key sources of data were the small business owners and the service providers. The data had to be collected from small businesses that are considered to be the intended beneficiaries of e-support. The businesses were selected, based on their location, size, perceived financial need, as well as formal or informal status, according to government regulations.

Furthermore, with purposive sampling, there is no room for random selection, since the data sources are required to address a particular condition. Purposive sampling is described as one of the most common sampling strategies. This sampling process “... groups participants according to preselected criteria relevant to a particular research question” (Mack et al., 2005:6).

Mack et al. (2005) further suggest that this sampling technique is most successful when the review of the data and analysis are done at the same time as the data are being collected.

There are generally no guidelines or set rules that assist when considering a sample size in qualitative research (Patton, 1990). However, small research samples that are selected systematically provide more confidence that the results would adequately represent the average members of the general population (Patton, 1990).

Hence, for this study the sample included sixteen small businesses located in Gugulethu, Khayelitsha and Langa, as well as nine service providers. The study was primarily concerned with obtaining rich informative data (quality) – and not necessarily quantity, which would be represented by a larger sample size.

#### **(iv) Questionnaire design**

The ‘Questionnaire Design guide’ adapted from Eiselen, Uys and Potgieter (2005) was used as a guide during the design of the questionnaire. This guide was used because it was simple. It presented the steps to follow during the design of a

questionnaire in a systematic manner that was easy to understand and follow. Additionally, the guide highlighted challenges that could be met during the different steps, and how to address them. Some of the challenges included ensuring that questions were not ambiguous and did not contain double negatives.

Based on the categories (themes) of e-skills and e-support identified in the e-skills framework (Appendix Three), the questionnaire was divided into five sections. These sections included, (i) Section A: General business and bio data; (ii) Section B: Electronic small business development services (electronic support); (iii) Section C: Information and Communication Technology (ICT) adoption and electronic skills (e-Skills) levels; (vi) Section D: The relevance of digital skills and competences; and (v) section E: Electronic small business support and digital skills questionnaire feedback. The questionnaire comprised sixty-eight questions in total. The questions included open and closed ended questions, multiple choice questions and yes or no questions.

### ***Questionnaire review***

In order for the researcher to gain more confidence in the structure and design of the questionnaire, a review was carried out. The questionnaire was presented to six people: Three senior academic staff members, two Masters' students, and one undergraduate student. These individuals were asked to answer the questions, time themselves, and then provide feedback. The feedback required was on the structure of the questionnaire, the relevance of the questions, the ability to understand the language and the feelings, as well as thoughts about the whole process.

The first observation made by the researcher was that, upon seeing the size of the questionnaire and the number of questions most people were reluctant to participate in the review. The participants claimed the questionnaire was too long; and it seemed too tedious. The amount of time it took to complete the questionnaire ranged from between thirty-five minutes and one hour. Upon completing the questionnaire, some of the comments from the participants included:

- The questionnaire being too long, the participants claimed they got tired of thinking;
- Some of the questions were too complex, and not easy to understand;

- Some questions could be considered offensive, degrading or negative. For example, questions on educational qualifications, or categorising a particular entrepreneur as a survivalist;
- The space allocated to write out the response, was not enough;
- Some questions were open ended; however only tick boxes were provided;
- The questionnaire was in English thus, not taking in to account people who are not fluent in English.

After reviewing the comments and the responses to the questionnaire, it was clear that the questionnaire was not going to be an adequate data collection method. Furthermore, the data that had been collected via the questionnaire did not address many aspects that the study attempted to cover. Because the majority of the questions were close-ended, the data failed to capture the natural feelings and/or attitudes of the participants. After going through a mini analysis process of the collected data, it became clear that the data were not ideal. The findings did not adequately answer the research question. Consequently, the questionnaire was not considered as a method choice for data collection.

#### **(v) Interview design**

Interviews were used as the main data collecting technique. As a method of data collection, interviews are considered dominant within the interpretive research paradigm (Golafshani, 2003). The targeted participants were small business owners and service providers. Because the information that needed to be collected from both the small business owners and the service providers was different, two separate sets of interview questions were designed.

Additionally, a formal letter requesting an interview, summarising the purpose of the study and purpose of the interviews was presented to the participants. The participants were required to prove their consent by signing the letter. Their signature thus, signified their willingness to participate and be recorded. The goal of the interviews was to obtain relevant information from the small business owners and the services providers. The questions were designed to obtain responses on small business owners' skills levels, attitudes and use of technology, including their awareness, as well as the use of the provided e-support.

The questions for the small business owners were grouped into eight themes: (i) General business and Bio-data; (ii) Basic literacy (Foundation Skills); (iii) e-Awareness; (iv) Technological literacy; (v) Informational literacy; (vi) Digital literacy; (vii) Media literacy; and (viii) e-Support services. In relation to the service providers, their questions were grouped into seven themes: (i) Awareness; (ii) Relevance of the centre/facilities; (iii) Use of the Internet; (iv) Small business owners use of facilities; (v) Training; (vi) Influence of knowledge of ICT and e-skills on the use of ICT; and (vii) Identified skills.

These themes were based on the categories (themes) of e-skills and e-support identified in the e-skills framework (Appendix Three),

The interviews were semi-structured, and the questions were mostly open ended. Semi-structured interviews are those that use a general guide, list of topics (themes) and questionnaires (Davies, 2005). Furthermore, semi-structured interviews allow the interviewer to concentrate on a specific topic, thus sticking to the scope of the study (Davies, 2005).

### ***Interview questions review***

Considering the lessons that were learnt after conducting a review of the questionnaire, another review was carried out on the interview questions. The review was designed specifically to test the respondents' ability to understand the language and terms used in the questions. Through conducting the review for the interviews, the researcher could then gauge the quality of information that would be received.

The interview review sample participants were not the same participants from the questionnaire review. The participants for this review were the owners of small businesses and service providers. The service providers in question were the key representatives that were either directly or indirectly involved in the provision of e-support (computers and or Internet services). Taking these factors into consideration, the pilot sample was divided into two - those that owned a small business and those that provided services. Six semi-structured interviews were conducted, three with small business owners, and three with service providers.

The interviewees were first presented with the consent forms and based on their consent, the interviews were carried out and recorded. The service providers that were selected were managers of centres that provided computers and Internet

access (based at the University of The Western Cape, Bellville). These managers were a clear representative of the service providers that the study was aiming to interview (and collect relevant data from).

The comments that were received from the 'mock' participants were generally positive. The participants found the questions simple and understandable. During the interview process, the researcher also discovered ways of talking to the participants that made them more comfortable. As a result, participants that were comfortable would easily respond to questions and provide more detail, without being prompted. After conducting a mini analysis of the collected data, and consultations with two mentors, minor adjustments were made to the interview questions. The primary data collection process then began, with the small business owners and service providers in Khayelitsha, Gugulethu and Langa.

A total of twenty-five interviews were conducted in the three townships, as well as in the Cape Town CBD. Only sixteen interviews were conducted with small business owners. While five of these businesses were formal, ten were informal (not officially registered with government as a trading business). Altogether eleven of the sixteen small businesses fall into the micro-size category, because they had between two and five employees working in the company. Three of the small businesses were survivalists. The remaining two were very small businesses, thus having between six and twenty employees involved in the day-to-day running of the business. The businesses had been operational for between three months and twenty-eight years. They were located in Khayelitsha, Gugulethu and Langa.

The data were also collected from nine service providers. These service providers ranged from library managers to management-level representatives of the agencies (service providers). The interviews with some of the service providers took place in the Cape Town CBD, where the head quarters were located. The other interviews with services providers took place in Gugulethu and Khayelitsha. The information that was collected directly from the service providers was informative because they dealt with the members of the public. Thus, they had first hand exposure and experience the challenges that people faced regarding access and the use of computers and the Internet.

It was necessary to also communicate with the participants in their natural setting, thus making them comfortable enough to provide rich and elaborate data, which is often unquantifiable.

In order to obtain a clear understanding of the characteristics of the interviewed sample, Table 10 below presents a summary of the key biographical data obtained. It must be noted that each of the interviewees was assigned an alias, which was used to identify that particular participant. These aliases were purely for identification purposes. They were not in any way an indication of the 'actual' name, gender or race of the interviewed persons. A sample of the interview questions for both the owners of small businesses and the service providers can be found in Appendix Four.

**Table 10: Summary of the sample population biographical data**

	<u>Business Type</u>	<u>Alias</u>	<u>Number of Employees (Including Owner)</u>	<u>Time in Operation</u>	<u>Small Business Category</u>	<u>Formal or Informal</u>	<u>Location</u>
Small Businesses	1. Funeral Parlour Owner	Don X	1	4 Years	Survivalist	Informal	Khayelitsha
	2. Seamstress	Jerry K	2	6 Years	Micro	Informal	Khayelitsha
	3. Edu Care Center	Daisy P	5	19 Years	Micro	Formal	Gugulethu
	4. Bed And Breakfast	Rick T	5	20 Years	Micro	Informal	Khayelitsha
	5. Bed And Breakfast	Ross G	4	3 Years	Micro	Informal	Khayelitsha
	6. Furniture Shop	Max J.	1	8 Months	Survivalist	Informal	Gugulethu
	7. Fast Food Kitchen	Joe B	5	5 Years	Micro	Informal	Gugulethu
	8. Hair Salon	Lisa C	2	3 Years	Micro	Informal	Khayelitsha
	9. Hair Salon	Ben C	4	5 Years	Micro	Informal	Khayelitsha
	10. Hardware Shop	Zoe M	3	15 Years	Micro	Formal	Gugulethu
	11. Law Firm	Simon D	6	6 Years	Very Small	Formal	Khayelitsha
	12. Mini Market	Ken B	3	28 Years	Micro	Formal	Gugulethu
	13. Mini Market	Bill M	1	8 Years	Survivalist	Informal	Khayelitsha
	14. Butchery And Restaurant	Ron V	11	2 Years	Very Small	Formal	Gugulethu
	15. Computer Repairs Shop	Mike F	2	3 Years	Micro	Formal	Langa
	16. Hair Salon	Val K	4	3 Months	Micro	Informal	Gugulethu

Service Providers		<u>Agency type</u>	<u>Alias</u>	<u>Government affiliated</u>	<u>Agency Name</u>	<u>Interviewee Position in Agency</u>	<u>Location</u>
	17.	Public Library	Jane S	yes	Smart Cape	senior librarian	Khayelitsha
	18.	e-Innovation FGWC	Melissa M	yes	Smart Cape, Cape Access (etc)	e- government specialist	Cape Town (CBD)
	19.	Small Business Support	James M	No	The Business Place	consultant	Cape Town (CBD)
	20.	e-government for citizens FGWC	Levy T	Yes	Cape GateWay	Management: Provincial Web Portal & Associated Platforms	Cape Town (CBD)
	21.	Public Library	Tim A	Yes	Smart Cape	senior librarian	Gugulethu
	22.	Public Library	Paul C	Yes	Smart Cape	senior librarian	Khayelitsha
	23.	e-Resource Centers	Diana B	Yes	Cape Access	Management : Cape Access	Cape Town (CBD)
	24.	Internet Café	Sam Z	No	Internet Café	Owner and manager	Khayelitsha
25.	Public Library	Sally M	Yes	Smart Cape	senior librarian	Gugulethu	

### 3.7. Qualitative content analysis

Because of the nature of the data that is often collected through qualitative approaches, different techniques can be used to analyse the data. These techniques include Hermeneutics, Semiotics, as well as those that are Narrative (Metaphor) in nature. Furthermore, there are three specific forms of semiotic analysis. They include conversation analysis, discourse analysis and content analysis – also referred to as Qualitative Content Analysis.

Semiotic analysis in essence is described as being concerned more with the meanings of signs and symbols in the language (Myers, 1997). The main idea behind semiotic analysis is that words and symbols can be assigned to the initial conceptual categories. Furthermore, these categories are a representation of the theory to be tested. As a result, the importance of a particular idea depends on how many times it appears in the text (Myers, 1997).

In regards to this study, the research data were analysed using qualitative content analysis. This type of analysis is also considered as a subjective interpretation of the text. The process included following set methods to facilitate the systematic coding and analysis of qualitative data (Bernard and Ryan, 2010). Furthermore, the analysis process included identifying any themes or reoccurring patterns found in the text (Hsieh and Shannon, 2005).

In addition to the previously stated explanations of content analysis Webster's Dictionary of the English Language provides a more detailed description. It states that content analysis is the:

*...analysis of the manifest and latent content of a body of communicated material (as a book or film) through a classification, tabulation, and evaluation of its key symbols and themes, in order to ascertain its meaning and probable effect (Merriam-webster online dictionary, 2012).*

Furthermore, current applications of content analysis show that there are three distinct approaches to the analysis. These approaches are conventional, directed, or summative (Hsieh and Shannon, 2005). All three approaches are used to interpret meaning from the content of text data (Hsieh and Shannon, 2005). The main differences between these three approaches to content analysis are the coding schemes, origins of the codes, and any possible threats to trustworthiness (Hsieh and Shannon, 2005).

The main characteristics of these approaches are highlighted in the discussion of the steps that were followed during the data analysis process. These steps describe the origin of the codes and how they were assigned to the content text of the study data.

### **3.8. The data analysis process**

Studies in social sciences are interested in the thoughts, actions, behaviour, emotions, and artefacts of people (Bernard and Ryan, 2010). Furthermore, when experiences are reduced to numbers, the result is quantitative data. While, when thoughts, actions, behaviours, emotions, artefacts and environments are reduced to sound, words or pictures, the result is qualitative data (Bernard and Ryan, 2010). Thus, considering that the primary data for this study were collected through interviews, the thoughts, behaviours and attitudes were reduced to qualitative text format.

Moreover, since the data were analysed using content analysis, the researcher was able to gain an in-depth understanding of the underpinnings of participants' responses. The researcher was also able to gain more value from the data. Patterns were identified within the data that would have been ignored had it not been for the data interrogation exercise, which is facilitated by content analysis.

However, in order to enhance and complement the analytical process, the researcher analysis guidelines proposed in the QUAGOL: A guide for qualitative data analysis, were used. The QUAGOL (Qualitative Analysis Guide of Leuven) was

found in the International Journal of Nursing Studies. It is a theory and practice-based guide that supports and facilitates the process of analysing qualitative interview data (Dierckx de Casterlé, Gastmans, Bryon and Denier, 2011). Although, the guidelines can facilitate the data analysis process, they cannot guarantee automatic quality of the findings. Thus, the skills and abilities of the researcher remain crucial components of a successful data analysis process (Dierckx de Casterle et al., 2011).

The QUAGOL was used mainly because it enriched the content analysis process. As previously mentioned, this process included the identification of patterns, the selection of appropriate themes, concepts and codes. The QUAGOL allowed the researcher to analyse the data through a systematic step-by-step process. Furthermore, the QUAGOL highlighted impositions that could have corrupted the data at any stage of the analytical process. One main imposition was researcher bias and how to overcome it. Other impositions or problems included over-reliance on qualitative software packages, word overload due to line-by-line approaches, and coding using a preconceived framework.

Furthermore, the difficulty of retaining the integrity of each respondent's story, as well as not fully exploiting the potential of the data, were other impositions that could corrupt the data. Consequently, the researcher was able to consider these possible impositions and be open to other factors that might corrupt the data. As a result, the researcher was in a better position to reduce the possibility of any data becoming corrupt.

The QUAGOL guidelines do not guarantee an analytical process of rich quality. There are some pitfalls associated with the QUAGOL guidelines. These pitfalls include the researcher not being able to distinguish relevant from less relevant information, and having difficulty in trying to discover the key storylines that are an answer to the research question. More pitfalls include possible difficulty in the translation of the narrative interview report to a conceptual interview scheme. An additional pitfall is the motivation behind the researcher's choice and formulation of concepts.

Nevertheless, keeping in mind the above listed pitfalls of the guide, it was still used. This was largely because, even with these pitfalls, the guide is still a valuable tool in

the process of analysing qualitative data (Dierckx de Casterle' et al., 2011). Furthermore, although the QUAGOL is a respected guide, the researcher still had full control over the entire data analysis process.

Figure 6 shows the different stages that were followed during the analytical process. The following section describes these stages in greater detail, capturing the key activities which the researcher went through.

#### **(i) Stage one: Meticulously transcribing the interviews**

The first stage of the analytical process falls under the *preparation of the coding process*. During this stage the interviews were transcribed using Express Scribe Transcription Software 2012. Two of the interviews were in Xhosa, and a translator was used. After transcribing the interviews, the transcripts were reviewed several times to get an understanding of the data. At this stage, the text was also reviewed to correct any spelling, or grammatical errors, as well as to implement a uniform structure for all the interviews.

This structure included documenting the details of each interview on the first page of each of the transcripts. These details included the location and date of the interviews, as well as the business type.

The layout of the text separated the interviewer's questions and the interviewees' responses. At this stage, aliases were also assigned to each interviewee. Thus, each interviewee is identified by the name (alias) assigned to him/her. The transcripts were further corrected, taking care not to change the original wording. During the review, key phrases in the text were underlined, and notes were made. Although, these phrases were embryonic, they had made an impression on the researcher. This process enabled the researcher to gain a holistic understanding of the respondent's experiences.

#### **(ii) Stage two: Narrative interview report**

During the second stage, the transcripts were re-read, in order to articulate the essence of the 'interviewee's story in answering the research question. The goal at this stage was to write a summary (narration) of the interview. The narrations had to address the following question - 'What are the essential characteristics of the interviewee's story that might contribute better insight to the research topic?'

This stage was initially challenging. It was difficult to condense the information and to narratively express it in a matter that would still uphold the integrity of the data. Thus, to keep the integrity of the data brief paraphrasing of the text was used. The outcome of this stage was a brief abstract (narrative) for each of the twenty-five interviews. The abstracts were based on 'the key storylines, including a summary impression of the characteristics of the interview'. The narrative reports were limited to two pages, with some shorter interviews having just one page.

### **(iii) Stage three: From narrative report to conceptual interview scheme**

In stage three, the first move was made from the concrete level of experience that is the text to the conceptual level of the story. At this stage, the concrete experiences were replaced with concepts that arose based on those experiences. The data in the interview text and in the narrative report were brought to a more abstract and conceptual level. In order to reduce the researcher's influence on the process of designing the scheme, the researcher distanced from the particularity of the interview and the narrative report. This was done by taking the data considered most relevant and clustering them into concepts.

At this stage, the QUAGOL guide suggests limiting the concepts to include in the scheme to only the most key, manageable concepts. However, for the purpose of this particular study, all the identified concepts from the interviews were included in the scheme. These concepts were further clarified in respect to their content. A scheme was designed for each interview, thus making it easier to keep track of the concepts of each of the twenty-five interviews. An example of one of the interview schemes can be found in Appendix Five.

START			
PHASE ONE	STAGE	TITLE	OUTCOME
Preparation Of The Coding Process	1	Meticulously transcribing the interviews	
	2	Narrative interview report	
	3	From narrative report to conceptual interview scheme	
	4	Fitting-test of the conceptual interview schemes	
	5	Constant comparison process	
PHASE TWO	6	Draw up a list of concepts	
Actual Coding Process	7	Coding process –back to the 'ground'	
	8	Analysis and description of concepts	
	9	Extraction of the essential structure	
	10	Description of the results	
END			

Figure 6: The QUAGOL: A Guide For Qualitative Data Analysis

**(iv) Stage four: Fitting-test of the conceptual interview schemes**

Stage four required a lot of patience. It involved going back to the interview data, interacting and re-reading the transcripts with the scheme (outcome from stage three) in mind. This was done, in order to ensure that the schemes were appropriate. To further motivate the appropriateness of the scheme, the following three questions were asked, in order to guide the relevance of the content in the scheme: (1) Does the content of the conceptual interview scheme actually reflect the most important concepts in answer to the research question? (2) Are there any other important concepts the researcher has overlooked? (3) Can the concepts of the conceptual interview scheme be linked to the interview data? Based on the results to these three questions, the schemes were then adjusted or corrected accordingly.

At this stage, the wording and grammatical errors of the concepts within the interview schemes were corrected, in order to make them less ambiguous or wordy.

#### **(v) Stage five: Constant comparison process**

This stage was the last in the *preparation of coding (pen and paper) process*. It is characterised by an analysis that is both, in case and across case. In stage five, all the interview schemes and their concepts were analysed and combined. The goal was to design a single interview scheme that included all the concepts from the other interviews. It is at this stage that familiar patterns began to emerge. The single scheme was developed using a spreadsheet, in order to manage all the information.

As a result, it was easier to find the patterns and identify the most popular concepts associated with the interview data. This information allowed the researcher to develop ideas and initial codes. However, codes were not assigned at this stage. After concluding this stage, the researcher had an increased conceptual understanding of the research data as a whole. The researcher was also able to retain the integrity of each individual case and also take into account the characteristics of other cases.

The outcome of this stage was a combined list of all the interview schemes and their concepts, including duplicated concepts.

#### **(vi) Stage six: Draw up a list of concepts**

Stage six is the first stage of the *actual coding process*, where the computer analysis software was introduced. Based on the outcome of stage five (the combined interview scheme), a common list of concepts (themes) was drawn up. This was done taking care not to impose any hierarchical order. The listed concepts represent different levels of abstraction.

The initial list had over two hundred and sixty-seven (267) concepts (excluding duplicated concepts). This list was introduced into Nvivo 9<sup>14</sup> as the initial set of primary codes represented as nodes. At this stage, the codes are not yet categorised or structured, nor are they empirically supported, described or explained. Nevertheless, patterns were already visible.

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<sup>14</sup>Nvivo is described as “a *qualitative data analysis (QDA) computer software package produced by QSR International. It has been designed for qualitative researchers working with very rich text-based and/or multimedia information, where deep levels of analysis on small or large volumes of data are required*”. Source <http://en.wikipedia.org/wiki/NVivo> [Accessed 24 February 2013].

Apart from the codes, the researcher also imported all the interview transcripts data into Nvivo. Nvivo had the capacity to group all the respondents' answers to a specific question in one location, through the auto-code function. For example, when the small business owners were asked if they had a computer [Q4 - of the small businesses interview questions], all the responses to [Q4] are presented on one page. Thus, the researcher was able to see all the different responses to the same question at the same time. Nvivo allowed for a more convenient and detailed view of the interview data. Hence, it was possible to apply different additional and traditional analytical techniques, such as word frequency queries, and even text searches, to the data.

#### **(vii) Stage seven: Coding process – back to the 'ground'**

At this stage, with the list of concepts in hand, the interviews were re-read. Each and every passage of text from each of the interview transcripts was then linked to one of the concepts proposed in the list. This process involved a lot of back and forth movement within the interview transcripts. During this process, the researcher gained new insight into the data. This insight led to data (text) being linked (assigned) to concepts that had not originally been considered. Some passages of text from the interview transcripts for instance, could fit into more than one concept. Thus, adjustments were made accordingly.

The concepts themselves were at this stage represented as nodes in Nvivo and all the interview transcripts were also imported into Nvivo. Manual coding was used to assign the passages of text to a specific code. The outcome of stage seven was linking all interview fragments (text) to the appropriate codes. A screen shot taken during this process in Nvivo can be seen in Appendix Six.

#### **(viii) Stage eight: Analysis and description of concepts**

Once all the fragments of the interviews had been coded, a cross-case analysis of the codes was done. In this analysis process, each code was analysed by focusing on the citations, the passage of text from the interview transcripts now supporting the code. The goal was to ensure that the empirical support was relevant to that code or to adjust the code accordingly.

It was found that some citations did not support the code to which they had been initially linked. While in other cases, two or three codes were found to mean the

same thing, they had just been phrased differently. For example, the lack of money, lack of funds and cost as a barrier, were three different codes that meant the same thing, in relation to the data. However, during the initial design of the schemes, these codes seemed to represent different things. Nevertheless, in these cases the codes in question were merged and the title adjusted to correspond with the citations associated.

After this process was complete in Nvivo for all the interviews, a deeper analysis of the codes was done. This allowed the researcher to gain a better understanding of when, where, why, and in which circumstances, the codes appeared.

At this stage, a clearer description of all the codes was given, including their meaning, dimensions and characteristics, grounded in the empirical data. For each code, a memo was developed. The memo gave an in-depth description and analysis of each of the codes. Thus, there were a total of one hundred and eighty (180) codes and the same number of memos. A screen shot taken during this process in Nvivo can be seen in Appendix Seven, it shows the design of the memo.

#### **(ix) Stage nine: Extraction of the essential structure**

In stage eight, the list of codes, their descriptions and empirical support were developed. In stage nine, these codes are integrated in a meaningful manner to show a storyline in response to the research question. The research question of the study asked, 'Which e-skills are needed by small business owners in PDAs for the effective utilisation of the specific e-support provided for them?' Thus, the outcome of stage nine was a single concept map showing the storyline in relation to the research question.

This was done by developing two concept maps, one for the small businesses, and the other for the service providers. The maps were developed by taking the list of codes identified in stage eight, and then grouping those codes into themes. Furthermore, the themes that were identified included the list of e-skills identified in the e-skills framework. In addition, other themes also emerged from the data, which had not been originally looked for in the initial design of the interview questions. The maps were designed using FreeMind mind mapping software 2012 to help with the organising of the codes.

The concept maps for both the small businesses and the service providers before they were combined into a single map can be found in Appendix Eight.

#### **(x) Stage ten: Description of the results**

At this stage guidelines are provided, describing the best way to present the findings of the study based on the results of the analysis process. The presentation of the findings is a reconstruction of the story of the respondents on conceptual and theoretical levels that are grounded in the interview data. Based on the outcomes of stages eight and nine, the researcher systematically and carefully described the essential findings in answering the research questions. The description of the findings starts with the core findings and then introduces additional findings that surfaced during the analysis process. The research findings are presented and discussed in Chapter Four.

#### **3.9. Reliability and validity**

In qualitative research, reliability is mainly concerned with the consistency of the research process, and whether a similar study can be carried out by different researchers and produce the same findings. Furthermore, it must be determined whether the study can be repeated in a different location, using the same researcher and respondents, and yield the same findings (Sykes, 1990).

In order to show how the researcher reached the findings presented in Chapter Four, the research design process has been described clearly. Moreover, each of the stages followed during the data collection and analysis process have also been described.

When conducting a qualitative study, the emphasis is on the validity of the interpretation the researcher has made (Bailey, 2009). Thus, the validity is judged by the degree to which an account of the events seems to justifiably and accurately represent the data. The validity is also related to the clear ability of the research finding to represent the truth. Thus, the findings of this study can be considered truthful because they are similar to those of various other researchers, of example Mitrovic and Bytheway (2009) among others. Furthermore, the data were collected directly from the sources. Thus, they provide a valid and true representation of the phenomenon that was studied.

### **3.10. Ethical considerations**

An essential aspect of the data-collection process was ensuring that the research was conducted with clear ethical guidelines. To ensure that the research process (the data collection) followed ethical guidelines consultations were held between the researcher and members of the research oriented staff, who were well versed in the specific research field. Based on their feedback the interview questions and approach were adjusted accordingly. The ethical guidelines that were followed included obtaining a signed consent form from the interviewee before the start of the interview.

The consent form included details of the researcher, the institution, and the reasons for the interview, as well as the objectives of the study. The participants were made aware of their rights in regard to their participation and confidentiality. No names or personal details were taken, even when the participants willingly provided them. Each one of the interviewees was assigned an alias, including those who volunteered their details. It was easier to refer to a particular interviewee by name (alias) other than by case number, in the discussion of the findings. A copy of the consent form can be found in Appendix Nine.

### **3.11. Challenges faced**

The challenges faced included firstly, the language barrier. In some cases, the participants, especially the older generation, could not speak English fluently. Seeing that the researcher is not Xhosa-speaking, this created a problem. In order to address this problem, the translating services of two colleagues were used. These colleagues were from the areas, where the participants were located and they were fluent in the language, Xhosa. The role of these individuals was to accompany the researcher, and during the interviews, to translate the questions the researcher was asking from English to Xhosa. Furthermore, these individuals were also required to assist the researcher by translating the participants' responses from Xhosa to English. Although, the individuals were trusted colleagues, it was noted that there was a risk that the data might be corrupted if the information was translated incorrectly, or if some relevant information was left out.

Secondly, finding willing participants was a challenge. In some cases, after the researcher explained the objectives of the study and the reasons for the interview, including the anonymity of the responses – some small business owners would deny

to participate. These particular business owners felt they would not benefit by participating. In other cases, after reading the consent letter, which detailed a summary of the research, the owners of some small businesses felt they had nothing to contribute. Admittedly they had no intention of making use of any ICT based systems, let alone e-support. Some small business owners who had informal businesses were quite suspicious of the actual intentions of the interview. Thus they declined to participate.

Thirdly, the refusal of the participants to be recorded was a challenge. As a result, the researcher was forced to take notes. Taking notes increased the risk of missing out relevant data and not capturing all the responses. Two service providers that worked as senior librarians refused to be recorded. Their reasoning was that they needed to follow protocol procedures before talking to the media. In these cases, the researcher had explained that the research was not for the media, and that no relationship would exist between the responses given and the library. They still declined to be recorded.

Moreover, three small business owners (two informal and one formal) agreed to participate in the interview, but declined to be recorded. Their reasoning was that they did not feel secure, and did not want the recordings to be misused. Even though no personal details were asked for, they still felt uneasy.

### **3.12. Conclusion**

This chapter provided a detailed discussion of the course followed during the research design and methodology procedure. The key concepts that were discussed include the data collection and analysis techniques. The overall research design was based on a qualitative approach to data collection and analysis. The qualitative approach was appropriate because the researcher was collecting data from people whose lifestyles are influenced by the natural settings, in their geographical areas (PDAs). The data were collected from the population sample via twenty-five semi-structured interviews. The data collected was analysed using content analysis.

The research process was inductive, generating theory based on the primary and secondary data collected. Chapter Four – to follow will provide a comprehensive description and discussion of the findings that came to light during the data analysis process.

## Chapter Four

### Findings and discussion

#### 4.1. Introduction

This chapter presents the main findings of the study and discusses them. These findings highlight the relationship between e-skills and use of e-support, which is made up ICT related infrastructure and online services. These findings came to light through the use of qualitative content analytical techniques. Although, a diverse pool of findings came to light, this chapter presents only the relevant and main findings in a structured manner.

The chapter is structured as follows: It begins with an overview of how the content flows. Thereafter, the findings are presented through detailed narrative descriptions. The discussion of the findings then follows. This discussion is structured in a manner that individually addresses each of the identified core themes. These core themes represent the e-skills that have been identified as necessary in the e-skills framework. The findings were grouped into these themes in order to facilitate the argument flow in response to the research question.

Citations from the interview transcripts are highlighted and used as illustrations. This is done in order to support validity and reliability of the findings. As a result of the citations, being direct texts from the interview transcriptions, they provide a rich description of the data (Merriam, 2002). The chapter concludes with a review of the research model (Figure 5) and highlights how the model has been influenced by the findings.

It must be noted that each of the interviewees was assigned an alias (interview code) which is used to identify him/her. This alias is purely for reference purposes and is in no way directly or indirectly related to the race, gender or actual names of the participants. The only true terms of reference are the types of businesses, locations and in the case of service providers the name of the agency.

#### 4.2. Structuring the key themes in the findings

The main research question of the study asks 'which e-skills are needed by small business owners in PDAs for the effective utilisation of the specific e-support

provided for them?' As a result of the findings grounded in literature, an e-skills framework (Appendix Three) identifying the necessary skills was designed. With aid of the conceptual research model (Figure 5), the relevance of the e-skills identified in the framework was empirically tested. This was done, in order to propose e-skills that are relevant, necessary and adequately tailored to the owners of small businesses in PDAs.

According to the e-skills framework, which was adapted from Romani's (2009) e-competence model, the necessary e-skills are:

- (i) Basic literacy
- (ii) e-Awareness
- (iii) Technological literacy
- (iv) Informational literacy
- (v) Digital literacy and
- (vi) Media literacy

It should be noted, however, that although Romani refers to the skills (literacy) sets as e-competences, these e-competences are referred to as e-skills in this study. This is mostly because e-competences are made up of skills, attitudes and knowledge, which are all sub sets of e-skills. The empirical testing was thus done in order to gain more insight into the relevance of these e-skills among small business owners. Particular attention was paid to their knowledge, use and uptake of computers and the Internet (online services).

The interview questions were categorised, based on the e-skills (themes) listed above. Each of the themes was then further broken down into sub themes. This allowed the researcher to get more detail on that particular e-skill (theme). The findings are thus presented similarly, they are categorised according to the core themes (e-skills) and then further broken down into sub themes.

#### **4.3. Core theme one: Basic literacy (foundation skills)**

Basic literacy skills are also referred to as foundation skills. These skills include the ability to read, write, and communicate orally, as well as count. Moreover, basic literacy also relates to small business owners thinking and problem solving skills.

Additionally, their ability to determine, recognise, define and articulate the information needs of their business, also fall under basic literacy.

The attributes of basic literacy that are listed above are recognised globally as the tools people in general need to become computer literate. Additionally, the European Skills Pyramid identified three levels of skills: Global Knowledge Economy Talents (GKE), Occupational skills and Literacy, and lastly basic skills (Fonstad and Lanvin, 2010). Focusing more on the basic skills, these are considered the fundamental foundation skills that people (small business owners, included) need to have, in order to live functionally in modern societies.

Basic literacy skills now include more than the traditional literacies, such as writing, reading and basic maths skills. They include IT literacy, which is required for any sort of social integration (Fonstad and Lanvin, 2010). Education, for instance, which is a basic human right, is the basis upon which basic literacy skills are built. UNESCO (2012) affirms that education affords people (small business owners, included) the foundational skills that promote individual freedom and empowerment. Furthermore, educated owners of small businesses are in a better position to yield important development benefits: Personally, socially and in society. However, as a result of high poverty levels worldwide, many people today (small business owners, included) have not been granted the opportunity to gain these foundational skills. Thus personal and societal growth has been limited for those without adequate skills and education (UNESCO, 2012).

Basic literacy skills are important because they allow small business owners to effectively participate in the so called information society and knowledge economies. Furthermore, business owners who lack these skills are not in a position to fully use online services or ICT based resources. They need to be able to communicate, read and write, not only in their own mother-tongue, but in English as well. Considering, that English is the dominant medium of communication and instruction of most web content.

Although basic literacy has been recognised as a necessary tool, the findings revealed that within PDAs many small business owners in these communities lack the skills. These findings were based on the responses from the small business owners and service-providers. It was found that as a result of the socio-economic

conditions faced by the owners of small businesses in PDAs, particularly the older generation, many did not complete their formal schooling.

In addition to lacking basic literacy skills, it was observed that some of the small business owners in PDAs are not very fluent in English. Consequently, they cannot use online services fully, since English is the most common medium of communication and instruction used on the websites. This observation was also made by service providers who participated in the study. James M (interviewee) and Diana B (interviewee) found that most community members (small business owners, included) lack basic literacy skills, as well as fluency in the command of the English language. Their statements are illustrated below:

*It is a barrier coz ....a lot of our people know English as like a 3rd or 4th language to some of them English, so everything is written in English it becomes a problem (James M., interviewee).*

*Ya, obviously that does play a role ...it does play a role in terms of people's confidence and what they need to do coz now there is a need to type on their own (Diana B., interviewee).*

A total of sixteen small business owners participated in the study. Six of the small businesses were formal, while ten were informal. Out of ten informal business owners interviewed, only one business owner of a furniture shop had tertiary qualifications. The remaining nine owners of informal businesses had education levels that ranged between grades eight and ten, some were even lower. They were different reasons why they did not continue with school. The most common and significant reason was a lack of funds and opportunities. Below is an illustration:

*My highest qualification is grade 10; there was no money to send me to school... (Zoe M., interviewee).*

Only one formal business owner did not have the opportunity to further education after completing Matric. The rest of the formal small business owners had either a university degree, or level five (5) NQF<sup>15</sup> courses. These findings show that although there is a general lack of basic literacy skills among the owners of small businesses in PDAs, formal business owners had more advanced basic literacy skills, than

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<sup>15</sup>NQF: National Qualification Forum of South Africa.

informal business owners. This is because they had more opportunities to further their education beyond Matric, as well as to gain industry related experience. The owners of formal businesses were more exposed to technology, at school and work. Therefore, they were more willing to integrate technology, including the use of online services (e-support) into their businesses.

Consequently, the lack of basic literacy skills, which are also synonymous with low literacy levels, were found to negatively influence the use of technology. This was evident more with informal small business owners, particularly the much older generation. These small business owners were not confident in their ability to communicate through electronic means, such as e-mail, social networks, and in some cases even SMS. The exception was those who were communicating with close relatives and family – who would not judge their poor skills. The low confidence was because of their admittedly poor literacy levels:

*Not me, I do not use instant messaging applications, not even SMS. I call only to ask 'where is body now', for example (Don X., interviewee).*

Additionally, the findings also revealed that small business owners who lacked basic literacy skills tend to have a negative attitude to computers and the Internet. They were resistant to change, and more comfortable with traditional or manual means of conducting their business. Often, they avoid any situation that would result in them having to use a computer or the Internet. However, the younger generation, which included the school children and learners, was more willing to use technology, considering that at school they were introduced to technology at an early age.

Furthermore, the lack of basic literacy skills was found to also lead to small business owners feeling intimidated by computers. They were not confident in their ability to use them – so they avoid them. In the same vein, the lack of formal education, coupled with the lack of ICT related education, were found to result in incorrect preconceived notions about computers. Furthermore, the owners of small businesses who lacked the required education also lacked any knowledge and understanding of what exactly computers do and contribute to society. The lack of basic literacy skills and the lack of adequate exposure to computers were found to result in the poor use of not only computers themselves, but of e-support by the owners of small businesses.

Focusing more on the lack of adequate access to computers and the Internet in the communities, it was found that eleven out of the total of sixteen of the interviewed small business owners had at some point been exposed to computers. Moreover, the small business owners that had the opportunity to further their education, as well as gain industry experience, were the ones that were more exposed and familiar with computers and the Internet. In addition, these particular small business owners were in a better position financially to purchase the necessary technology – particularly computers. Mike F. (interviewee), the owner of a computer repairs shop, for instance, needs to have access to a computer constantly for the business. The computer repair shop is heavily reliant on computers and the Internet as a means of conducting business. Mike F. (interviewee) had been exposed to technologies, such as computers, for a number of years. Thus, this business owner is very trusting and able to use the technology. To the extent that a laptop to move around with was purchased, in addition to other computers in the business:

*I am always having one with me wherever I go (Mike F., interviewee).*

It was further observed that the socio-economic conditions in PDAs play a large role in relation to exposure to computers for many owners of small businesses. Owners of the informal businesses, who were more mature, did not have the opportunities to further their education. As a result, they lack the basic skills required:

*It is expensive; we old people are not so used. I cannot use a computer and I am not blaming anyone. I am 66 and I have never been exposed to computers; we grew up without them (Ken B., interviewee).*

In addition to the lack of adequate exposure to computers, it was also found that there was a lack of accurate information. Some of the owners of small businesses were not aware of the existence and/or the capabilities of computers and the Internet. Thus, because they did not have enough information about these technologies they avoided using them.

Four of the small business owners were, however, indirectly exposed to computers. They purchased computers for their children, but believed they did not need them. These small business owners firmly believed that computers were only for the educated. Since they left school at an early age, they did not feel they had the

mental capacity or enough information to use computers. As a result, they avoid using them.

On the other hand, all the small business owners interviewed stated that they knew any and all the information needs of their businesses. They were confident that they knew all they needed to know in terms of keeping their businesses running. This knowledge included knowing the needs of the customers, and how to build relationships with suppliers. Other small business owners admitted to learning new things about the business every day. In the case of Ken B. (interviewee) who has been running a mini-market for twenty-eight (28) years, this mini-market owner is quite confident that at this stage there is nothing more to learn about the business.

Coincidentally, some of these businesses were in need of financial support, yet, the owners did not know where to go to obtain information of such a nature, or how to use ICT to find such information. Thus, the statement from the owners of small businesses claiming that they knew everything about managing their businesses is arguable. This is supported by the fact that the owners of small businesses in PDAs often have low levels of informational literacy, which consequently creates a barrier to the effective knowledge and utilisation of ICT. As a result, informational literacy is considered a key component of Internet use (Tilvawala et al., 2009). The importance and contribution of informational literacy will be discussed further in section 4.6.

Considering that the owners of small businesses in PDAs are affected by low literacy levels, as a solution formal education is necessary. They need to be taught the basic literacy skills (reading, writing and counting) in order to participate in society. Thus, the service providers that participated in the study identified schools both primary and secondary as important facilitators of education. These educational institutions play a crucial role as providers of information and motivators of technology use among the younger generation (future business owners).

It was observed that students, for instance are given assignments and projects to do, and encouraged to use computers and the Internet to do research and obtain information. As a result, public libraries and e-centres that provide these facilities for free in the community are filled with children after school hours and during holidays. The younger generation is being exposed to technology from younger and younger

ages. The older generation however, is still struggling with the effects of lacking basic literacy skills such as reading and writing - among others.

It was found that, as a result of the lack of basic literacy skills coupled with limited opportunities to access computers and the Internet, the use of these particular technologies by small business owners is still very low in PDAs. In some cases, the business owners admitted to not knowing what computers can do or contribute. They also could not identify a need or reason to use them.

In essence, the ability to read and write, along with other basic literacy skills, is very relevant to the use of online services. They should be considered necessary skills. As explained in Chapter Two, Ferro et al. (2010) argued that using the Internet involves not only IT literacy skills, but a level of formal education as well. Formal education is considered necessary, in order for Internet users to understand the possibilities of the Internet, and to be able to use it meaningfully. The likelihood and extent of Internet use is greater among the owners of small businesses who have increased levels of basic literacy (reading and writing) skills, compared with those who do not. However, not all business owners have the same levels of skills. Hence, it is necessary to understand the differences and similarities (Ferro et al., 2010).

Although, there is limited use of technology in PDAs, it was found that some owners of small businesses want to better their conditions. They want to learn how to use computers and access the Internet. Moreover, they want to go back to school and learn in order to get more opportunities for them to improve their social, personal and economic conditions. Thus, some small business owners approach service providers and ask them about the possibility of attending free computer based training courses. This is evident with the Cape Access e-centres.

However, some owners of small businesses often face great challenges because of their low reading and writing skills. In some cases, they become dispirited and frustrated. Because they lack basic literacy skills, these business owners face grave challenges when they try and use computers and/or the Internet. Consequently, they develop low self-confidence. Thus, it can be said that basic literacy (foundation skills) are necessary for the effective use of e-support designed and provided for the benefit of small business owners.

#### **4.4. Core theme two: e-Awareness**

The attributes of e-awareness are directly related to being knowledgeable, and to possessing accurate and reliable information about ICT. In the case of this study, e-awareness relates to the small business owners awareness of where they can access a computer and/or the Internet. This awareness also includes them knowing the contribution and benefits that can be achieved from using ICT. Additionally, e-awareness is also related to their knowledge of service providers and the e-support they provide to those in PDAs.

These skills (e-awareness) are important, because without accurate and reliable information, owners of small businesses can be misled, uninformed and biased. Furthermore, they can form negative or even positive perceptions based on inaccurate information. Thus, it was important to find out how e-aware small business owners were. It was also necessary to find out the influence of whatever knowledge they have on their levels of e-skills, as well as their use of computers and the Internet (online services). In order to adequately discuss the findings of this theme, the results were grouped into sub-themes as follows: (i) Awareness of computer and/or Internet access points; (ii) awareness of benefits that come from using ICT; (iii) awareness of small business e-support providing agencies; and (iv) service providers' efforts to make the owners of small businesses more aware of them and the services they provide.

##### **4.4.1 Awareness of computer and or Internet access points**

There was a noticeable lack of accurate and adequate information on ICT among the owners of small businesses interviewed. The lack of information and ICT related education had in some cases, led to incorrect understandings of technical terminology. Service providers stated that generally, for some people in the community the term 'Internet' is not associated with the hardware, the computer or the device from which it is accessed. As a result, people might say they do not know where to access a computer; but they do know where to access the Internet. They understand computers and the Internet to be two things that function separately (independent of each other). Furthermore, other people in the community associate the term 'Internet' with music; while others associate it with social networking.

In such cases, one person might say, *"I am on the Internet"*, meaning that they are on 'Facebook'. In another case, some children referred to listening to the Internet, meaning they were listening to music. Consequently, when some small business owners were asked if they knew where to access a computer, they said no. However, when they were asked if they knew where they could access the Internet, they confidently said yes.

Val K. (interviewee), the owner of a hair salon, said *"no"* when asked about knowing where to access a computer. However, the response was *"yes, an Internet café"*, when asked about knowing where to access the Internet. If it had been one interviewee who had given such contradictory responses the researcher would have possibly concluded that there was a misinterpretation of the question. However, Lisa C. (interviewee), the owner of another hair salon, responded by saying *"no I don't know anywhere"*, when asked about computer access. Yet, when asked about Internet access, the response was, *"maybe Khayelitsha mall or site b mall"*, suggesting Lisa C. (interviewee) had some idea of where to access the Internet.

Additionally, Max J. (interviewee) responded by saying *"no"*, when asked about having any knowledge of where to access a computer. When asked about having any knowledge of where one could access the Internet, the response was *"this other place, Delft"*, suggesting that there was some awareness.

Thus, out of the sixteen small businesses that participated in the study, twelve business owners were aware of where they could access computers. In this case they identified it with the term 'computer'. Overall, fifteen of the small business owners were aware of where they could access the Internet. In this case they also identified it with the term 'Internet'. Thus, of the four that did not know where to access a computer, three knew where to access the Internet. This shows that there is confusion and misunderstanding about the terms and what exactly they mean – as a result of the lack of ICT related education and accurate information.

#### **4.4.2 Awareness of benefits that come from using ICT**

In terms of the awareness of ICT related benefits, it was necessary to get an overview of the small business owners understanding of ICT, particularly computers and the Internet. Paying close attention to their views on the contribution of these technologies to society and the relationships they had with them.

It was found that small business owners, who were exposed to computers at home or at work, were more knowledgeable of the capabilities of computers and the Internet. This was evident, particularly with formal small business owners that had gone further than Matric, in terms of education. The importance of education, and basic literacy skills is highlighted again, as basic literacy skills are directly associated with acquiring accurate information.

Additionally, it was found that small business owners consider the adoption of technology as a risk, and even more so if they do not have accurate information. As a result, unless they clearly understand how the technology will work and benefit their business, they would not consider purchasing it, even if they can afford it.

There was a general consensus among all, but one of the informal business owners that having a computer would improve their business. Most of the interviewed small business owners confidently stated that they needed computers to help run their business. Some of these small business owners however, had never used a computer before, nor had they received any sort of computer related training. Nonetheless, although they had never used computers, they could still provide clear examples of what they would use the computer for. This shows that although there is a large percentage of small business owners that do not possess ICT related knowledge, observation is still a great teacher. Some of these small business owners had seen what computers were being used for by their family members, friends and in society generally. Thus, they had some idea of how they could benefit from using that same technology in their own businesses:

*Yes, I need a computer, for storing my files and information (Don X., interviewee).*

*Yes, I would use it to keep stock and to keep track of labour; you know all those kinds of stuff (Max J., interviewee).*

*Yes, for designing pamphlets, typing documents and sorting my information about my business (Ben C., interviewee).*

Some small business owners did not know what computers did. However, they had observed that other people who had them in their businesses seem to be more successful. In addition, they knew that computers were expensive. Thus, they

believed computers might bring success to their business, so they felt they should have one – even though they did not know what they would use it for.

According to service providers, the owners of small businesses are aware of where to access the Internet. However, in some cases it is not always convenient access, in terms of distance and cost for them. There is a great need for formal education and ICT related education to ensure that these business owners have the correct information about the most convenient facilities.

Furthermore, there was found to be little knowledge (information) among the small business owners about e-support service-providing agencies. These points are discussed further below.

#### **4.4.3 Awareness of e-support providing agencies**

The majority of small business owners interviewed were in dire need of technical support, financial support, training and business skills support - among others. It was found, that there was a lack of awareness among them about the existence of service providers, whether private or government-affiliated that provide such support. Only seven, less than half of the small business owners, were aware of any agencies, government affiliated, or otherwise, that provide any sort of support to small businesses.

These findings are also echoed in the study on the awareness of e-government related small business development services in Cape Town done by Mitrovic and Bytheway (2009). Their findings revealed that *“a majority of [the] respondents were simply not aware that services existed that were intended to assist them”* (Mitrovic and Bytheway, 2009:7).

The small business owners that were aware of support providing agencies mentioned that they were not clear about the type of support that the agencies provided. The findings confirm the argument that there is a general lack of adequate information. Because the small business owners were not aware of the existence of service providers, some had not made an effort to approach any agencies for information and/or support.

Only one owner of a small business had a relationship with a service providing agency, however it was not a positive one. Joe B. (interviewee) the owner of a fast

food kitchen, which is operating out of a garage in Gugulethu, was approached by an agent from the RED Door, offering support. After interacting with the agent, Joe B. (interviewee) explained the situation of the business and requested support. The agent confirmed that the case would be taken forward and the necessary support would be provided. Neither the agency nor the agent got back to Joe B. (interviewee), leaving the business neglected. Hence, one of the reasons why some of the small business owners have a negative attitude to government affiliated service provision:

*Ya, we approached the RED door but have had not got a response... there was a lady who came here from the RED door, but I have not heard back from them (Joe B., interviewee).*

The findings also revealed that due to a lack of accurate and relevant information, nine small business owners did not know about the existence of any agencies. They had not heard of any of the agencies the study focused on (SEDA, the RED Door, Cape Gateway and Smart Cape):

*No, I have never heard of any of them; they don't tell us enough or advertise enough (Val K., interviewee).*

*No, they should advertise more to reach a wider audience. For example, some people don't even vote; yet there have been so many adverts done, so you do miss these things (Zoe M., interviewee).*

*No, there is nothing more I can say because I don't know about them (Ben C., interviewee).*

Upon further investigation into how some of the small business owners found out about the existence of the agencies, it came to light that word of mouth was the most powerful means of spreading the word. Apart from two small business owners that were approached personally by an agent, the other business owners heard about the agencies from business partners, clients and friends who had some sort of relationship with an agency. These individuals wanted to share the information that they had about the agencies. Whether the information was positive or negative, they felt it would benefit others to know about the service providers.

Contrary to the view of the service providers (public libraries, Cape Access e-centres and business support consultants), small business owners were not aware of the services they provide. Majority of the owners of small businesses were not aware of the service providers or the e-support that they provided. Of the few that were aware, they were not taking advantage of the facilities or approaching the agencies.

When a library manager was asked how popular the Internet services offered by library were, the manager's response indicated that the business owners were aware, however they are not taking advantage of the facilities – as illustrated below:

*It is popular, but not as much as I would like it to be popular. I don't think it is as popular as it should be (Paul C., interviewee).*

Mitrovic and Bytheway (2009:8) also note that *“some representatives of the service providers admitted that awareness of the existence of their services might be insufficient, reinforcing the notion that awareness was an issue on both sides”*. Service providers generally believed that their services are not as popular as they should be, considering the high demand for computers and Internet access. In cases where small business owners are aware of the agencies, they chose not to make use of the services. In other cases, the business owners did not know enough about the services provided. These findings resemble those of Mitrovic and Bytheway (2009:8), who found that *“where there was knowledge of available services, such as RED Door or SEDA, service beneficiaries were still not using them, since they were unaware of their actual or potential usefulness”*.

Moreover, the findings presented by Orford and Wood (n.d.) also echo the findings of this study. They found that the majority of the small business owners they interviewed were not aware of support services provided for them. The small business owners that were aware of the services were often dissatisfied with the quality of the service. In essence, e-support cannot be used unless the owners of small businesses know about it. Additionally, they also need to approach the agencies for support. It is also necessary to have convenient resources, such as computers and the Internet available, in order for the small business owners to take initiative and access the support and/or information about the service providers.

#### **4.4.4 Service providers' efforts to make the owners of small businesses more aware of them and the services they provide**

The library staff was keen to advertise the services that were provided by the library to the public. Apart from providing traditional library services, public libraries affiliated with the Smart Cape provide access to computers and the Internet. This service is provided free of charge for a limited time to the community members (small business owners, included). As a result of the popularity of the social media, most library staff want to use the electronic media to advertise the services. It was found, however, that staff members are generally not allowed to talk to or to provide information to the media about library related matters.

If they felt the need to communicate with the public through the social media, or any type of media, they would have to follow a tedious and demotivating protocol channel to obtain permission first. When asked if they used any electronic media to advertise, the response provided by Paul C. (interviewee), a senior librarian at a public library in Khayelitsha was:

*No, we don't do that; we don't. About the media, for instance, we are not supposed to talk to media people... So, I must get the permission to advertise the services of which they do give the permission ... it's just that they haven't really explored that side. Not that we didn't think about it, but the whole process sometimes when you have to go through some channels when you see this thing as simple as going to media and just saying whatever you want to say (Paul C., interviewee).*

It was further observed that the libraries made use of the print media to advertise their services. Advertisements are placed in local newspapers, which are free in these communities. Posters are also put up around the community, in both Xhosa and English, in order to cater for those whose mother-tongue is not English.

Other agencies, such as the Business Place, the Cape access and some libraries participate in community outreach programmes to promote awareness of their services:

*... So, we have projects within the community. Projects, which is basically marketing within it (Diana B., interviewee).*

*We also do community outreach as well. If there is a community-based programme that wants our services they can go to our offices and get help (James M., interviewee).*

With the community outreach programmes, service providers help out in the communities. As they work in the communities, the owners of small businesses become aware of their existence and the services they provide. Moreover, the service providers make a difference in the communities and thus, promote their services. As a result, business owners become enticed and informed about the opportunities and the services that the agencies provide.

Furthermore, a trusting relationship is also built between owners of small businesses and service providers. Physical involvement on the part of the agencies shows the small business owners that they are part of the community. Some examples of these outreach programmes, particularly in Khayelitsha, included inviting students and learners to attend lectures on library orientation. This process allowed the students, as well as any owners of small businesses who attend, to learn how to use the computers and access information through the Internet.

The social media is an option that service providers are now deciding to advertise and market their services through. A public library in Gugulethu had a Facebook page, which they used to communicate with the community. However, because of a lack of ownership and management, the page has become inactive:

*Well, sometimes we use our Facebook page, of which as of now it is no longer active, but we are hoping to reactivate it (Sally M., interviewee).*

In order for owners of small businesses to be able to access e-support that is provided through the Internet, they need to know where they can find the facilities, particularly computers with Internet access. If it is more convenient for them to access the Internet through devices, such as cell-phones, they need to be made aware of the fact that they can do so.

A study done by Berry et al. (2002) was highlighted in Chapter Two. It emphasises a lack of adequate marketing by service providers. Berry et al. (2002) further emphasised low efforts from service providers to involve the small business owners in the establishment of support services. Since the study by Berry et al. (2002),

nothing much has changed, except the ways in which the service providers provide their services.

Thus, ten years ago, as is the case currently, there is still a lack of awareness of the services providers, among the owners of small businesses that need their support. This is still a challenge that needs to be addressed. More improved efforts need to be made by service providers to involve small business owners in the process of deciding which services to provide and how. This would also ensure that the intended beneficiaries are made aware of the services provided for them.

#### **4.5. Core theme three: Technological literacy**

Technological literacy is mainly concerned with the confidence and abilities of the owners of small businesses to make use of electronic equipment. This literacy focuses mainly on skills levels, technology use, and the reason why they use computers and the Internet in relation to personal and business use. Focus is also placed on where small business owner get access and the effects of a lack of adequate access and e-skills on the use of technologies that provide e-support.

In addition to knowing where to access computers and the Internet, as well as having the basic literacy skills, it is also necessary to have the technical skills to be able to use ICT. The findings regarding technological literacy were overwhelming. In order to present these findings in a logical manner, this section begins with a discussion of the findings related to: (i) The utilisation of computers and the Internet. The section progresses with a discussion regarding the: (ii) Storing and sharing of information, as well as (iii) the e-skills levels of the owners of small businesses.

##### **4.5.1 Utilisation of computers and the Internet**

It was found that small business owners sometimes feel pressure from external forces: Customers, suppliers and other businesses (competition) to use computers and/or the Internet. However, because of a lack of funds, many cannot afford to buy computers or pay to access the Internet at an Internet cafe. Moreover, these small business owners also claimed to feel social pressures to use technology. There was a fear among them of being digitally and socially excluded because they did not have access to technologies, such as the Internet.

Although some small business owners have acquired knowledge about computers from observing their friends and/or family members who use computers in their presence, they have not identified a need to make use of them:

*...I know that technology is making it easier to conduct business, but I am not sure what I would use it for at this point, but I think I need one. Like I can see that I might be left behind if I don't use it. You see like how people used to use a horse and cart back in the day and now there are cars (Zoe M., interviewee).*

Rick T. (interviewee) the owner of a B & B is pressured to adopt technology by the industry. People hear about the B & B, and they call the business and ask for details to be e-mailed to them. Although Rick T. (interviewee) has access to a personal computer, it does not have Internet access. As a result, time and money have to be budgeted for travel to the closest Internet cafe. The effort is made because the business is required – they need the customers. However, because of limited funds and time, Rick T. (interviewee) can only afford to do this once a week:

*In a week I think once because I go to check my e-mails (Rick T., interviewee).*

It was found that five of the small businesses had a personal computer, used for either business or personal communication. Of these five small businesses, two were informal, while three were formal.

Additionally, small business owners in the communities are becoming more exposed to computers and the Internet. These technologies are now accessible at school, in their societies and even by way of friends. Thus, they are developing a desire to learn about them. As they become more intrigued by computers and the Internet, they want to know how to do what other people do, such as social networking, for example.

Libraries that offer Internet access facilities have noticed a growing increase in the number of people (small business owners, included) that come to the library, to use the Internet:

*Mainly because of the Internet, a lot of people come to use the Internet yes (Sally M., interviewee).*

*Obvious, they need Internet; they come here to make copies, to print, to do their CVs (Sam Z., interviewee).*

It was found that thirteen of the small business owners made use of the Internet in order to, look for information, send and check e-mails, social networking and to conduct business transactions. Moreover, four small businesses from this group access the Internet via their cell-phone only. It was observed that as a result of a lack of awareness on where to access computers, and the lack of convenient Internet access facilities, a growing number of small business owners are turning to their cell-phones as a means of accessing the Internet.

Furthermore, accessing the Internet through a cell-phone was found to be more convenient and required fewer skills to access and to navigate. Although in some cases, this was due to a lack of convenient access to computers, for other small business owners using their cell-phones to access the Internet was a preferred choice:

*Yes, but on my phone only (Val K., interviewee).*

*Yes, but it is too far for me to go there (Ben C., interviewee).*

*Yes, I see a phone like a more convenient thing. I can do anything and I don't have to do a lot of things (Zoe M., interviewee).*

Thus, the older generation of small business owners is being encouraged to access services through their cell-phones, in order to eliminate travelling costs. Some of them have to travel long distances to obtain access to the nearest computer and the Internet facilities, thus using their cell-phones would be more convenient:

*What you will find with the younger generation is that their first experience with e-support would have been via their mobile phones; and then they will probably move into the workplace, where they will have to use a computer as in a desk-top computer. Whereas the older generations they started with probably using electronic communication on a computer in an Internet cafe or a library or something, and then now they are being encouraged to use it on a mobile phone, because then you don't have to travel (Levy T., interviewee).*

It was also observed that once some of the small business owners discovered what they could do on the computers – they became excited and sometimes abused the facilities/ services. The facilities provided at the Business Place, for instance, are intended for the sole purpose of allowing small business owners who do not have the resources to make use of the computers and the Internet. The small business owners who use these facilities generally have to respect each other and bear in mind that other people also need to use the same facilities.

James M. (interviewee), a consultant at the agency, found that the small business owners get excited once they find out what they can use the computers for. As a result, they tend to misuse the resources that others need badly:

*Some of these people just come in to waste time. They sit on the computer the whole day...to write love poems... writing you know songs, the lyrics to songs (James M., interviewee).*

It was further observed that some of the small business owners were starting to embrace social networking for personal and business purposes. However, most do not want to be on the same networks as their children because they feel judged and embarrassed:

*I use Togo, Facebook and Whatsapp. I do not use Mxit because my son is there and I don't want to bump into him (Zoe M., interviewee).*

The service providers interviewed mentioned that generally searching for employment as the main reason people use the Internet in the libraries. Other reasons include social networking, looking for information and checking the marital status of others. As a result of the high crime rates, identity theft has become rife in these communities. Thus, it is necessary to often check and confirm one's supposed marital status when looking for employment opportunities:

*A lot of people they are using it to search for jobs. I will say a bigger number of them it is for face book ya (Sally M., interviewee).*

*You have got people coming in looking for jobs. They come and they can type their CVs and they can print it and they can e-mail it to wherever they want to...if you look at Mossel Bay you know there is unemployment, so the job seekers want to come and look for jobs on the Internet... the other*

*one obviously the other part is the social media also coming to do the social media coz they can on the phone, but they find it much easier to do it on a computer (Diana B., interviewee).*

*You know some people are unemployed here; they will come in the morning those that come in the morning I know they are busy with their CVs and sending CV applying for jobs (Paul C., interviewee).*

Focusing on the use of the Internet for electronic communication, it was found that thirteen small business owners had e-mail accounts. These accounts are used for business and/or personal networking. The formal business owners use their e-mail accounts to communicate, principally for business purposes.

It was also found that some small business owners did not see the need to have an e-mail account; yet, some of them wanted to participate in online business courses. These courses required one to have an e-mail account, as all the documentation for the course was sent through e-mail. This created a dilemma for the service providers. As a result, they had to encourage or convince these particular small business owners of the importance of having email accounts:

*I would say not majority, but quite a lot of people have no e-mail accounts; in fact, they don't see the need to have an e-mail address. Yes, so we have to convince them (James M., interviewee).*

Of the small business owners, that used the Internet in the library, most were only interested in looking for and applying for business tenders, as illustrated below:

*Mainly tenders, mainly they are looking for tenders. I haven't met people that are looking for any other information (Paul C., interviewee).*

In other common cases, the small business owners receive e-mails with Portable Document Format (PDF) attachments. However, either they do not have PDF viewing software like Adobe, or they do not know how to download the attachments. As a result, they approach the library to make use of the resources and/or ask the library staff for assistance.

Because of a lack of skills and exposure to technology, the informal business owners generally try to avoid the use of computers and the Internet. Formal business

owners, on the other hand, were found to be more inclined to adopt this technology. This is due to these business owners having to carry out online transactions as part of the day to day running of the business. They need the Internet to carry out transactions, such as banking, registering the business, or filling in government forms (SARS tax forms).

Additionally, small business owners who own a computer or laptop for business or personal use are more likely to access the Internet more frequently than those who do not. It was discovered that, the majority of such small business owners need to access the Internet on a daily basis. Two of the formal small business owners spent about six hours or more a day online, conducting business related activities. On the other hand, some of the informal businesses owners were only able to afford to check their e-mails once a week. In some more extreme cases, only once a month. They do not have convenient access. The survivalists, for instance, cannot afford to leave the business unattended while they travel elsewhere to make use of the Internet, since they work alone.

Apart from the Internet, which is very popular, there are other services, such as photocopying, printing and typing of documents, and even recreational facilities, such as computer games, that are accessed by members of the community.

#### **4.5.2 Storing and or sharing information found online**

Searching for information is one of the main reasons that small business owners access the Internet. Thus, it was important to find out how they store and/or share the information that they find.

The following factors were found to influence how the owners of small businesses stored information - convenience and the cost thereof. Furthermore, service providers mentioned that small business owners need to know the various options they have available to them. These options include, printing the document, storing the information on the computer (My documents) or storing the documents on a Compact Disk (CD). Other storage options include saving the information on a Digital Versatile Disc (*DVD*), a Universal Serial Bus (USB) flash drive, e-mailing the document, or even saving the information on a particular server. Once people are aware of the different options available to them, they can decide on the one that is most convenient and economical, for them.

Other influential factors include education, which generally provides small business owners with knowledge about how these devices function. Coupled with education, is the degree of trust in technology, both are influential in deciding how to store information found online. Some small business owners do not trust flash drives, because they do not know much about them or how to use them.

Many small business owners can only access a computer or Internet once a month. As a result, the degree to which they use computers also influences their options in storing the information. In such cases, printing the document is more convenient, since access to a computer or the Internet is not regular.

Furthermore, the availability of resources and funds also play a large role. Some small business owners have limited access to computers and/ or the Internet. This factor, together with limited funds, influences the available options to them for storing information. In such cases, they also cannot afford to print documents, let alone purchase any external storage devices.

Above all, the most influential factor was found to be security. It was important for the small business owners to know that their information was safe. It was also important to them to keep their personal details confidential. For the owners of small businesses that use the public facilities, the service-providers stated that security was also a major concern. For some of the small business owners, they were more comfortable storing information on the computer by creating folders on the desk-top. However, the security of personal documents on public computers still remains questionable. Service providers thus still encourage them to make use of external storage devices, such as a USB.

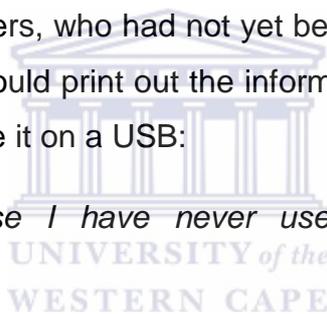
The service providers generally have to educate the owners of small businesses on convenient means of storing information. USBs have become a common means of saving information. Some of the owners of small businesses come to the libraries with a USB because they have been told they are what is required. However, they do not know how to use them. Moreover, they have not been provided with the skills to use such technology (USBs). In some libraries, it was found that although the librarians encourage the use of USBs, the machines that the owners of small businesses had access to did not have USB ports, which created a dilemma.

Nonetheless, the owners of small businesses that are more computer literate, exposed to computers and frequent users of the Internet, with the resources available, tend to store their information in the 'cloud'. They do this through online services, such as dropbox or skydrive. These services allow users to store their files in secure servers based on the Internet.

The owners of small businesses in PDAs were found to be very particular about how they access and store their private and sensitive information. For sensitive information about the business, the most common means of storing this type of information was printing. The majority (thirteen) of the small business owners preferred to print out hard copies of the information. They would keep the copies locked away at home, or in a safe place at work. These small business owners felt more comfortable with hard (printed) copies of their personal, or sensitive, information that had to do with the business.

For some small business owners, who had not yet been exposed to computers, they were not sure whether they would print out the information, save it on the computer, e-mail it to themselves, or save it on a USB:

*I am not sure because I have never used a computer* (Val K., interviewee).



This shows that there is still a lack of ICT related education and exposure among small business owners in PDAs.

#### **4.5.3 Understanding the concept of e-skills within the community**

The e-skills levels among the small business owners were found to be at different levels. However, there were three main categories that emerged. These categories consisted of: (i) Those with advanced e-skills; (ii) those with basic e-skills; and (iii) those with no skills at all.

Advanced education and frequent ICT exposure were common among the small business owners, who had high levels of skills (advanced skills). Consequently, the lack of basic literacy, ICT exposure, accurate information, and interest, were some of the common factors among those with little or no e-skills.

Focusing on the interviewed small business owners, ten claimed to have the ICT related skills necessary to use a computer. The skills that they possessed ranged between very basic ICT user skills, where they could type out a document in Microsoft Office (word) and print it out, without Internet navigation skills, to more advanced ICT skills. The more advanced ICT related skills were possessed by small business owners, such as Mike F. (interviewee), a computer repairs shop owner and computer engineer by profession. Simon D. (interviewee), an attorney by profession, also had advanced ICT related skills. These small business owners were not only fluent with the Microsoft Office suit, but they were also able to use various other programs, and navigate through the Internet. Furthermore, their businesses were formal, and consequently, heavily reliant on computer and Internet access.

Eight of the small business owners admitted that they needed to go for computer related training. Jerry K. (interviewee) a seamstress, for instance, had never used a computer, but wanted to learn how to use one, in order to better the business. In the case of Daisy P. (interviewee) who owns an educare centre, Daisy P. (interviewee) went for basic computer training some years ago. However, due to a lack of exposure and opportunities to exercise any skills, most of what was learnt has been forgotten. As a result, Daisy P. (interviewee) feels the need to enhance any computer related skills previously possessed, so as to avoid constantly asking business partners for help. Thus Daisy P. (interviewee) wants to go for more computer related training.

Service providers confirmed that the lack of e-skills demoralised people (small business owners, included), causing them to avoid using computers and/or abandoning any desires to do so. It was clear that small business owners in these communities were aware of their lack of computer related skills, and they wanted to resolve this shortcoming. They admitted the need for further training:

*No, I need to go for training* (Ross G., interviewee).

*I would go for more training* (Daisy P., interviewee).

*I would need to go for training* (Jerry K., interviewee).

Because of the lack of opportunities in PDAs, only three small business owners had advanced ICT-related skills. These small business owners also happened to be

more financially stable. They had also gained their education from a tertiary institution. In addition, these small business owners had convenient access to personal computers and extensive computer related training.

The small business owners that had basic ICT related skills only, generally knew enough to do what they needed to do on the computers; and they stuck to that. It was observed that, small business owners with basic ICT skills only, often have problems adapting to system changes. Some business owners had been trained on the Windows operating system. As a result, they became confused when they attempted to use the computers in the libraries. This is because most of the computers in the public libraries did not operate using the Windows operating system. These computers ran on Open Source operating systems, which some people were unfamiliar with. Thus, even though they had basic ICT skills, they still faced challenges navigating through the Open Source system:

*I think many of them, they do have the capacity to use the Internet; however our computers are not your normal Microsoft system, so in terms of them doing like attachments and all this stuff, they normally come to us to ask how can they; and we help them out (Sally M., interviewee).*

Unlike the majority of the more mature small business owners, learners and students usually have the basic ICT skills to use computers, and to look for information on the Internet. Service providers revealed that the younger generation was quicker to learn and use technology. The older generation were observed to need more time to learn and use the same technologies.

Furthermore, according to a senior librarian at a public library in Khayelitsha, the owners of small businesses that come in to use the facilities were in most cases computer literate. However, first time users usually needed to be shown the basics. After being shown the basics they were able to learn on their own or asked their neighbour sitting next to them for assistance:

*No, but I think normally they are literate, computer literate. It is those maybe who are trying for the first time who need to be helped to log on and stuff that, we show them how to do [It], to access for the first time, in order for them to link the computers to our database (Paul C., interviewee).*

In regards to the small business owners that participated in the study, there were more with no computer related skills than those with advanced ICT related skills or even basic ICT skills. Moreover, Sam Z. (interviewee), the owner of an Internet cafe in Khayelitsha, stated that based on observation, thirty percent of the people in the community had computer related skills. Thus, seventy percent of the people (including small business owners) in this community had no computer related skills.

This observation was also found to be true by other service providers that were interviewed. These service providers work directly with the owners of small businesses that come into use the computers and the Internet. Thus, they are in a better position to give a clearer picture into the skills levels among them.

Moreover, the service providers were also able to highlight some of the skills that owners of small businesses need to make use of the facilities. It was found that the skills to access and navigate through the Internet when searching for information were critical, yet mostly lacking. Furthermore, some small business owners, particularly those from the older generation, did not know how to use a computer, let alone what it was used for. They need to have these skills, in order to use the facilities.

On a daily basis, Library staff and facilitators in e-centres come across owners of small businesses who do not have any skills; yet they want to use the computers:

*What you guys also now call e-skills is more basic computer literacy ... in most of these areas, people they don't have the formal skills some of them don't even know how to use a computer, but we give them basic computer skills (Diana B., interviewee).*

*Some are not familiar with the Internet, but those that are not, we do assist them. We educate them; we show them, and tell them what to use (Tim A., interviewee).*

The lack of computer related skills was found to be associated with low self confidence. The service providers revealed that they often come across owners of small businesses who are too shy or too proud to ask for assistance. As a result, they often sit stuck in front of the computer. Usually from the body language, the

library staff or facilitators can tell they are stuck. The service providers thus take the initiative to assist before the person gives up and abandons the computer:

*It's knowing how to search for information that is a big one. They don't know how to search for information [or] where to begin. Because you can get a person who is coming to use the computer, but sometimes you know pride can be a challenge. Because the person can sit there ... I can see what they are doing, and I can quickly pick it up from their body language that they are stuck... they don't want to ask because remember it is mostly old people we are dealing with. Then they look at me I'm young and I'm coming to assist. Sometimes that can be a problem; they are very shy to ask. So in those cases when I see a person getting stuck, I will go up and ask (James M., interviewee).*

Consequently, as technology becomes an increasing part of everyday life in PDAs, the digital divide will continue to widen. This is because there is still such a large number of people (small business owners, included) that do not have the necessary e-skills or access to computers and the Internet. The e-skills (knowledge, attitude and skills) in question, would allow them to participate more in an economy where ICT plays such a large role. This conclusion was also made by an Internet cafe owner from Khayelitsha:

*Everyone has come to a stage where they need to move on and accept this new technology coz if you don't know what's happening and you don't know how to use a computer, it is a very big disadvantage for you, so you have to familiarise yourself (Sam Z., interviewee).*

Once the owners of small businesses had the necessary e-skills, they were found to be more willing to use ICT. In the same vein, awareness has also been shown to be a great motivator. Once these business owners know what computers can do, they want to learn more about how to use them.

Furthermore, patterns within the findings also reveal that social pressure among both the younger and older generations causes the owners of small businesses to want to learn how to use computers to access the Internet. Access through a mobile phone is also revealed as becoming more common. This is as a result, of more cost effective and capable phones being available, increased convenience and minimal

embarrassment. The embarrassment in questions refers to that which is often felt by the owners of small businesses who are too shy to admit they cannot use the Internet once they are in the library, or any other public e-recourse facility.

Technological literacy was found to be relevant to the overall use of e-support. It is one thing to know where to access a computer, or to know that you can access the Internet on your cell-phone. It is another thing to be able to actually use them to do what you need - for instance, to navigate through the Internet, browsing through service providers' websites.

The importance and relevance of the attributes that are associated with technological literacy were further emphasised by Melissa M. (interviewee), a representative of the PGWC e-Innovation centre. The statement from Melissa M. (interviewee) is illustrated below:

*The skills levels is [sic] totally I would say relatively low. So having these centres will definitely make a difference, coz you can have a centre, but without the proper skills, people won't be able to access any information. It might take them long to access what they need, and they will get frustrated. But if they are skilled enough, they know how to operate the computer; they know where to look for information; it will make them come more often, and also share with other people who are coming to the centre. So, there is a need for skills; we can't have technology without people knowing how to use it; [it] will be a useless and wasteful expenditure (Melissa M., interviewee).*

Technological literacy and e-awareness are related; they are both relevant. For a small business owner to have access to a computer or the Internet without the necessary skills to use them, does not yield much benefit. In the same vein, if they have the required skills, but no convenient access to a computer or the Internet, this also cannot yield any positive results. Thus, the owners of small businesses need to be both aware of the technology and possess the e-skills necessary to use them.

#### **4.6. Core theme four: Informational literacy**

The attributes of informational literacy relate to information, being able to find it either online, through search-engines, or offline. This literacy also involves the ability to

read with meaning, to understand, and to interpret information from various kinds of sources. Information literate small business owners also possess different other skills and competences associated with managing information, in order to gain knowledge.

The importance of being informed and of having the necessary e-skills has been highlighted in the discussion of previous core themes. Informational literacy thus, addresses the management of information from different sources – as stated above.

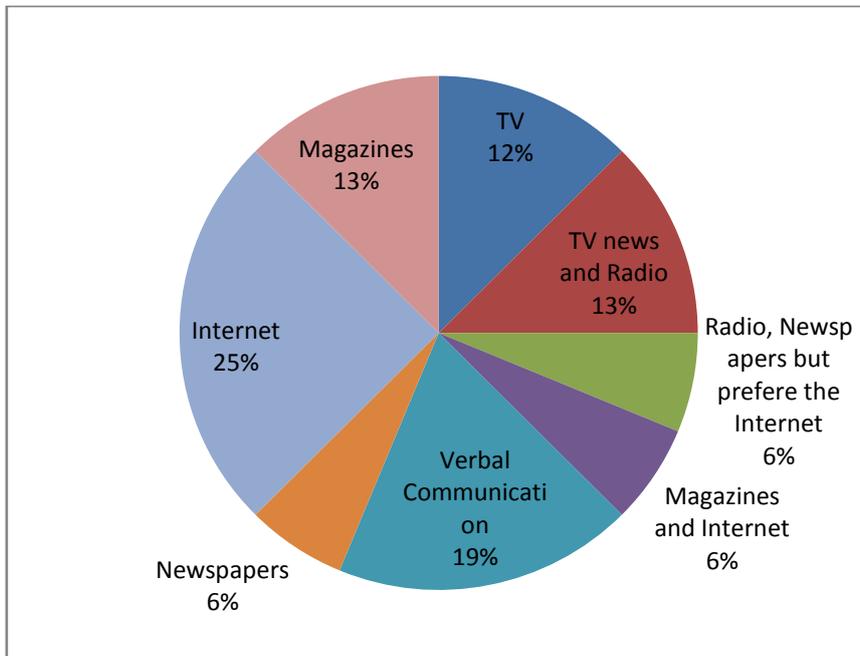
The discussion of the findings related to informational literacy is divided into two sub-themes: (i) The sources of information; and (ii) the preferred mediums of communicating information.

#### **4.6.1 Source of information**

The small business owners in the PDAs were aware of different sources of information available. Their personal choice came down to: (i) That which they trust most; (ii) that which was most convenient to access; (iii) that which was more economical to access; and (iv) that which was most reliable.

The three most popular categories of information sources were electronic media (e-media), print media and verbal (face-to-face communication). In regard to this study, e-media encompasses the Internet, TV and radio. The print media refers to posters, newspapers (free community newspapers), letters and magazines.

Based on the findings from the interviewed small business owners, Figure 7 below shows the ratios of their preferred sources of information. This figure is purely for illustrative purposes, considering that the study is qualitative in nature.



**Figure 7: Preferred sources of information**

The most preferred source of information was the Internet. However, as the result of a lack of adequate, convenient and reliable access, the print media was used. The print media was thus, found to still have a strong hold on those followers who trust it and find it more convenient to access. On the other hand, some small business owners are now shifting from print media to the e-media, as a source of information. This is because technology has made it easier for them to share and retrieve information.

However, not everyone (small business owners, included) has equal access (digital divide) to e-media (for instance, TV, Radio and Internet) in PDAs. Thus, the print media remains a more common means of sharing and receiving information. Additionally, it was found that some small businesses owners chose to use print media because the information they need from government websites, for instance, is usually outdated and irrelevant.

In the same vein, other small business owners who preferred the Internet as a source of information resorted to print media. The only places they can access the Internet are too far away, and expensive to go to. Thus, they have no choice but to get information from the print media (newspapers) as a more economical and convenient source:

*Newspapers, ya the Internet it's expensive I didn't go every time, so I use newspapers and TV news (Rick T., interviewee).*

*I prefer to get it online, but it's not possible right now (Bill M., interviewee).*

Additionally, cell-phones have also become important tools that facilitate access to information. Three small business owners were more comfortable accessing the Internet through their mobile devices, other than through a computer. These devices are seen as convenient, easy to use, and requiring less skills.

It was also noted that some small business owners had a common trust for information found on the Internet. The service providers stated that some people would skip them and head straight to the computers to obtain information. If they did not find what they needed, then they would go back and ask for assistance.

However, depending on the type of small business, the print media can be a more effective and reliable source of business information. For instance, with hair salons, the idea is to design the most fashionable and trendy hairstyles. The information comes from magazines with pictures of celebrities, which the hair dressers then try to copy.

Other small business owners trust print media like newspapers and are less interested in e-media. In addition, the print media is also one of the most cost-effective sources of information. In Gugulethu, a commonly preferred newspaper is the City Vision, which is free.

On the other hand, for the owners of small businesses that have limited exposure to TV and radio, poor literacy levels (they cannot read and write), verbal communication is the preferred medium of communication. They trust information passed on verbally from their friends, family and colleagues.

#### **4.6.2 Preferred mediums of communication (sharing and receiving information)**

It was found that small business owners still find the phone (landline, call-box or cell-phone) as the most convenient means of communication. Calling someone gets an immediate response. It is fast and instant. With an e-mail, the other person might not be able to connect to the Internet, or might follow a routine where they only connect

and check e-mails at certain times. Max J. (interviewee), for instance can only access the Internet once a month. Max J. (interviewee) needs to be to be at work from early in the morning to late at night every day, so there is no time to access the Internet. In such a case, the intended recipient of the e-mail might not see the e-mail or respond in time.

Additionally, the Internet is also seen as a key facilitator of communication. Eight of the small businesses communicate through the social media. Facebook was found to be the most popular, followed by Whatsapp, then Skype. The social media is commonly used by those who have a more positive attitude to technology.

Furthermore, for businesses that are heavily reliant on electronic communication, instant messaging plays a vital role in communication. This communication is usually between the business and customers, suppliers or the business staff themselves:

*We use like instant messaging if I have to check like when he is free so we can chat online via Skype, so I will send an instant message to him via Whatsapp to confirm the time then we can chat (Mike F., interviewee).*

Information, as an individual concept, is often overlooked. However, it forms the underpinning of all the other e-skills. Small business owners need to be informed and educated (literate). They also need to be aware of the various sources of information. Moreover, they need to be able to judge from what is out there, information that is relevant, and that which is irrelevant. The possession of information makes them knowledgeable (aware). Thus this literacy is also necessary in the use of e-support.

#### **4.7. Core theme five: Digital literacy**

Digital literacy relates to the skills and knowledge required to use technology at a more advanced level. At this stage, the small business owners make use of technology, primarily computers, and the Internet to facilitate their business transactions. ICT, especially the Internet – plays a large role in facilitating day-to-day transactions. Thus, it is advantageous for even small business owners to make the most of the opportunities that ICT presents.

The attributes of digital literacy are important, since they provide the small business owners with the tools to integrate technology into daily business processes. Thus, enabling them to function more efficiently and in due course, reap more benefits.

In the discussion of the findings that relate to digital literacy, the focus is on the use of computers and the Internet to facilitate business-related transactions. With this literacy, the use of technology in general is investigated. Small business owners' ability to use ICT related tools to find and use information during the daily operations of the business are also investigated. The discussion is broken down into sub-sections: (i) The use of computers to facilitate business transactions; and (ii) the use of online services to facilitate business transactions.

#### **4.7.1 The use of computers to facilitate business transactions**

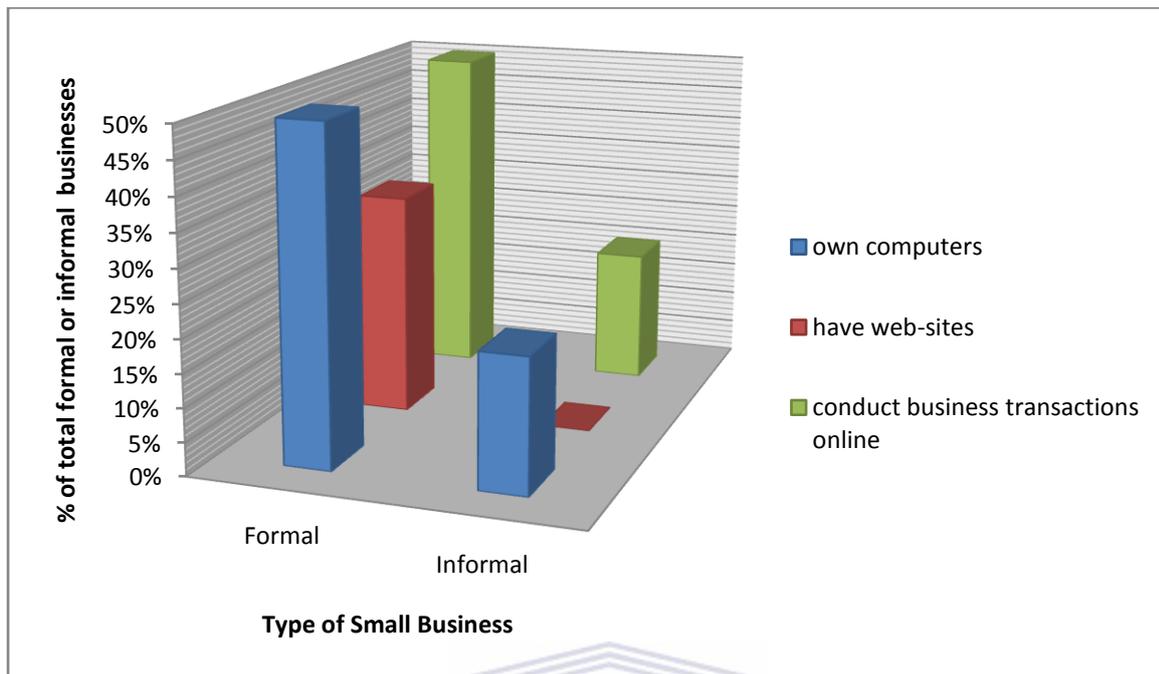
The formal small business owners were in a better position to use technology to facilitate business transactions. They had the skills, funds and the necessity to use ICT. Furthermore, it was found that education and exposure to ICT also play a role in the use of technology. Thus, basic literacy and technological literacy skills are directly related to digital literacy. Once the small business owners had an understanding of computers and the Internet, they began to integrate them into their businesses.

Unlike formal business owners, informal business owners were more sceptical and slower at using technology. Some informal business owners avoid technology altogether. Formal business owners were more reliant on technology, particularly the Internet. They used technology to facilitate communication and other key business transactions, such as online banking.

However, there is a general slowness in the adoption of technology by small businesses, more so for those in PDAs. The drivers of technology use differ between the small business owners and the type of business they have, whether formal or informal. Figure 8, which is purely for illustrative purposes, presents a chart that summarises the technology use findings of the small business owners.

In this regard, the adoption of technology by the small businesses is divided into, those that own computers, those that have websites, and those that carry out business transactions online: Either daily or only occasionally. The chart further

represents these percentages of use according to whether the business is formal or informal.



**Figure 8: Technology adoption by small businesses in PDAs**

It was found that formal businesses had a higher dependency on technology to facilitate electronic communication, than informal businesses. Furthermore, they use technologies, such as computers to capture data, as well as to store, organise, and manage business information. Additionally, formal small business owners also use computers to log jobs and manage stock. It is mandatory for these businesses to keep track of these transactions and activities. These details will be required for filling in forms, such as tax forms for government.

Two formal business owners did not use technology in the form of computers. These small business owners did not use computers for different reasons. Firstly, in the case of Daisy P. (interviewee), the owner of an educare centre, the business desperately needed a computer, but they could not afford one:

*Yes I do, I would use it for children's information and the running of the centre (Daisy P., interviewee).*

Furthermore, it was observed that the office where Daisy P. (interviewee) worked was filled with filing cabinets. Daisy P. (interviewee) used these cabinets to try and keep the records organised. Daisy P. (interviewee) went on to state that the business

does not have the funds to purchase a computer, where all the records could be stored.

This educare centre is situated in a township, where a large fraction of the population is unemployed, or has very little income. As a result, some parents were unable to pay the school fees for their children or other costs in time, usually leaving the educare centre outside their budget. These scenarios were found to be common in these communities.

For fourteen of the small business owners, the lack of funds prevented them from having business related websites. Additionally, the lack of adequate, convenient and economical access to ICT, were also contributing factors. While, none of the informal businesses had websites, only two formal businesses did have business websites. For Simon D. (interviewee) who owns a law firm, the person whom they contracted to build the website abandoned the project. Moreover, this person now demands more money to finish the job. As a result, the business is in the middle of negotiations, as Simon D. (interviewee) understands and confidently expresses the importance of the business to have a fully functional website.

Mike F. (interviewee), the owner of a computer repair shop also has a website for the business. Mike F. (interviewee) is a computer engineer by profession and thus possesses the skills and ability to build and manage the business website. These skills were gained through, education, exposure and experience:

*Ya, I do it myself (Mike F., interviewee).*

Only, two informal small business owners own computers. Bill M. (interviewee), a business owner who left university to manage a mini-market and Rick T. (interviewee), who owns a B & B. However, both do not have Internet access.

Twelve of the small business owners indicated a strong desire to adopt technology into the business. For the businesses that already had computers and various other technologies, they expressed a desire to upgrade. They wanted to improve on the technology they currently had. Furthermore, the technologies that the small business owners want to integrate into their businesses include, but are not limited to: Computers, laminating machines, photocopiers, printers and fax machines. They also want, ADSL modems, computerised points of sale, bigger servers, bar-code

scanners, Closed-Circuit Television (CCTV), generators and control mechanisms for refrigerators.

The small business owners who were educated further than high school level and who had computer related training were more willing to use technology in the business. Furthermore, they had a more informed understandings of how to use the computer to address the needs of their business. As a result, they could use computers to maximise transaction processing efficiency.

In the case of Zoe M. (interviewee), this hardware shop owner understood the relevance of computers and the Internet in a business. However, Zoe M. (interviewee) had not yet identified a need for the hardware shop to start using such technology. This shop owner believes that in the future from the fear of being digitally excluded, the business would be forced adopt these technologies. Currently, however, for the few transactions that the business needs, the Internet via a cell-phone is sufficient.

Furthermore, it was also found that informal businesses owned by the older generation (over forty years) generally avoid situations that would result in them having to use technology. In most cases, these informal business owners were comfortable with the traditional means of doing business. They did not see the need to have computers, or to use the Internet, as illustrated below:

*... some people do not see the need to use or to involve technology in their businesses, coz they have been trading for years and years. They were doing ok, according to them. So, even if they come across a situation where they have to access a computer they will always, always try to find a way around that, so again that is an opportunity missed by them to learn something new (James M., interviewee).*

It was also found that there was a fear of becoming digitally excluded among the small business owners that did not possess computers. In most cases, some of the informal business owners had never used or been exposed to computers; yet they believed that they needed one in their business. These particular small business owners were also not even clear on what computers actually do. They associated computers with success. Considering that they are expensive, they then concluded that only successful businesses could afford to have computers. Thus, to be

successful, or to prove that the business is successful, it needs to have a computer on the premises – even if it is not fully utilised. These conclusions made by the small business owners were considered to thus, be a result of them facing social pressure and fearing to be digitally excluded.

#### **4.7.2 The use of online services to facilitate business transactions**

Five small business owners made use of the Internet, either on a daily basis, or occasionally to conduct business-related transactions. The use of the Internet is important for formal businesses, as they are heavily reliant on technology. Moreover, they face pressure to compete with other more successful small businesses in urban areas that already use ICT.

For formal businesses, computers and the Internet are integrated into the ways in which they run their businesses. Thus, without them their businesses would suffer. For the law firm, owned by Simon D. (interviewee), the Internet is a key facilitator of transactions. Seventy-five percent of the business transactions are reliant on the Internet:

*Yes it is very essential... I would say about seventy-five percent (Simon D., interviewee).*

As for the computer repairs shop owned by Mike F. (interviewee), the Internet facilitates communication with customers and suppliers. As a result, the business is heavily reliant on the Internet:

*Yes it will suffer, if it happens that I don't have Internet access because normally people they contact me through my website. They sign a contract [with] us, then I will get back to them, then take it from there (Mike F., interviewee).*

It was found that formal businesses, in particular, use the Internet to carry out transactions such as, Internet banking, website management, communication through e-mail and social networking. Additionally, these businesses also use the Internet for storing business information, research, applying for tenders, accessing government information, and advertising. The importance of small businesses to use ICT was also highlighted in the literature review (in Chapter Two). During the review of literature it was found that “*approximately 150,000 SMEs in South Africa would not*

*be able to survive without their Web presence” (Goldstuck, 2012:iii). Furthermore, “with SMEs accounting for about 7.8-million jobs in South Africa, ... as many as 1.56-million jobs would be in jeopardy were it not for the Internet” (Goldstuck, 2012:iii). These two statements further highlight the importance of not only the Internet, but of businesses having some sort of web presence.*

Only two informal business owners used the Internet to carry out business related transactions. However, this was not by choice. When Lisa C. (interviewee), the owner of a hair-salon, became pregnant, she was not able to move around. As a result, she was forced to communicate with the suppliers of hair fibre through the Internet, and negotiate with them to deliver the fibre to the business premises.

Rick T. (interviewee) owns a B & B; and through word of mouth, other people find out about the B & B. They call, and in most cases, require information to be e-mailed to them rather than provided over the phone. As a result, in order to satisfy the needs of these potential customers, the owner of this B & B travels to an Internet cafe once a week to check and send e-mails.

Five of the informal small business owners were found to be resistant to change. They were more comfortable with traditional ways of conducting business. They did not want to involve the use of computers and/or the Internet in their businesses.

However, nine of the interviewed small businesses indicated that they would want to have a computer in the business, or upgrade the one they had. These small business owners were able to identify a need, and different duties that the computer would carry out. In such situations, digital literacy is very relevant. These skills allow the small business owners to be able to use the technology fully, to address the business needs.

Since technology adoption is already seen as a great risk for small businesses, the benefits of using the technologies must be clearly identified and attainable. Furthermore, the small business owners would need to possess characteristics such as the keen ability to understand and use information on multiple formats. These formats could be from a wide range of sources when presented through a computer. Hence, the relevance of digital literacy is further supported. The above mentioned characteristics that the owners need to have – are attributes of digital literacy. Additionally, digital literacy involves the advanced ability to manage information on

various levels. Thus, Informational literacy is again identified as a relevant and necessary tool.

The degree of significance of digital literacy is, however, dependent on the small business owners' needs and goals. The attributes associated with this literacy are relevant for small business owners who want to integrate technology into the daily or occasional transactions of their businesses. It is not necessary for all businesses to have a computer, or for them to conduct Internet banking, for instance.

Businesses such as spaza shops or hair salons, for example, are less reliant on the Internet to conduct business transactions. This is, unless the owner feels the need to do so, in order to improve the functionality of the businesses.

#### **4.8. Core theme six: Media literacy**

Media literacy is associated with small business owners understanding of the legal implications of using or sharing information found online. Media literacy is also concerned with the understanding of the various media platforms that are sources of information. Small business owners need to know how to access the platforms and use them as tools.

Globally, people are beginning to understand and accept the power that the Internet has in terms of it being a source of information and the extent of its reach. In most cases, the information found online is the sole property of a particular individual, organisation, or government. It is thus important to understand the legal ramifications of misusing that information: Either intentionally or unintentionally. Media literacy skills are thus important when dealing with various sources or platforms of information.

The discussion of media literacy in this section is divided into sub-categories: (i) Advertising; and (ii) the awareness of the legal implications of using or sharing information found online.

##### **4.8.1 Advertising**

Advertising is necessary for making people aware of the existence of a particular business and the services they provide. It was found that, the small business owners were aware of the different media platforms from which they could advertise their

businesses. Furthermore, nine of the small businesses had at some stage advertised their business.

The choice of which media platform to use came down to which was most economical. Thus, print media was the most popular medium for advertising for both formal and informal businesses. The print media used included posters, adverts in free community newspapers, pamphlets and flyers. It was further revealed that print media was a popular medium because it was not only cost effective but most people did not have convenient access to e-media. Many people are not exposed to electronic mediums of communication such as TV, radio, Internet and others. Thus, print media is easier for the intended market to access especially considering that in this case it is often free of charge.

It was noticed that most of the formal business owners began by advertising their businesses through print media (free community papers, pamphlets and flyers). However, with the evolution of the Internet they are now shifting to the social media as a platform to advertise, as illustrated in the citation below. Social media is more than a inexpensive platform from which to advertise, it reaches a wider market faster and at little or no cost to the business (depending on the degree of advertising):

*Ya, when we started ya, we issued flyers and then our Facebook page ya, we are using that for advertising now (Ron V., interviewee).*

*It was a long time ago in a local newspaper, but I would also like to advertise in the Internet, Yes (Daisy P., interviewee).*

However, in trying to keep up with the trends, some businesses fail to fully optimise the opportunities presented by the Internet. As a result, Facebook pages become inactive. In other cases, the people who created the pages either abandon the project, or leave the business. Consequently, the pages are neglected because those left behind do not have the skills to continue managing them.

Furthermore, six informal businesses had never advertised their business. However, if the cost of advertising and the lack of skills were not factors, five of these small business owners would like to advertise on the Internet and TV. They see the Internet in particular, as a platform from which to advertise their businesses in future.

Currently, they are not able to do so, due to a lack of information, resources, funds and e-skills.

Moreover, it was found that some of these small business owners prefer to advertise using mediums from which they themselves also prefer to obtain information. For Max J. (interviewee), the owner of a furniture shop and Ross G. (interviewee), the owner of a B & B, they both prefer to obtain business related information from TV. Coincidentally, that is the same medium on which they chose to advertise their businesses in the future. For Lisa C. (interviewee), who owns a hair salon, the preferred source of information is the Internet. Additionally, Lisa C. (interviewee) also considered the Internet as one of the best ways to advertise the business in future:

*On the net you know because a lot of people now these days everybody is on ... even old people (Lisa C., interviewee).*

#### **4.8.2 Awareness of the legal implications of using or sharing online resources**

Due to a lack of funds, education and exposure to ICT, there is still limited knowledge in regard to the legality of using or sharing information found online. Nonetheless, there is still a noticeable shift from using print media to e-media as a source of information. It came to surface that, only five of the small business owners (three formal and two informal) were aware of the legal implications of sharing or using information found online. One informal business owner was aware, as a result of being exposed to a tertiary educational environment where lessons are learnt on the use of intellectual property.

In terms of the legal implications of sharing and/or using information found on the Internet, eleven small business owners were not aware. This was found to be as a result of a lack of accurate information (informational literacy), adequate education (basic literacy), and exposure to ICT (e-awareness and technological literacy).

Thus, media literacy is relevant, because as small business owners become more willing and interested in using the various media platform as sources of retrieving or providing information, they need to understand the legal issues associated with such practices. Moreover, as they shift to using e-media to advertise, they need to understand any associated legal issues.

#### 4.9. Core themes recapitulated: Revised research model

The problem statement that motivated the study stated that: Numerous small businesses in South Africa, in general, and in the greater Cape Town area, in particular, are not able to effectively utilise the provided e-support services intended for their development, due to *inter alia* the lack of e-skills associated with the use of these services. This is clearly evident – particularly with small businesses from previously disadvantaged areas. Moreover, the main research question that the study addressed asked: Which e-skills are needed by small business owners in PDAs for the effective utilisation of the specific e-support provided for them?

As a result, in Chapter Two, based on the findings grounded in literature, an e-skills framework (Appendix Three) was designed. The framework identified the necessary skills to use online services and ICT based infrastructure. Additionally, the research conceptual model (Figure 5, section 2.6.2) guided the address of the matters relating to the investigation (issues, settings and people relevant to the study). The model also highlighted the *GAP*, which is present between the current state - of low levels of e-support use and the preferred future state - of an improved level of necessary e-skills among small business owners, resulting in the increased use of e-support.

Furthermore, the relevance of the identified e-skills was empirically tested among the small business owners (intended beneficiaries of e-support) and service providers in PDAs. The data were collected from the small business owners and the service providers. The results of the analytical process have been discussed above.

Subsequent to the discussion of the findings presented above, the relevance of the identified e-skills (basic skills, e-awareness, technological literacy, informational literacy, digital literacy and media literacy) has been established. There is a need for small business owners in PDAs to possess these e-skills, in order for them to be able to use the e-support provided for them.

However, bearing in mind the *GAP* between the current and future statuses highlighted in the research conceptual model (Figure 5), two concepts that are directly associated with this *GAP* came to light. These concepts are: Attitudes (perceptions) to technology and Barriers to the use of technology. The findings revealed that small business owners' attitudes (perceptions) – which were found to

be mostly negative, and barriers to the use of technology, directly or indirectly influence the use of technology.

These two concepts are further discussed – detailing their relevance and contribution to the research conceptual model (Figure 5).

#### **4.9.1 Attitudes (perceptions) towards technology**

It was found that some owners of small businesses had negative attitudes and preconceived perceptions to technology. These attitudes and perceptions play a large role in their adoption and use of e-support. As a result of them being mostly negative, these particular small business owners had no intention of making use of any ICT based infrastructure. Furthermore, these negative attitudes and perceptions are possibly the result of the socio-economic conditions under which they live. As a result of these particular conditions a number of small business owners in PDAs were not afforded the opportunity to further their education or embrace the benefits of new-found technologies. Additionally, these technologies were also largely non-existent in PDAs, prior to 1994. Thus, some small business owners were not afforded the opportunity to experience and further explore technology, before forming negative attitudes or perceptions towards it.

Ken B. (interviewee), a sixty-six year old shop owner who has been running a mini-market in Gugulethu for twenty-eight years has a fixed attitude towards technology. This shop owner was aware of past experiences and how they have influenced attitudes. Ken B. (interviewee) also believes that people from that era should take advantage of the present opportunities and go to school and learn in order to better themselves. Ken B. (interviewee) is personally very comfortable with the traditional means of conducting business. This shop owner has decided not to be exposed to technologies, such as computers and/or the Internet. There is no need to do so, thus there is no need to learn how to use them:

*We old people are not so used. I cannot use a computer and I am not blaming anyone. I am 66, and I have never been exposed to computers; we grew up without them. Our people must go back to school. We never had those privileges; we did not have what you have. We suffered; so now we must go back to school just like you... (Ken B., interviewee).*

The concept of attitudes influencing technology use was also observed by service providers. Negative attitudes to technology were found to be an issue particularly among people whose lives were greatly affected by the past dispensation. A large number of these people are intimidated by computers; they are afraid of using them. Thus, they will make no attempt to use them or put themselves in situations where they will have to use them – as illustrated below:

*Coz remember the older generation when it comes to computers for them it was a white-man thing, and they accepted that. In a way very few in that generation have had the privilege to access or having to use computers at school, having to be taught how to use computers; and bear in mind our target market is people from the townships, townships are still seen as a previously disadvantaged [areas] (James M., interviewee).*

The youth, however, tend to have a more positive attitude towards technology. They are willing to experience it first-hand, before they form an opinion. Whereas the older generations would say: 'I have never used a computer, so I do not need one. The younger generations would say: 'I have not used a computer so I do not know' – thus leaving room for interpretation after the initial experience.

During the data analysis process, one pattern that was constantly repeated was related to the fixed thinking pattern among the small business owners. This pattern was consequently dubbed the 'spoon-feed' mentality. The findings suggested that there was a somewhat lazy or ignorant characteristic (pattern) among them. This pattern was mostly related to the awareness of government agencies and the expectations of the small business owners about how the services should be provided to them. The responses from owners of small businesses indicated that people want the information to be brought to them, and for the system to work for them – with very minimal effort on their part. Due to past (negative) experiences they expect the government to give them the information and provide them with the support, as a direct personal service.

Only seven of the small business owners were aware of the government agencies' existence. They stated that they undoubtedly needed support from them. However, when they were asked if they had ever approached any of the agencies to get the support that they so desperately needed, the response was 'no'. When further

questioned as to why, the reasons included a lot of blame on the agencies not making themselves more transparent, as illustrated below:

*We don't know them; they are not transparent, so we don't know what they do* (Simon D., interviewee).

*They don't come to the people* (Jerry K., interviewee).

This 'spoon-fed' mentality is reminiscent of the students who believe that it is the teacher's role to make sure they pass: Regardless of any effort on their part. Thus, when they fail, it is usually the teachers' fault.

This mentality thus prevents people from taking the initiative of using technology. They do not make the effort to go to the library or any other facilities to get help, in order to obtain all the relevant information and/or support that they need.

#### **4.9.2 Barriers towards the uptake and utilisation of technology (computers and Internet)**

This section presents the findings that surfaced, as some of the reasons for the lack of technology use. It is necessary to identify these barriers, in order to make government more aware of the challenges that the owners of small businesses face. Some of the barriers identified in this section are similar to those identified by Ngcobo and Herselman (2007), as was discussed in Chapter Two, section 2.4.1. Contrary to the belief that poor uptake and/or use of technology are a result of no access and or no skills, there are other contributing factors. Some of these will now be discussed.

##### **(i) Unstable supply of electricity**

The owners of small businesses in PDAs are not able to rely on technology, because at any time the power can be shut down; and thus they would not be able to access their information. As a result, the majority (thirteen) small business owners preferred to keep hard copies of information. Additionally, they also stick to the print media as a reliable source of information. The fact that the power can go off at any time, shifts their focus away from computers, thus negatively influencing the adoption of such technology:

*Personally, well if our electricity in the township was stable, I would keep it on the computer, but it's not stable; at any moment electricity will just switch off (Bill M., interviewee).*

## **(ii) High crime rates in PDAs**

As a result of the high crime rates, small business owners were hesitant to adopt technology. It would be too costly, because in some cases this would mean they would also need to invest in security measures to protect the computers. It was also found that other small business owners are not willing to advertise their business, because they were sure it might attract thieves to their premises.

When Lisa C. (interviewee), the owner of a hair salon, was asked if the business needed a computer, the response was yes. However, the business could not purchase one because it would mean extra security costs:

*I can't manage that one, but only because if I could need that electronic thing then I could even need the digital camera in this container for the thieves you see for security reasons OK (Lisa C., interviewee).*

## **(iii) Pride, shyness, lack of patience and low self confidence**

Although these characteristics seem trivial, they play a large role in the use of technology. Library staff and support consultants reported that, some small business owners have too much pride to admit that they need assistance. This was evident more with the older generation. In other cases, small business owners are shy, because they are not confident in their abilities, resulting in low levels of self-confidence. With these characteristics, the small business owners either avoid the computers, or they abandon any initiatives to access them. The following observation was made by James M. (interviewee), a consultant, who assists small business owners:

*Because you can get a person who is coming to use the computer but sometimes you know pride can be a challenge. Because the person can sit there, because I can see from there, where I sit, I can sometimes see what they are doing and I can quickly pick it up from their body language that they are stuck and they don't want ask because remember it is mostly old people we are dealing with, then they look at me I'm young and I'm*

*coming to assist, [and] sometimes that can be a problem; they are very shy to ask (James M., interviewee).*

#### **(iv) Perceived ease of use**

The first form of interaction with a particular website plays a role in the manner in which a small business owner feels about themselves and their abilities. First time users or users that are not so confident in their abilities, tend to get easily intimidated by complicated websites. As a result, they form perceptions that the Internet is too complicated for them. They already believe that only educated people can use the Internet. Thus, the first contact greatly influences their attitudes to that particular technology. This observation was also reported by Levy T. (interviewee), as illustrated below:

*The perceived ease of use as well, so when someone sees that tool for the first time, or is made familiar with that tool for the first time, if you have now convinced him that he doesn't need schooling and he is now at the place, his first visual interaction with that tool needs to be welcoming. If it looks complicated, lots of drop down buttons with boxes and things everywhere you will scare somebody. So I think the perceived ease of use is important ... to make that person not from the onset feel like this doesn't not look like something I can use (Levy T., interviewee).*

#### **(v) Lack of adequate resources to cater for demand**

Even with the numerous initiatives put in place to provide support in terms of free access to computers and the Internet, there is still a large population that is left out. The libraries and e-centres have a range of six to twelve machines. In most cases, this is still not enough to cater for the demand, resulting in very slow up-take of computers. The owners of small businesses come to the centres and they wait until it is their turn, because they have no choice. In some cases the centres are too full and they get tired of waiting and abandon the initiative. There is need for more facilities. This notion is shared by small business owners who feel there are not enough facilities made available for people in these communities to access:

*The pace might not be what we expect; it might be slightly slow but it is, because if you remember each centre might have about twelve*

*computers, which doesn't really cater for everybody* (Melissa M., interviewee).

Other influential barriers were discussed in previous sections; and as a result, in order to prevent repetition they are not discussed in this section. A list, however, of these barriers includes: The lack of adequate computer related skills, lack of funds, lack of information, and even the lack of education and training. These barriers again are also the result of indirect or direct influence of the socio-economic conditions under which people are living.

The relationships between these two concepts and the research conceptual model (Figure 5) are that they shed more light on the challenges faced by service-providers (affiliated with the government) and the small businesses. By identifying recommendations to address these challenges, solutions to tackle the identified *GAP* were presented. As a result, the research conceptual model was revised, taking these new developments into consideration. The *GAP* was thus bridged by the introduction of ICT-related education and e-skills training.

Additionally, it was concluded that in addressing the barriers that are faced by the owners of small businesses in PDAs, the responsibility falls mainly on government. It is necessary for government to improve the socio-economic conditions (for example, poverty and the lack of adequate ICT based infrastructure) in PDAs. These barriers either directly or indirectly discourage the adoption of technology. Moreover, as a result of these barriers the use of any online based support by small business owners is limited.

On the other hand, attitudes are very sensitive and personal; thus, great care needs to be taken in addressing these issues. A starting-point would be education (providing adequate information), making people aware of what is out there, and their capabilities. By making accurate information conveniently available, small business owners can at least make informed judgements.

The revised research model is presented below in Figure 9. This model highlights the role of government as being one of providing support and improving socio-economic conditions of the people living in PDAs. Additionally, the *GAP* is bridged by ICT-related education and e-skills training.

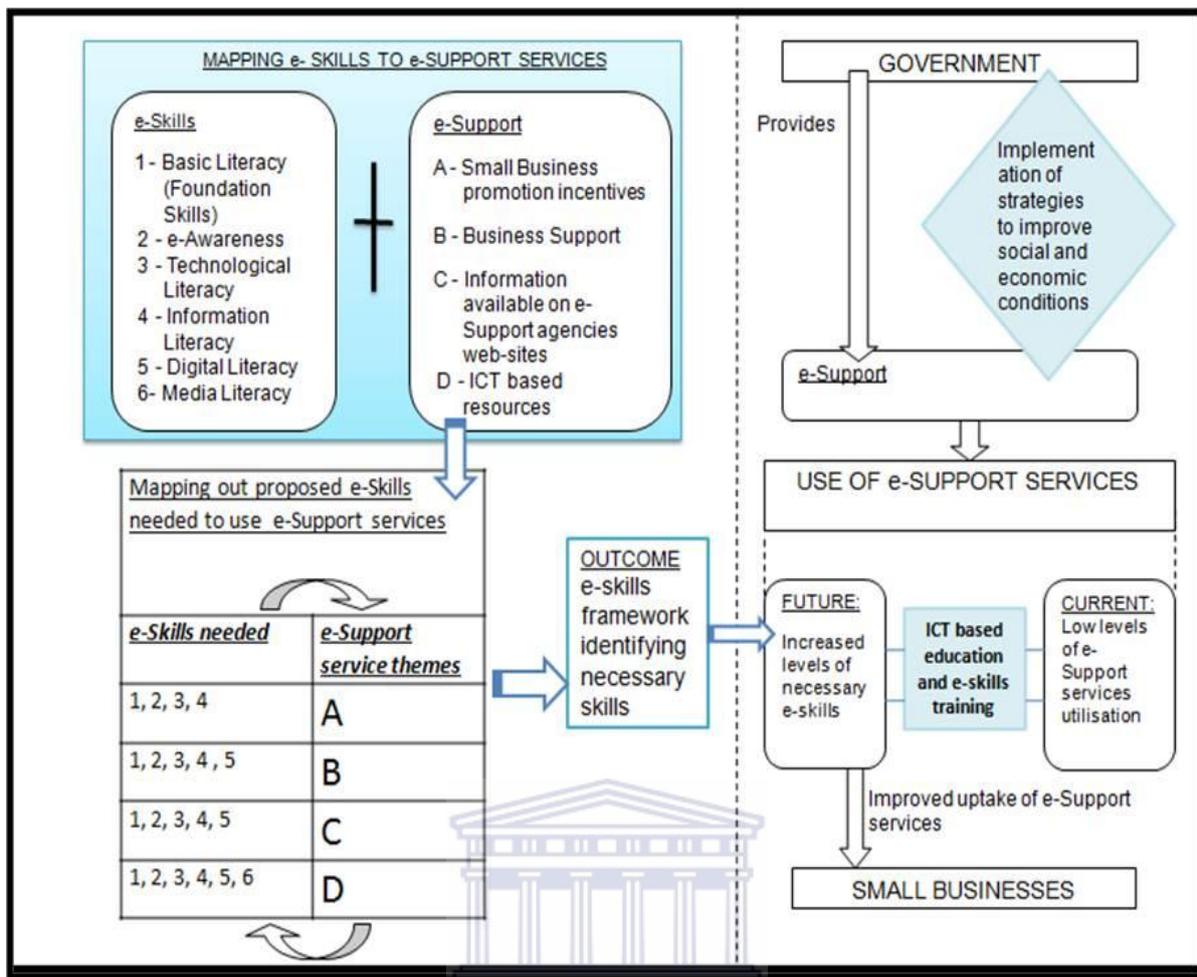


Figure 9: The revised research model – source: Author

#### 4.10. Conclusion

The research findings that were grounded in the literature; and those obtained through the qualitative study (empirical testing) have been discussed. These discussions provided an in-depth understanding of small business owners in PDAs, and the challenges they face. More insight was also gained into the adoption and use of technology (computers, the Internet, online services and other technologies) by small business owners. Additionally, the discussions were also based on small business owners' e-skills (skills, attitudes and knowledge) levels. This also included the relevance of the e-skills identified as necessary in technology adoption – the use of e-support in particular.

The findings were grouped into the themes that are directly related to the e-skills framework: (i) Basic literacy (foundation skills); (ii) e-awareness; (iii) technological literacy; (iv) informational literacy; (v) digital literacy; and (vi) media literacy.

As a result of the data analysis process, two additional concepts emerged in the findings: (i) Attitudes (perceptions) to technology; and (ii) barriers to the use of technology (computers and Internet). The additional concepts were found to be additional challenges that influence the use of technology by the owners of small businesses. In addressing these challenges solutions that speak to the *GAP* in the conceptual model presented in Chapter Two, section 2.6.1 came to light. Thus, in the revised research model above (Figure 9), the role of government is identified. Additionally, the steps that need to be taken, to ensure that there is an improvement in the levels of e-skills among the small businesses, are also highlighted.

The following Chapter (Five) concludes the study – by proposing recommendations, and discussing the answers to the research question of the study.



## Chapter Five

### Recommendations and conclusion

#### 5.1. Introduction

The study set out to investigate and understand the role of e-skills in ensuring access and use of e-support services by owners of small business in PDAs of the greater Cape Town. It sought to identify the e-skills that the owners of these businesses need, to be able to fully use government provided online services and ICT based infrastructure (e-support). To this end, the study outlined six categories of e-skills (basic literacy, e-awareness, technological literacy, informational literacy, digital literacy, and media literacy) as being the skills required by the owners of such businesses. The motivation behind the reality that the owners of small businesses need the identified e-skill includes the fact that there is a great lack of ICT-related skills among them. This lack of skills has contributed to the low use of the provided e-support. The situation is worse in areas that were previously disadvantaged.

Equally, it was found that the uptake and use of technology (such as computers and the Internet) by owners of small businesses is dependent on other factors. These factors include the prevalence or not of a positive attitude towards technologies, as well as socio-economic conditions. The drive towards exploring ICT by owners of small business is also influenced by inaccurate preconceived notions and certain negative propositions attributed to them. All these aspects are thoroughly explored in the precedent chapter.

This chapter concludes the study by revisiting some of these findings and it alludes to the major research questions posed in Chapter One. It provides a summary of the main findings and explains the extent to which the research objectives were met and where they are presented. The chapter also makes recommendations and comments relative to the discussion of the findings presented in the study as a whole. It also provides some insights for future research initiatives.

The following section discusses the achievements of the research, and how the objectives of the study were met. As was mentioned previously, it includes discussions on how and where the research questions were addressed.

## **5.2. Answering the research question and meeting the objectives**

The main research question that this study set to address was to find out which e-skills are needed by the owners of small businesses in PDAs for the effective utilisation of the specific e-support services provided for them. In this regard, it was found that the e-skills needed by the owners of such businesses were basic literacy, e-awareness, technological literacy, informational literacy, digital literacy, and media literacy. The relevance of each of these skills is described in detail in the following sections.

### **5.2.1 Recapturing the necessary e-skills**

#### **(i) Basic literacy (foundation skills)**

The findings in Chapter Four revealed that the owners of small businesses in PDAs need to have basic literacy skills. The small business owners that had basic literacy were in a better position to access and use e-support. These business owners in particular could read and understand the content on relevant websites. Moreover, they had thinking and problem-solving skills, which allowed them to determine and recognise the information needs of their businesses.

The small business owners that did not possess these e-skills were not in a condition to access and use e-support. In addition, these small business owners had negative attitudes towards computers and the Internet because they could not use them and thus they avoided them. These skills form the foundation required for them to acquire other remaining e-skills.

#### **(ii) e-Awareness**

Another e-skill that was found to be important to enable the owners of small businesses to access and use e-support is e-awareness. In order for e-support to be accessed and utilised at any level the intended beneficiaries (owners of small businesses) need to know it exists. Furthermore, these business owners need to know about the existence of computers and the Internet, considering that e-support is provided mostly through these and other such technologies.

Some business owners wanted to access computers and learn how to use them, but they did not know where they could access them or if any training initiatives were available. Moreover, while other owners of small businesses knew of computers,

they were truly uninformed about the capabilities and uses of computers and/or the Internet. As a result they were not aware of the e-support provided, including how and where to access it.

The small business owners that were aware of the existence of computers and the Internet, including where and how to access them, were in a better position to benefit (economically, socially and personally) from the use of the provided e-support. In addition, these business owners were more knowledgeable of how these technologies could be used to obtain business support information and perform business-related tasks – although they might not have had the e-skills to use the computers and Internet to perform these tasks themselves.

### **(iii) Technological literacy**

Although it was found that basic literacy and e-awareness are needed by small business owners, they also need technological literacy skills to facilitate access and utilisation of government e-support. As it was mentioned in Chapter Four, the businesses owners who had these skills had the confidence and ability to use computers and the Internet. As a result of having the skills, they could use these technologies to access and utilise e-support services. They could also use various other technologies to perform business related tasks. Furthermore, they could utilise electronic resources such as word processing, spreadsheets, databases and other tools to for the processing, designing, storage and management of business related information.

### **(iv) Informational literacy**

The research also found that owners of small businesses needed to have Informational literacy skills. The business owners that had these skills (coupled with previously mentioned e-skills) were independently able to use computers (and other capable devices such as cell-phones) to look for and find information on the Internet. Moreover, they were able to read, understand, judge, compare and interpret any business support information that was found electronically or from other different sources.

It was also observed that owners of small businesses with these skills could generate and protect their own information. They could also use both manual and

electronic mediums (e-mail, instant messaging and digital forums) to share and communicate the information.

#### **(v) Digital literacy**

It was noted that the owners of small businesses that had digital literacy skills were not only able to build new knowledge, but also strategically use ICT to facilitate business intelligence. They were capable of using ICT to simplify business transactions, such as online banking and communication (on multiple formats, either textual or multimedia). Thus, these skills enabled the small business owners to embrace the use of technology socially, personally and for the benefit of their businesses.

#### **(vi) Media Literacy**

It was found, in addition to the skills mentioned above, that owners of small businesses also need media literacy skills. In this regard, research found that small business owners who were furnished with these skills understood how to access and use different media platforms (for instance, television, radio, print media and the Internet) to share (advertise and communicate) and retrieve information. They also understood the legal implications of using different media platform to share or retrieve information, relatively.

The owners of small businesses that did not have these skills were not familiar with any media platforms available to retrieve or share information, other than newspapers and radio.

These e-skills were discussed previously in Chapter Two, section 2.5.6. More detailed descriptions of the e-skills (and the sources) can be found in Appendix Two. The finding discussed in Chapter Four also presented the challenges that small business owners face in accessing and using technologies, such as computers and the Internet. These challenges were also found to affect the process of the owners of small businesses gaining e-skills needed to use the technologies. Some of the challenges include the lack of accurate information, funds, negative attitudes, and incorrectly perceived perceptions about technology. These challenges (barriers) are directly or indirectly associated with the socio-economic conditions (poverty) which are common in PDAs.

## 5.2.2 Achieving the research objectives

The study set out to achieve five objectives (Chapter One, section 1.6). Table 11 summarises the five objectives. The table also highlights how and where in the thesis these objectives are addressed.

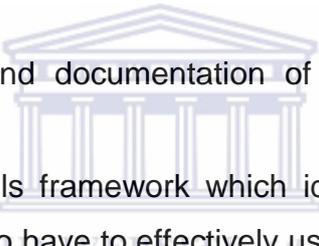
**Table 11: Achieving the research objectives (how and where they were met)**

<u>Objectives</u>	<u>Where are these objectives addressed</u>	<u>How were the objectives met</u>
(i) To obtain an overview of small business owners understanding of e-support, and the extent to which they have adopted ICT.	Chapter Two, Chapter Four	<ul style="list-style-type: none"> <li>• By providing in Chapter Two the relevant literature review and the background containing information on small businesses in developing countries. The discussion in this chapter also focuses on the general use of e-support and ICT by the owners of small businesses. The challenges that small businesses face, that affect their use of ICT are also addressed.</li> <li>• Through the presentation of findings in Chapter Four dealing with technology adoption by small businesses in PDAs. These findings were based on responses given by the small business owners and service providers. In their responses the small business owners provided detailed information regarding their adoption of ICT and use of e-support.</li> </ul>
(ii) To investigate and document the e-support services available to small businesses, particularly those in PDAs of the greater Cape Town area.	Chapter Two, Appendix One	<ul style="list-style-type: none"> <li>• In Chapter Two, section 2.3 - all the possible services from service providers' websites (SEDA, RED Door, Cape Gateway and Smart Cape) are documented and tabulated.</li> <li>• In addition, telephonic conversations with the representatives of the agencies were also held - in order to confirm that the information obtained from the websites was accurately captured. Moreover, details about other services that were not on the website were also provided by the representatives during the telephonic conversations.</li> </ul>
(iii) To understanding the construct of e-skills and their relevance in the use of e-support.	Chapter Two, Chapter Four	<ul style="list-style-type: none"> <li>• Chapter Two provided an analysis of different local and international e-skills and e-competence frameworks, models and taxonomies.</li> <li>• Relevant literature that was reviewed regarding the many definitions of e-skills was also discussed in Chapter Two.</li> <li>• Chapter Four presents' findings based on small business owners responses. These responses provided more insight into the relevance of e-skills in their use of the government provided e-support.</li> </ul>

(iv) To propose an e-skills framework tailored for small business owners in PDAs, which identifies the e-skills needed for the effective use of e-support.	Chapter Two, Chapter Four Appendix Three	<ul style="list-style-type: none"> <li>• The last sections of Chapter Two bring together different frameworks, models and taxonomies that provide relevant information, in the design of the e-skills framework. The relevance of the identified skills was then empirically tested. The findings are presented and discussed in Chapter Four.</li> </ul>
(v) To provide recommendations on possible methods that could be used in e-skilling small business owners.	Chapter Two	<ul style="list-style-type: none"> <li>• Section 2.5.9 in Chapter Two discusses the different methods that can be used in order for people to be e-skilled.</li> <li>• The responsible stake holders are also identified and discussed.</li> </ul>

### 5.3. Outcomes of the research

The main aim of the research was to understand the role of e-skills in ensuring access and use of electronic small business development support services (e-support). The study has thus contributed in several ways. The outcomes include the following:

- 
- An in-depth analysis and documentation of e-support available for small businesses in PDAs.
  - The design of an e-skills framework which identifies the e-skills owners of small businesses need to have to effectively use e-support.
  - Additional information regarding the challenges (barriers) that owners of small businesses in PDAs face, in regards to the use of technology.
  - Proposed suggestions on the role that service-providers, owners of small businesses and government should play in e-skilling the nation.

### 5.4. Recommendations

The recommendations are based on the outcomes of the literature review and the responses obtained during interviews with service providers and owners of small businesses. They are proposed solutions for some of the challenges relating to the use of technology, which were identified and discussed in Chapters Two and Four. These recommendations could also assist or elevate initiatives (or projects) that are already in place.

Notably, these recommendations are highlighted in two categories. The first category deals with practitioners (service providers) established by government to provide e-support. It also speaks to owners of small businesses. The second category relates

to recommendations speaking to the role of the South African government in providing e-skilling initiatives for the citizens (the owners of small businesses, included).

#### **5.4.1. Recommendations for practitioners (service providers) and intended beneficiaries of e-support (small businesses)**

There was a notable lack of basic literacy among people in PDAs. This was particularly true in regards to owners of small businesses. The problem was exacerbated amongst the population of the older generation. This lack of basic literacy was found to be related to the lack of opportunities to further formal education. It is thus necessary for service providers to make more opportunities available for community members (small business owners, included) who want to further their education. Facilities that are convenient should be made available to provide an attractive learning environment. These environments should take age and previous education into account, so that the owners of small businesses do not feel intimidated or embarrassed, going back to school when they are over the general formal school going age. These services can be provided in popular and common gathering places, such as libraries, schools, community centres, and halls – these areas already attract large numbers of people.

It is also important for owners of small businesses who lack these skills to be encouraged to go to school. They need to be made aware of the importance and relevance of education. Moreover, they should learn the general school curriculums (reading, writing and counting). In addition, training in ICT related knowledge is also important, at least the basics. Since most owners of small businesses in PDAs do not have the money to go to school, these services must be offered free of charge. Time schedules also need to be flexible, because a number of small business owners who need these services also need to work during most of the day, every day. It is noted however that the provision of such services cannot suit the needs of every business owner.

The recommendation of encouraging people to go back to school is also shared by Ken B. (interviewee), who stated that:

*Our people must go back to school. We never had those privileges we did not have what you have. We suffered; so now we must go back to school. Just like you, we must learn and go back to school (Ken B., interviewee).*

Although there is a slow rate of ICT uptake and use in PDAs, there is a growing demand for facilities that offer Internet access. As a result of this, the demand for these services is exceeding the supply. The available facilities are unable to adequately cater for the needs of all small business owners that need the services. Addressing this problem would require providing more access points that are easily accessible. Furthermore, efforts need to be made by the service providers to make community members (small business owners, included) aware of the available facilities. The findings revealed that in some cases facilities already in place are not being used, this is because small business owners do not know about them. Thus, it is important for information to be made available in regards to where to find the facilities and how to access them.

One way that service providers can make owners of small businesses aware of them and the services they provide, is through community outreach programmes. Through these programmes services providers interact with the owners of these businesses and let them know about the services available for them. The services providers need to also consider other methods of making businesses owners aware of them. They need to take into account the different characteristics of their target market, for instance if they are young adults, business owners or pensioners. If service providers consider these and other characteristics they can use more effective methods to market (advertise) the services. The social media, for example could be an advertising medium to reach the young adults, as well as those with convenient access to the Internet. Service providers can also consider methods that are economic and convenient for those that do not have access to the Internet, for instance posters, flyers, radio, TV and free newspaper publications.

On the other hand, community members (including small business owners) are in a position to make themselves aware of the available technologies and support. They can take the initiative to better inform themselves about where and how to access the technology. It is also their responsibility to try and get information about the existence of service providers (government agencies) that offer e-support and details about the services that they provide. It is important for the owners of small

businesses in PDAs to know this type of information, because most of them are in need of support.

Thus, service providers must continue implementing outreach programmes, and related initiatives intended to make owners of small businesses and other community members aware of the available facilities. The importance of this cannot be overstated, seeing that owners of small businesses do not usually have equal access to electronic sources of information (the Internet, TV and radio included). In this way the facilities for accessing e-support provided by public agencies become important, as they facilitate access for those who cannot afford to pay for access.

Furthermore, service providers need to be aware of the challenges that are being faced by members of the community, especially owners of small businesses. These challenges thus affect access and use of the provided e-support. These limitations include inadequate access to ICT and low levels of e-skills. As a first step to addressing some of these limitations, (which are also discussed in Chapter Four, section 4.9), service providers need to classify the limitations into categories. This process will make it easier for them to identify a solution that addresses a particular challenge – considering that it might not be possible to have one solution that addresses all the challenges equally.

Service providers also need to consider involving owners of small businesses (end-user participation) in the process of deciding which support to provide and how to provide it. In this way, the service providers are helping the business owners by hearing what they say, and incorporating that into their service delivery. Open communication channels are also important. Owners of small businesses can provide helpful feedback to the service providers. When end-users or intended beneficiaries are involved in the planning process, they are generally more adaptive and welcoming of the support or changes, and have less resistance.

The responsibility to provide access to ICT and e-skills training does not only lie with service providers. Schools need to continue encouraging children and learners (future small business owners) to make use of ICT. This can be done by integrating computer and Internet use into, for example, assignments or research projects. Computer-related training subjects, such as 'Computer Applications Technology' (CAT) should be made compulsory learning subjects for all students. This ensures

that the generations that are coming up (future small business owners) already have basic ICT related skills.

Moreover, more training initiatives need to be provided by the different stakeholders that were identified in Chapter Two, section 2.5.9: (i) Business; (ii) government; (iii) education; and/or (iv) civil society/labour. This training needs to be offered free of charge, or at a very low cost and well-marketed in the communities. The facilities need to be easily accessible. Owners of small businesses and other community members should feel comfortable approaching and utilising the facilities. Training should be provided on the basics of hardware and software – what they are, how they work together, and how to use them. Training should also include how to navigate through the Internet, how to manage e-mail accounts, and the importance, as well as benefits of electronic communication.

The importance of owners of small businesses being informed has been discussed throughout the thesis. They need to be aware of the different media platforms available that provide information. Once this information is made available business owners are in a better position to select the most convenient and economic source of information. E-mail, for instance is a convenient means of communication, but because of a lack of information and adequate access, owners of small businesses are not aware of this facility. Instead, they have to take time out to travel and spend money on transport, when the information they require could have been sent to them by e-mail. Moreover, these e-mails can be delivered straight to their cell-phones. Hence, there is a need for the owners of small businesses to be made aware of their options, in order to make their lives easier.

In the same vein, some owners of small businesses in PDAs face the challenge of desktop access. Although they want to access the information on the Internet, they are not able to, because they do not have convenient access to the necessary technologies. In such cases these businesses owners need to be informed of their options. They can be encouraged and shown how to use their cell-phones to access the Internet – for those with capable devices. It was found that, four out of the sixteen small business owners that formed part of the study, preferred to access the Internet via their cell-phones. They found it much more convenient. Additionally, one small business owner even preferred to carry out all business related transaction using a cell-phone, again it was more convenient.

If cell-phones are adopted as a means of accessing the Internet (online services), there could be a decrease in the need to travel or to pay for ICT-related access.

Projections done by the PGWC reveal that within the next three years, there is an expected increase of mobile traffic that will be accessing the PGWC (service-provider) website:

*I have got a projection that I did recently that shows that the rate of mobile increases, ... by 2014/15 we will have sixty percent of our traffic via cell-phones and mobile decides; so I expect the previously disadvantaged group of users to be larger (Levy T., interviewee).*

Nevertheless, there is still a need for ICT-related training and education. People can be encouraged to use their cell-phones. However, unless they have the basic skills and/or competences, they will not be able to fully optimise the opportunity or the technology.

The Smart Cape initiative, for example, provides a service where they design and host, basic websites free of charge. This is done on behalf of the owners of small businesses in PDAs, as a means of helping them to advertise and provide information to the public about their services. However, few are aware that such services are available. Considering the owners of small businesses that were interviewed, most of them wanted to have websites for their businesses. However, they did not have any information about how to go about it. They also feared that since they did not have the skills, resources and funds they could not make use of such technology. Thus, there is a need for service providers to educate owners of small businesses on what is out there, and how they can benefit from using those services.

There is also uncertainty among owners of small businesses in PDAs. Informal business owners in particular, sometimes feel that since they are not formal no support will be provided to them. They do not know whether or not they qualify for any support. Thus, information needs to be provided, so that they are clear on what they qualify for. In addition they should know what type of support they can obtain, as well as how and where they can get it. These business owners however, are also in a position to try and obtain information for themselves, and not to have to wait on the word to come to them.

It was also found that in some cases owners of small businesses have attitudes that negatively influence their adoption of technology. Furthermore, these business owners also have incorrect preconceived notions about technology based on inaccurate information. The negative attitudes coupled with incorrect preconceived notions, thus limit technology adoption and the use of e-support by small business owners. Although, these limitations towards technology adoption are sensitive, service providers and other stakeholders can still address them. The owners of small businesses just need to be educated and informed – then given room to make decisions for themselves. At least the decisions they then make will be based on information that is accurate and well understood.

#### **5.4.2. The role of government in e-skilling the nation**

While the study revealed that different stakeholders are involved in e-skilling the nation, the South African government plays a leading role. The government is well aware that there is a shortage of e-skills and has to that effect acknowledged that in order to create an informed society, this problem needs to be addressed (TISI, 2010).

The PIAC on ISAD, mentioned in Chapter Two, recommended that the South African government needed to address the issue of digital literacy without delay. One of the recommendations made by the committee was the establishment of the South African e-Skills Council. The purpose of the council is to advise the government on the way forward, in terms of e-skilling the nation (e-Mzansi Information Society, 2007).

Over the past decade, nothing much has changed, in terms of suggestions to government. Previous suggestions, such as the one provided by Anderson (1999) are still relevant today. The suggestion was that government should focus on the people (owners of businesses, included), organisations and processes, rather than on the technology. If this was not done, ICT would not be useful for rural or small business development (Anderson, 1999), unless there were training methodologies put in place.

The first step that government can consider in the development of an e-skilling system is, an understanding of the motivation behind citizens gaining e-skills (Shoesmith, 2011). Once the government is clear on the reasons why citizens need

the skills, they are in a better position to identify the most effective methods to empower them (specifically those in PDAs). This can be done through quality education and training, especially entrepreneurship training. This would provide the owners of small businesses with the resources they need to generate their own income. As more people get jobs the levels of poverty would be expected to reduce (Mensah and Benedict, 2010).

In addition to e-skills, the owners of small businesses need convenient access to resources such as ICT. The technology is as important as the e-skills themselves, it is considered to be significant in social development (Pather and Gomez, 2010). Thus, government is working diligently to expand and improve access to information and ICT. This process also includes government conducting research into the shortage of skills. With this information government can implement ICT access and e-skills training strategies that directly address the issues. Moreover, research, evaluation and policy development were also suggested as important factors in dealing with e-skilling the nation, for equal opportunities for the prosperity of the citizens (business owners, included) by the TISI (2010).

In relation to e-skilling owners of small businesses in particular, government needs to rethink the ways in which they are providing the support (Orford, 2004). The small business owners are currently not benefiting from the provided support, thus improved methods need to be put in place. On the other hand, Haricharan (2003) suggested that the government does not need to change the methods of providing the support. The existing infrastructure should be kept in place. However, there should be more access points to computers and the Internet. For example, more libraries and/or community centres need to be affiliated with the Smart Cape project. Thus, small business owners would have more facilities available to access computers and/or the Internet, as well as to receive e-skills training.

Providing support for the development of small businesses should be at the centre of local governments support strategies (Njobeni, 2004). These businesses already face very diverse challenges, including limited funds and e-skills, thus they require support at different levels.

Making the required resources available and providing owners of small businesses with the e-skills they need to use these resources will prevent the widening of the

digital divide. Furthermore, their levels of e-skills need to be kept up to date, since technology is constantly evolving. It would be fruitless, for instance to train small business owners on how to use Microsoft Word 1997, when they are now required to use Word 2013. Thus, government needs to be sure that citizens (small business owners, included) are able to keep at the same pace with technological advancements. The owners of small businesses in particular, need to be able to adapt their e-skills to use any new technologies.

The government should also focus on providing formal education and promoting education relating to ICT for the owners of small businesses who are unable to access these forms of education. This would be a significant step towards improving the situation in the country given that South Africans with these skills are more employable and thus able to contribute to reduce poverty in South Africa (Ngcobo and Herselman, 2007).

In addition to the recommendations discussed above, the e-Skills Council, (2008) highlighted other recommendations. These recommendations were suggested with critical success factors necessary for government to achieve any e-skills training objectives.

In order to support an electronically literate (e-literate) society, the recommendations and critical success factors are presented in Table 12.

**Table 12: Suggestions to support an e-literate society**

<u>RECOMMENDATIONS</u>	<u>CRITICAL SUCCESS FACTORS</u>
<ul style="list-style-type: none"> <li>• Increase access to educational funding,</li> <li>• Free Internet connectivity,</li> <li>• Incorporation of e-learning and m-learning,</li> <li>• Free TV education channels,</li> <li>• Support for a zero cost connectivity initiative for public schools,</li> <li>• Enhancing community training centres,</li> <li>• Improvement of the quality and the consistency of mathematics training.</li> </ul>	<ul style="list-style-type: none"> <li>• Making ICT part of the learning school curriculum,</li> <li>• National scalable approaches,</li> <li>• Increase the percentage of connected (online i.e. Internet access) schools,</li> <li>• Increase of ICT literate teachers and trainers.</li> </ul>

In order to promote e-skills also known as ICT user skills and e-business skills the recommended suggestions are presented in Table 13.

**Table 13: Promoting ICT user skills and e-business skills**

<u>RECOMMENDATIONS</u>	<u>CRITICAL SUCCESS FACTORS</u>
<ul style="list-style-type: none"> <li>• Vendor based training/certification,</li> <li>• On the job training and academic collaboration programmes,</li> <li>• Training and re-skilling of unemployed individuals,</li> <li>• Teaching and certifying basic computer skills,</li> <li>• Increase mathematics and soft skills,</li> <li>• Increase availability and access to e-Government systems.</li> </ul>	<ul style="list-style-type: none"> <li>• Increase in the number of e-resource centres that would allow individuals to access the Internet and thus information.</li> </ul>

Although the recommendations listed above could facilitate the process of small business owners gaining e-skills, it must be noted that different strategies are needed for the different types (sizes) of businesses. The survivalist type of small businesses, for instance are more interested in making money, and less on the provision of expert (commercial) services. They need to believe that they will be able to make money, if they use the e-support. Once this is achieved, they will be more motivated to seek out training and gain the e-skills necessary to fully utilise e-support. Thus, government needs to continue encouraging them to gain e-skills, also referred to as ICT related skills. These skills are the capabilities that owners of small businesses need to have, in order to effectively and efficiently use ICT for personal or business development (European e-skills forum, 2004).

The lack of e-skilled citizens is a challenge that is being faced globally – in both developed and developing countries. Governments worldwide have put in place initiatives to guide their campaigns to e-skill their nations. Some of these initiatives are national, while others are worldwide. The Millennium Development Goals (MDGs) initiative, for instance, comprises a set of eight goals designed by the United Nations (UN) in conjunction with other developed and developing country leaders. These goals affect all the UN member states and an estimated twenty-three additional international organisations.

The MDGs have a time limit, and need to be reached by 2015, thus putting pressure on African country leaders to improve service delivery and living conditions for all citizens. If developing countries address issues, such as poverty, unemployment and

disease, then these countries will be in a better position to redirect resources, effort and funding to the provision of better ICT-infrastructure and e-skilling initiatives.

Moreover, other initiatives that document the South African government's strategies, in terms of improving the standard of living and e-skilling the nation include:

- The Medium-Term Strategic Framework (MTSF) 2009 - 2014,
- The Sector Skills Plan (SSP) 2011 to 2016,
- The Information Systems Electronics and Telecommunications Technologies – Sector Education Training Authority (ISETT - SETA),
- And, the National e-Skills plan of Action (NeSPA), among others.

In regards to the MTSF, one of government's priorities (Strategic Priority one) is to speed up the growth and transformation of the economy, in order to create decent work and sustainable livelihoods. For government to achieve this between 2009 and 2014, they need to accelerate the socio-economic development of the country. This can be accomplished by increasing the use and uptake of ICT, as well as by creating a favourable ICT environment. Partnerships between government, business and civil society could facilitate the process (DoC, 2010).

Furthermore, in the Strategic Plan of Action (2011 – 2014), the role of government is described as being one of encouraging and supporting small businesses, through the use of ICT (DoC, 2011). The DoC goes into greater detail and highlights that:

*The Department will develop an e-Commerce platform for SMMEs, facilitate ICT business linkages, facilitate the establishment of two ICT hubs in two underserved provinces and most importantly, the Department will monitor the implementation of the action plan to benefit SMMEs in the Broadcasting Digital Migration value chain. The Department will also promote the ICT Agenda across all stakeholders and spheres of Government in order to ensure the provision of integrated and efficient services to communities (DoC, 2011:1).*

It is necessary, however, for government to monitor and evaluate the success of these projects. This would enable the government to avoid situations where large amounts of money are injected into projects that do not yield any positive results.

Moreover, government needs to ensure that the people or organisations that have been tasked with providing services are well versed in the services they are offering. The success or failure of the programmes rests on the people who deal directly with small business owners. The OECD (2004) states that training programmes that have been initiated by government might fail to effectively respond in an environment where small businesses demand for ICT related skills are constantly changing and becoming more specialised. Thus, as previously stated government needs to keep track of the changes in technology and ensure that people have the e-skills (skills, knowledge and attitudes) that will enable them to adapt to the changes.

### **5.5. Limitations of the study**

Although, the findings of the study were informative, they are limited to the area of the empirical research. This, however, does not limit the contribution and value of the findings. These findings could be tested in other empirical settings, increasing the generalisability of this study. Another limitation is that follow-ups with the interviewed small business owners were not carried out. This was largely due to financial constraints that would not allow for further travel to interview each of the twenty-five participants, among other things. Nonetheless, follow up interviews would have allowed more comprehensive insight into the relationship between the intended beneficiaries of e-support and their use of the services, taking into account all the relevant variables. Follow-up interviews would have also allowed the researcher the opportunity to engage further with the interviewees, in order to gain more information on topics already raised in previous interviews, but not yet elaborated on.

Moreover, the study did not investigate the other factors that contribute to the failure of small businesses. Each of the factors would need an independent investigation and analysis which would require more time, funding and other resources – which were unavailable. The focus of the study was, thus on the contribution of e-skills as a contributing factor. It must be noted that the lack of e-skills is not the only reason that might cause a small business to fail or for the owner not to use technology. More information and investigations of the other factors would be beneficial and provide more insight in to the different challenges that are faced by small business owners.

## 5.6. Suggestions for future research

The study has highlighted how socio-economic conditions are still enforcing barriers to the use of technology, primarily in PDAs. In the same vein it was also found that there is a great lack of adequate information on ICT, among people (owners of small businesses, included) in PDAs. This lack of information, coupled with the effects of the past political era has influenced the attitudes of small business owners negatively. Furthermore, the small business owners have also incorrect preconceived notions about technology (computers and the Internet), as a result of limited information about technology. Further research needs to be done into understanding how negative attitudes can be addressed, since they are usually very sensitive matters.

Further research also needs to be done on finding strategies to increase ICT-based education and accurate information flow, among owners of small businesses in PDAs.

Additionally, the thesis has not covered all the aspects that influence the adoption of technology (use and uptake) by small business owners in PDAs. The study has identified various factors, such as the lack of funds, information and resources. However, more research needs to be done to identify and explore these and other factors in greater detail.

Technology is continuously advancing, becoming more evolved. Thus, the methods of providing the e-support, including the actual services might change. Hence, it is necessary to continuously test the e-skills framework for relevance and accuracy. The identified e-skills might need to be adjusted (refurbished) accordingly.

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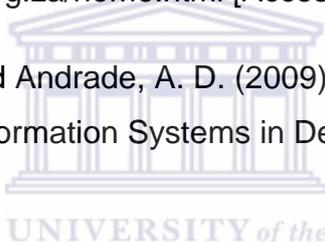
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## Appendix One

### Documenting and categorising the e-support provided by government agencies

THEME	SUPPORT SERVICES PROVIDED BY AGENCIES
Training	Business skills training, business development programmes, software training and training on emerging technologies.
Potential and existing business support	Writing a business plan, businesses registration, start up, assessment of the business in order to identify and fix the weak points and other business related matters.
	Online consulting services provided by professional business experts to help the entrepreneur build a stronger business.
	Setting up and managing an e-mail account.
	Support with Importing and exporting products.
	Brokering access to finance, accountants and lawyers
	Access to other support providing agencies or other businesses that can provide services that the current agency cannot.
	Support agencies facilitate business to business communication and links to the market.
Online information Resources	Online database of job vacancies, applications done online by sending CV's and documentation via e-mail.
	Online information on available tenders (government, public and private sector) applications done online.
	Over 500 web-pages of business related information to empower entrepreneurs.
	Online business newsletters, booklets and brochures on entrepreneurship including PGWC related services information.
	Online information about client relations and marketing for small businesses.
	Local business search engine containing an electronic directory of business, NGO's and CBO's to increase awareness of services.
ICT based support/ resources	Small conference rooms equipped with ICT resources and Internet access.
	Individuals can prepare, amend, read, fax, photocopy or print business documentation, CV's, spreadsheets and or presentations at dedicated centres.
	Access to the Internet and emerging ICT free of charge or at a low cost, located in public community areas such as libraries.
	Assistance with storage or saving of business documents or information found online on removable storage devices.
	Development of micro websites for small businesses, allowing businesses to advertise and contact each other.
Small Business promotion incentives	Information about business competitions found on service providers' websites. Applications done online, winners provided with business development services and business capital.
	Business ideas competitions with business start up money and business consultation services as incentives, application process done electronically via e-mail.
	Online information on government Incentives and grants to promote entrepreneurship.

## Appendix Two

### e-Skills included in the e-skills framework and their adopted definitions

<b><u>e-Skills</u></b> <b><u>CLUSTER</u></b>	<b><u>WORKING DEFINITIONS</u></b>	<b><u>SOURCES</u></b>
<b>Basic Literacy (foundation Skills):</b>	<ul style="list-style-type: none"> <li>• Thinking and problem solving skills.</li> <li>• Ability to read, write, communicate orally and count.</li> <li>• Ability to determine, recognize, define and articulate digital information needs of the business.</li> </ul>	<ul style="list-style-type: none"> <li>• Catts and Lau (2008)</li> <li>• McCormack (2010)</li> <li>• UNESCO (2008)</li> <li>• UNESCO (2010)</li> </ul>
<b>e-Awareness:</b>	<ul style="list-style-type: none"> <li>• Knowledge about where ICT can be accessed (community centres, public libraries, Digital Business Centres, Incubators).</li> <li>• Knowledge about the capabilities/uses of ICT such as computers and the Internet to get business support information and perform business related tasks.</li> </ul>	<ul style="list-style-type: none"> <li>• Romani (2009)</li> </ul>
<b>Technological Literacy:</b>	<ul style="list-style-type: none"> <li>• Confidence and critical abilities to use electronic media such as video recordings, audio recordings, multimedia presentations, slide presentations, CD-ROMs, online content (blogs, news papers, magazines, e-books) and e-mail for searching for business support information.</li> <li>• Ability to interact with/use hardware, software, productivity applications, communication devices and management applications to carry out business tasks.</li> <li>• Proficiency in computer resources such as word processing, spreadsheets, databases and tools for the processing, designing, storage and management of business information.</li> </ul>	<ul style="list-style-type: none"> <li>• Romani (2009)</li> </ul>
<b>Informational Literacy:</b>	<ul style="list-style-type: none"> <li>• Ability to access, locate, select and retrieve digital information using online search engines.</li> <li>• Ability to read with meaning, understand, assess and interpret business support information found electronically from all kinds of sources – primarily the Internet.</li> <li>• Ability to judge the quality, relevance, usefulness, validity and applicability of digital information found on service support providers websites.</li> <li>• Ability to make informed judgments about support information found on or offline.</li> <li>• Ability to create, generate new digital contents and knowledge by organizing, integrating, adapting and applying digital information.</li> <li>• Ability to integrate, interpret, analyze, summarize, compare and contrast, combine, repurpose and represent digital information found on service support providers websites.</li> <li>• Ability to apply, use information of various digital formats effectively and efficiently to perform numerous business tasks.</li> <li>• Ability to organize, decode, restructure, store, secure and protect sensitive digital businesses information.</li> <li>• Ability to communicate and share digital information with others at work.</li> <li>• Input information Identify, recognise, record and store digital information to facilitate retrieval and use by other employees in the business.</li> </ul>	<ul style="list-style-type: none"> <li>• American Library Association – accessed 3/10/2011</li> <li>• Catts and Lau (2008)</li> <li>• Romani (2009)</li> <li>• Tilwawala, Myers and Andrade (2009)</li> <li>• UNESCO (2008)</li> <li>• UNESCO (2010)</li> <li>• Catts (2010)</li> <li>• Bruce (2003)</li> </ul>

<b>Digital Literacy:</b>	<ul style="list-style-type: none"> <li>• Proficiency to build new knowledge, business intelligence based on the strategic employment of ICT for business functions such as e-commerce and m-commerce.</li> <li>• Ability to understand and use information in multiple formats from a wide range of sources when presented via computer.</li> <li>• Embracing the use of technology in the business for information and knowledge in order to access, retrieve, store, organize, manage, synthesize, integrate, present, share, exchange and communicate in multiple formats, either textual or multimedia.</li> <li>• Ability to use ICT tools to find and use information in the daily operations of the business.</li> </ul>	<ul style="list-style-type: none"> <li>• IBSA (2010)</li> <li>• Romani (2009)</li> <li>• Rosado and Be'lisle (2006)</li> <li>• UNESCO (2010)</li> <li>• Mishra (2007)</li> </ul>
<b>Media Literacy:</b>	<ul style="list-style-type: none"> <li>• Comprehension of how to access and use different media platforms, (all media, including television and film, radio and recorded music, print media, the Internet and other new digital communication technologies) how they are organized and ways of communication and interact within business using these platforms.</li> <li>• Understanding the role and functions of media in democratic society</li> <li>• Understanding the social, legal, economic and political implications of using media platforms to create business information and share it with in the business.</li> </ul>	<ul style="list-style-type: none"> <li>• Livingstone (2004)</li> <li>• Romani (2009)</li> <li>• UNESCO (2010)</li> <li>• Catts and Lau (2008)</li> <li>• EAVI (2011)</li> </ul>



### Appendix Three

#### e-Skills framework, aligning e-skills and e-support services

		e-Skills (Literacy Clusters)					
		Basic Literacy	e-Awareness	Technological Literacy	Information Literacy	Digital Literacy	Media Literacy
THEME	SUPPORT PROVIDED BY AGENCIES						
Training	Business skills training, business development programmes, software training and training on emerging technologies.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>				
Potential and existing business support	Writing a business plan, businesses registration, start up, assessment of business in order to identify and fix the weak points and other business related matters.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		
	Online consulting services with professional to help the entrepreneur build a stronger business.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
	Setting up and managing an e-mail account.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		
	Support with Importing and exporting products.	<input checked="" type="checkbox"/>					
	Brokering access to finance, accountants and lawyers	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
	Provides access to other support providing agencies or other businesses that can provide services that the current agency cannot.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
	Service providers facilitate business to business communication and links to the market.	<input checked="" type="checkbox"/>					
Online information Resources	Online database of job vacancies, applications done online by sending CV's and documentation via e-mail.	<input checked="" type="checkbox"/>					
	Online information on available tenders (Government, public and private sector) applications done online.	<input checked="" type="checkbox"/>					
	Over 500 web-pages of business related information to empower entrepreneurs.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
	Online business newsletters, booklets and brochures on entrepreneurship including PGWC related services information.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
	Online information about client relations and marketing for small businesses.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
	Local business search engine containing an electronic directory of business, NGO's and CBO's to increase awareness of services.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		

<b>ICT based support/ resources</b>	Small conference rooms equipped with ICT resources and Internet access.	<input checked="" type="checkbox"/>					
	Individuals can prepare, amend, read, fax, photocopy or print business documentation, CV's, spreadsheets and or presentations at dedicated centres.	<input checked="" type="checkbox"/>					
	Access to the Internet and emerging ICT free of charge, located in public community areas such as libraries.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
	Assistance with storage or saving of business documents or information found online on removable storage devices.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
	Development of micro websites for small businesses, allowing businesses to advertise and contact each other.	<input checked="" type="checkbox"/>					
<b>Small Business promotion incentives</b>	Information about business competitions found on service providers' websites. Applications done online, winners provided with business development services and business capital.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
	Business ideas competitions with business start up money and business consultation services as incentives, application process done electronically via e-mail.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
	Online information on Government Incentives and grants to promote entrepreneurship.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		

## Appendix Four

### Questions for guiding interviews with service providers and owners of small businesses

#### i. Questions for service providers

<b><u>THEME</u></b>	<b><u>QUESTION</u></b>
Awareness	1. How popular do you think your centre is? <ol style="list-style-type: none"> <li>a. Are people in your community aware of the services that you provide?</li> <li>b. Does the centre advertise or reach out to the community – to make people aware of the services provided by the centre?               <ol style="list-style-type: none"> <li>i. Which advertising media/ medium did you use and why?</li> </ol> </li> </ol>
Relevance of the centre/ facilities	2. Based on your general observation why do people come to your centre? <ol style="list-style-type: none"> <li>a. Is it mainly for access to computers or for assistance with carrying out specific tasks (business or personal)?</li> <li>b. When people/ small business owners come into the centre requiring assistance – what do they generally require assistance with?</li> <li>c. Do you have people that come in regularly?</li> </ol>
Use of the Internet	3. Do people make use of the Internet? <ol style="list-style-type: none"> <li>a. What do they use it for?</li> <li>b. Can they search for information?               <ol style="list-style-type: none"> <li>i. Do they know where to obtain reliable information (use of Google or Yahoo search engines)</li> </ol> </li> <li>c. Can they or do they ever ask for assistance with job applications online?</li> <li>d. Do the people have e-mail accounts?               <ol style="list-style-type: none"> <li>i. Do they use them?</li> </ol> </li> </ol>
Small businesses use of facilities	4. Do you get people that are small business owners coming into use the facilities? <ol style="list-style-type: none"> <li>a. What do they generally come in to do?</li> <li>b. Do they require assistance performing business related tasks?</li> <li>c. Do they conduct any business transactions via the Internet – for example through the sending of e-mails?</li> <li>d. What do they do once they have found the information that they require?               <ol style="list-style-type: none"> <li>i. Do they save it? How?</li> <li>ii. How do they share it?</li> </ol> </li> </ol>

Training	5. Do you offer any sort of training on the use of computers and or the use of the Internet as a tool to communicate, conduct business, and searching for information?
Technology adoption	6. In your own opinion what do you think are the current factors that negatively influence the use of technology by people, primarily the use of computers and the Internet. 7. Based on your observations do you think the skills that people have are enough? a. Do they generally have the capabilities to carry out which ever tasks they need to on the computer or Internet?
Identified skills	8. Which digital skills do you think people need to have in this day and age in order to be able to fully utilise the Internet? a. For example if you were to offer any sort of computer based training, what do you think people need to know?

ii. Questions for owners of small businesses

<b><u>THEME</u></b>	<b><u>QUESTION</u></b>
General business and Bio data	1. What services does your business provide? a. How long has your business been operating? b. How many employees do you have?
Basic Literacy (Foundation skills)	2. Where did you learn your business skills? (Educational history) a. Have you ever received any sort of computer related training? What made you decide to go for this training? b. Exposure to computers.
e-Awareness	3. Do you need a computer to perform any personal or business related tasks? Can you provide a few examples? a. Are you, yourself able to use a computer to perform these tasks? b. Would you be able to use your cell-phone to complete any of these tasks? 4. Do you have a personal computer that you have access to? For example at home or at work? 5. Are you aware of where you can access a computer? 6. What about the Internet, do you have access to the Internet – on a computer or on your phone? a. Are you aware of where you could access the Internet? b. How often do you make use of the Internet? c. Are you able to use it to find information? d. How do you save this information should you want to share it with others or just keep it for future reference? e. Have you ever looked for jobs on the Internet?

	<p>i. If yes, were you able to apply for the vacancies over the Internet? (Sending of documents done via e-mail or full application done online).</p> <p>f. Do you conduct or carry out any business transactions online – via the Internet for example e-mailing customers or suppliers, placing or receiving of orders?</p>
Technological Literacy	<p>7. Are you able to use any computer programs, for typing or designing documents, presentations, databases etc?</p> <p>a. Have you approached any other individuals to get assistance of such nature for example with the typing of a document or CV?</p> <p>8. Would you feel comfortable saving important or private information on a computer?</p> <p>9. Do you use the Internet to communicate, for example do you have an e-mail account / address that you use?</p> <p>10. Do you make use of instant messaging through either the Internet on your computer or cell-phone for example (Mxit, Whatsapp, Skype, G-talk)</p> <p>11. How much does your business rely on electronic communication?</p>
Informational Literacy	<p>12. Are you aware of the information needs of your business?</p> <p>13. Have you ever had an idea, proposal or project that you wanted to work with but you did not have enough information about it?</p> <p>14. Where do you get your information when you need it, for example newspapers, magazines, articles, news etc?</p> <p>a. Are they on or offline?</p> <p>15. Are you able to use search engines for example Google or Yahoo to search for information?</p> <p>16. How do you share general information or pass on instructions with others, be it with friends, family or other people you work with? (For example word or mouth, e-mail, SMS, telephone, cell-phone, Instant messaging - Mxit, Whatsapp, Skype, G-talk etc)</p> <p>17. Are you aware of any legal implications of sharing information that you find on the Internet or in any of the other sources you get your information from?</p>
Digital Literacy	<p>18. Do you make use of any technical equipment in your business, for example computers, cell-phones, scanners, e-mail, Internet, printers, photocopiers, cash registers etc?</p> <p>19. Does your company have a website [who manages it]?</p> <p>20. Are there any electronic items which you currently do not have that you wish you had, in order to help improve your business?</p> <p>21. Which factors do you think influence people like small businesses (owners) to use or not to use technology, in terms of their use of computers or the Internet?</p>

Media Literacy	<p>22. Have you ever advertised the services of your business?</p> <ol style="list-style-type: none"> <li>If <u>YES</u>, What medium did you use, and why?</li> <li>If <u>NO</u>, why would you not advertise?</li> <li>Have you ever entered any business competitions, for example those that require you to submit a business plan in order to be able to win business capital?</li> </ol>
e-Support	<p>23. How did you find out about government Agencies (such as for example SEDA, The RED Door, The Cape Gateway or Smart Cape) that provide support to small business in your community? (Was it from other businesses, family and friends, Radio, television, posters/ newspapers or the Internet?)</p> <ol style="list-style-type: none"> <li>How popular do you think these agencies are in your community?</li> </ol> <p>24. Have you ever approached an agency in order to get support for your business? How – face to face, telephone, and e-mail? Why?</p> <ol style="list-style-type: none"> <li>Did you get information about finance, lawyers, accountants, tenders that your business can apply for?</li> <li>Are you aware that some of these agencies provide facilities equipped with ICT resources such as computers and projectors, where you could have meetings or mini conferences?</li> <li>Do you think that these Agencies do enough to involve the community, in regards to finding out exactly what services you require?</li> <li>What do you think would be the best way for them to advertise themselves, so as to reach more people in your community that could possibly be in need of some assistance with their small businesses?</li> <li>If these agencies were to offer any sort of computer based training, would you attend?</li> <li>What do you feel you need training on?</li> <li>Have you ever browsed any agencies website looking for help or information to help your business?</li> <li>Did you find any? and was it helpful?</li> </ol>

## Appendix Five

### Stage three: Conceptual interview scheme

Record of Interview (Small Business)

Interviewer: Natasha Katunga

Interviewee: Daisy P. Respondent, Edu Care Centre Owner

Date of Interview: 9 July 2012

Q = Question from Interviewer

A = Answer/ Response from Interviewee

C =Comment

<b><u>CENTRAL QUESTION:</u></b>	<b>Which e-skills are needed for an effective use of e-support and what would be an effective way of acquiring these skills successfully?</b>
<b><u>Framework themes:</u></b>	<ol style="list-style-type: none"> <li>1. General business and Bio data,</li> <li>2. Basic Literacy/ Foundation skills,</li> <li>3. e-awareness,</li> <li>4. Technological Literacy,</li> <li>5. Informational Literacy,</li> <li>6. Digital Literacy,</li> <li>7. Media Literacy and</li> <li>8. e-Support services</li> </ol>
<b><u>Concepts</u></b>	
<b>Started business to work more flexible hours allowing for more time to raise the children</b>	<ul style="list-style-type: none"> <li>• As a nurse Daisy worked long hours keeping Daisy away from the children at home</li> </ul>
<b>Influence of family</b>	<ul style="list-style-type: none"> <li>• Ability to raise one's children important for women</li> <li>• Daisy quit working as a nurse before securing other means of employment</li> </ul>
<b>Universities give back to the communities (equipping people with the prerequisite e-skills)</b>	<ul style="list-style-type: none"> <li>• Offer computer training and workshops to people in previously disadvantaged areas to help them better themselves</li> </ul>
<b>Skills are lost or become outdated without continuous exposure</b>	<ul style="list-style-type: none"> <li>• Has basic computer skills but due to lack of constant exposure and practice on computers those skills have become outdated as technology advances and Daisy has forgotten most of what Daisy was taught</li> <li>• Daisy admits need to go for more training</li> </ul>

<b>Desire to adopt technology</b>	<ul style="list-style-type: none"> <li>• Daisy has identified a need for a computer in the business</li> <li>• Daisy also wants CCTV, a cash register, a photocopier and a printer</li> </ul>
<b>Past experiences and exposure to technology influence attitude towards them</b>	<ul style="list-style-type: none"> <li>• During previous employment Daisy saw how computers facilitated the operating of the clinic so Daisy wants to employ that same efficiency in the business</li> </ul>
<b>Lack of access a barrier</b>	<ul style="list-style-type: none"> <li>• People do not have free and convenience access to technology</li> </ul>
<b>Lack of e-skills a barrier</b>	<ul style="list-style-type: none"> <li>• People do not have the skills to use the technology so they shy away from it</li> </ul>
<b>Knowledge transfer from younger to older generation</b>	<ul style="list-style-type: none"> <li>• The children teach the parents or other older family members how to use the computers</li> </ul>
<b>Knowledge transfer between partners in the business</b>	<ul style="list-style-type: none"> <li>• They help each other progress</li> <li>• they share their knowledge with each other</li> </ul>
<b>Internet preferred source of business related information</b>	<ul style="list-style-type: none"> <li>• Daisy is aware of the other sources of information but the Internet is the best choice</li> <li>• Convenient and broad</li> </ul>
<b>Face to face meetings most convenient way of sharing information in the business</b>	<ul style="list-style-type: none"> <li>• Not all partners have access to the Internet</li> <li>• Not all partners have a mobile cell-phone</li> </ul>
<b>Aware of the benefits of technology (observation)</b>	<ul style="list-style-type: none"> <li>• Has an idea of the capabilities of computers and the role they would play in the business</li> <li>• Daisy has a course with a NQF 5, so Daisy has been educated and exposed during that stage to computers</li> </ul>
<b>lack of trust in technology (piece of mind)</b>	<ul style="list-style-type: none"> <li>• Prefers to save private or sensitive business information in hard copy format that can be locked away</li> </ul>
<b>Aware of places to access computers and the Internet</b>	<ul style="list-style-type: none"> <li>• Technologically aware</li> <li>• Daisy has a need for technology</li> </ul>
<b>Internet source of information a facilitator of communication</b>	<ul style="list-style-type: none"> <li>• When Daisy needs information Daisy goes to the Internet</li> <li>• Can use Google and navigate through the Internet to look for and find required information</li> <li>• Daisy has an e-mail account that Daisy uses to communicate</li> </ul>
<b>Has only the basic skills to navigate through the Internet</b>	<ul style="list-style-type: none"> <li>• Daisy asks for help from the children at home or more computer literate business partners</li> </ul>
<b>Lack of confidence in personal abilities</b>	<ul style="list-style-type: none"> <li>• Daisy is not very confident with the level of skills and would feel more comfortable receiving more training</li> <li>• Daisy is no longer able to use programs in the Microsoft office suit such as word and excel</li> </ul>
<b>Lack of time a barrier</b>	<ul style="list-style-type: none"> <li>• Daisy needs to access the Internet on more occasions but because of time constraints Daisy is limited even though the</li> </ul>

	<p>library is a few meters away</p> <ul style="list-style-type: none"> <li>• Accesses the Internet only twice a week</li> </ul>
<b>Observation key educator</b>	<ul style="list-style-type: none"> <li>• Daisy has seen other people applying for jobs on the Internet so Daisy is aware now that one can look for and apply for jobs on the Internet</li> </ul>
<b>Mature enough to admit a lack of skills and need for training (personal enhancement)</b>	<ul style="list-style-type: none"> <li>• Daisy does not know enough to be able to function in a knowledge based digital economy</li> </ul>
<b>Reliance on the skills and resources of (younger generation) family members</b>	<ul style="list-style-type: none"> <li>• Daisy asks the children at home who are computer literate for help because they are exposed to ICT and receive training at school</li> <li>• Daisy has access to the children's computer at home</li> </ul>
<b>High crime rates in PDA a barrier to technology adoption</b>	<ul style="list-style-type: none"> <li>• The people want to adopt technology but are aware that chances are it will get stolen so they are hesitant</li> </ul>
<b>Too costly to protect technology from being stolen</b>	<ul style="list-style-type: none"> <li>• These are mostly disadvantaged people who cannot afford to replace the technology once its stolen</li> </ul>
<b>Business does not have a website, wants one in the future (societal pressures)</b>	<ul style="list-style-type: none"> <li>• Wants to adopt technology</li> <li>• Improve the business</li> <li>• Be liked other businesses</li> </ul>
<b>Print media most effective for advertising in the community</b>	<ul style="list-style-type: none"> <li>• The business has advertised using pamphlets</li> <li>• Most people do not have convenient access to electronic media</li> </ul>
<b>Considering the Internet (electronic media) as a means to advertise the business in the future</b>	<ul style="list-style-type: none"> <li>• Has seen the power of electronic media to pass on information</li> <li>• Desire to adopt technology and improve the business</li> </ul>
<b>Aware of the information needs of the business</b>	<ul style="list-style-type: none"> <li>• Experience</li> </ul>
<b>Aware of Government agencies that provide support</b>	<ul style="list-style-type: none"> <li>• Saw an advert in a local paper</li> </ul>
<b>Lack of trust in Government agencies</b>	<ul style="list-style-type: none"> <li>• There is poor customer support</li> </ul>
<b>Lack of adequate information about the agencies and the support they offer</b>	<ul style="list-style-type: none"> <li>• They do not have enough support so choose not to approach the agencies</li> </ul>

## Appendix Six

### Stage seven: Coding process – back to the ‘ground’

The screenshot displays the NVivo software interface. The top menu bar includes File, Home, Create, External Data, Analyze, Explore, Layout, and View. The main workspace is divided into several sections:

- Nodes:** A search bar at the top left shows 'Look for: themes'. Below it, a table lists nodes with columns for Name, Sources, References, Created On, Created By, Modified On, and Modified By.
- Sources:** A list of sources is visible on the left sidebar.
- Classifications:** A list of classifications is visible on the left sidebar.
- Queries:** A list of queries is visible on the left sidebar.
- Reports:** A list of reports is visible on the left sidebar.
- Models:** A list of models is visible on the left sidebar.
- Folders:** A list of folders is visible on the left sidebar.

The table in the Nodes section contains the following data:

Name	Sources	References	Created On	Created By	Modified On	Modified By
themes	0	0	2012/10/19 10:49 AM	N	2012/10/19 10:49 AM	N
'spoon-fed' m	12	14	2012/10/19 10:49 AM	N	2012/10/23 11:10 AM	N
45 minutes no	4	4	2012/10/19 10:49 AM	N	2012/10/23 11:27 AM	N
above averag	8	17	2012/10/19 10:49 AM	N	2012/10/23 04:02 PM	N
Abuse of serv	5	5	2012/10/19 10:49 AM	N	2012/10/23 11:31 AM	N
Abuse of serv	2	2	2012/10/19 10:49 AM	N	2012/10/23 01:31 PM	N

The main workspace shows a search result for 'themes' with a coverage of 0.32%. The search query is: `<Internals\themes only\bed and breakfast khayelitsha site B (27062012)> - $ 1 reference coded [0.32% Coverage]`. The reference text is: "A - Ya, i think so".

Another search result is shown below with a coverage of 0.61%. The search query is: `<Internals\themes only\bed and breakfast khayelitsha site c (21062012 1)> - $ 1 reference coded [0.61% Coverage]`. The reference text is: "A - yes, through the internet".

A third search result is shown at the bottom with a coverage of 0.10%. The search query is: `<Internals\themes only\computer repairs shop (31 july 2012)> - $ 1 reference coded [0.10% Coverage]`. The reference text is: "A - yes, through the internet".

The bottom status bar shows: 181 Items, Sources: 17, References: 18, Unfiltered. The zoom level is 100%.

## Appendix Seven

### Stage eight: Analysis and description of concepts (Memos)

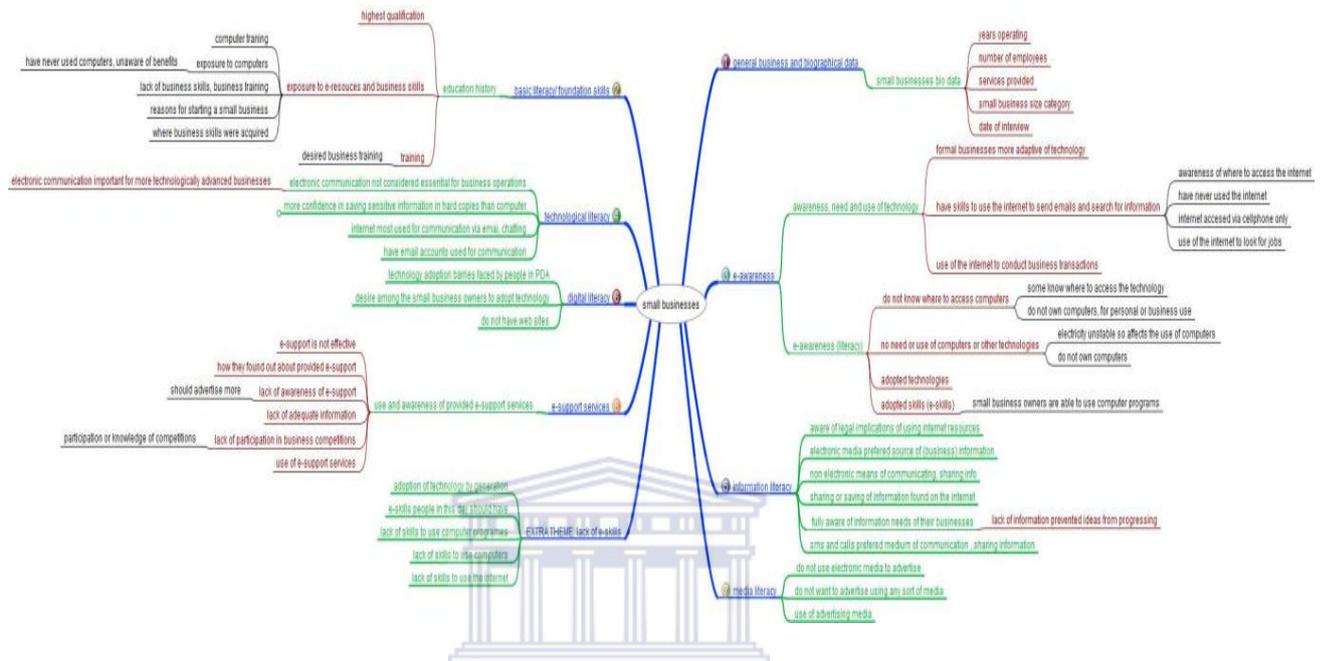
The screenshot displays the NVivo software interface. The main window shows a list of memos under the 'Memos' tab. The interface includes a menu bar (File, Home, Create, External Data, Analyze, Explore, Layout, View), a toolbar with various editing and search tools, and a left-hand navigation pane with categories like Sources, Nodes, Classifications, Collections, Queries, Reports, Models, and Folders. The main table lists memos with the following columns: Name, Nodes, References, Created On, Created By, Modified On, and Modified By. A watermark for the University of the Western Cape is visible in the background of the memo list.

Name	Nodes	References	Created On	Created By	Modified On	Modified By
45 mins not enough	1	1	2012/10/23 11:26 AM	N	2012/10/23 11:28 AM	N
above average internet appropriation user skills	1	1	2012/10/23 01:39 PM	N	2012/10/23 01:55 PM	N
abuse of services	1	1	2012/10/23 11:29 AM	N	2012/10/23 11:31 AM	N
access via computer preferred over access via cell phone	1	1	2012/10/23 11:37 AM	N	2012/10/23 01:27 PM	N
Adopt technology but don't have the skills to use it	1	1	2012/10/23 01:27 PM	N	2012/10/23 01:34 PM	N
advertising done through social media	1	1	2012/10/23 01:43 PM	N	2012/10/23 01:55 PM	N
agency background	1	1	2012/10/25 06:24 PM	N	2012/10/25 06:25 PM	N
Aware of business information needs	1	1	2012/10/23 02:36 PM	N	2012/10/23 02:39 PM	N
Aware of legal implications of using or sharing online resources	1	1	2012/10/23 03:04 PM	N	2012/10/23 03:06 PM	N
Aware of support agencies,	1	1	2012/10/23 02:48 PM	N	2012/10/23 02:55 PM	N
Awareness and acceptance of personal ICT knowledge limitations	1	1	2012/10/23 03:00 PM	N	2012/10/23 03:03 PM	N
awareness of internet access points	1	1	2012/10/23 02:55 PM	N	2012/10/23 02:59 PM	N
basic computer literacy skills	1	1	2012/10/23 02:47 PM	N	2012/10/23 02:48 PM	N
basic internet navigation-information finding skills,	1	1	2012/10/23 02:41 PM	N	2012/10/23 02:46 PM	N
Big computer screens preferred over small cell phone screens for social networking,	1	1	2012/10/24 01:43 PM	N	2012/10/24 01:44 PM	N
body language	1	1	2012/10/23 02:39 PM	N	2012/10/23 02:41 PM	N
Business heavily reliant on technology	1	1	2012/10/23 04:26 PM	N	2012/10/23 08:17 PM	N
Business not reliant on e-communication	1	1	2012/10/23 04:10 PM	N	2012/10/23 04:25 PM	N
Comfortable with Traditional means of conducting business	1	1	2012/10/23 04:06 PM	N	2012/10/23 04:08 PM	N
Community outreach	1	1	2012/10/23 04:02 PM	N	2012/10/23 04:05 PM	N
Computer literate	1	1	2012/10/23 01:30 PM	N	2012/10/23 04:01 PM	N
Confident with abilities to conduct e-business via cell phone	1	1	2012/10/23 03:52 PM	N	2012/10/23 03:56 PM	N
Confused by Open Source operating system	1	1	2012/10/23 03:49 PM	N	2012/10/23 03:51 PM	N
Consistent internet user	1	1	2012/10/23 03:45 PM	N	2012/10/23 03:48 PM	N
Constant need to be online	1	1	2012/10/23 03:40 PM	N	2012/10/23 03:44 PM	N

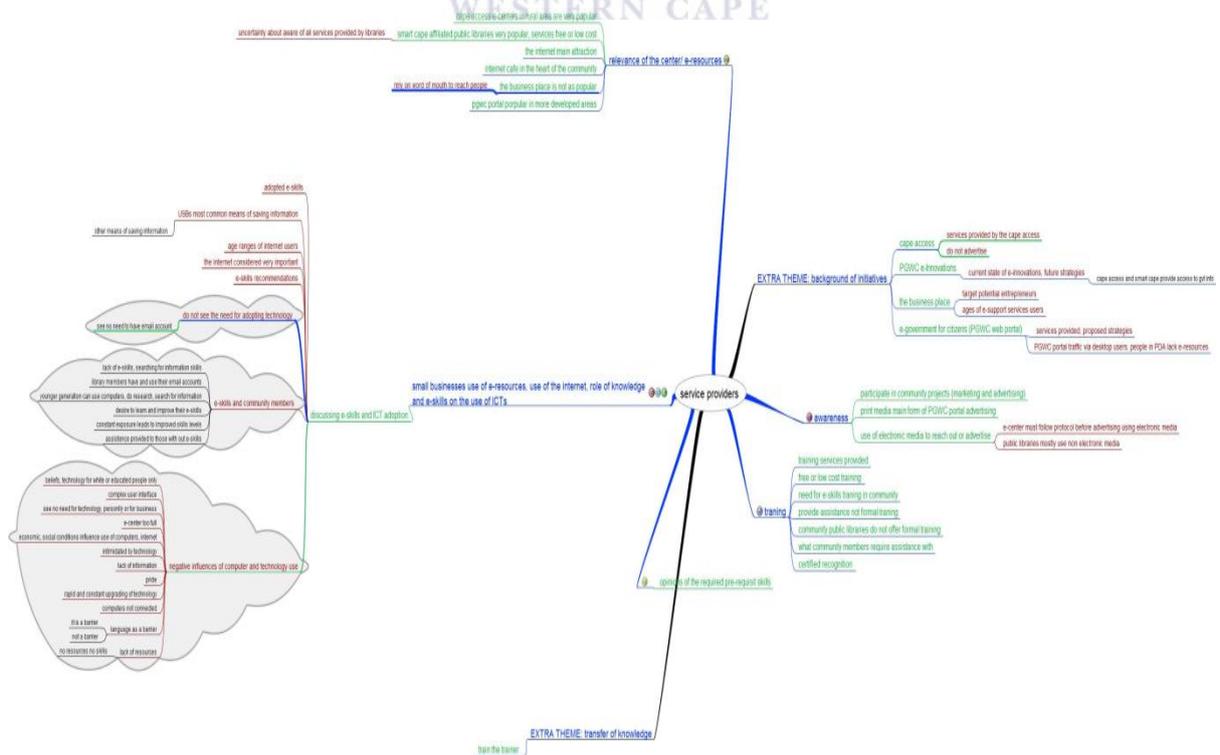
# Appendix Eight

## Stage nine: Extraction of the Essential Structure (concept map)

### (i) Small businesses concept map



### (ii) Service providers concept map



## Appendix Nine

### Consent to participate in research

**Title: Understanding the role of e-skills in the utilisation of electronic small business development support**

You are cordially invited to participate in a research study conducted by Ms Natasha Katunga from the Department of Information Systems, University of the Western Cape.

This research study is partially conducted towards the completion of the researcher's MCom (MIM) thesis at the University of the Western Cape.

You were selected as a possible participant in this study because your general input regarding your knowledge or use of Government provided electronic small business development services as well your use of technologies such as computers and the Internet is valuable and necessary.

#### **1. PURPOSE OF THE STUDY**

The aim of the study is to research the current relationship between the use of technology (computers, the Internet and online services) and electronic skills. These electronic skills (e-skills) are also in some cases referred to as computer skills, digital skills or even electronic literacy. A better understanding of this relationship will enable us to identify the necessary skills, knowledge and attitudes that one needs to have in order to efficiently utilise these technologies.

#### **2. PROCEDURES**

Due to nature of the study it is preferred that the interviews take place in the natural setting of the interviewee, at their place of business. This will empower the interviewee, giving them more confidence to speak freely. The interviews will take place during a time that is most convenient for the interviewee and in a set up of their choosing.

#### **3. POTENTIAL RISKS AND DISCOMFORTS**

No potential risks are envisaged at this stage. However, if something might come up, it will be dealt with in a sensible and sensitive manner.

#### **4. POTENTIAL BENEFITS TO SUBJECTS AND/OR TO SOCIETY**

The results of the study will potentially assist the Western Cape Government by providing them with an additional tool to ensure more effective skilling of people. The skilling of people particularly those in previously disadvantaged areas will thus equipping them with the required skills to utilise ICT efficiently towards personal, social and economic growth. This tool that will form part of the outcomes of the study will present a much needed e-skills framework. The framework will identify the necessary skills, knowledge and attitudes required to utilise previously mentioned technologies.

#### **5. PAYMENT FOR PARTICIPATION**

No payments to the participants will be made.

#### **6. CONFIDENTIALITY**

Please be advised that the results of the study will neither divulge the organisation's particulars nor the individual's particulars. No personal details or information will be required from the interviewees. Any information that can connect the responses to an individual or organisation will remain confidential and will be disclosed only with your permission. Confidentiality will be maintained by means of referring to the interviewees by an assigned alias. The aliases will be assigned randomly, not taking age, sex or race in to account. Once the interviewees are assigned aliases they will identified further by means of themes and categories. These themes and categories will be identified and used during the analysis and discussions of the findings. The aliases will also be used during the discussion of the findings including any and all possible outcomes of the research report, the thesis, and in conference papers and articles that would be submitted for possible publication in academic journals.

The researcher further pledges that any information given by participants will be handled in the strictest confidence and that the information given will not be used to reflect negatively on them in any way. The information will be stored in files that will be locked in a filing cabinet at the researchers at home.

**7. PARTICIPATION AND WITHDRAWAL**

Your participation is strictly voluntary. You can choose whether to be in this study or not. If you volunteer to be in this study, you may withdraw at any time without consequences of any kind. You may also refuse to answer any questions you do not want to answer and still remain in the study.

**8. IDENTIFICATION OF INVESTIGATORS**

Should you have any queries or questions regarding this study, please feel free to contact either Ms Natasha Katunga or Dr Zoran Mitrovic on 021 959 2162 or 021 959 3420. e-mail: [nkatunga@uwc.ac.za](mailto:nkatunga@uwc.ac.za) or [zmitrovic@uwc.ac.za](mailto:zmitrovic@uwc.ac.za).

**9. RIGHTS OF RESEARCH SUBJECTS**

You may withdraw your consent at any time and discontinue participation without penalty. If you have questions regarding your rights as a research subject, contact Dr Zoran Mitrovic, Department of Information Systems, room 4.38, Level 4, EMS building, UWC, or telephonically on 021 959 2162; or via e-mail at [zmitrovic@uwc.ac.za](mailto:zmitrovic@uwc.ac.za).

**SIGNATURE OF RESEARCH PARTICIPANT**

The information above was described to *me, the participant* by Ms Natasha Katunga in *English* and *I am the participant* in command of this language. I was given the opportunity to ask questions and these questions were answered to *my* satisfaction.

*I hereby consent voluntarily to participate in this study, as well as to be recorded.* I have been offered a copy of this form. I acknowledge my consent by signing below.

Signature of Subject/Participant \_\_\_\_\_

Date of Interview \_\_\_\_\_

**SIGNATURE OF INVESTIGATOR**

I declare that I explained the information given in this document to the participant. *He/she* was encouraged and given ample time to ask me any questions.

Signature of Investigator \_\_\_\_\_

Date \_\_\_\_\_