

**WOMEN-DRIVEN ENTREPRENEURSHIP WITHIN THE INFORMATION AND
COMMUNICATION TECHNOLOGY SECTOR: A GROUNDED ANALYSIS OF
SMALL, MICRO, AND MEDIUM ENTERPRISES IN THE EASTERN CAPE
PROVINCE**

by

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DECLARATION

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I declare that **WOMEN-DRIVEN ENTREPRENEURSHIP WITHIN THE INFORMATION AND COMMUNICATION TECHNOLOGY SECTOR: A GROUNDED ANALYSIS OF SMALL, MICRO AND MEDIUM ENTERPRISES IN THE EASTERN CAPE PROVINCE** is my own work and that all sources that I have used or quoted have been indicated and acknowledged by means of complete references.



Signature

Date: June 2014

(Miss N. Sekeleni)

DEDICATION

I dedicate this thesis to my mother, who has given me unwavering support and for all her sacrifices while making every effort that enables me constantly to accomplish my academic success.

“Diba, Ngqolomsila, Yemyem! ...nangamso nkosazana”.

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ABSTRACT

The thesis is a grounded analysis that seeks to understand small, micro, and medium enterprises (SMME) in the ICT sector that are particularly driven by women entrepreneurs in the Buffalo City and Nelson Mandela metropolitan municipalities of the Eastern Cape Province. Small businesses in the ICT sector owned and driven by women are still an understudied topic in South Africa, since there is not much literature that covers the topic from either a quantitative, or a qualitative perspective. The Eastern Cape Province is not an exception to the dearth of literature that focuses on SMME women-driven entrepreneurship in the ICT sector.

The research interest of this research project emphasises the gap pertaining to the unavailability of gender-disaggregated data that indicates, for example: i) The number of women-owned ICT enterprises; ii) The nature of women-driven entrepreneurial activity in the ICT sector; iii) Evidence of how competitive women-owned ICT enterprises are; iv) Sustainable job creation by these ICT enterprises; iv) Availability of women with ICT skills; and v) Women who are occupying ICT core positions.

These factors strengthen the case for employing a grounded approach to explore this substantive area of investigation.

The researcher has no doubt that this study is one of the first studies to examine women-driven entrepreneurship of SMMEs in the ICT sector of the Eastern Cape Province, hence the adoption of a Multi-Grounded Theory (MGT) approach. This methodology is anchored in a qualitative approach that explores this phenomenon about which little is known. A moderate constructivist and interpretive approach guided by the voices of women entrepreneurs was employed to provide a meaningful account that added depth and breadth to the description and explanation of the status quo in relation to women-driven entrepreneurship in SMMEs.

Emerging data from in-depth interviews conducted with 12 SMME women entrepreneurs and two experts from the ICT industry was matched with the two theories of entrepreneurship and cyberfeminism. These theories provided a theoretical lens

through which data could be analysed and interpreted. This empirical and theory driven approach assisted in grounding the substantive theory.

The research objectives provided answers to the empirical research questions that sought to gain an in-depth understanding of women entrepreneurs' perspective about: i) Conceptualisation of entrepreneurship and ICT technology as a concept; ii) Conceptualisation of the ICT sector; iii) The perceived importance of the ICT sector as an enabler in promoting SMME women-driven entrepreneurship; iv) How SMME women entrepreneurs use ICT as a core product and service; and v) The role played by government and the private sector in promoting SMME women-driven entrepreneurship in the ICT sector of the Eastern Cape Province.

The findings uncovered concerns that women entrepreneurs perceived as having an influence on women-driven entrepreneurship. The findings included the manner in which women entrepreneurs responded to these issues.

The findings for example, highlighted gender sensitivity issues which were of great concern to women entrepreneurs. Gender discrimination was amongst the key issues identified that lead to women's marginalisation inside the ICT sector, this entailing: i) ICT underrepresentation in core ICT environments; ii) Inaccessible tender opportunities; iii) Inaccessible funding; iv) Limited ICT knowledge and skills; and v) Lack of technical support.

Considering the fact that SMME women-driven entrepreneurship within the ICT sector is on the radar screen of both government and the private sector's developmental agenda, the gap in research and literature presented a case that the study intended to address by developing a substantive theory which could contribute toward the transformative change in SMME women-driven entrepreneurship in the ICT sector of the province.

KEY TERMS

Information and Communication Technology; Small, Micro, and Medium Enterprises; Entrepreneurship; Cyberfeminism; Multi-Grounded Theory.

LIST OF ABBREVIATIONS

ASGISA	:	Accelerated and Shared Growth Initiative for South Africa
ADSL	:	Asymmetric Digital Subscriber Line
BCG	:	Boston Consulting Group
B-BBEE	:	Broad-based Black Economic Empowerment
BEE	:	Black Economic Empowerment
B2B	:	Business to Business
CAGR	:	Compounded Annual Growth Rate
COSATU	:	Congress of South African Trade Unions
DBSA	:	Development Bank of South Africa
DDMA	:	Digital Media and Marketing Association
DoC	:	Department of Communications
DSL	:	Digital Subscriber Line
DTI	:	Department of Trade and Industry
ECDC	:	Eastern Cape Development Corporation
ECITI	:	Eastern Cape Information Technology Initiative
E-commerce	:	Electronic commerce
GEM	:	Global Entrepreneurship Monitor
GEMS	:	Global Entrepreneurship Monitor Survey
GCIS	:	Government Communications and Information Services

GDP	:	Gross Domestic Product
GT	:	Grounded Theory
GSM	:	Group Spécial Mobile or Global System for Mobile Communications
ICASA	:	Independent Communications Authority of South Africa
ICT	:	Information and Communication Technology
ICTs	:	Information Communication Technologies
IP	:	Internet Protocol
JIPSA	:	Joint Initiative on Priority Skills Acquisition
KIS	:	Knowledge intensive services
LED	:	Local Economic Development
LLU	:	Local Loop Unbundling
LTE	:	Long-Term Evolution
MGT	:	Multi-Grounded Theory
MICTSETA	:	Media, Information, and Communication Technologies Sector Education and Training Authority
MTN	:	Mobile Telephone Networks
NQF	:	National Qualifications Framework
OECD	:	Organisation of Economic Cooperation and Development
SAEEC	:	South African Electro-technical Export Council

SAITIS	:	South African Information Technology Industry Strategy
SAP	:	Systems Application Protocol
SETA	:	Sectoral Education and Training Authority
SEDA	:	Small Enterprise Development Agency
SARS	:	South African Revenue Services
SMME	:	Small, Medium, and Micro Enterprise
StatsSA	:	Statistics South Africa
UN	:	United Nations
UNISA	:	University of South Africa
VANS	:	Value-added Network Service Providers
WEF	:	World Economic Forum
WiFi	:	Wireless Fidelity
VNI	:	Virtual Networking Index
VoIP	:	Voice over Internet Protocol

TABLE OF CONTENTS

DECLARATION	.....	ii
DEDICATION	.....	iii
ACKNOWLEDGEMENTS	.....	iv
ABSTRACT	.....	vi
CHAPTER 1		
OVERVIEW OF THE STUDY	.....	1
1.1 INTRODUCTION	.....	1
1.2 THEORETICAL BACKGROUND OF THE STUDY	.....	2
1.2.1 South Africa’s ICT sector	.....	5
1.2.2 The Eastern Cape Province ICT sector	.....	30
1.3 AIM OF THE STUDY	.....	31
1.4 RESEARCH OBJECTIVES	.....	32
1.5 RESEARCH INTEREST	.....	33
1.6 THE RESEARCH QUESTIONS	.....	34
1.7 PHILOSOPHICAL POSITION	.....	34
1.8 EPISTEMOLOGICAL ORIENTATION	.....	35
1.9 METHODOLOGICAL ASSUMPTIONS	.....	38
1.10 SUMMARY	.....	41
1.11 OUTLINE OF CHAPTERS	.....	41
CHAPTER 2		
CONCEPTUAL AND OPERATIONAL DEFINITIONS	.....	44
2.1 INTRODUCTION	.....	44
2.2 ICT SECTOR	.....	44
2.3 INFORMATION AND COMMUNICATION TECHNOLOGY (ICT)	.....	45
2.4 SMALL, MICRO, AND MEDIUM ENTERPRISES (SMMEs)	.....	46
2.5 SMME WOMAN ENTREPRENEUR	.....	47
2.6 ICT ENTERPRISE	.....	47
2.7 ENTREPRENEURSHIP	.....	48
2.8 CYBERFEMINISM	.....	49

2.9	THE INFORMATION AND COMMUNICATIONS TECHNOLOGY SECTOR INDUSTRIAL DEVELOPMENT FRAMEWORK (SAITIS).....	50
2.10	THE EASTERN CAPE ICT STRATEGY	51
2.11	THE ICT CHARTER	51
2.12	SUMMARY	53
CHAPTER 3		
	LITERATURE REVIEW	54
3.1	INTRODUCTION	54
3.2	THEORETICAL FOUNDATION OF THE STUDY	55
	3.2.1 Cyberfeminism.....	56
	3.2.2 Entrepreneurship	63
3.3	SKILLS SHORTAGE AND IMPACT ON THE ICT ENTERPRISE	81
3.4	SMME WOMEN-DRIVEN ENTREPRENEURSHIP AND ITS SIGNIFICANCE IN THE ICT SECTOR	85
	3.4.1 Why women empowerment in the ICT sector is important.....	85
3.5	THE IMPACT OF CORRUPTION IN RELATION TO WOMEN-DRIVEN ENTREPRENEURSHIP	93
3.6	SUMMARY	97
CHAPTER 4		
	RESEARCH METHODOLOGY.....	98
4.1	INTRODUCTION	98
4.2	RESEARCH AIMS	99
4.3	RESEARCH QUESTIONS	99
4.4	RESEARCH DESIGN.....	100
4.5	SECTION A: DATA COLLECTION.....	104
	4.5.1 Selection of participants.....	104
	4.5.2 Sampling procedures	108
4.6	SECTION B: DATA COLLECTION PROCEDURES	112
	4.6.1 Interview guide.....	112
	4.6.2 Interview Instruments.....	115
	4.6.3 Procedure for conducting interviews	118

4.7	SUMMARY	120
CHAPTER 5		
	DATA ANALYSIS PROCEDURE	121
5.1	INTRODUCTION	121
SECTION A:		
5.2	PHASE ONE: THEORY GENERATION- EMPIRICALLY DRIVEN	
	ANALYSIS (INDUCTIVE) - EXPLAINED	123
5.2.1	Inductive coding	122
5.2.2	Conceptual refinement	130
5.2.3	Pattern coding.....	131
5.3	PHASE TWO: EXPLICIT GROUNDING - THEORY DRIVEN	
	ANALYSIS (DEDUCTIVE) - EXPLAINED	132
5.3.1	Explicit grounding	132
5.3.1.1	Theoretical matching.....	132
5.3.2	Explicit empirical validation	133
5.3.3	Evaluation of theoretical cohesion	133
5.3.4	Theory condensation.....	133
5.4	PHASE THREE: RESEARCH QUESTION, REFLECTION,	
	AND REVISION - EXPLAINED	134
5.4.1	Research question	134
5.4.2	Reflection and revision	134
SECTION B:		
5.5	APPLICATION: PHASE ONE - THEORY GENERATION	
	EMPIRICAL (INDUCTIVE)	136
5.5.1	Analysis of closed-ended questions and open-ended questions ...	135
5.5.2	Conceptual refinement	188
5.5.3	Pattern coding	194
5.6	APPLICATION: PHASE TWO - EXPLICIT GROUNDING (DEDUCTIVE)	200
5.6.1	Theoretical matching	200
5.6.1.1	Cyberfeminism	200
5.6.1.2	Entrepreneurship	213

5.6.2	Document Analysis	216
5.6.2.1	The Eastern Cape ICT Strategy (2009-2014).....	216
5.6.2.2	The ICT sector code for BEE score card point system	218
5.7	THEORY CONDENSATION	222
5.8	LIMITATIONS OF THE RESEARCH DESIGN.....	226
5.9	CRITICAL EVALUATION OF RESEARCH METHODOLOGY	227
5.10	SUMMARY	230
CHAPTER 6		
RESEARCH FINDINGS, ANALYSIS OF FINDINGS, AND		
RECOMMENDATIONS.....		
		231
6.1	INTRODUCTION	231
6.2	ANALYSIS OF FINDINGS	231
6.2.1	Recognising gender-based discrimination	231
6.2.2	Responding to gender-based discrimination.....	241
6.3	STUDY RECOMMENDATIONS	245
6.4	CONTRIBUTION OF THE STUDY TO THE FIELD OF	
	COMMUNICATION SCIENCE	248
6.5	CONCLUSIONS	249
SOURCES CONSULTED		251
APPENDIX A: CONSENT FORM.....		287
APPENDIX B: REQUEST TO THE ORGANISATION TO		
	ACCESS DATABASE.....	290
APPENDIX C: INVITATION: PARTICIPATION IN RESEARCH STUDY		292
APPENDIX D: EMAIL APPROVAL FROM MICTSETA TO USE		
	ITS GRAPHICAL USER INTERFACE (GUI) INFORMATION	294
APPENDIX E: INTERVIEW GUIDE FOR INDIVIDUAL INTERVIEWS		295
APPENDIX F: INTERVIEW GUIDE FOR PRIVATE SECTOR EXPERT		301
APPENDIX G: INTERVIEW GUIDE FOR GOVERNMENT SECTOR EXPERT		307
APPENDIX H: APPROVAL BY THE ETHICS REVIEW COMMITTEE OF		
	THE COLLEGE OF HUMAN SCIENCES AT	
	THE UNIVERSITY OF SOUTH AFRICA.....	313

APPENDIX I: SAMPLE INTERVIEW 1 TRANSCRIPT – EARLY CODING LINE-BY-LINE.....	314
APPENDIX J TABLE 1: SAMPLE – INTERVIEW PERSONAL NOTES.....	323
APPENDIX J TABLE 2: SAMPLE PRE-DATA COLLECTION	323
APPENDIX K TABLE 1: SAMPLE METHODOLOGICAL MEMO – PRE-DATA COLLECTION.....	324
APPENDIX K TABLE 2: METHODOLOGICAL MEMO – INTERVIEW – BEFORE AND AFTER.....	325
APPENDIX K TABLE 3: SAMPLE MEMO – EARLY OPEN CODING	326
APPENDIX L: THE EMERGING CORE CATEGORIES	327
APPENDIX M: THE MICTSETA SIC CODE LIST	334
APPENDIX N: ANALYSED OPEN-ENDED QUESTIONS	335-356
APPENDIX O: CONCEPTUAL REFINEMENT – DEPICTING THE REFINEMENT OF CATEGORIES AND CONCEPTS GENERATED FROM OPEN-ENDED QUESTIONS.....	357
APPENDIX P: FIRST ILLUSTRATION OF BUILDING CATEGORICAL STRUCTURES.....	384

LIST OF FIGURES

Figure 3.1:	Types of different technical skills required in the ICT sector	82
Figure 3.2:	National ICT priority skills 2009 – 2011	83
Figure 3.3:	Types of different skills required by small business in the ICT sector.....	84
Figure 3.4:	Number of employees in the MICT sector segmented by gender (2012).....	89
Figure 3.5:	Gender distribution of employees (2012)	92
Figure 4.1:	Core tenants of an MGT research design – SMME Women-Driven Entrepreneurship Substantive Theory: data collection and analysis (empirically-driven and theory-driven)	103
Figure 4.2:	Theoretical sampling from Interview 1 to 14.....	110
Figure 5.1:	Iterative process of data collection and analysis to produce substantive theory	121
Figure 5.2:	Iterative process of transcribing	123
Figure 5.3:	Interview 1: Q 14 – Relationships between selected statements defining entrepreneurship	127
Figure 5.4:	Demonstration of iterative process of giving meaning to concepts.....	129
Figure 5.5:	Ages of the participants.....	136
Figure 5.6:	Participants’ race groups.....	137
Figure 5.7:	Position of the women in the ICT business.....	139
Figure 5.8:	The SMMEs’ business models.....	140
Figure 5.9:	The SMMEs’ market segments.....	142
Figure 5.10:	Number of years the SMMEs had been in business.....	142
Figure 5.11:	Number of employees at the businesses.....	143
Figure 5.12:	Interview 1: Q14 relationship between selected statements.....	146
Figure 5.13:	Second illustration of building categorical structure.....	199
Figure 5.14:	A graphic representation of theoretical model: Business Gender-Based Discrimination in the ICT SMME sector.....	225

LIST OF TABLES

Table 1.1:	Contribution of the Internet to GDP growth.....	8
Table 1.2:	Subscribers (millions) and market share.....	12
Table 1.3:	Key performance indicators as of September 2012 for the South African telecommunications industry.....	13
Table 1.4:	Internet access in South Africa at the end of 2010.....	15
Table 1.5:	Demand for the top twelve scarce skills (potential vacancies – occupations) in the electronic media and film sub-sector.....	19
Table 1.6:	Demand for the top twelve scarce skills (potential vacancies – occupations) in the electronics sub-sector.....	20
Table 1.7:	Demand for the top twelve scarce skills (potential vacancies – occupations) in the information technology sub-sector.....	21
Table 1.8:	Demand for the top twelve scarce skills (potential vacancies – occupations) in the in the telecommunications sub-sector.....	21
Table 5.1:	Early open codes – Definition of entrepreneurship provided in Interview 8: Q14.....	125
Table 5.2:	Q 14 Constant comparison between statements – Definition of entrepreneurship.....	127
Table 5.3:	Conceptual ordering of statements – entrepreneurship development from the interview with a government expert.....	128
Table 5.4:	Education qualifications of participants.....	138
Table 5.5:	SMME ownership status of the participant.....	138
Table 5.6:	Types of SMMEs owned by participants.....	139
Table 5.7:	Services offered by SMMEs.....	141
Table 5.8:	Size categories of enterprises.....	143
Table 5.9:	Education qualifications of the SMME employees.....	144
Table 5.10:	The SMME annual turnover (in millions).....	144
Table 5.11:	Illustration of constant comparison between concepts.....	146

Table 5.12: Interview 1: Q14 conceptual ordering of substantive statements.....	148
Table 5.13: Abstract A – Conceptual refinement:gender sensitivity.....	190
Table 5.14: Abstract B – Conceptual refinement: corruption.....	193
Table 5.15: First illustration of building categorical structures.....	197
Table 5.16: Category: women experiencing gender-based discrimination.....	201

CHAPTER 1

OVERVIEW OF THE STUDY

“South Africa is an inclusive information society where ICT-based innovation flourishes. Entrepreneurs from historically disadvantaged population groups, rural communities, and the knowledge-intensive industry benefit and contribute to the well-being and quality of life of our citizens. South Africa has a strong national ICT brand that captures the vibrancy of an industry and research community striving for excellence, characterised by innovative approaches to local and global challenges, and recognised for its contribution to the economic growth and well-being of our people and region”.(South African ICT R & D and Innovation Strategy: 2015 ICT Vision Page 21)

1.1 INTRODUCTION

Notably, the discourse about information communication technology (ICT) inter alia includes the enabling of access for previously disenfranchised Small, Micro and Medium Enterprises (SMMEs). particularly Women entrepreneurs, who are the particular focus of this study, are high on the developmental agenda of both government (Accelerated and Shared Growth Initiative for South Africa (AsgiSA) 2007:34; Provincial Growth and Development Plan (PGDP) 2004-2014:88; Eastern Cape ICT Strategy 2009-2014: Programme 2, Strategy 1; South African Information Technology Industry Strategy (SAITIS) 2000 Chapter 2; Department of Trade and Industry (DTI); National Industry Policy Framework (NIPF) 2007:33-35; South Africa 1996; Section 2) and the business community (Broad-Based Black Economic Empowerment [B-BBEE] 2005).

There also appears to be general consensus that greater awareness of entrepreneurship development in the SMME segment of the information and communication technologies (ICT) sector needs to be created with the purpose of encouraging increased participation of SMMEs in the economic mainstream (South

Africa1996 Section 2; Media, Information and Communication Technologies Sector Education and Training Authority (MICTSETA 2012). Such increased participation should take into consideration the various opportunities for new business innovations (Eastern Cape ICT Strategy 2009-2014; Department of Communications (DoC) Strategic Plan 2006:5; Department of Science and Technology 2002) and the mushrooming of new business innovations that results from the unbundling of services, which encourages participation at a small scale in the telecommunications industry (DoC Report 2007). This economic environment inevitably increases job creation opportunities (Eastern Cape ICT Strategy 2009-2014; Research ICT Africa 2005:51) in this sector.

This commitment is expressed in various government policy documents and in partnership with the private sector (Eastern Cape ICT Strategy 2009-2014: Programme 2; Joint Initiative on Priority Skills Acquisition (JIPSA) Annual Report 2008, 2010). The commitment is supported by the Human Resources Development Council (HRDC), the World Summit on the Information Society Commitments (2003), and the ISETT SETA (2007) that proclaim entrepreneurial development gains in the ICT sector through the effective involvement of sectors and organisations in fast tracking SMME enterprise development by implementing prioritised skills interventions (Eastern Cape ICT Strategy 2009-2014) in order to build a substantial base of knowledge workers in the ICT sector.

1.2 THEORETICAL BACKGROUND OF THE STUDY

In view of the topic, the researcher had regarded it fitting to conduct a preliminary literature control (Strauss & Corbin 1998:48; Goldkuhl & Cronin 2010) before the commencement of the data collection process with the view of assisting the researcher with the development of theoretical sensitivity while contextualising the research topic. For the reader who is not that familiar with the ICT sector, this preliminary literature control facilitates an understanding of the technological context. In accordance to Heeks, Arun and Morgan (2004), this context is influenced by the “political (government policy) and economic (markets and suppliers)” structures that impact on the context of

ICT enterprises and “value chain relations” (Porter 1985:34-45) in relation to the entrepreneurship processes of these enterprises.

“All kinds of literature can be used before a research study is begun” (Strauss & Corbin 1990:56) as long as this is done in a manner that does not allow “technical literature” (Strauss & Corbin 1998:35) to block the researcher’s creativity by getting in the way of discovery”. This implies selectively choosing relevant literature that enhances theoretical sensitivity. Strauss and Corbin (ibid) maintain there is no need to review all of the literature before entering the field (hence the preliminary literature control), since it is impossible for the researcher to know prior to the investigation what theoretical concepts would emerge.

A researcher should be mindful not to enter a research field with preconceived thoughts and should acknowledge that entering a field with a “tabular rasa” (Glaser & Strauss 1967) is impossible, since any potential researcher is neither an empty vessel, nor a person with no history or background (cf. Cutcliffe in Dunne 2011). Therefore, the serious researcher understands that valuable insights and innovative conceptualisations could only come about following an engagement with the literature (Bryant 2009). Besides, a researcher cannot pretend to be without preconceptions that have been forming since the development of the initial research proposal. A researcher should be “responsible” (Bruce 2007) enough to acknowledge the impact of theoretical influences that inform the development of the research questions. Preconceptions are inevitable but need to be managed (Goldkuhl 2004; Goldkuhl & Cronholm 2010). The human sciences, the field of this research study, have preconceptions but these preconceptions should not interfere with the scientific research processes and procedures.

The preliminary literature control is, therefore, viewed as building “theoretical sensitivity” (Strauss 1987:300) and guiding the formulation of the research interest and questions. It is also conducted to avoid ignorance about the existing body of knowledge, to avoid the assumption that research with the same focus has not been conducted before in this substantive area of investigation, and to avoid “reinventing the wheel” (Goldkuhl &

Cronin 2010:191). The researcher sampled related literature about how SMME women-driven entrepreneurship had been studied before in South Africa and internationally with the aim of promoting clarity in thinking about key concepts and central issues, identifying the area of focus previously omitted, and justifying the research methodology.

This open-minded (Strauss & Corbin 1998:48) approach differs from traditionalist grounded theorists thinking that advocates the researcher should not investigate the existing work and research literature most closely related to the research topic (Bryant 2009). For example, Glaser and Strauss (1967:37) in their early writings reject the imposition of any theoretical framework at the outset. Glaser (1992:31; 1998:67) considers conducting an early literature review as a “waste of time” (Glaser & Holton 2007), insisting that a researcher’s effort to generate categories might get contaminated and that the literature review should be conducted during the sorting and recording when it could be woven into the theory for constant data comparison; thus the need for the “delay” Charmaz (2006:165). The version of Strauss and Corbin and Corbin (1998; 2008) suited this study better, since the less rigid approach allows the notion of consulting “technical literature” (Strauss & Corbin 1990:48-56) prior to gathering empirical data. The researcher was satisfied that the preliminary literature review did not influence the inductive process of data collection.

To conclude, a preliminary literature control essentially constitutes the ‘contextualisation’ of the research interest and questions, and a detailed literature review is conducted at a later stage during the analysis (deductive) process. This is congruent to Goldkuhl and Cronholm’s (2010) proposition that an early literature review should be conducted before collecting empirical data as long as it is done in an inductive manner that is applicable to grounded theory procedures. This phasing-in approach is in agreement with Martin’s (2006) articulated interpretations of the “noncommittal” phase, during which a researcher develops theoretical sensitivity (pre-data collection), and the “integrative” phase, during which a researcher integrates the emergent theory (inductivism) with pre-existing theories (deductivism) to position the

new theory in the context of existing knowledge in order to ground the theory convincingly.

Dunne (2011) and Bryant (2009) provide a detailed account – that is not discussed in this study – on the different views held by grounded theorists for or against the use of a literature review either prior to a study, or later towards its completion. The controlled literature review examines South Africa's ICT sector which includes the telecommunications industry, the mobile sector, information technology industry, electronics industry and the Eastern Cape Province ICT sector.

1.2.1 South Africa's information and communication technology (ICT) sector

The combined value of the ICT sector in South Africa is estimated to be in the region of R 60 billion. According to a report by Business Monitor International, published by Frontier Marketing Network (2012), spending on ICT is predicted to rise to R 120 billion by 2016 and increasing 13 per cent above real GDP growth over the same period.

The sector has been regarded as an ICT Gateway to Africa as far back as 2003 (Goldstuck 2003) based on the increasing number of South African companies expanding to the continent and the influx of multinationals choosing Africa as a destination to set up their operations. According to global rankings, however, South Africa is slipping as an ICT leader. This is affirmed by the 2013 Global Information Technology Report of the World Economic Forum (WEF). South Africa ranked 70th out of 144 economies surveyed. The decrease is measured against the Network Readiness Index (2012) that reports South Africa moving down from position 61 to 72 in international rankings. These rankings include 142 countries in terms of network readiness, skills development, access costs, and infrastructure development. According to a global audit, the other Sub-Saharan regions of Africa are not performing much better either, as the WEF report suggests that a number of countries in that region lack ICT connectivity. However, African countries realise that "ICT is an enabler of future economic growth" (MTN 2012) and they are rapidly taking advantage of ICT to transform their economies (Global Information Technology Report 2012).

Needless to say, these reports are perturbing news for South Africa, since it emphasises the absence of a cohesive overarching ICT policy (at the time of conducting this study) that, according to Chulani (2012), is likely to impact negatively on the South African ICT sector development strategies in the near term. It is likely that government departments are going to continue with the establishment of disconnected projects in this kind of environment. Chulani (2012) reiterates that South Africa has drastically dropped in comparison with its earlier ranking position in 2002 which was in the mid-30s and associates the drop to 72 in 2012 to the absence of a policy that outlines how technology is deployed congruent to the developmental goals of the country. Contrary to these remarks, there are pockets of significant ICT gains as demonstrated by specific sub-sectors such as the electronics industries that are doing reasonably well regardless of the absence of a policy. According to the South African Electrotechnical Export Council (SAEEC) (2013), the electronics industries are reported as having a competitive advantage in the local and global markets and are lauded for their innovativeness in software development that accrues gains from the ICT sector.

1.2.1.1 The telecommunications industry

The total South African telecommunications market grew from R 131 billion in 2007 to R 179 billion in 2010 (DoC 2010:18) and contributes more than 7 per cent to the gross domestic product (GDP) of the country with approximately 5.5 million installed landline telephones. Landline operators are Telkom – with a market capitalisation of R 14.7 billion – and the second network operator Neotel that have access to a network of 6 900km of cable across the country and a 500km fibre-optic cable network links 14 central business districts in South Africa and access to all five undersea network cables that link the continent to West Africa and Europe (Speckman 2012). The latest figures by SAEEC (2013) report an estimated US\$ 42 billion in 2013, with communications accounting for US\$ 27.18 billion while the sector contributes about 8.2 per cent to the GDP.

South Africa has the most sophisticated telecommunications network that is reported to be about 99.9 per cent digital with the latest state of the art fixed line, wireless, and

satellite communication systems (SAEEC 2013). South Africa has two fixed line operators namely, Telkom and Neotel. According to the Millennium Development Goals Report (2010), South Africa is ranked 23rd in telecommunications development in the world, representing more than 30 per cent of the total lines installed in South Africa and ranked 34th in the world in terms of fixed line telephony with over 4.3 million fixed line connections.

The telecommunications industry is rated as one of fastest growing industries and is characterised by a rapid growth in broadband and mobile telephony with about 46.4 million mobile users registered in 2009. However, the ICT Sector Performance Review 2009 / 2010 reports high prices still plague the industry across a range of services from mobile voice services to leased lines and broadband, citing the competition amongst DSL, cable, mobile with DSL, and 3G mobile (Esselaar *et al.* 2010).

Linked to the high prices is competition which, Goldstuck (2012) states, is lacking in fixed line broadband (ADSL providers) and is stifling the growth of fixed line broadband users despite a dramatic rise in fixed-line broadband users in South Africa, from 15 700 in 2003 to 875 000 in 2012. It is expected that improvements will be noticeable in the reduction of price as broadband becomes more accessible and penetration levels increase as a result of the passing of Broadband Policy, Strategy, and Plan in parliament and the ICASA dropping of termination rates.

The Global Information Technology Report (2013) ranks South Africa, using criteria that examine how importantly a government regards ICT policy:

“The perception of a lack of clear government vision (105th) to orchestrate and implement a holistic ICT strategy for the country, plays negatively and outweighs a rather positive political and regulatory framework for ICT development (21th) and [the] pro-business environment (55th)” (WEF 2013: page 27)

1.2.1.2 Mobile sector

The mobile segment dominates the South African Internet market (Table 1.1) due to increased investment in cellular coverage by mobile operators and decreasing tariffs. There are five mobile operators; namely Vodacom, MTN, Cell C, Telkom Mobile, and mobile virtual network operator (MVNO) Virgin Mobile, and hundreds of Internet service providers (ISPs) and value-added network service providers (VANS).

A 2012 study – the Internet Economic Impact Study – happens to be the first in terms of quantifying the impact of the Internet and its contribution to the economy of South Africa. The Internet economy contributes up to R 59 billion (or 2 per cent) to the South African GDP. The forecast claims that this figure would rise by about 0.1 per cent a year, reaching R 79 billion by 2016 and contributing up to 2.5 per cent to the GDP of South Africa.

Table 1.1: Contribution of the Internet to GDP growth

Year	Internet economy (R bn)	Growth rate of Internet economy	GDP (R bn)	Internet as % of GDP	Contribution of Internet sector to GDP growth
2011	59		2 964	1.98%	
2012	63	8.2%	3 053	2.08%	5.41%
2013	68	7.96%	3 145	2.18%	5.51%
2014	74	7.73%	3 239	2.28%	5.61%
2015	79	7.53%	3 336	2.38%	5.71%

Source: World Wide Worx (2012)

According to research conducted in 2012 by the Boston Consulting Group (BCG) across the G20 countries, the South African Internet economy as a proportion of GDP ranks very low when compared to both industrialised and other developing countries. The G20 Internet economy is set to increase from \$ 2.3 trillion in 2010 to \$ 4.2 trillion by 2016 while nearly half of the world population would be becoming web users. The BCG report also states that the global increase of users from 1.9 billion users in 2010 to a projected figure of 3 billion in 2016 could be attributed to a number of things; including the rise of the emerging markets (growing from less than one quarter in 2010 to more than one third in 2016), the popularity of mobile devices – especially smart phones –

(accounting for about 80 per cent of all broadband connections by 2016), and the compounding impact of the Internet. The Research ICT Africa (2012) reports that South Africans are increasingly accessing the Internet via mobile phones. This observation is based on the findings that in South Africa mobile broadband is cheaper and faster than fixed broadband and that wireless is inherently less stable than fixed broadband technologies, such as fibre. Not having ubiquitous, reliable high speed connectivity have dire implications for the economy and global competitiveness.

In the Digital Manifesto Report launched at the WEF (2013) Dean from the Boston Consulting Group (BCG) acknowledges the benefits of Internet connectivity and reiterates that every business should go digital in order to capitalise on the dramatic transformation of the Internet over the next five years in all the biggest economies of the world:

“No company or country can afford to ignore this development. Every business needs to go digital. The new Internet is no longer largely western, accessed from your PC. It is now global, ubiquitous and participator” (The Digital Manifesto 2013: Page 3).

The WEF report (2012) claims companies that make extensive use of the Internet – including social media – to sell, market, or interact with their customers and suppliers would grow faster than those that do not. Mckend, Google South Africa country manager shares the views of Dean with reference to the findings of an Internet Economic Impact Study (2012) conducted by World Wide Worx for Google South Africa and remarks:

“No business, industry or government can ignore the scale of the Internet and the impact it is having. It presents a host of opportunities. Small and medium enterprises (SMEs) have been uneven in their uptake, but they are moving online in increasing numbers and are committed to doing so.” (World Wide Worx 2012)

The findings of the Internet Economic Impact Study also reveal the growing importance of the Internet as an enabling tool for business communications, collaboration, and transactions. Goldstuck Managing Director for World Wide Worx remarks:

“The study indicates that ecommerce is growing at a rate of around 30 per cent a year, and is showing no signs of slowing down. In fact, taking into account the fact that a number of major consumer brands and chains have not yet devised comprehensive online retail strategies, the scope for future growth is even greater.” (World Wide Worx 2012)

The impact of the Internet on the SME segment also appears in the findings of the SME Survey (2012) conducted by the World Wide Worx that highlights:

“About 410 000 SMEs in South Africa representing 63 per cent of active, formal SMEs have a web site. Sectors cited with a particularly high prospect of SMEs having a web site include Information Technology (89 per cent), communications (76 per cent) and tourism (77 per cent). Notably, the survey shows that SMEs with a web site are far more likely to be highly profitable than those without. Of those with a web site, 27 per cent are strongly profitable, while only 11 per cent of those without can claim the same. Only 5 per cent of those with a web site are running at a loss, while 16 per cent of those without a web site are in the red.” (Internet Economic Impact Study 2012).

Another report published in 2013 by the Cisco Visual Networking Index (VNI) analyses the impact of the Internet and includes forecasts for the period 2012 – 2017. The forecasts claim that the South African Internet Protocol (IP) traffic would quadruple between 2012 and 2017 at a compound annual growth rate of 31 per cent. The motivating factors of increased IP traffic include:

- i. more devices and / or connections, estimating 133 million network connections by 2017 from either fixed, or mobile personal devices up from 94 million connections in 2012;

- ii. faster fixed broadband network speeds; the average fixed broadband speed would increase 2.3-fold, from 2.5 Mbps to 6 Mbps for the period 2012 – 2017 compared to the average fixed broadband speed that grew by 28 per cent from 2011 – 2012 and from 2.0 Mbps to 2.5 Mbps; and
- iii. increased use of video services and / or applications; 38 billion minutes (72 436 years) of video content would cross the Internet each month in 2017, translating to 14 487 minutes of video streamed or downloaded every second compared to 4 per cent of the South African Internet traffic originated from non-PC devices in 2012.

However, by 2017 the non-PC share of Internet traffic would grow to 20 per cent. On average, a global Internet household is estimated to generate 74.5 gigabytes per month compared to the average Internet household that generated 31.6 gigabytes of traffic per month in 2012. Ookla Net Index (2013) statistics also confirm the rapid increased broadband download (from 3.86Mbps to 4.03Mbps) and upload speed (from 3.86Mbps to 1.74Mbps). The organisation also confirms that the speed rates are far lower compared to global standards that on average are a download speed of 13.64Mbps and an upload speed of 5.41Mbps.

This information clearly suggests the demand for faster broadband speeds and the importance of broadband to the future optimisation and impact of advanced ICT. Findings from a research study conducted in 2012 by the Development Bank of South Africa (DBSA) attest to claiming that mobile operators are unable to keep up with the explosive demand for their broadband supported services based on an increasing demand on wireless spectrum and pressure for greater broadband access. This increased uptake and usage are attributed to the flood of mobile devices in the market that are currently connecting to the Internet anywhere via mobile broadband enabled platforms. According to the 2013 Digital Media and Marketing Association (DMMA) Report, the Wi-Fi platform supports an estimated 12 million smartphones, two million tablets and 4.5 million laptops in the South African market.

Business Tech My Broadband (2013) assesses the market share of mobile subscribers and reports that during 2011 and 2012 mobile operator MTN and Vodacom dominated

the mobile service market. It is also reported that while Cell C and Telkom Mobile are continuing to accrue customers, their gain appears to be the big players' loss. MTN's subscriber rate reduced by half a million from 24.5 million subscribers in 2012. Vodacom, on the other hand, in 2011, had a subscriber base of 32 million customers but witnessed a decline in 2012 to 29 million. On the contrary, Cell C increased its subscribers from 8.2 million users in 2011 to 9.4 million in 2012 and to 11.7 million by 2013. Similarly, Telkom Mobile had 1.1 million subscribers in 2011 who increased to 1.54 million the following year. Virgin Mobile has 500 000 subscribers, up from 300 000 subscribers in 2011. In terms of market share, Table 1.2 shows subscribers (Millions) and percentage of market share.

Table 1.2: Subscribers (millions) and market share

Operator	2011	Market Share	2012	Market Share	2013	Market Share
MTN	20.9	33.6%	24.5	37.3%	25.0	36.8%
Vodacom	31.7	50.9%	29.97	45.6%	29.28	43.0%
Cell C	8.2	13.2%	9.4	14.3%	11.7	17.2%
Telkom Mobile / 8ta	1.14	1.8%	1.48	2.2%	1.54	2.3%
Virgin Mobile	0.3	0.5%	0.4	06%	0.5	0.7%
Total*	62.24	100%	65.75	100%	68.02	100%

Source: Deloitte Digital South Africa (2013 forecast – South African Telecoms market)

*Based on tabulated numbers (2013)

Market share calculations in Table 1.2 are based on available user number information from operators that release reports and presentations at different times. Table 1.2 indicates the latest known data reported between June 2013 and September 2013, where applicable, and does not include the 120 000 Red Bull Mobile subscribers. Subscriber totals are greater than the total population of South Africa, since mobile phone users may have simultaneous, multiple accounts on various networks.

Deloitte forecasts (2013) predict a slowdown in connections with mobile operators that is attributed to price wars seen across segments and product lines. Another factor identified as being a challenge for mobile operators concerns spectrum allocation limitations that face all mobile operators. According to Deloitte, positive spinoffs are witnessed in data mobile usage owing to the boom of smartphone and tablet adoption,

especially in the business environment where enterprise-based mobile applications would be increasingly employed.

Based on an analysis of the financial reports of Vodacom, MTN, and Telkom and certain key press releases by Cell C, Deloitte Digital has identified key performance indicators for the South African telecommunications industry (Table 1.3).

Table 1.3: Key performance indicators as of September 2012 for the South African telecommunications industry

South African population	51.8 million
Total mobile connections (active sim cards)	66.1 million
Total unique subscribers (people)	40.7 million
Mobile penetration (active connections to population)	128%
Estimated active smartphones in South Africa	11 million
Estimated mobile data penetration (data mobile connections)	39%
Weighted blended average revenue per user per month (ARPU)	R 119
Prepaid subscriber base	83%
Post-paid (contract) subscriber base	17%

Source: Deloitte Digital South Africa (2013 forecast – South African Telecoms market) Based on a snapshot of the South African market

The access to broadband is in demand due to instant connectivity. However, compared to fixed-line services, mobile broadband is not as reliable and price competitive as a moderately fast fixed-line service powered by an ADSL backbone that is only available from one provider and the supply is often limited (DBSA 2012). On the question of price, according to the World Economic Forum Report (2013), South Africa ranks at 117 out of 114 economies assessed. This survey emphasises that the country is one of the most expensive countries. South Africa keeps the company of Switzerland and Australia at 120 and 121 respectively. The South African Internet Economic Impact Report (2013) also acknowledges concerns about affordability and remarks:

“The key message for SA, in terms of growing the Internet economy, is to loosen the logjams constraining this economy, to promote ubiquitous and affordable [universal access to ICT services], and to take a more active

embrace of open competition. This will, in turn, ensure that the economic benefits of the Internet are enjoyed sooner rather than later, and by the many rather than the few." (World Economic Forum Economic Impact Report 2012).

The African Prepaid Mobile Price Index (2012) also reveals the problem of high prices. South Africa, among 46 African countries studied, ranks poorly in terms of prepaid mobile telephony affordability. Ranked 30th out of 46 African countries, South Africa is far behind countries where the regulator is actively promoting competition by enforcing cost-based mobile termination rates that have driven down the costs for consumers. This report confirms (Esselaar, Gillwald, Moyo & Naidoo 2010; Angel 2010) that whether it is either mobile or fixed line connectivity, communication costs in South Africa are still high compared to 30 other African countries and this points to the South African "managed liberalisation of the market that has been far too restrictive for the benefits of competition to be realised" (Esselaar *et al.* 2010:42).

This huge difference between emerging and mature markets, Angel (2010) observes, is indicative of a slow uptake in ICT services but is quick to point out that the situation is reversible with an increase in supply (sufficient bandwidth) and competition (reduced costs). The current regulatory and policy environment, however, influences the modest and almost non-existent in remote rural and urban areas. In the context of the Eastern Cape Province (the locus of this research project), the SMMEs that operate in remote areas are less likely to derive benefits and to encourage demand for ICT services particularly advanced services due to limited infrastructure. Galloway and Mochrie (2005), in their study on ICT use by rural SMMEs, makes a similar observation and cites supply and demand failure as a contributing factor to a lag in ICT uptake in rural areas. In the South Africa context, it defeats the objectives of the Electronic Communications Act of 2005 that seeks to support market entry especially for SMMEs, in particular those of women ICT entrepreneurs (the population of this research project). For example, the stalling of policy directives – by government that are intended to create an opportunity for small scale new entrants (licensing of the SMMEs to provide telecommunications service in underserved areas) – has been a disappointment for

hopeful South African SMMEs. It is however, encouraging to note that there is a rise in the number of people who use broadband connections in South Africa. A study by the Groupe Speciale Mobile (GSM) Association published in the Business Tech my Broadband (2012) emphasises that more than 70 per cent of people in emerging economies – including Brazil, South Africa, and Russia – are leading in the adoption of mobile devices to access the Internet.

A recent report published by the South African entertainment and media outlook (2013) indicates ADSL as the dominant technology due to the demand for higher speeds and its relatively wide coverage in the home broadband market, which is forecast to grow its subscriber base by a compound annual growth rate (CAGR) of 8.6 per cent over the next five years. On the contrary, the DBSA (2012) reports a different outlook of ADSL growth as relatively stagnant and experiencing a reduction in subscriber numbers compared to mobile broadband that has consistently increased its total subscriber base (DBSA 2012). Table 1.4 summarises the number of users at the end of 2010 and considers the fact that there is high cross-usage of ADSL and mobile broadband. However, ADSL is the primary form of access (DBSA 2012).

Table 1.4: Internet access in South Africa at the end of 2010

Unique primary wireless broadband users	Primary ADSL Users	Cellular only	Dial-up Internet users	Corporate users (adjusted for mobile broadband users)	SME users (through office ADSL)	Academic users	Total users
2 100 000	700 000	1 000 000	250 000	1 550 000	600 000	600 000	6 800 000

Source: World Wide Worx (2010)

Table 1.4 portrays that the increased broadband subscriber numbers point to a shift towards broadband services. The shift toward mobile broadband has also been influenced by a reluctance of the government to liberalise the market. Forecasts indicate that economic conditions would favour and level the playing field for the SMME ICT enterprises. ICT SMME entrepreneurs stand to benefit from the local loop unbundling (LLU) project (draft regulations have been postponed to 2014) that would give ICT enterprises the right to access the exchange infrastructure – including the

copper infrastructure owned by Telkom – to provide fixed line services to consumers. This would enable SMMEs to potentially drive growth in the economy and in job creation. Since the aim of LLU is to create more competition in the fixed-line market, the result of competition would be improved coverage that extends to rural areas and reduces fixed-line broadband prices for consumers. Entry barriers to broadband access would be reduced because SMMEs would be able to introduce innovative products into the market. This implying, SMME ICT enterprises would have a license as dictated by the provisions of the Amended Telecommunications Act, No 103 of 1996 (amended in 2001) and the Independent Communications Authority of South Africa (ICASA 2006:2) to provide services such as Voice over Internet Protocol (VoIP), fixed mobile services, public payphones, and long distance transported through networks of any operators licensed to carry international traffic. The Congress of South African Trade Unions (COSATU), however, in a public hearing opposed the unbundling project, arguing it would only create further inequity between urban and rural areas in accessing digital platforms. Barendse (2011) who holds the same view concurs that the unbundling would only benefit the 8 per cent of the population who have fixed line access. COSATU also argues that a 60 per cent penetration of fixed lines is required before introducing unbundling in order for the majority of South Africans to benefit in an attempt to explain that neither small business, or the labour market would benefit from unbundling.

Against this background, Telkom contests the unbundling (ICASA Draft Regulations) and threatens to raise its prices that are currently kept low because the company is absorbing cable maintenance and infrastructure upgrade costs. With the introduction of competition, these prices would increase. Telkom argues that it would not benefit the majority of South Africans, especially the ones who have limited or no access to a fixed landline (TechCentral 2013). The DBSA (2012) identifies a challenge that SMMEs might be confronted with in terms of the optimal use of LLU, since penetration levels might be affected by initial expensive costs of investing in the technology. However, once the technology is installed, marginal costs are lowered by employing fibre optic cables. Fibre optic technology is the future backbone of present mobile broadband

networks, as well as future connections to core networks that provide opportunities for carriers, equipment manufacturers, and device providers (DBSA 2012).

Evidently, broadband is considered a key enabler not only for consumers but for SMMEs if it would like to remain competitive. The SMMEs have to leapfrog onto the broadband wagon where the demand is for innovative broadband enabled solutions that would attract consumers. These market studies leave a distinct impression that for an increasing number of people a mobile phone is no longer nice-to-have technology, since consumers are starting to see beyond the monthly bill while acquiring more value from the features, functionality, and applications that are integral elements of their mobile devices. From a business point of view, convenience overtakes the price factor as shown in the DMMA and Effective Measure Report (2013). This report commends on the escalation of digital content users who are optimising online access enabled by mobile broadband, exercising choice to access any webpage from mailboxes, webmail, news pages, and using their own websites to actively take part in business to business (B2B) e-commerce.

Another forecast, the South African entertainment and media outlook (2013 – 2017) published in 2013, claims online display advertising is driven by an increasing number of Internet users, in particular on Facebook that remains the second-largest Internet advertising segment throughout the forecast period. Internet users are expected to increase by a CAGR of 22.6 per cent, reaching R 1 billion in 2017. Search engine use would grow at a CAGR of 23.9 per cent over the forecast period, driven by an increase in Internet penetration. With the addition of Long Term Evolution (LTE) technology to the market, compatible smartphones and more affordable feature phones providing access to mobile Internet would see mobile advertising grow at a notable CAGR of 37.8 per cent over the forecast period. That would translate to growth from R189 million in 2012 to R938 million in 2017. The South African Internet advertising market is forecast to generate revenues of up to R 3.7 billion in 2017 compared to R 1.2 billion in 2012; a CAGR of 25.4 per cent.

With the continual shift toward online and mobile distribution of content, it is expected to become one of the biggest evolutions in the ICT sector. With the advent of fourth generation (4G) technology, other technologies that enhance broadband access, and new devices and services that use these technologies, data usage would continue to expand exponentially.

According to World Wide Worx (2012) estimates, Internet growth in South Africa is expected to rapidly increase, spurred by the anticipated falling wholesale bandwidth costs and the emergence of a new generation of Internet Service Providers (ISPs). World Wide Worx estimates true individual mobile penetration to be about 80 per cent, with 40 million South Africans using smartphones. Goldstuck (2012), however, cautions that although the impact of the Internet may increase significantly with the number of Internet users that have started to accelerate in 2008, it could take up to five years (according to Goldstuck's Digital Participation Curve Model) before new Internet users gain the confidence and experience to become active participants in the Internet economy. The number of experienced users has begun accelerating in 2013, and the acceleration is anticipated to continue during the 2014 – 2019 period.

The low levels of broadband penetration represent a major barrier for access to online services by small businesses and consumers. Yet, despite these limitations, in South Africa close to two-thirds of active small and medium enterprises have established a presence on the Internet that is a critical factor in the survival and growth of SMMEs.

The Internet debate provides evidence from numerous sources that acknowledge the rapid growth of the Internet, however, South Africa still lags significantly behind the biggest Internet user bases in Africa. Figures released cite Nigeria in the lead with 45 million users and a 29 per cent penetration rate, while the 21.6 million users in Egypt represent a 26 per cent penetration and the 15.6 million users in Morocco with a market penetration of 49 per cent. Kenya claims 10.4 million Internet users with a 25 per cent penetration rate. The lagging behind of South Africa is mainly attributed to high Internet cost, and the fact that infrastructure development mainly happens in urban areas. The almost non-existent rural infrastructure hampers SMME driven entrepreneurial activity.

The discussions at the ICT Indaba (2012) confirm these concerns, since broadband was cited as one of the obstacles that are preventing the creation of a knowledge-based economy. A knowledge-based economy is deemed to be essential in the current climate because the implementation of this objective would allow for the production of multiple economic benefits and job creation in society. In this regard, South Africa is falling behind global ratings in terms of broadband connectivity and pricing because the technology penetration in rural communities remains limited. With the uptake of mobile data in rural areas (Goldstuck 2012), entrepreneurial activity in rural areas can be expected to increase.

- **ICT skills shortage**

Human capital development in the ICT sector was a central theme of an international ICT Indaba (2012) hosted in South Africa where discussions about sourcing, building, and retaining the necessary skills force for a robust ICT industry in Africa were deliberated. Tables 1.5 – 1.8 produced by the Media, Information, and Communication Technologies Sector Education and Training Authority (MICTSETA) attest to the shortage of critical and scarce skills in the ICT sector.

Table 1.5: Demand for the top twelve scarce skills (potential vacancies – occupations) in the electronic media and film sub-sector

OFO Code	Occupation Description	Total Scarce Skills, 2012 - 2015
264101	Author	31
264204	Radio journalist	24
265401	Director (film, television, radio or stage)	14
343101	Photographer	13
343907	Continuity person	10
352103	Sound technician	6
352105	Radio station operator	6
241107	Financial accountant	5
352102	Camera operator (film, television or video)	5
352101	Broadcast transmitter operator	4
265403	Film and video editor	4
121101	Finance manager	4

Source MICTSETA (2012: Page 8)

Radio journalist vacancies is depicted in Table 1.5 as an area that has the highest demand for potential potential careers that women could pursue, especially in photography. The huge demand in these career categories is indicative of what this study seeks to investigate in terms of why women are absent in these areas of technical expertise. The absence of women in these environments is concomitant with the literature review in this study that has identified an education gap, particularly at tertiary level where these ICT skills are acquired. The table further correlates with the arguments raised in the literature review about the education sector that fails to turn around the situation in relation to the ICT sector.

Table1.6: Demand for the top twelve scarce skills (potential vacancies – occupations) in the electronics sub-sector

OFO Code	Occupation Description	Total Scarce Skills, 2012 - 2015
311301	Electrical engineering technician	92
252301	Computer network and systems engineer	65
251201	Software developer	48
251201	Software developer	48
214401	Mechanical engineer	45
352201	Telecommunications technical officer or technologist	45
215101	Electrical engineer	42
214201	Civil engineer	38
251401	Applications programmer	34
122101	Sales and marketing manager	31
215201	Electronics engineer	26
351201	ICT communications assistant	26
215103	Energy engineer	26

Source MICTSETA (2012: Page 8)

Table 1.6 supports the arguments observed during the literature review of this study in respect of the dire need for such critical skills in the ICT sector and the lack of core ICT education (e.g. vacancies 42 to 90). Perhaps it also confirms the point of view that students, particularly women, are shying from the ICT sector due to the lack of orientation in science and technology.

Table 1.7: Demand for the top twelve scarce skills (potential vacancies – occupations) in the information technology sub-sector

OFO Code	Occupation Description	Total Scarce Skills, 2012 - 2015
251201	Software developer	493
251203	Developer programmer	451
252301	Computer network and systems engineer	402
251101	ICT systems analyst	351
351301	Computer network technician	220
422206	Call or contact centre agent	220
351201	ICT communications assistant	186
251901	Quality assurance analyst (computers)	152
252101	Database designer and administrator	76
251202	Programmer analyst	72
242101	Management consultant	67
133102	ICT project manager	63

Source MICTSETA (2012: Page 9)

Table 1.7 provides information that is also linked to the low levels of ICT orientation. Some of these vacancies, such as call or contact centre agent, already have an environment that could easily absorb women. With reference to the research questions of this study, it is evident that women-driven entrepreneurship in the ICT sector is an evident challenge, since research suggests that women shy away from technically and scientifically orientated career options.

Table1.8: Demand for the top twelve scarce skills (potential vacancies – occupations) in the in the telecommunications sub-sector

OFO Code	Occupation Description	Total Scarce Skills, 2012 - 2015
243402	ICT business development manager	116
522304	ICT sales assistant	69
252301	Computer network and systems engineer	52
133102	ICT project manager	39
235601	ICT trainer	37
252901	ICT security specialist	33
241204	Financial markets practitioner	32
251203	Developer programmer	29
352201	Telecommunications technical officer or technologist	26
242401	Training and development professional	17

OFO Code	Occupation Description	Total Scarce Skills, 2012 - 2015
422206	Call or contact centre agent	14
672205	Telecommunications technician	11

Source MICTSETA (2012: Page 9)

Table 1.8 confirms the dire need for ICT skills training in the ICT sector for development, especially from an entrepreneurial point of view that government and the private sector seek to promote women-driven entrepreneurship.

The issue of women empowerment remains high on most ICT developmental agendas, such as the ICT Indaba held in 2011. Discussion topics at the ICT Indaba revolved around women entrepreneurs who were depicted as change agents. These topics were based on the empowerment of understanding the role ICT plays, on the importance of women entrepreneurs gaining access to ICT in terms of affordability, and on outreach with the aim of advocating development in rural areas. Related to this are the findings of the WEF Report (2012) that highlights a shortage of human capital in the ICT sector which requires increased access to ICT infrastructure in the South African context. According to the report, South Africa fails to advance the affordability and skills of the ICT sector, where it ranks disappointingly at 104 and 102 respectively.

The CEO of the Computer Society of South Africa, Dagada (2012) also acknowledges the skills limitations in the ICT sector in an analysis of the South African industry over 50 years. The analysis raises critical issues with regard to the status quo of the shortage of ICT skills training in the country:

“While, globally, there is a lack of ICT capacity, SA, like many other African nations, is experiencing a stunning shortage of skills. This will dearly cost the economies of the country, should the situation remain unimproved. ICT skills are so important to the economy because, in effect, they produce ICT goods and services, which are applied in myriad business and social environments. The contribution that ICT skills makes to countries’ development, as well as that of the individual citizens’ is very well documented in various research studies. While it may not be disputed that ICTs are vital in today’s industrial production, the effective use of the

technologies is what is more important for productivity and economic growth. Hence, the lack of the ICT skills, if not addressed swiftly, is likely to erode the potential economic development of this country. The question is, what causes the shortage of ICT skills and how can this be addressed in SA? Concerns have been raised that SA's institutions of higher learning are not producing sufficient numbers of graduates with the required levels of ICT skills to boost productivity and competitive products, in keeping with international trends. ICT-trained employees are more efficient; they work quicker and make fewer mistakes, hence they are more productive. The lack of ICT skills in the country has been exacerbated by the fact that between 1994 and 2009, the ANC government neglected the technical colleges, which could equip the masses with ICT skills" (ITWEB: 2012).

In this context, the issue of skills shortage is also identified in a national expert's survey conducted in 2008 by the Global Entrepreneurship Monitor (GEM) Women's Report South Africa. Of all 30 countries sampled, South Africa had the highest percentage of experts identifying education and training as a major limiting factor. The WEF (2013) highlights issues of concern pertaining to education inefficiencies:

- i. South African ICT skills ranking are found to be among the lowest in the world with a ranking of 102 out of 144 economies in terms of the necessary skills to boost the performance of the country;
- ii. Quality of educational system – 140th out of 144 economies;
- iii. Quality of mathematics and science education – 143rd out of 144 economies;
- iv. Secondary education gross enrolment rate – 56th out of 144 economies;
- v. Adult literacy rate, defined as a percentage of the population aged 15 years and older who can read and write with an understanding of a short, simple statement on his / her everyday life – 93rd out of 144 economies;

- vi. Raising educational standards and making the labour market more efficient are considered as a critical factors in view of the high unemployment rate in the country of more than 20 per cent a youth unemployment rate of close to 50 per cent; and
- vii. That these statistics are an indication for South Africa to drastically improve its ICT education if it plans to be competitive in a fast changing economy that increasingly relies on ICT skills.

The WEF (2013) reiterates the importance of skills in the economic and ICT growth of a country:

“Among the expressions of transformation is the development of new skills that are important in knowledge-based, information-rich societies and that are crucial for employment. Building a skilled labour force and creating sufficient employment present considerable challenges for South Africa” (WEF: 2013).

The WEF also emphasises the need for government and the private sector to collaborate in building the skills base:

“Government and the private sector need to join hands once and for all to properly address the education issues and specifically to deal with the issue of poor maths and science in South Africa. Only then will we start to see true benefits flowing through in order for us to truly grow our economy” (WEF 2013).

Attempts by the private sector to improve the reading literacy levels are shown in the findings of research conducted by the South African Entertainment and Media Outlook (2013 – 2017). The report anticipates that the interest shown by new multinational entrants, such as Apple with subsidiary distributors in South Africa, that have found their way into the education e-book segment since February 2013 with an anticipated increase in book sales after their launch of a full store in 2014. Apple is presently servicing about 180 schools that are using iPads in their classrooms. Electronic books

are forecast to account for 8 per cent of the consumer market in 2007, up from 1.5 per cent in 2012 but the rollout impact will remain limited during the next five years based on the print version being favoured to the electronic version. The majority of schools, in particular those based in underserved and rural areas, have limited and poor telecommunications infrastructure to access broadband enabled services.

According to the Department of Communications; GovTech (2012) is a world class platform for collaborations, capacity building, and information sharing between the government and ICT sectors. During the 2012 SITA annual conference, GovTech affirmed its position as a strategic ICT resource for the public and private sectors to advance the ICT agenda of government with a shift towards greater collaboration on key strategies and priorities. The GovTech conference has become a valuable platform for learning and information sharing by government decision makers and ICT industry representatives with the purpose of enabling the planning of effective ICT implementation by government. Parallel to issues raised under the education pillar were the limitations of government to harness innovation levels in order to increase competitiveness and productivity levels in entrepreneurship. The South African government seeks to address slow decision-making processes in the entrepreneurship sector through its National Development Plan that contains the blueprint for economic and social development of the country until 2030. According to the WEF economist, Thierry Geiger, competitiveness rankings are important, since they are among factors considered by investors before they decide to invest in a country.

Against the backdrop of South Africa being regarded as an important role player in the global economy and a future driver of global growth, the South African government maintains that improved innovation levels are necessary and critical for the country.

1.2.1.3 The information technology (IT) industry

In an Africa Attractiveness Survey (2011), South Africa ranked 47th out of 66 countries measured in the IT industry competitiveness index, with a score of 35 out of a possible 100 (Ernst & Young 2013). However, the South African IT infrastructure, with a low score of 17.5, is a key area in need of improvement, primarily through the provision of

high-quality networks and greater liberalisation of telecommunications. In a report by SAEEC (2013), the industry contributed US\$ 15.08 billion to the South African economy in 2013. As reported by Engineering News (2012), South Africa is the 20th largest consumer of IT products and services in the world. The South African IT industry is characterised by technology leadership, particularly in the field of electronic banking services. South African IT companies are world leaders in prepayment revenue management, fraud prevention systems, and manufacturing of set top boxes; all products and services that are exported successfully to the rest of the world.

There are several international IT corporations that are recognised as leaders in the ICT operating subsidiaries from South Africa; such as IBM, UNISYS, MICROSOFT, Intel, Systems Application Protocol (SAP), Dell, Novel, and Compaq (SAEEC 2013). Gartner, the international research group, rates South Africa as one of its top 30 software development outsourcing destinations (2007) on par with Israel from the Europe, Middle East and Africa region and next to Australia and India globally.

In another forecast provided by the Industrial Development Corporation (IDC) of South Africa, it appears that the industry is weathering the storm. The IDC reports a healthy uptake in IT services, growing from 8 per cent year-on-year in 2010 to contributing more than a third of total IT spending in the country. The forecasts that the IT services market to exceed R 40 billion in 2012 were confirmed. The IDC forecasts that the total South African IT services market would expand at a compound annual growth rate of 8.7 per cent to exceed US\$ 17 billion, about R 136 billion, in 2015. The growth is attributed to a number of factors including a recovering economy, increased business confidence, expanding bandwidth availability, and various infrastructure investments made in the country during 2010 (Nolan 2012).

Outsourcing constitutes 40 per cent of the South African IT services market, which represents the largest market share of all IT services foundation markets, followed by systems integration, and installation and support services. The healthy growth in outsourcing services signifies a level of sophisticated and maturity in the IT services segment. Services such as networking and desktop outsourcing, as well as

infrastructure hosting saw an increased uptake in 2010 fuelled by the incremental supply of datacentre space and increased customer awareness of the managed services model.

1.2.1.4 The electronics industry

The electronics industry is performing well at present and is expected to do so in the next number of years based on competitive advantages specific to the local and international market. The industry is known as a leader in world-class innovations, production, and cost efficiencies with capabilities in professional electronics, testing and piloting systems, automotive electronic subsystems, and access control systems. Small to medium companies also specialise in security and electricity pre-payment metres. On the contrary to this, albeit South Africa's recognised status in the areas mentioned, according to a recent studies (GEM 2014 and Global competitiveness report 2014), South Africa does not feature among the top rated innovation-driven economies (international level) but counter parts such as, Asian Taiwan, and Singapore do. This being an indication that although there are pockets of innovation comparing to global rankings South Africa has got to have a balance across its sectors in order to graduate to towards an economy driven by innovation. The South African automotive industry is regarded as an engine of growth in the manufacturing and export of vehicles and components. The sector accounts for about 10 per cent of the South African manufacturing exports. The South African leadership in software development and capacity to deliver quality world-class software have contributed to high regard of the African and international markets. International companies are increasingly outsourcing software development to emerging countries and South Africa appears on that list. Software development companies have made remarkable inroads (software and peripherals) in the marketplace and are competing favourably despite the global recession.

Although there is room for SMMEs to compete in the industry, the industry remains unable to attract high-tech knowledge and skilled engineers. These SMMEs specifically include women entrepreneurs who are the focus of the investigation in this study. This

phenomenon is not unique to the electronics industry, since it exists in all industries of the ICT sector. However, there is commitment from multinational companies, such as IBM, that are willing to support the industry by building IT business skills in the small business sector. The IBM has a well-established innovation hub that continually hosts emerging software companies. A substantial number of innovative hubs have been established in all nine provinces in South Africa. This is only one of many positive responses to the call by government for increased private sector involvement.

South Africa has a vibrant, growing film industry that is becoming increasingly competitive internationally. Local and foreign filmmakers are not only taking advantage of the diverse, unique locations of the country but also of the low production costs and favourable exchange rate. It is up to 40 per cent cheaper to make a movie here than in Europe or the United States and up to 20 per cent cheaper than in Australia. According to the Department of Trade and Industry, the South African entertainment industry is valued at around R 7.4 billion, with film and television generating more than R 5.8 billion in economic activity each year. According to a recent economic impact assessment study commissioned by the Cape Film Commission, the industry has a direct annual turnover of more than R 2.65 billion and contributes an indirect annual turnover of more than R 3.5 billion to the South African GDP.

There is also a range of general and specialised news websites that, in terms of the speed and scope of their coverage, are on par with the best in the world. The South African Broadcasting Corporation (SABC) television broadcasting monopoly ended in 1986 when the subscription-based M-Net was launched. Nowadays, Digital Satellite Television (DSTV) carries more than 50 channels, ranging from South African produced content to international content, sports, and news. The ICT sector is regarded as an engine for economic growth based on its significant contribution to GDP growth. Wolf (2001:9) argues that the relation between GDP per capita and ICT run parallel; ICT as a production input and a consumption commodity makes it difficult to separate the impact of ICT investment from its determinants. This, according to Wolf (2001:9), could be a possible explanation for the “productivity paradox” between developed and developing economies. Developed economies have better established infrastructure than

developing economies. This is likely to impact positively on high growth rates in the ICT sector as a result of heavy investment in ICT infrastructure.

The electronics industry revenues in South Africa are growing at levels well above the general GDP growth rate. Key players include Siemens, Alcatel, Ericsson, Altech, Grintek, Spescom, Tellumat and Marconi. The South African electronics industry has repeatedly proved itself in terms of world-class innovation and production. The industry is characterised by a handful of generalist companies with strong capabilities in professional electronics, while small to medium companies specialise in security systems and electricity prepayment meters. Investment opportunities exist in the development of access control systems and security equipment, automotive electronic subsystems, systems and software development in the banking and financial services sector, silicon processing for fibre optics, integrated circuits, and solar cells. There are also significant opportunities for the export of hardware and associated services, as well as software and peripherals. The common denominator of these claims is the economic construct of SMME ICT-based enterprises that are still facing challenges (Berry, Von Blottnitz, Cassim, Kesper, Rajaratnam & Van Seventer 2002) brought about by many inhibiting structural developmental factors that have yet to be addressed through political influence, since the ICT sector in the Eastern Cape Province still lacks access to infrastructure. In this regard, an assumption that ICT would solve economic challenges faced by SMMEs operating in the ICT sector of the province might be a misnomer.

However, the idea of leapfrogging fixed line broadband technology to overcome some of the structural constraints. At the same time, mobile broadband offers new or advanced technologies; such as wireless, 3G, satellite, and voice recognition software. By bridging the technological divide, a substantial part of landline infrastructure might no longer be needed. It may well be an option for SMMEs operating in rural areas of the province. According to the SME Survey (2008) findings, SMEs perceive broadband as leading critical infrastructure expenditure. This perception suggests a prevailing demand for existing and future use of basic ICT infrastructure (Internet services), as well as advanced (broadband services) infrastructure to meet the growing demand in

the marketplace. However, the question of accessing such infrastructure by SMMEs in terms of cost disadvantages discussed elsewhere in this study.

1.2.2 The Eastern Cape Province ICT sector

At present, the Eastern Cape has an underdeveloped ICT sector. The ICT sector is regarded as an engine for economic growth based on its significant contribution to GDP growth (Wolf 2001:9), since the relation between GDP per capita and ICT runs parallel. However, ICT as a production input and a consumption commodity makes it difficult to separate the impact from the determinants of ICT investment. Wolf maintains that this could be a possible explanation for the “productivity paradox” between developed and developing economies. Developed economies have well established infrastructures – owing to substantial investment in ICT infrastructure – that are likely to impact positively on high growth rates in the ICT sector. At the core of these claims is the economic construct of SMME ICT enterprises in the Eastern Cape Province that are still facing challenges brought about by many inhibiting structural development factors. These factors have yet to be addressed through political influence (Berry *et al.* 2002), since the ICT sector in this province still lacks acceptable access to infrastructure. In this regard, it might be assumed that ICT would solve economic challenges faced by SMMEs operating in the provincial ICT sector.

However, in terms of the growth of the province by way of commercial and manufacturing operations, the Eastern Cape Development Corporation (ECDC), on their website, reports that there are significant development potential and opportunity in the provincial ICT sector to attract investment and business operations. Specific opportunities have been identified in the electronics software sector:

- Software research and development: With its strong tertiary education institutions, the province provides a solid foundation for investment in research and development of niche software for global markets.
- Technology Park: Opportunities exist for the investment in, and development of, a technology park that would act as a technology incubator for the Eastern Cape. It

is envisaged that this initiative could form part of a private and public sector partnership, offering intensive support to SMMEs and entrepreneurs who wish to enter the ICT sector. At least two of the five universities in the province have expressed an interest in being part of such an initiative.

- Telecommunications: Opportunities exist for the supply and maintenance of telecommunication systems in support of call centres and business process outsourcing and offshoring BPO&O operations in the province.

At present, the Eastern Cape ICT sector is supported by incubation hubs that are making a contribution in terms of GDP growth in the province. The two main hubs are the Eastern Cape Information Technology Initiative (ECITI) situated in East London and the Nelson Mandela Bay Technology Hub situated in Port Elizabeth. The ECITI is a multi-faceted programme that focuses on providing support to SMMEs in ICT and related industries and is supported by provincial government in line with provincial growth and development strategies (ECITI website). The Nelson Mandela Bay Technology Hub, initiated and championed by the ECDC in conjunction with the ECITI, is the implementation arm of the provincial ICT strategy in terms of providing incubation, growth, and development opportunities for SMMEs in the ICT sector. The hub comprises representatives from all the major commercial and manufacturing sectors in the province.

Although entrepreneurial activity and new enterprise formation are considered engines of economic growth and innovation (SME Survey 2010), realising this in the context of ICT SMMEs in the Eastern Cape Province remains to be empirically proved. The establishment of these activities and enterprises are analysed in this study.

1.3 AIM OF THE STUDY

The aim of this study is to provide a grounded analysis of women-driven entrepreneurship in the SMME segment of the ICT sector in the Eastern Cape Province. Two cities, East London and Port Elizabeth are sampled to achieve this aim.

The view is to develop an in-depth understanding that is grounded in the experiences of SMME women entrepreneurs enterprising within this sector.

The voices of women entrepreneurs are used to describe what is happening in their practical contexts and why it is happening. In the process, the researcher uncovers a fundamental pattern of factors emerging from gathered data that influences women-driven entrepreneurship processes and emphasises issues or restrictive conditions which contribute to the status quo. These processes and issues have an impact on women entrepreneurs, therefore, the necessary changes need to be identified for the growth and development of SMME women-driven entrepreneurship in the ICT sector of the Eastern Cape Province.

1.4 RESEARCH OBJECTIVES

The objectives of the research are to:

- describe SMME women entrepreneurs' conceptualisation of entrepreneurship, ICT as a technology and as a sector;
- explore the importance of ICT as an enabler in advancing SMME women-driven entrepreneurship;
- describe ways in which women entrepreneurs use ICT as a core product and service of the enterprise; and
- describe how SMME women entrepreneurs perceive the role of government and the private sector in supporting the advancement of SMME women-driven entrepreneurship in the ICT sector of the Eastern Cape Province.

These objectives indicate the scope of exploring the substantive area under investigation and confirm what the researcher expects to achieve.

1.5 RESEARCH INTEREST

The motivation behind the study focuses on SMME women-driven entrepreneurship in the ICT sector of the Eastern Cape Province, since women economic empowerment has appeared on the radar screen as a result of the governmental ICT millennium development agenda as reflected in passages from policy frameworks: i) the Information and Communications Technology Sector Industrial Development Framework (SAITIS) ICT Charter; ii) ICT codes of BEE and Eastern Cape ICT Strategy 2009 – 2014: Programme 2, Strategy 1; and iii) department of Science and Technology.

Arguably, while there is a general consensus on the importance of promoting the participation by SMME women entrepreneurs in the economic mainstream of the ICT sector of the country, it would appear their economic rationale has not been rigorously investigated, since there is little evidence of women in ICT research (Women in ICT in South Africa 2006) conducted in the Eastern Cape Province.

In light of the Eastern Cape ICT Strategy (2010 – 2014), there appears to be a gap in research in relation to SMME women-driven entrepreneurship and general SMME driven entrepreneurship in the Eastern Cape ICT sector. The unavailability of gender-disaggregated data emphasises:

- i. The number of women-owned ICT enterprises;
- ii. The nature of entrepreneurial economic activity within these ICT enterprises;
- iii. Evidence about their degree of competitiveness;
- iv. Their ability to adapt quickly to changing market conditions and restructuring of business operating processes; and
- v. Sustainable job creation and data defining available skills and occupations.

The unavailability of such data is indicative of an existing research problem that is presented in the form of broad research questions to be explored and refined during the process of analysis to accommodate evolving empirical and theoretical themes.

Hutchinson (2001:11) claims that “a precise research question is not possible to pose before beginning any grounded theory” and “it is fully acceptable to let the research questions develop through the empirical and theoretical work” (Goldkuhl & Cronholm 2003; 2010).

1.6 THE RESEARCH QUESTIONS

Based on the research interest, the following research questions were investigated:

- i. How do the selected SMME women entrepreneurs conceptualise the concept ICT as a technology and a sector?
- ii. How do SMME women entrepreneurs conceptualise the concept of entrepreneurship?
- iii. Why is the ICT sector regarded as a critical enabler in advancing SMME women-driven entrepreneurship?
- iv. In what way do SMME women entrepreneurs employ ICT as a core product and service of the ICT enterprise?
- v. How do SMME women entrepreneurs perceive the role of government in supporting the advancement of SMME women-driven entrepreneurship in the ICT sector of the Eastern Cape Province?
- vi. How do SMME women entrepreneurs perceive the role of the private sector in supporting the advancement of SMME women-driven entrepreneurship in the ICT sector of the Eastern Cape Province?

1.7 PHILOSOPHICAL POSITION

Creswell and Plano Clark (2007:20) infer that no research is value free, since “all studies include assumptions about the world and knowledge that informs [sic] the inquiries”. The researcher’s paradigm or “worldview” influences this research enquiry (Creswell & Plano Clark 2007:21), therefore, it is characterised by a feminist approach

to promote women's active engagement in changing their lives [entrepreneurially] (Stanley & Wise 1990:21). The researcher, a women entrepreneur consulting in the SMME segment, has an interest in better understanding women-driven entrepreneurship in the SMME segment of the ICT sector of the Eastern Cape Province and in knowing why there seems to be limited representation of women entrepreneurs in this sector.

Firstly, numerous calls from the investment community (business chambers) during SMME workshops trigger this interest that encourages the participation of women entrepreneurs in the economic mainstream of the ICT sector. Secondly, the concerns echoed in surveys and research reports spur on a similar curiosity (ISETT & DTI Skills Audit Survey 2005; James, Leinonen, Smith & Haataja 2006; Research ICT Africa 2006:49; Paterson 2007). In relation to the particular focus of this research project, these calls and concerns include low levels of active participation of women in the economic mainstream of the sector and in high-level ICTs, low equity ownership, the shortage of suitably skilled people, and the lack of a strong R & D capacity in ICT innovation.

1.8 EPISTEMOLOGICAL ORIENTATION

An epistemological orientation refers to the philosophical inquiry of the nature and scope of knowledge that is concerned with developing an acceptable understanding of what a researcher may identify as a paradigm of positivism, constructivism, and interpretivism which guides research and provides justification for the methodology used in an inquiry.

The SMME women-driven entrepreneurship in the ICT sector of the Eastern Cape Province represented a substantive area of social investigation that motivated the researcher to adopt a moderate constructivism (Butler 1998; Charmaz 2011; Creswell 1994) and interpretivism (Denzil & Lincoln 2005; Goldkuhl 2012; Guba & Lincoln 1994; Saunders, Lewis & Thournhill 2007; Orlikowski & Baroudi 1991) epistemological position on building knowledge.

1.8.1 Constructivism and Interpretivism

Constructivism asserts that reality is constructed by individuals, since they assign meaning to the world around them (Appleton & King 2002; Charmaz 2000:521; Guba & Lincoln 1989:43). Equally, generating and analysing data are not neutral acts because these processes are imbued with subjectivity. The moderate constructivist stance is taken in acknowledgement that reality is generated jointly by the participants and the researcher, and that “a real world exists but is never separate from the viewer who may see it from multiple standpoints” (Charmaz 2009). Constructivism:

- i. scrutinises the process of interaction – reciprocal shaping – (Strauss & Corbin’s 1994:280) among participants who emphasise the subjective interrelationship (Hayes & Oppenheim, 1997; Pidgeon & Henwood 1997) between the researcher and participants (Charmaz 2006:130);
- ii. emphasises the “co-construction” of meaning (Charmaz 2003:250) and knowledge (Watling & Lingard 2012) by both parties who seek understanding of the real world in which they operate that shapes the researcher’s approach to data collection and analysis;
- iii. involves an iterative process of constant comparison made of interpretations (Charmaz 2011) and the inclusion of the perspectives of voices of the people studied (Strauss & Corbin 1998:160); and
- iv. grounds the emerging substantive theory through “interplay” (Strauss & Corbin 1984) between the women entrepreneurs’ interpretation of their experiences, how they construct their worlds, what meaning they attribute to their experiences (Merriam 2009:5), and the researcher’s background and assumptions in relation to the analytical process (Walting & Lingard 2012). The researcher “actively” reacts to and works with data while co-constructing meaning (Strauss & Corbin 1998: 58).

Guba and Lincoln (1989:88) concur with the above claims and contend that it is “impossible to separate the inquirer from the inquired into”, since “it is precisely their

interaction that creates the data that will emerge from the inquiry”. Charmaz (2009) cautions there is a need for the researcher, in grounding the emerging substantive theory, to be mindful of keeping the voice of women entrepreneurs visible in the interpretation of meaning by learning from the multiple perspectives they present when describing their experiences as entrepreneurs in the ICT sector. These multiple perspectives depict the current reality and substantiate the trustworthiness of the substantive theory.

This substantive theory has the potential to address identified problems, to suggest improvement of practices, and to provide theoretical warrants that are limited to SMME women-driven entrepreneurship operating in the ICT sector (Charmaz 2006:8; Glaser 1967). In other words, SMME women-driven entrepreneurship could only be understood in the context of the ICT sector of the Eastern Cape Province and the findings cannot be generalised to the ICT sector in other provinces.

From an interpretivist perspective, the researcher attempts to understand SMME women-driven entrepreneurship (contextual and socially constructed phenomena) from meaning assigned by women entrepreneurs (Bryman 2001:265; Deetz 1996; Myers & Walsham 1998) through a process of interpretative “creativity”, with reference to open coding (Orlikowski 1993; Strauss & Corbin 1998). During this process, the researcher “actively” (Sideman 1998) constructs concepts and theories from an account that is constructed by women entrepreneurs and the researcher who attempt to explain and make sense of their lived experiences. From these multiple constructions of interpreted reality, the women entrepreneurs and the researcher collaboratively produce “knowledge” (Corbin & Strauss 2008; Charmaz 2003; Glaser 1978; Hand 2003).

This interpretivist position assumes the researcher needs to “adopt an empathetic position when entering the social world of [women entrepreneurs] and to understand their world from their view point” (Saunders *et al.* 2007) in order to form an interpretation that describes the way that their “subjective meanings... are created and sustained in a particular context” (Putnam 1983:41). Understanding these dynamics enables the researcher to better grasp SMME women-driven entrepreneurship

processes, issues, and concerns grounded in their everyday experiences in the technological environment of their ICT enterprises. The researcher understands that little is known about the “substantive area” (Charmaz: 2006) of entrepreneurship in the sense of a social process of entrepreneurial activity driven by women entrepreneurs in the ICT sector, therefore:

The researcher as such, is keen on “*discovering*” entrepreneurship processes indicating “*reciprocal changes in patterns of action [and] interaction*” indicative of “*changes of conditions that are either internal or external*” to women-driven entrepreneurship processes (Strauss & Corbin 1998:169).

In the pursuit of building knowledge that culminated in a substantive theory to comprehensively provide a meaningful interpretive account of the experiences of those SMME women entrepreneurs. Adopting a single, empirically driven approach to explore the research topic would have been too restrictive. Hence, the researcher decided to employ the Multi-Grounded Theory (MGT) methodology that potentially provided an interpretive account. Such a methodology was not only grounded in the experiences of women entrepreneurs’ but was also deductively driven by employing theoretical frameworks to develop a substantive theory. Combining the two approaches in the context of this study enhanced methodological rigor.

1.9 METHODOLOGICAL ASSUMPTIONS

Research methodology is the procedure of considering and explaining the logic of research methods and techniques that provides the means to explore a phenomenon (Weman, Kruger & Mitchel 2005:2).

1.9.1 Multi-grounded theory

The Multi-Grounded Theory (MGT) research methodology guided the research interest to explore and describe the phenomenon of SMME women-driven entrepreneurship in the ICT sector of the Eastern Cape Province. The MGT research method developed by

Goldkuhl and Cronholm (2003; 2010), is an extension and modification of the Grounded Theory (GT) that forms the basis of this study.

The MGT approach has been applied in various studies that are relevant to the context of this study; such as the studies about ICTs and business by Goulding (2002), Rittgen (2007), and Kazaka (2013). However, studies with an entrepreneurial focus by Skild *et al.* (2005) and Harris (2012) and other studies by researchers; such as Douglas (2005), Orlikowski and Baroudi (1991), and Goldkuhl (2004) use the grounded approach. The researcher, therefore, decided that the MGT was best suited to explore the research questions, since it had been flexible enough to accommodate the review of literature, i.e. a “non-committal literature review” (Urqhart & Fernandez 2006), before the researcher collected empirical data.

Although GT is rooted in a qualitative approach to theory and method, it differs from traditional qualitative methods of collecting, analysing, and interpreting data that do not necessarily follow a chronological, step-by-step procedure. Grounded Theory explicitly employs a structured and “systematic set of procedures” in its analytical processes (Strauss & Corbin 1998:24). Whilst qualitative investigation focuses on producing thick descriptions of data (Eisner 1991; Polit & Beck 2010), GT facilitates the shift from a description of what is happening to a conceptual level of “creating new and theoretically expressed understandings” of the process that makes it happen (Strauss & Corbin 1998:8). This process facilitates the building of “systematic checks and refinements of the researcher’s major theoretical interpretation of data” (Charmaz 2012).

In MGT (Goldkuhl & Lind 2006), GT procedures are complemented by grounding the evolving theory by explicitly using pre-existing theoretical frameworks in a systematic manner to inform theory development. However, different to GT, MGT adds two explicit grounding processes (theoretical and internal) not found in GT. Theoretical grounding prevents the “risk for noncumulative theory development” (Goldkuhl & Cronholm 2010:191). Internal grounding, on the other hand, seeks to validate the consistency and congruency (Goldkuhl & Lind 2006:4) of the emerging substantive theory in order to ensure that the conceptual structure is clear and sound.

Grounded theory gives one tools to answer “why” questions from an interpretive stance. By interrogating data – and emerging ideas – with analytic questions throughout the research process, the level of conceptualising data can be raised to a point of analysing theoretically (Wertz *et al.* 2011).

One of the MGT features is the research interest that is operationalised in questions. The research question is reflected upon continually, since it might change during the stages of theory development due to influences that emerge from “empirical observations and theoretical insights” (Goldkhul & Cronholm 2010:193). On the contrary, in GT the research questions could be vague and unfocused during the empirical and theoretical phases of theory development (Goldkhul & Cronholm 2010:192).

One finds another difference between the two research approaches in the sense that GT employs a purely emergent inductive approach in working with data while the MGT advocates for the use of pre-existing theories to either confirm or discard the empirically generated findings (Goldkhul & Cronholm 2010). The reluctance of GT to explicitly incorporate existing theories, according to Goldkhul and Cronholm (2010:188), encourages the risk of “knowledge isolation and theory development” rather than aiming at knowledge “integration and synthesis” that existing theories facilitate.

1.10 SUMMARY

The focus in this chapter offers an overview of what this research study is about. The aim and objectives are intended to provide an in-depth exploration and description of the substantive social area of investigation. To this end, the researcher employed the MGT working structure of Goldkuhl and Cronholm (2010) to address the research interest and questions. The methodological assumptions included a validation for using the MGT approach and its processes and how MGT incorporated grounded theory methods that it borrowed from.

A preliminary literature review (Strauss & Corbin 1998:12) was conducted to build theoretical sensitivity while contextualising the research interest and questions. The researcher took into consideration counter arguments advanced (Glaser 1992:31) against conducting a prior literature review before data collection and analysis. It cannot be expected of researchers to enter the field with a blank theoretical slate; therefore, it is not scientifically sound to only conduct a literary review while writing the research report (Dunne 2011).

The researcher believed the epistemological framework was linked to the philosophical assumption of a feminist worldview, since the researcher had used the voices of SMME women entrepreneurs to interpret the findings that informed the status quo based on the lived experiences of women entrepreneurs.

1.11 OUTLINE OF CHAPTERS

Chapter 2: Conceptual and operational definitions

This chapter provides concepts and operational definitions to guide the scope of the study. An early identification of concepts prior to data collection, as opposed to constructing these definitions from raw data, is indicative of grounded analysis practices that aim at constraining irrelevant variations and sharpening external validity.

Chapter 3: Literature review

This chapter covers a full literature review that is intended to lay the foundation on which the study of women-driven entrepreneurship is built. This process included examining past research about women-driven entrepreneurship and its significance in the ICT sector. The chapter also includes women empowerment and efforts made by government and the private sector at provincial and national level. In addition, it examines the question of a skills shortage and the impact it has on the women-owned enterprises, as well as the impact of corruption in relation to women-driven entrepreneurship. Given the enormous amount of work done in some of these areas, this review is in no way meant to be exhaustive, but rather to emphasise some of the main literature streams.

Chapter 4: Research methodology

Chapter 4 discusses the research methodology and design, including an explanation of the different MGT phases of generating inductive and deductive theory. The chapter also provides a detailed discussion of data collection and analysis methods, as well as an explanation of MGT procedures that are employed in order to generate the theory on women-driven entrepreneurship.

Chapter 5: Analysis and interpretation of interview questions

Section A provides an explanation of the various levels of MGT procedures involved in the analysis and Section B the application of the MGT procedures in the analysis and interpretation that provides traceable evidence about the relation between interview statements and categories generated that led to the generation of the substantive theory. The analysis and interpretation of interview questions is also illustrated in graphic format. The structure and sequence of the analysed data depict how statements were arranged into categories cumulatively gathered through theoretical sampling from Interview 1 to Interview 14. The section also depicts a summary of the conceptual refinement process depicting the refinement of concepts generated from open-ended questions. A critical category determination that illustrates the building of

the categorical structures is demonstrated. The section also demonstrates the deductive analysis procedure and lastly, the section concludes by solidifying the substantive theory – theory condensation.

Chapter 6: Research findings, analysis of findings, and recommendations

Chapter 6 presents research findings, analysis of findings, and recommendations. This chapter also summarises the empirically and deductively generated findings of the substantive theory. According to the MGT procedures, the empirical findings had to correspond with existing theories – namely cyberfeminism and entrepreneurship – to validate the emerging substantive theory. The findings highlight factors that are influencing women-driven entrepreneurship processes in a broader gender context and inform the recommendations.

CHAPTER 2

CONCEPTUAL AND OPERATIONAL DEFINITIONS

2.1 INTRODUCTION

Since the researcher was aware that an established body of knowledge supported the ICT phenomenon, including formulated definitions gleaned from existing literature, important concepts and operational definitions were identified.

Goldkuhl (2004) does not refute the view of performing a “provisional concept determination” before collecting empirical data, especially where theoretical definitions already exist. This process assists to focus the research questions and guide the data collection. Initially, the conceptual definitions are broadly defined in order to create space for further exploration and refinement with the purpose of accommodating evolving empirical and theoretical ideas.

2.2 ICT SECTOR

For the purpose of this study, the ICT sector definitions and classifications are those employed by Statistics South Africa (2013):

- i. For the ICT sector, the production (goods and services) of a candidate industry must primarily be intended to fulfil or enable the function of information processing and communication by electronic means, including transmission and display.
- ii. ICT products must primarily be intended to fulfil or enable the function of information processing and communication by electronic means, including transmission and display.
- iii. For the 'content and media' sector, the production (goods and services) of a candidate industry must primarily be intended to inform, educate, and entertain human beings through mass communication media. These industries are engaged in the production, publishing, and / or the distribution of content (information,

cultural, and entertainment products) in such a way that content corresponds with an organised message intended for human beings.

- iv. 'Content' corresponds with an organised message intended for human beings published in mass communication media and related media activities. The value of such a product to the consumer does not lie in its tangible qualities but in its information, educational, cultural, or entertainment content.

2.3 INFORMATION AND COMMUNICATION TECHNOLOGY (ICT)

ICT is a generic term used to express the convergence of telecommunications, computing, broadcasting, and communications. On its website, the World Bank defines the acronym ICT as consisting of hardware, software, networks, and media. These elements are used to collect, store, process, transmit, and present information (voice, data, text, and images). According to the World Bank, ICT could be split into:

- i. Information and Communication Infrastructure (ICI) that refers to physical telecommunications systems and networks (broadcast, cable, satellite, postal) and the services that utilise them (Internet, voice, mail, radio, and television); and
- ii. Information Technology (IT) that refers to the hardware and software of information collection, storage, processing, and presentation.

The ICTs represent a cluster of associated technologies defined by their functional usage in information access and communication (Appendix M: MICTSETA SIC code list):

- i. Office, accounting, and computing machinery;
- ii. radio, television, and communication equipment;
- iii. miscellaneous ICT components and goods;
- iv. leasing or rental services without operator;
- v. professional, technical, and business services;

- vi. telecommunications and broadcasting information supply services; and
- vii. content and media (Statistics South Africa 2013).

2.4 SMALL, MICRO, AND MEDIUM ENTERPRISES (SMMES)

The definition of an SMME is broad and defined differently in certain regions of country and across sectors. For example, SMMEs for funding purposes is defined by the South African Department of Trade and Industry (DTI) as small enterprises that employ less than fifty, but more than five workers and fewer than 100, which utilise capital assets (excluding fixed property) valued at less than two million rand. In addition, they should have an annual turnover of less than six million rand.

The South African National Small Business Act of 1996 defines a 'small business' as:

“A separate and distinct business entity, including co-operative enterprises and nongovernmental organisations, managed by one owner or more which, including its branches or subsidiaries if any, is predominantly carried on in any sector or subsector of the economy.

The South African National Small Business Act (1996), however, also provides a broader definition of SMME that is premised on three categories and their variations according to particular industries with reference to the number of employees, turnover bands, and variations of segments in relation to the different sectors:

- i. Survivalist enterprises (informal): Operating out of necessity to secure a minimal income with little capital and skills and with scant prospect for upward growth;
- ii. Micro enterprises: A growth potential that involves the owner and family members or at the most four employees; and
- iii. Formal small and medium-sized enterprises: These businesses have five to one hundred and one hundred to two hundred employees respectively; they are still owner-managed and fulfil all the trappings associated with formality.

For the purpose of this research project, the definition adopted is the DTI classification. The SMMEs concerned are those businesses operating in the formal sector in the ambit of the ICT sector with the core business of manufacturing, producing, or processing ICT related products or services (SAITIS 2000).

2.5 SMME WOMAN ENTREPRENEUR

Appropriate for this study, an SMME woman entrepreneur is an employer, owner, cooperative (registered owner), part owner (51 per cent shareholding or 25.1 per cent equity), or principal manager who is responsible for the expansion and strategic development of the ICT enterprise.

A woman entrepreneur, by definition, refers to a woman who exercises initiative in setting up a new ICT enterprise, as well as organises and competitively operates the ICT enterprise independently. This involves taking on risk, as well as an opportunity to make a profit. In general, an entrepreneur is defined as either “a person who either creates new combinations of production factors; such as new methods of production, new products, new markets, finds new sources of supply, and new organisational forms or a person who is willing to take risks, or a person who by exploiting market opportunities, eliminates the disequilibrium between aggregate supply and aggregate demand, or as [sic] one who owns and operates a business” (Tyson, Petrin & Rodgers 1994:2-3).

2.6 ICT ENTERPRISE

For the purpose of this study, an ICT enterprise refers to an entity with the core business processes of production, manufacturing, and processing to generate ICT related products and / or services.

The Woman’s ICT-based Enterprise for Development Project (2005), in defining an ICT enterprise, points out three main categories in qualifying their definition, namely:

- i. ICT as an enterprise output refers to a business that produces hardware, software, and telecommunications products;

- ii. ICT – as a primary, processing technology – refers to an enterprise that provides data entry services, ICT-based business services, software customisation, ICT-based distance learning, etc.; and
- iii. Other ICT related support activities that refer to enterprises which provide computer training, consultancy, and other services.

It is important to clearly define the ICT enterprise right from the start, since understanding the context in which the ICT enterprises operate is critical for this study. The researcher's interest was to conduct an analysis that provided an in-depth understanding interpreted from the perspective of women on how those enterprises used ICT as a core product and / or service. This distinction is made because references in most literature focusing on women refer to ICTs as an enabling tool (Kelly 2013; Huyer & Sikoska & Women in ICT in South Africa 2006).

2.7 ENTREPRENEURSHIP

Entrepreneurship by inference is a process by which entrepreneurs are in a constant search to exploit new (ICT-based) technologies (Hawthorne & Klien 1999) and alertness of new types of economic opportunities (Gaglio 2004; Galio & Katz 2001) in the mainstream of the ICT sector (in local and global markets) to create new means (novel ICT products or services) that yield new economic ends (profit or wealth) made possible through innovation (Bruyat & Julien 2000; Drucker; Schumpeter 1934; Timmons & Spinelli 2008) which plays a significant role in shaping the ICT enterprise's entrepreneurial processes, and in changing – creative destruction (Schumpeter:1942) the technological environment – technical innovation (Chiwere 2007) in methods of production and organisation. Bapat and Harkal (1989) add the dimension risk-taking to the definition conceived as a central characteristic of entrepreneurship.

In general terms, entrepreneurship encapsulates the ability of an enterprise to expand market access opportunities. This includes the entrepreneurs' ability to initiate and drive the business vision, goals, and strategic objectives of an enterprise in order to gain a competitive edge in the marketplace to ensure the success of the enterprise.

Nadim and Seymour (2008:14) define three entrepreneurial components; namely entrepreneurs, entrepreneurial activity, and entrepreneurship. They associate entrepreneurship with the critical stages of creation and development of new economic activity. However, their definition focuses more on action rather than on intentions or supply and demand conditions. Entrepreneurs, according to them, are persons who seek to generate value by the creation or expansion of economic activity, as well as by the identification and exploitation of new products, processes, or markets. Equally, entrepreneurial activity is an enterprising human action in pursuit of the generation of value by the same means.

As an entrepreneurial activity, the entrepreneurship phenomenon has a number of individual definitions according to other theorists:

- i. A relentless pursuit of opportunity without regard to resources currently controlled (Stevenson & Salman 1989:104; Stevenson & Jarillo 1990:230);
- ii. The process of individuals who pursue opportunities without regard to alienable resources they currently control with the view of valuing creation (Hart, Stevenson & Dial 1995; Chell 2007:18); and
- iii. Doing things differently or in a non-routine manner with a typical aim of developing a venture (Gartner 1988:24).

2.8 CYBERFEMINISM

In Paasonen's view (2005), the concept cyberfeminism dispersed definitions that depend on the school of feminist thought applied, e.g. definitions with a political, economic, or social focus. Paasonen claims, despite the variations in defining the concept, in broad terms the concept refers to feminist supposition of "critical analysis and rethinking of gendered power relations related to technology". The context of the ICT sector is generally perceived as a male-dominated environment, hence the call for women entrepreneurs to empower themselves in ICT with the purpose of "provid[ing] the technological basis for a new form of society that is potentially liberating for women" (Wajcman 2010:148). Women have the ability to end the male-domination in the ICT sector on to balance the perceived "gender digital divide" (Huyer & Sikoska 2003:2).

This perspective equates to what Pierce (1999:10) regards as a movement driven from a feminist standpoint that advocates women's participation in creating and defining the present and future technological space. While feminist contributions to literature about technology are increasing, women also use new media as a liberating tool.

In this study, the concept cyberfeminism is used explicitly to refer to a woman's perspective that synthesises gender concerns and ICT (Huyer & Sikoska 2003:19). The concept also emphasises women's advocacy to use new ICT products and / or services for economic empowerment (Wajcman 1991:32, Wajcman 2004:45-46, Hawthorne & Klien 1999:2). The researcher, however, was mindful of this school of thought and subsequently used the voice of women entrepreneurs under investigation on the basis of the methodology adopted in analysing women-driven entrepreneurship in the technological context.

2.9 THE INFORMATION AND COMMUNICATIONS TECHNOLOGY SECTOR INDUSTRIAL DEVELOPMENT FRAMEWORK (SAITIS)

This policy framework – initiated by the DTI (1995), funded (over a three year period) by the Canadian International Development Agency (CIDA), and launched in 2000 – provides the closest semblance to a national policy for the ICT sector. The SAITIS framework identifies specific goals and supportive actions for government and the private sector to implement in order to grow the South African ICT sector. The framework (SAITIS 2000) identifies four key goals to facilitate this process:

- i. Goal 1: The ICT sector (Robust, growing and sustainable ICT sector with equity);
- ii. Goal 2: ICT usage in other economic sectors (Increased use of ICT as an enabler for social-economic development with equity);
- iii. Goal 3: ICT innovation (Knowledgeable and growing ICT with a skilled workforce);
and
- iv. Goal 4: ICT human resources (World class ICT culture).

The SAITIS baseline studies (1999) also contributed to the development of the policy framework.

2.10 THE EASTERN CAPE ICT STRATEGY

The Eastern Cape ICT Strategy (2009 – 2014) outlines the strategic direction for ICT in the Eastern Cape Province. The strategy aims at enabling and improving service delivery, especially to rural communities. The transformation of the Eastern Cape ICT capabilities focuses on eight building blocks:

- i. ICT sector development and innovation;
- ii. ICT adoption and usage in the public sector;
- iii. Human Resource Development: R & D by academia and advancing the skills of citizens with a particular focus on SMMEs, youth, and graduates;
- iv. ICT Governance: Improve ICT governance, transparency, and accountability;
- v. ICT Infrastructure Development: Incorporate broadband connectivity for business and citizens;
- vi. ICT Enterprise Architecture; and
- vii. Shared Services and business process outsourcing.

2.11 THE ICT CHARTER

The empowerment charter for the ICT sector is an industry-driven document designed to support the B-BBEE imperatives by:

- i. supporting the objectives of the B-BBEE Act and promoting its effective implementation in the ICT Sector;
- ii. bridging the “digital divide” by actively promoting access to ICTs;
- iii. stimulating and supporting growth in the ICT Sector;

- iv. advancing economic and social transformation in the ICT Sector;
- v. contributing to the reduction of unemployment and poverty alleviation;
- vi. supporting skills development and training initiatives;
- vii. kindling equity and addressing the legitimate economic aspiration of all South Africans; and
- viii. providing an enabling environment conducive to transparency, fairness, and consistency when adjudicating matters related to B-BBEE in the ICT sector.

The ICT charter covers a range of areas of transformation that include skills development, employment equity, procurement, ownership, enterprise development, socio-economic development, and the development of a framework for cooperate with multinational companies. The charter serves as a code of good practice for the ICT sector in South Africa.

2.12 SUMMARY

Chapter 2 articulates key concepts and provides operational definitions that are applicable to the context of the research interest and research questions. The controlled literature review serves as a useful lens for contextualising the research interest and questions. Chapter 3 contains a comprehensive literature review.

CHAPTER 3

LITERATURE REVIEW

“While changing the way individuals live, interact, and work, ICT has also proven to be a key precondition for enhanced competitiveness and economic and societal modernisation, as well as an important instrument for bridging economic and social divides and reducing poverty.” (Greenhill – 10th anniversary edition of the annual Global Information Technology Report (2010 / 2011).

3.1 INTRODUCTION

In Chapter 1, a controlled literature review was recorded (Strass & Corbin 1998) and this chapter contains a full literature review of theme categories based on the empirical data analysis and comparison with existing theories (Chapter 5). The literature review comprehensively describes the central importance of these categories to this study. In accordance to the MGT (Goldkhul & Cronholm 2010), relevant literature was examined initially and accessing additional literature for the review was left for later as the emerging categories become relevant.

The role of the ICT sector as evidenced in the regulatory and policy framework of South Africa (National Development Plan; DoC 2013) has been widely acknowledged by government (Eastern Cape ICT Strategy 2009) and the private sector (Media, Information, and Communication Technologies Sector and Education Training Authority 2012) as an enabler of economic growth and development. Concomitantly, government (NDP; DTI 2013, USAASA 2013:23, SME Growth Index 2013) and the private sector (Ntshona 2012) have a role to play in supporting SMME development, in particular women entrepreneurs in the sector. As reflected in the empirical findings of this study, gender imbalance is still an issue that needs to be addressed, since it is hampering women’s needed contribution in the economic mainstream of the ICT sector. Kelley, Brush, Greene, and Litovsky (2013) also recognise the role that the government should play in terms of actively acknowledging women entrepreneurs’ role in the mainstream

economy of the ICT sector and supporting women-owned ICT enterprises. Government should enable them to be productively innovative and to grow their enterprises while understanding the importance of realising their full contribution measures in order to address gender-based inequalities in the sector. Government in this regard aims at enforcing gender transformation compliance as early as 2015 through the new Women Empowerment and Gender Equality Bill (2013) that would apply to private and public sectors alike. This empowerment legislation includes women in rural areas.

3.2 THEORETICAL FOUNDATION OF THE STUDY

Theories provide a sound foundation for explaining viewpoints and related socio-economic challenges. The next section of this chapter explores theories that laid this foundation for the study.

Despite a plethora of literature and countless research studies emanating from a feminist perspective raising awareness on gender inequalities in accessing ICT and gender insensitive ICT policies in an attempt to draw attention from policy makers, the gender gap appears to be widening particularly for developing countries. This literature review discusses and analyses various feminist viewpoints at great length both from a South African and international perspective especially in the context of the ICT sector in developing countries.

Although ICT is at the top of the agenda of most developing countries for economic development and human development, and policy in place covering SMME entrepreneurship development, there appears to be a void when it comes to women entrepreneurship development. This is evidenced by the absence of gender disaggregated data, gender mainstreaming interventions and indicators measuring gender empowerment which could assist in raising greater awareness on women's involvement in the mainstream economy of the ICT sector. Empirical studies, such as this study could provide a starting point in closing this information gap as qualitative research has depth and breadth in investigating phenomena that has not been examined before.

The dearth of women's representation in policy decision-making core environments of the ICT sector and low levels of active participation in the mainstream economy of the sector are an indication of existing gender inequalities manifested in discriminatory views. This global phenomenon bares evidence suggesting the contrary to utopian political and economic agendas of different countries in particular developing countries fetishizing women's economic and development benefits through the ICT sector. South Africa is no exception as its ICT SMME development policy framework (fragmented) continues to gloss over women empowerment (Green paper) issues and thus further marginalising women from ICT.

The following theories articulate the digital discourse to analyse gender sensitivity and insensitivity in the context of the ICT sector.

3.2.1 Cyberfeminism

Essentially, cyberfeminism in broad terms refers to feminist supposition of "critical analysis and rethinking of gendered power relations related to technology" Paasonen (2005). Cyberfeminism borrows qualities from other feminist theories focusing on the socio-cultural (Plant 1996; Wilding 1998) and economic (Haraway 1997; Wajcman 2004) relations of power in the ICT sector and the application of these theories to gender in the ICT discourse of both developed and developing (Gajjala 1999) countries (South Asia). Cyberfeminism as a movement increasingly raises awareness of the digital divide in understanding women's use of new technologies (ICT) profitably in the fight against patriarchy which manifests itself in the form of gender-based discrimination. Cyberfeminism arose in contestation to the "pessimism of the 1980s feminist approaches that stressed the inherently masculine nature of techno-science" (Wajcman 2004) and third world perspectives of women's marginalisation from ICT (Gajjala 2003; 2004). Recent cyberfeminist thinking (Paasonen 2010: 349) suggests activists should engage more critically with "contemporary technocultures in order to map out [new forms of politics] solutions for current social and economic inequalities". This signifies the relevance that the theory has in the present day.

Haraway (1997:127), who advocates against historically established male domination in the fields of science and technology, encourages women to engage in politics “...the meaning-making processes of technoscientific world-building” that goes beyond naturalism and essentialism fostering stereotypes that come with women’s marginalisation from ICTs. Haraway’s sentiments of bridging the digital gender divide based on a postmodernism perspective, acknowledge variables marginalising women from new technologies relating to issues of connectivity to the Internet and the effective use of ICT for economic gains which are factors highlighted in the findings of this study. Women’s marginalisation from ICTs on the basis of discrimination is a perpetuating condition which defeats the purported utopian view of the ICT sector being an enabling environment (GEM 2012) to spur women-driven entrepreneurship.

Haraway’s gender sensitivity activism approach in raising awareness on the need for women’s active involvement in the politics of technology in order to influence change is recognised by Hawthorne and Klien (1999) who also advocates for women’s solidarity, that is, coalitions based on affinity rather than on identity. Solidarity, according to Haraway is a means to women empowerment fostered by political bargaining power which is informed by the critical analyses and evaluation of gender power relations concerning ICT political agendas.

Activism efforts then centred mostly on political strategies addressing key concerns regarding the marginalisation of women from new technologies on the grounds of discrimination. This activism campaign attracted global attention that drew feminist activists into the movement from theorists across disciplines, technocrats including artists who got together as a collective that saw the early establishment (90s) of a number of international collaborative virtual information networks such as, ‘VNX Matrix’, ‘The Old Boys Network’ which were used as a platform for “participatory democracy” (Wajcman 2004:3).

Plant’s (2000) perspective on activism rests on the premise that women are the future in the digital space as women and new technologies are inseparable. This assumption is based on women’s self empowered position to manipulate the Internet (at the time)

and therefore in a position to weaken patriarchal power. Plant in this regard, veers support for a radical transformative political activism approach that, "...women can either accept, adapt or refuse altogether". Plant is of the view the effect of change can be realised when contemporary discourses are relevant to women's current concerns.

Similar to Plant's essentialist views, Millar (1998:2000) contends women's empowerment "...will lead to an end to male superiority because women are uniquely suited to life in the digital age". However, such postmodernist thinking is a fallacy, particularly in the context of developing countries challenged by inhibiting socio-economic and political structural issues revealing disparities in women's engagement with new technology (ICT). "Although utopian thinking is indispensable to feminist politics, there ought to be a clear distinction between description and imagination [hyper-realism]" Nowotny (2006:109).

Wilding (1998:50) also counteracts utopian views based on an argument that, "technological processes are gendered in a manner that excludes women from access to the empowering points of techno-culture". This view is in line with colonialist thinking interpreting technology in the context of sexism and racism "Cyberfeminism Racism, Embodiment" (Fernandez 2003) entrenched in the politics of technological resistant to reform (male dominance). Daniels (2009) in support to such views, argues that gender inequalities are the cause of women lagging behind and women's limited participation (activism) in the global digital economy.

Wajcman (2004:6) in agreement to this attributes the problem to scientific and technological fields being historically dominated by men and argues the envisaged emancipatory role of new technologies in bridging the gender divide is nothing but a fallacy as technology is used by men as a "key source of power" which limits women's prospects in the "digital economy [ICT sector]" (2004:6). This thinking in the context of the ICT sector is evidenced by women's underrepresentation in the digital space.

Braidotti Rosi (1996), also a sceptic of postmodern ideology 'hyper-reality', on the basis that it disregards postcolonial discourses which directly impacts on the sociology of ICTs, advocates for a different activism agenda which takes into account the socio-

political dynamics associated with postmodern ideology. Rosi draws attention to the reality that the nature and the depth of socio-political dynamics of a society are challenging to address as they are rooted in the fabric of the society's system. For example, assuming that discrimination (social dynamic manifested in a business environment) levelled against women entrepreneurs within the ICT sector can disappear, is a misnomer. Evidence suggesting women's underrepresentation as articulated in the literature review including findings in this study is evidence of discrimination encountered by women within the sector. Discrimination, it could be argued in this context, is deliberate (women denied access – influenced by colonialist ICT policy regimes) and subtle (women's economic marginalisation despite their entitled right to benefit from affirmative procurement policy – ICT BEE scoring card) based on authoritarian (coalition of role players in the ICT marketplace – men using dominant might to dictate the rules of the game) and capitalist market ideologies (women's subordinate economic participation – boxed in low-tech instead of hi-tech environments) that drive the politics of the ICT sector. Economic discrimination in this regard is a multi-faceted system of oppression that legitimates the practice of male dominance.

Braidotti Rosi (1996) holds the view that new solutions are required to solve postmodern thinking in relation to discourses hypothesizing women's emancipation in the digital space enabled through new technologies. Technology however, cannot balance (bridging the digital divide) what cannot be balanced (based on gender inequities) not even in the near future for developing economies like Africa in view of the gap between demographics and regions characterised by structural disparities in the social (low technology adoption levels), technological (low innovation levels to leapfrog technology) cultural (ICT men's environment) , economic (high infrastructure costs, low SMME penetration levels into ICT sector), political (ICT policies) realms. The 2012 Global Information Technology Report released by the World Economic Forum reviewed in this study attests to this. The report ranks 142 countries (worldwide) in using ICT to boost economic competitiveness and reports South Africa's ICT state of readiness (72nd from 61st in 2009) to be on the decline (70th in 2013: WEF 2014). Indicators pointing to this include: ICT not leveraged to accrue potential benefits associated with ICT; insufficiently developed ICT infrastructure (82nd) ; ICT usage

(76th) and enterprise based innovation system (34th); economic impacts accruing from ICT (59th); social impacts (98th). The overall picture painted by the report casts doubts on the capability of developing countries and emerging economies to leverage the full potential benefits associated with ICT. This based on the figures indicating stagnant growth despite improvements in infrastructure across nations to signify efforts in bridging the digital divide (WEF 2014). These facts should be a concern for activist ascribing to counter suppositions idealising women's role in the ICT sector based on the reality that economic inequalities in the ICT still exist. However, concerning women's visibility, there are pockets of evidence in some industries of the ICT sector of the country suggesting evidence of gender transformation (MICTSETA 2012).

Wakunuma (2013:186) in illustrating gender inequalities, in the context of gender and ICT policy reform, refutes claims made by government idealising women's possibilities of making a contribution towards economic activities in the sector based on a number of structural issues inhibiting women-driven entrepreneurial development indicated in the SANEF (2013) and MICTSETA (2012) reports, which are one of the few reports providing comprehensive data on the industries of the ICT sector. The SANEF report reveals slow transformation in some various industries such as, the print and media industries concerning women's ownership, management control, skills development and employment equity. The MICTSETA report reveals a huge gender divide in terms of occupational levels by industry. Women as the report indicates are underrepresented in all industries except in service and sales positions where they outnumber men and elementary occupations equalising with men. The gap is more evident at management and professional level (this analysis is provided in subsequent the heading). A host of structural factors which include low education attainment and skills levels are highlighted in the report as factors contributing to the digital gender divide. In this study one of the gaps identified was the lack of disaggregated data which would have given concrete evidence to support findings that women's active participation is far from the idealised statements from governments where the Eastern Cape Province is concerned. Counter to the utopian view articulated in the above discussions, clearly, women's relationship with ICT for underdeveloped countries and economies (Gajjala 2004) has an opposite effect of creating "social disparities and social dislocations for

women in Africa” (Adomi 2011:217). In closing, Adomi argues that all ICT policies of developing nations should be gender mainstreamed on the backdrop that national ICT policies in Africa have yet to actually address inequalities with respect to making provisions for gender matters and issues of inequalities in the sector.

Women’s economic marginalisation however, cannot be left to the powers of the market to resolve. Women entrepreneurs need to take a stand to advocate for transformation. Collective activism has been and can be a powerful force of women’s empowerment in addressing gender oppressive regimes. In recent writings from proponents of the school of cyberfeminism there appears to be a growing interest in appealing for activists in the ICT space to revive cyberfeminism activism but with a shift in paradigm (Daniels 2009; Paasonen 2010).

Although cyberfeminism may appear to have faded, in academia the discourse continues and carried outside on new media platforms such as Facebook and Twitter (social media). This form of online activism however, is criticised by some feminist activists (Simone 2010; Evans 2014) who believe the discourses on gender inequality are fragmented and do not necessarily have a clear agenda as opposed to cyberfeminism (politically motivated). Another criticism concerns the absence of structure in terms of formation which lacks that element of a radical community which cyberfeminism was built on. Indeed it can be argued that online activism is more individualistic than collective. This observed from the frequency at which blogs attract and loose audiences. A number of reasons can be attributed to this; one being, individualistic activists tend to use online platforms as an escapism to experiences of gender oppression and therefore the intent is often not necessarily a call to action as the contributions to the conversation are often not impactful. Whereas, collective activism seeks a call to action ranging from online to offline collective action that has an approach to shared problem solving and intent to influence decision makers. Group formations ‘networking platforms, in the context of this study are platforms that women entrepreneurs could take advantage of to launch activism campaigns to counteract gender insensitive agendas. From the findings of this study, women entrepreneurs were found lacking in networking skills. This finding associated with a confirmation that

women entrepreneurs did not know of other ICT enterprises within the market place. The same observations were made from another study (Eagly & Carli 2007:68) which claims women, different to men, are likely to under invest in “social capital” (networking platforms). The lack of networking skills in this study was attributed to a number of factors associated with socio-cultural barriers related to stereotypes domesticating women’s role which results in women juggling ‘multi-tasking’ domestic and business responsibilities.

The findings also revealed that women entrepreneurs were, on discriminatory grounds, economically marginalised as the agenda in meetings did not accommodate women issues. Linked to this finding were claims that women were subjected to sexual innuendos intended to reduce their self-confidence and self-esteem and thus a confirmation of an attitude indicative of discrimination manifest in the form of insecurities entertained by men relating to gender inequalities in the work environment associated with men’s fear of being in competition with women. These factors correlate to Reeves (2010:225) who attests to men’s behaviour that does not recognise women as business owners and therefore resisting to deal with women in this capacity.

From an entrepreneurship perspective, as attested by literature, gender-based discrimination is characteristic of women-driven entrepreneurship thus the need for a collectivist approach in challenging gender oppressive regimes. This based on the “intrinsic value” of collectivism that draws strength from within the group that builds an individual’s “self-esteem and self-confidence in accessing ICT networks that go beyond local boundaries (Evans & Nambiar 2012:4).

Notably, the above discussion invariably justifies the theoretical cyberfeminism lens used to in this study to examine the research questions seeking to understand women’s perspective concerning women-driven entrepreneurship in the context of the ICT sector of the Eastern Cape Province which is an underdeveloped economy characterised by structural problems entrenched in a post-colonial regime.

Although the prioritisation of gender equality continues to be treated as a core developmental objective in its own right (Washington: World Bank 2012; South Africa:

Women Empowerment and Gender Equality Bill 2013) and women entrepreneurs viewed as an integral part of growing and developing the economy of a country, in particular the ICT sector which is under review, the digital era, however, has not changed, as women are still digitally and economically marginalised from the economic mainstream in the ICT sector. Gathering from the literature reviewed, women's inactive role in activism in the ICT sector of the country particularly in the context of the Eastern Cape Province, will continue to perpetuate gender inequalities unless action is taken. Collective activism as such, can be a powerful force of women's empowerment in addressing gender oppressive regimes.

3.2.2 Entrepreneurship

3.2.2.1 Gender-based discrimination in the context of entrepreneurship

Gender, which is “patterned, socially produced distinctions between female and male, feminine and masculine” (Acker 1992:250) is a central concept in this study for contextualising prevailing gender inequalities concerning women-driven entrepreneurship in the ICT sector which is dominantly perceived as a men's environment. In this study, discrimination on the basis of gender takes many forms; including inequalities in education, workplace, career; stereotypes; sexual harassment and socio-cultural role expectations. These facets of gender-based discrimination point to the findings of this study which highlighted socio-economic structural barriers that perpetuate gender inequalities in entrepreneurship processes such as men's behaviour that does not recognise women as business owners. This includes resistance to deal with women in their capacity (Reeves 2010:225) as entrepreneurs and thus resulting in discrimination that economically deprives women from accessing business opportunities (tenders) otherwise available to men. This form of discrimination according to the findings, has been linked to gender based sexual harassment associated with corruption (officials asking for bribes) including women's deliberate exclusion from networking agendas as attendance is dominated by men.

Women's constant subjection to economic marginalisation on the basis of discrimination, the findings reveal, has resulted in them developing apathy emanating

from an absence of ICT policies favouring the promotion of women-driven entrepreneurship. According to Paludi, Paludi, Jr. and DeSouza (2011:205), in the context of women-driven entrepreneurship, women entrepreneurs face three types of discrimination namely: i) occurring in customer or product markets; ii) lowered earnings for women than men and iii) discrimination levelled against them by financial support systems.

In this study, findings also reveal that women entrepreneurs (both start-up and established) fell short in the area of marketing their enterprises. Factors contributing to this were, local competition associated with ineffective marketing by new entrants linked to customer brand loyalty favouring established enterprise and the economic marginalisation of established ICT enterprises vs new entrants who were getting more business (tenders) through internal connections (corrupt government officials). The economic marginalisation of women entrepreneurs also related to irregular tender adjudication processes that officials override such as BEE affirmative policies that are usually in place, and women's inability to access financial assistance on the basis of gender. These factors were related to low motivation levels which consequently lead to them closing down their enterprises. This consequence was linked to government and private sector's apathy influenced by the absence of an ICT development policy framework policy.

Parallel to these findings the OECD in 2012, published a report "Closing the gender gap: Act now", which broadly focused on four categories namely: i) gender equality, social norms and public policy and gender equality in ii) education; iii) employment and iv) entrepreneurship from which indicators (2005-2009) were drawn to measure the performance of women-owned enterprises and the findings according to these indicators suggest women lag behind men-owned enterprises in all four areas. Relevant to the context of this review, findings in terms of gender equality in entrepreneurship indicate amongst a host of factors the following: i) fewer women-owned enterprises than men-owned enterprises; ii) on average women-owned enterprises have lower profits; iii) women-owned enterprises lag behind in average productivity, profits and generation of new jobs; and iv) differences in credit use and

access by women entrepreneurs. These findings are an indication that gender inequality is a global phenomenon across industry sectors in terms of women's economic marginalisation.

3.2.2.2 SMMEs contribution to economic growth and job creation

Economic outlook

Looking at the current outlook of the of the South African economy in the context of the relationship between economic growth (when slowing down) and unemployment growth (then rises), and in relation to SMMEs postulated impact in contributing towards the two; and in view of current structural barriers influencing SMME driven entrepreneurship highlighted in the literature review, the future of women driven entrepreneurship within the ICT sector of the country depends on the economic and entrepreneurship lens used to justify their active participation. The following theories and research findings put perspective to the discourse.

The economic outlook in terms of GDP, South Africa's economy is projected to grow with 2.7% in 2014 and 3.2 % in 2015. South Africa is hovering a 1.4 per cent far below the minimum of 5.4 per cent that NDP projects over the next 15 years (SME index 2013). South Africa experienced an average growth rate of 1.8 per cent (2013) registering a decline affected by labour market disruptions whilst in 2012 the growth rate was 2.5 per cent. South Africa's economic recovery since 2009 has not been robust. The previous years between 2008 and 2012 an average growth of about 2 per cent was registered against a 7 per cent the previous years 2004 and 2007 obviously affected by the global recession period. Although the manufacturing sector occupies the significant share of the country's economy, a decline (17%) was registered in 2012 in 2013 its contribution was recorded at 15.2 per cent. The ICT sector's contribution in 2013 was 7 per cent. The Eastern Cape provinces figures are not so promising either as growth has been sluggish affected by the national economy's receding growth from 3.5 per cent in 2011, to 2.5 per cent in 2012 and 1.8 per cent in 2013 (DEDEA 2014). The two industrialised areas that the province's economy hinges on (DEDEA 2014), namely the Nelson Mandela Metro (NMM) and Buffalo City Metro (BCM) which contribute largely to

the growth of the province's economy (GVA 59.9% & 25.1% respectively). There is political will in terms of the prioritisation of rural development through upgrades and the installation of new infrastructure. This includes the creation of new jobs generated from these projects (State of the Province Address 2014).

Notably, in the address pertaining to sector priorities, no reference is made to the ICT sector. This correlates to the DEDEA report (2014) where the ICT sector is not amongst the sectors prioritised. Against this background and micro investment platforms including mainstream media statements proclaiming economic gains and employment growth accrued from SMME entrepreneurs, it can be argued SMMEs across sectors are unlikely to make a significant impact. The situation is not so promising either where women-driven entrepreneurship is concerned.

The utopian view

SMME driven entrepreneurship is considered to be one of the drivers for economic growth and job growth in both developed (GEM 2013) and developing economies (Tambunan 2009), because of their "key role in processes of creative destruction [Schumpeter 1994] knowledge exploitation [Drucker 2008] breakthrough and incremental innovation [Dunlap-Hinkler 2010]" (OECD 2010).

In South Africa, SMMEs development and job creation is prioritised (NDP 2012). This post to the advent of democracy in 1994 where every growth strategy document is placing emphasis on SMME development on the precursor of poverty eradication and women's economic empowerment (ICT sector code for BEE 2013).

In light of the views basing the contribution of SMMEs as being more pronounced in developing economies than developed and therefore viewed as catalysts in growing the economy, the Eastern Cape Province has also prioritised SMME development however, the economic growth figures are not so promising although SMME development is regarded as one of the growth strategies to boost the economy (PGDP 2004-2014; EC ICT Strategy 2009-2014). However, growth and increases in productivity will require policy to focus on the potential obstacles mentioned above.

Tambunan (2009:2) in justifying the contribution of SMMEs towards the growth of an economy in particular developing economies akin to the one under review in this study, singles out the following characteristics: i) SMMEs have the potential to create employment because they are big in numbers and scattered widely; ii) are government's political agenda based on their potential for employment growth; iii) use appropriate technologies to factor local conditions in developing economies; iv) have the potential to expand; v) have the ability to develop entrepreneurs from local talent; vi) the primary market for SMMEs uses simple production methods and produces simple products that can be consumed readily by locals; and vii) as part of their dynamism SMMEs achieve increased levels of productivity over time through investment and technological changes.

In addition, Fischer and Reuber (2000:2) in the context of job creation claims SMMEs have the potential for increasing rural based entrepreneurship 'telecommuting' whereby SMMEs operate from home. These entrepreneurs are usually in the "knowledge economy" (Drucker 2008:269) for example, in the context of the ICT sector, training providers, research and development practitioners employ few assistants on a contract basis (temporal employment).

In light of the above, the contribution of SMME women enterprises in accordance to the findings of this study is more visible in capital intense environments where few jobs are created as opposed to labour intense environments which are mainly in manufacturing most where jobs are generated. Jobs generated in the capital intensive would be few as highly skilled and skilled labour is required as opposed to labour intensive environments requiring mostly unskilled labour.

Looking at SMME employment creation in the context of global statistics (GEM 2012; 2013; 2014 and SME Index 2013) compared to the South Africa, the country lags behind its peers (Sub-Saharan countries) in terms of entrepreneurial uptake in 2013 registered a figure of 10.6% against an average of 26,6% (GEM 2013). According to the SME Growth Index (2013) a normal uptake is usually in the region of 10% (25-34 year). In 2012 South Africa dropped to 7.3% from 9.1% in 2011 below an average of

14% (GEM 2012). These figures signify a drop in entrepreneurial activity in South Africa can be linked to fewer opportunities for growth in jobs generated by SMMEs.

In the context of the Eastern Cape Province, unemployment rates are high and possibilities of new job creation are deemed based on the low uptake levels of early entrepreneurship in the formal sector (2%) discussed elsewhere in this document and indicated in the findings of this study where women entrepreneurs affirmed they were unable to contribute meaningfully to permanent employment as the following statement suggests.

“We cannot commit to quality job creation...people are poached by other companies or go after better opportunities. You train them and they leave...you cannot employ graduates...they are expensive. You struggle to generate income to sustain the business...and without cash flow where are you going to get money to pay people [salaries]?”

Structural barriers the findings suggest were also at play in influencing possibilities of sustainable employment generated by SMMEs.

The pragmatic view

Against the background of economic growth correlating with unemployment and the offset of imbalances, Dagada (2012) predicts South Africa in the next 15 years is unlikely to significantly increase job creation levels despite the economy demonstrating growth in GDP terms, unless there are direct flows of investment into Africa.

Booyens (2011) in line with research findings (SME Index 2013) questions the associated impact and benefits articulated from a utopian perspective arguing that statements are exaggerated regarding the sustainable viability of SMMEs. This argument is based against the background that SMMEs operate in a highly concentrated economy dominated by large enterprises; that they have the lowest education attainment levels in the world (Global competitive index report 2014/15); and that entrepreneurship processes are impacted by inefficiencies in SA Revenue Services (SARS) including Broad Based Black Economic empowerment stringent codes. Other

impeding factors are structural municipality blockages, labour laws and regulations (SME Index 2013) including low start-up entrepreneurial rates, and the lack of an entrepreneurial culture (GEM 2014).

Concerning the ICT sector and taking into consideration that it is highly technical and therefore requiring technically oriented labour, and against the reported ICT skills shortage in South Africa, it is no wonder that government's claims are exaggerated especially where the ICT sector of the Eastern Cape Province is concerned.

Looking at the postulations that women-owned ICT enterprises can contribute to employment growth in the ICT sector; grow their enterprises (migrating from small or medium to the next level); engage in processes of creative destruction (innovative solutions); raising their own start-up capital; "propensity to acquire technological capabilities and develop new products and processes and thus contributing to national technological development and competitiveness" (Fischer and Reuber 2000:4) is currently unachievable in the current future where women-driven entrepreneurship in the ICT sector of the Eastern Cape province is concerned. The following reasons qualify this claim.

With regard to specific statistics that reveal the status of SMMEs enterprising in the ICT sector in South Africa, not much literature is available as the sector is under-explored. Often data is included under general statistics reporting on manufacturing output (dead in terms of ICT sector of Eastern Cape Province) or export output (growth in Eastern Cape Province is stimulated by domestic consumption) affected by exchange rates making it expensive to trade in international markets and from a domestic point of view the regulatory compliance issues (duty and taxes) that are weighing on SMMEs. The ability to export is a sign of the SMMEs competitiveness.

However, although e-commerce trading is an open opportunity for SMMEs to divert trade restrictions as confirmed by Maier and Nair-Reichert (2007) study analysing the benefits of e-commerce and e-retailing in the context of SMMEs in developing countries where SMMEs have accrued benefits in terms of greater ease concerning efficiency in administrative and financial processes when linking up with regional, national and global

economies. The findings of this study attest to this as one of the women entrepreneurs whose core business was e-commerce based had this to say:

“It [e-commerce] has also made it possible for business to open 24/7 all over the globe. Business with ecommerce websites is open anytime and anywhere, making purchases from different countries easier and convenient”.

Notably, there was a dearth of literature covering gender disaggregated indicators to prove evidence of women’s potential to contribute sustainably towards economic growth and job growth. The absence of ICT indicators is another missed opportunity to stimulate local economic development within the sector as other aspiring entrepreneurs (unemployed but with ICT skills) would be absorbed in women-owned ICT enterprises or get inspired to start their own ICT enterprises based on case studies of performing and successful ICT enterprises. In sum the ICT sector of the Eastern Cape Province critically analysing the utopian view of SMMEs contribution in the ICT sector of the Eastern Cape province poses challenges to the sustainable viability of SMME women-driven entrepreneurship based on the province’s socio-cultural, economic, technological and political structural barriers influencing women-driven entrepreneurship development.

Early stage entrepreneurship

Tambunan (2009) holds the view that SMMEs women entrepreneurs based in developing economies (rural areas) have the tenacity to survive albeit structural limitations and suggests telecommuting as a viable option. Telecommuting is common nowadays especially in the small business segment where most start-up ventures are launched from home. One of the reasons for this, viewed with gender lenses, can be associated with gender-based discrimination in the form of gender inequalities reflecting start-ups (women’s) inability to secure finance confronted with rejection from financial institutions based on a number of reasons articulated elsewhere in the literature review. Start-up capital for all new ventures is determines continuity or discontinuity of the start-up enterprise. Capital is often needed for renting out office space, office furniture and

buying equipment. Telecommuting in this regard may be a viable option for women entrepreneurs escaping business related gender biases. However, the downside of telecentres as an entrepreneurship models in the context of encouraging entrepreneurial uptake (drawn from local talent) in semi-urban and rural areas especially from the youth segment is that, youth may not be inspired to venture in the direction of telecentres, particularly if the intention is to start a business for purposes of earning an income “necessity driven entrepreneurship” (GEM 20140) particularly when faced with no other option for work). On the other hand, those who want to start a business with the intent to exploit an opportunity in the marketplace may venture in the direction of a private telecentre entrepreneurship model. However, based on the failure rate of private telecentres in rural areas they may not be a viable option for start-ups based on the fact that these centres require heavy investment in terms of financial and human resources as opposed to community based telecentres. Community based telecentres provide advantageous benefit such as, business mentorship to build members capacity in business skills and financial management including financial stability in the form of donor support. However, in terms of employment growth, telecentres have limited potential for growth in new job creation faced with the limitation of financial constraints linked to inability to hire qualified staff as they have to be paid more than what low skilled labour requires.

Another finding relating to telecommuting, concerns women entrepreneurs not being counted in official statistics (Haffkin & Hyer 2006; Heeks 2010); including their needs which are not taken into consideration in the design of SMME support programmes (Maier & Nair-Reichert 2007). This appears to be a common phenomenon in underdeveloped countries. The findings of this study also reveal the absence of sex disaggregated data, underrepresentation of women entrepreneurs in core ICT environments where decisions regarding women’s engagement with ICT are made on the behalf as women are underrepresented at management level including their exclusion from ICT policy making processes and programme design holds clues of gender inequalities which are well document in literature and research studies articulated in the literature review. These issues are compounded by governments’ apathy in promoting rural based SMME entrepreneurship. This influences gender

inequality in rural driven entrepreneurship development. The findings of this study reveal a huge digital gender divide between urban, semi-urban and rural SMME observed in terms of the limited availability of women-owned ICT enterprises especially in rural areas where ICT women-driven entrepreneurship does not exist. Even men-owned ICT enterprises which are few offer ICT training (not accredited) including their dominance (management structure) in community run telecentres “technology access centres”(Lesame & Seti 2014). Men mostly own internet cafes and women own payphone businesses (Buskens & Webb. 2009). Statistics in the Easter Cape Province attest to infrastructural disparities which influence ICT driven entrepreneurship in rural areas. In relation to connectivity, about 75.9 per cent of households have access to a cellphone and 81.2 per cent do not have access to the Internet (Stats SA 2014). Albeit increased mobile penetration levels in rural areas the use of computers and access to the internet is still limited (SAnews 2014).

Some of the factors influencing the slow uptake of start-up business are motivational reasons which determine the whether there is appetite for starting a new venture or not. In this regard findings from a study conducted by GEM (2014) reveal Sub-Saharan countries excluding South Africa see good opportunities on the basis that they have the necessary business skills and knowledge to start a new business compared to South Africa.

Concerning the Eastern Cape Province and according to the findings of this study, women entrepreneurs were found lacking in business skills and knowledge of the industry (market intelligence). This kind of behaviour would be according to Bapat and Harkal (1989:244) associated with “know how risk” which concerns entering the business without an adequate preparation in terms of knowledge and skill (technical). The following statement from the finding of this study confirms this.

“They do want to get into the sector but lack business knowledge. For example, some have tried but have failed because they start big...[pause]...which is a challenge. Instead of starting small then building up their business like, start out with an internet café to get the ropes. Doing

training [as a training provider] for starters may be sustainable as over-head costs are more manageable”.

Although the lack of such skills was an issue, it did not deter some start-up entrepreneurs who willingly took a “personal risk” described by Bapat and Harkal (1989:244) as risk associated with a willingness or preparedness to survive under extraordinary hardships “sink or swim” which involves heavy opportunity costs. The findings of this study revealed when women were faced with such adversities, tend to close business as the following statement confirms.

“Women quickly give up on business especially faced with the challenges I have just mentioned...[pause]...they rather opt for employment yet men are more dedicated and will take the risk”.

The levels of discontinuity (GEM 2014) generally in the start-up segment throughout developing countries are higher than men. This associated with gender factors manifest in gender-based discrimination. The spirit of determination and zeal is a positive attribute of an opportunity-driven entrepreneur who is constantly alert (perceiving the market environment correctly) of new types of economic opportunities regardless of resource limitations (human capital) which are garnished along the way. Not every entrepreneur (opportunity-driven) aspiring to get into the ICT sector is going to first study towards an ICT qualification but may draw on previously acquired qualifications in business management or may have a business acumen based on years of business experience (acquired from another sector). The following statements from the findings of this study support this view. The first one relates to the ICT enterprise owner who ventured into the ICT sector with no prior technical skills and runs an established business:

“Coming into the ICT environment...understanding the link between my computer and the shared network was just completely new. So I had to undergo training...sometimes you get service providers that give you the tools that you need but you do not get the right training for you to be able to utilise them [ICT] to their fullest potential.”

The second one relates to the ICT enterprise owner who had an IT qualification (start-up):

“Well I am running this business that deals with IT (Information Technology) and communications [laughs] but I am really not an IT expert I just know the basics”.

Such entrepreneurs surround themselves with technically oriented staff and seek support in the form of business mentoring and coaching to empower themselves in technical skills. As much as one of the barriers to entry is associated with low education and skills attainment in ICT, the fact is structural issues that can neither be wished away nor addressed in the long term because they are embedded in the social fabric of society. In this regard, SMME demographics and psychographics (where radical change can happen) have to be critically analysed based on the unique characteristics of the province as each province differs.

For example, findings from the study reveal women entrepreneurs (successful in another sector before joining the ICT sector) initially had reservations in joining the ICT sector based on the fear factor of business failure where they were anticipating lack of government or private sector support or peers (men) to mentor and coach them. This correlates with the findings of this study where gender-based discrimination played a role in economically marginalising women as they could not access business related information from networking platforms which were dominated by men. Parallel to this, one of the research questions of this study sought women’s understanding of the ICT sector and their understanding of the ICT sector and what ICT meant to them in terms of their engagement with ICT. The findings suggested women entrepreneurs developed an attitude of failing before they had even failed influenced by gender insecurities. Because entrepreneurial activity is gender sensitive including the ICT sector, socio-cultural, economic and structural barriers will continue to influence entrepreneurship processes irrespective.

South Africa is ranked on par with European countries in terms of having gender balanced rates of start-up business that are started “out of necessity” (GEM 2014).

Measuring perceptions of social values towards entrepreneurship in South Africa about 69.6% (Botswana 69.9%) of people see entrepreneurship as a good choice and in terms of the rate of successful entrepreneurs 72.9% (Botswana 78.1%) faring better to Asian developing countries.

The fear of failure factor, where women are concerned was a finding that correlated with this study revealing women entrepreneurs concerning “risk-taking” (Bapat & Harkal 1989:244) being averse and keen at the same time to embark on business venture risks. Financial risk was associated with the risk of business failure and personal risk taking associated with their determination to succeed despite socio-cultural, economic and technological structural barriers encountered that were manifest in gender-based discrimination resulting in being economically marginalisation in the mainstream economy of the ICT sector.

Innovation in entrepreneurship

From a South African perspective, Booyens (2011) claims innovation levels are unlikely to increase remarkably for “dynamic” enterprises including start-up enterprises and that if it does happen it will be in the very early stages of product life cycle. This confirmed in the SME Index (2013) attesting low levels of innovation in SMMEs arguing although early stage enterprises ‘born digitals’ contribute towards innovation the low levels of innovation will not enable them to stand a chance over competition as they tend to offer the same product (in demand) instead of offering new products (not in supply). Booyens in agreement argues innovation is stifled by SMMEs failing to form strong upward linkages with larger enterprises which would assist them in technology diffusion this affirmed by (Magubane & Goko 2013). In this study, the findings revealed SMMEs relied on large enterprises for support in terms of research and development (R&D) to launch their products.

Although the creation of new enterprises is associated with innovation, not all enterprises are equally innovative. The findings in this study attest to this. The question of innovation was explored through the study’s research questions seeking to understand how women-owned ICT enterprises put to use ICT as a core product. This

was against the background of women and their engagement with technology being researched from a usage point of view. The findings from the analysis of their product(s) and service(s) value chain revealed most ICT enterprises lacked the element of innovative. This is supported by the following statements.

In statement was in relation to the woman's conceptualisation of the concept entrepreneurship which was one of the study's research questions. The response was:

"...it is so hard to find someone like that [innovative] really...someone taking something ordinary and realising that you can actually do something more by making it extraordinary."

The following statement sought to ascertain the level of innovation in women-owned ICT enterprises. This statement was an affirmation on an earlier view claiming the element of innovation from their entrepreneurship was lacking.

"Now what government and everybody [private sector] is looking for is progressive SMMEs who are constantly at the fore front [of innovation]. Also, for me, I see them as part of a research and development sector. Because they should be looking at a problem and coming up with a solution, you know! That is the value that they are supposed to bring."

In this regard the findings pointed to a gap in research from both the academic and industry community in the province concerning critical assessment studies analysing how SMME women-owned ICT enterprises factor innovation "creative destruction" (Schumpeter 1994:83) into their value chain of entrepreneurial processes. Other findings revealed that some enterprises were moderately innovative except for one manufacturing whose entire value chain had factored innovation. The following statement supports this finding.

"Innovation is at the heart of any ICT business and women come through with innovative ideas that improve the growth of the business. For example, we have come up with and innovative product which is a tablet PC powered by solar".

Other findings revealed women entrepreneurs were lacking research and development (R&D) capability and wanted government to support them by imparting information (market intelligence on ICT sector) that would assist their enterprises to offer 'relevant' products but 'different' (innovative) to what competition was offering so as to remain competitive in the ICT sector. This finding is linked to Drucker's viewpoint that "what matters in the knowledge economy is whether knowledge, old or new is applicable" (2008:269) implying new information will not be utilised unless ICT applications are rooted in the realities of local circumstance and diversity. Heeks (2010) on the other hand in regard to the design of innovative yet 'relevant' products for the marketplace (developing economies) suggests three types to innovation approaches that can be employed namely: i) laboratory (pro-poor) i.e. innovation done on behalf of community e.g. Internet cafes; ii) collaborative (para-poor) i.e. innovation done working alongside communities e.g. telecentres; and grassroots (para-poor) i.e. innovation by and within community i.e. ICT training. To go by Drucker's concept of "knowledge economy", the examples given (Internet café, Telecentre and ICT research) are not labour intensive activities that require heavy investment but have room for innovation in terms of content development that could be exported i.e. development platforms to share experiences with counterparts in developing countries. Also on the basis of inclusion no level of hi-tech skills are required but innovative intellectual capital that can revolutionise acceptable forms of technology "creative destruction" (Schumpeter 1994:83) in the advent of mobile applications and based on their uptake in rural communities (Gillwald 2013). Booyens (2011) in this regard made recommendations advocating for government to encourage "knowledge networks" to enable the exchange of information (market intelligence) between SMMEs and counterparts (large enterprises) in domestic and global markets. Similarly, the findings of this study, a need for networking platforms akin to "knowledge networks" to cross pollinate information with counterparts through outbound missions facilitated by government was identified by women entrepreneurs.

Against this background a clear understanding of the SMME environment within the context of the ICT sector and an understanding of SMME women demographic and psychographic dynamics is imperative. A research of this similar nature "Understanding women entrepreneurs in South Africa" was conducted on women in the SMME segment

(formal sector) and not related to a specific industry (SME Growth Index 2013). The report examines characteristics of their enterprises; their motivations for entering business; their growth orientations and how different they are to their male counterparts. Therefore more research needs to be conducted to get the entrepreneurial culture right on SMMEs in general and women exclusively in the ICT sector of the Eastern Cape Province.

Another possible option that SMMEs could take advantage given an enabling policy environment to build innovative capacity is through the unbundling of services. However, there are pessimistic views held by critics regarding the ICT sector as a nurturing ground for SMMEs concerning the postulated benefits accrued from the unbundling of services (economies of scales reaped through small scale production – increasing competitive advantage through innovation), which could enable SMMEs to leapfrog stages of technological development to achieve economic growth resulting in more job creation opportunities.

In this regard, positive gains in terms of leapfrogging technological development are reported in Africa which is progressively closing the gap with the rest of the world showing positively performance in every environment of ICT sector – mobile; 11 broadband; international bandwidth; and PC penetration (eTransform Africa 2012). The majority of these countries however, are factor-driven (high rates of early stage entrepreneurial activity that is opportunity driven) whilst South Africa draws advantages from efficiencies but needs to graduate towards an economy driven by innovation to foster economic growth through job creation and technical innovation (GEM 2014; SME Index 2013). Although within the broad ICT sector, SMME entrepreneurs account for the majority of enterprises in terms of numbers and across industries of the sector, they account for a relative small share of total employment (SEDA 2012:36).

Findings from this study are in tangent with all of the above findings sharing the same structural barriers that inhibit economic growth and jobs generated by SMMEs, in particular where women-owned ICT enterprises are concerned. Other factors that can be mentioned applicable to the Easter Cape ICT sector concern: high ICT costs; low

innovation levels; low export potential; the lack of entrepreneurship models to drive employment; the lack of ICT innovation hubs or clusters to support ICT driven entrepreneurship in semi-urban and rural areas; including government's apathy in supporting SMMEs. All of these factors impact on the SMMEs potential to generate new jobs on a sustainable basis. In this regard Drucker's (2008) theory on "discontinuity" of underlying contemporary socio-cultural, economic, technological and political realities that pose challenges necessitating the enforcement of change to shape the future that is already here with us, is more relevant than yester. Drucker delineates four areas of discontinuity namely: i) the explosion of new technologies resulting in major new industries; ii) the change from an international to a world economy that presently lacks policy, theory and institutions; iii) a new socio-political reality of pluralistic institutions that poses drastic, political, philosophical challenges; and iv) the new universe of knowledge based on mass education and its implications in work and leadership. The advancement of women-driven entrepreneurship in the ICT sector of South Africa and the Eastern Cape Province can only happen when there is recognition from both policy makers and women entrepreneurs that women's active involvement can happen only if ICT policy and programmes are gender mainstreamed and address current structural issues.

Conclusion

From a research perspective, qualitative women-driven entrepreneurship studies across industries conducted on developing countries, Africa in particular, is hard to come by. Often women entrepreneurs are included under the umbrella of small medium enterprises and it is rare to find disaggregated data including specific sector indicators to measure their performance not withstanding policy that is gender sensitive. The ICT sector is the most challenged.

The ICT sector of the Eastern Cape Province that is under investigation is no exception as there is a void in research focusing on women-driven entrepreneurship which was motivation for conducting this study which adopts a bottom up approach that seeks to address the digital gender divide. The findings highlighted gender-based discrimination

as an inhibiting factor which perpetuates the divide manifested in many forms of gender-based discriminatory behaviour embedded in post colonialist socio-economic and political structural issues of the ICT sector such as: inaccessible finance; business related information; inequalities in workplace; career differences; and gender based sexual harassment. The differences were evident between urban, semi-urban and rural areas as attested to by many cyberfeminists authors and researchers in literature reviewed which is not conclusive but selected on the basis of being relevant to categories that emerging from the findings.

The job creation function of SMMEs is of great relevance to the recovery of the global recession since it is clear that policies enabling innovation in new and small firms will have benefits not just for improving products and services and increasing efficiencies but also for meeting job creation challenge of high unemployment. This correlates to government's agenda for promoting SMME driven entrepreneurship policies and innovation to meet productivity and job creation objectives (NDP 2012). What is still lacking though is a solid and comprehensive understanding of what policies need to do to release the innovation capacity of start-ups and established ICT enterprises.

The following in the context of the findings from Tambunan (2009), Fischer and Reuber (2000) compared to the findings of this study suggest the following characteristics as being workable in the context of the women-driven entrepreneurship in the ICT sector of the Eastern Cape: i) industrial clusters (ICT Hubs) to foster innovation nurtured through mentorship programmes as suggested by women entrepreneurs interviewed; ii) SMMEs using E-enabled but appropriate technologies to factor local conditions in developing economies. This correlates with Heeks (2010) idea of inclusivity (disadvantaged communities) to enable them to use co-design products; iii) developing entrepreneurship indicators on economic growth generated by women entrepreneurs; iv) export growth (small scale) of manufactured products and services and development of entrepreneurship, manufacturing industries in the rural areas.

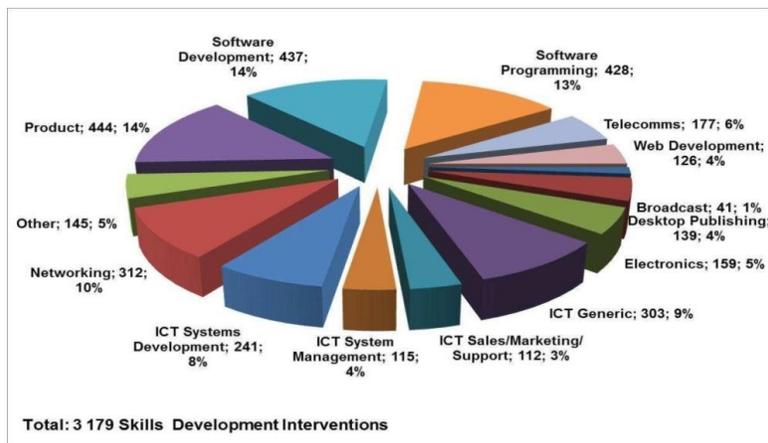
3.3 SKILLS SHORTAGE AND IMPACT ON THE ICT ENTERPRISE

Despite the important role SMMEs have to play in the economic mainstream of the sector, there are still expressed concerns that there is a shortage of ICT skills in South Africa (SEDA 2012, MEG 2012, WEF 2013). Reports from government, training providers, industry, and academia are vocal about this skills gap. These reports emphasise the two extreme polarities between a concentration of non-ICT professionals and a few high-tech professionals. According to a report published by SEDA (2012:8), the education department has an important role to play in terms of aligning its curriculum to incorporate the business element to ICT training. Seegers (PwC 2013), in this regard, states: "Businesses are struggling with a widening mismatch between the skills of their workforce and the skills required"; especially for high-end solutions. This aspect is also observed by Tshabalala (2012) and Harris (2012) and noted in the JIPSA report (2010:46). Seegers (2013) recommends a joint partnership approach between businesses and governments as a solution. It includes collaboration to prioritise investment in employee training and development, as well as higher learning institutions that increase the pool of ICT skills output. These remarks are based on the findings of the PwC 16th Annual Global CEO Survey (2013). In this worldwide survey, the CEO interviews highlight the global predicament of a critical skills shortage; particularly in technology and engineering that are relevant fields to this study. This shortage appears highest on the list of the most serious threats to business growth. ICT Academy head Van der Westhuizen (Vermeulen 2013) also acknowledges the lack of ICT skills in the country: "There is a definite gap in the market, and we are working towards closing that gap".

The lack of entrepreneurial training (Penfold 2012:41) has been identified as one of the factors contributing to business failure (Harris 2012), especially at start-up businesses that often lack business management skills. Numerous reports (e.g. the Global Competitiveness Report 2008 – 2009; 2014-2015) are echoing the same concerns in terms of the education system in South Africa and the crucial reform that could benefit sectors, such as ICT, where there is a dire need for innovative solutions. Figure 3.1

depicts the findings of a survey conducted in 2012 in relation to the different technical skills in the ICT sector.

Figure 3.1: Types of different technical skills required in the ICT sector



Source: The MICTSETA (2012)

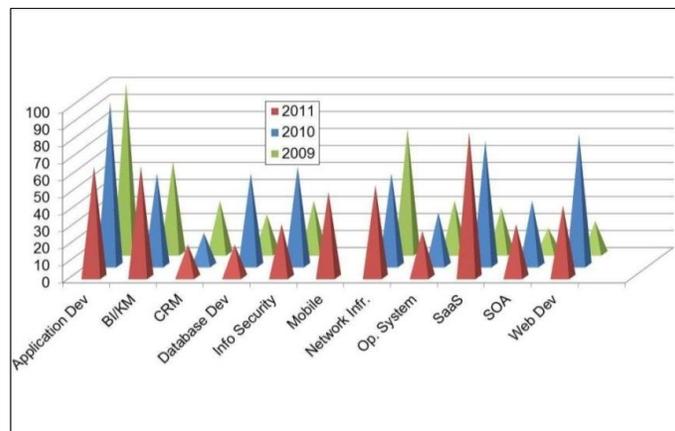
The Global CEO Survey (2013) further emphasises concerns about the limited culture of innovation that is cited in the Global Entrepreneurship Monitor Report (GEM 2012:37). The breakthrough in R & D output, according to a sector report (EY G20 Entrepreneurship Barometer 2013), includes technological advances that are recognised as the principal catalyst in continually accelerating business transformation. The report states CEOs are dissatisfied with the speed at which companies are adapting to technological change, since they view new products and services as the primary driver of growth in their companies.

The joint partnership issue (GEM 2012:79) compliments the key outputs of the JIPSA of government. These mandated outputs include the: i) prioritisation of key skills and implementation of appropriate human resources development strategies to address these issues in the short to medium term; and ii) mobilisation of senior leadership in business, government, organised labour, institutions concerned with education and training, science, and technology to address national priorities in a more co-ordinated and targeted way (2010).

The report confirms that JIPSA managed to deliver on its mandate at the close of its term by increasing the number of students graduating in the field of engineering (14.11

per cent), technicians (3.63 per cent), and technologists (15.79 per cent). The MICTSETA properly articulates the need to address the ICT skills shortage. The MICTSETA in its Skills Sector Plan (2013 – 2018) identifies a skills gap at national level (Figure 3.4) of different scarce and critical technical skills (Figure 3.2) required in the ICT sector and in many industries. In relation to the fluctuating figures, it is reported that while application development skills were an important priority during 2009 and 2010, it declined in 2011. On the other hand, the importance of business intelligence / knowledge management (BI / KM) skills showed an increase in 2011 and software as a service had significantly grown over the three-year period. With regard to database development and information security, in 2011 the figure had declined from the high figure recorded 2010 back to the figure reported in 2009.

Figure 3.2: National ICT priority skills 2009 – 2011



Source: The MICTSETA (2012)

A SEDA study (2012:136) assesses the performance of the services sector and describes the challenges businesses are facing. The main challenges specifically encountered by businesses in the ICT sector include the lack of relevant business management skills, training in technical ICT skills, financial skills, and marketing knowledge. The lack of these skills negatively affects the operations of ICT enterprises and their growth. Access to ICT and skills remains an issue (James *et al.* 2006; Valenduc, Vendramin & Guffens 2004) that is closely associated with women entrepreneurs' inability to competitively participate in the market place. A lack of literacy constrains women's entrepreneurship, since it is higher for women than it is for

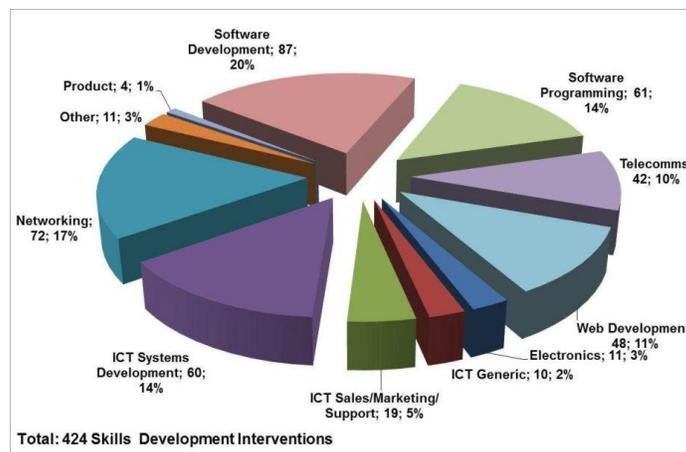
men (United Nations 2013) and restricts access to business information that is critical for increasing and sustaining their competitiveness in the marketplace (Chiwere 2007).

The role of education is highlighted as an important element of encouraging entrepreneurship. Fanaroff (2013:5) remarks:

“Education is another priority issue in South Africa. Skilled employees are necessary for the development of high-growth businesses. We need a much more focused effort on education at every level in South Africa: junior education, tertiary education, university education as well as developing general high-level skills. I think there is great potential for online training, which could be boosted with more connectivity to schools in rural areas” (EY G20 2013:5).

According to Niethammer (2013:34), international research evidence reveals that women have weaker business backgrounds than men. The lack of relevant (technical) education and limited access to skills training affect the growth of women enterprises. Especially in the underdeveloped areas (both urban and rural) of South Africa, for example, females are given fewer educational opportunities, particularly at the higher education levels (Kelley 2013:19). Figure 3.3 depicts the different types of skills that are in demand in the SMME segment of the ICT sector as identified in the 2012 survey of the MICTSETA.

Figure 3.3: Types of different skills required by small business in the ICT sector



Source: The MICTSETA (2012)

At an international level, particularly in economies that are part of the Organisation of Economic Development, Niethammer (2013:31) mentions comparable data about women-owned enterprises that provide evidence of an increasing number of start-up women-owned enterprises which are mushrooming at a higher rate than men-owned enterprises. This evidence advances the assumption that “the poorer the country, the more likely women’s entrepreneurship is driven by necessity” (Niethammer 2013:32). The increasing number of women-owned ICT enterprises has also been reported.

3.4 SMME WOMEN-DRIVEN ENTREPRENEURSHIP AND ITS SIGNIFICANCE IN THE ICT SECTOR

3.4.1 Why women empowerment in the ICT sector is important

Women empowerment in the South African Constitution (1996, Section 9[2]) advocates for the advancement of women. According to the Broadband Commission Working Group report (2013:8) on broadband and gender, while the concept of empowerment is related to gender equality, it also differs from it in some aspects. The commission maintains: i) the core of empowerment is embedded in the ability of women to control their own destiny; ii) empowered women should not only have equal capabilities (such as education); and iii) equal access to resources and opportunities, such as employment, but the right to use those capabilities, resources, and opportunities to make decisions in the context of leadership opportunities and participation in the ICT sector.

Women empowerment should be viewed as:

“Opening up access to decision making, but also must include processes that lead people to perceive themselves as able and entitled to occupy that decision-making space (Rowlands, 1995). Empowerment is sometimes described as being about the ability to make choices, but it must also involve being able to shape what choices are on offer. Empowerment corresponds to women challenging existing power structures which subordinate women” (Oxaal & Baden 1997:3).

Narayan (2002:45-49) provides a succinct definition relevant to entrepreneurship which covers i) accesses to information; ii) inclusion and participation; iii) accountability; and iv) local organisational capacity.

Access to information considers levels of transparency and accountability that are exercised to facilitate communication (clear messages) that is two-way (between the provider and receiver) and that is able to enhance one's knowledge (informative). In the context of SMME entrepreneurship accessing information that is business related from both government and private sector programmes designed for SMME development is key (SEDA 2012). Often as the findings of this study revealed, information is not readily accessible due to the medium (online) used which may not be accessible for entrepreneurs who do not have access to the Internet or landline. Although mobile phones can be used in accessing the Internet, affordability (airtime or data bundles) can be a barrier for most SMMEs. For those who can afford access, information often is not easily retrievable as webpages are often not user-friendly or information required relating to SMME business opportunities is not included. Affordability (telephone costs) can become an issue again when responsible officers are not accessible through direct contact (service centres). Unnecessary telephone costs are usually incurred when holding on for long before establishing contact this includes rental and connection costs (ADSL Internet service provider). As attested in the literature review and findings of this study, SMMEs due to problems in accessing finance, find it these costs an unnecessary expenditure.

Secondly, the face-to-face medium is ideally preferred by most entrepreneurs as they are able to visit local, regional and provincial offices. However, information at local level may not be readily available due to a disconnect between the local and provincial office. In instances where information is available at local level, officers are not empowered enough (too junior or unknowledgeable) to address SMME information needs. The findings of this study attest to inefficiencies and incapacitation of government officials.

Getting access to information is a constitutional right that is institutionalised through Access to Information policies of companies enforced by law. In the context of

decision-making, it is crucial for SMMEs access business related information timeously as this may impact on their bottom line. For example, getting information on tenders on time (before a few hours) before the tender closes impacts on planning decisions that go with considerations for resources that is, financial and human capital. For example, SMMEs have to ensure that monies are available (backup) in case the tender is awarded. This consideration is usually taken on the backdrop of governments slow turnaround payment cycle which maybe anything from 30 days to 90 days even more and at times the consequence is business discontinuity. The findings from this study concerning decision-making, revealed women entrepreneurs were not included in micro-economic decision-making ICT platforms (formal and informal) to make their contribution (as co-producers) on the grounds of gender-based discrimination. Another issue that findings report is the lack of transparency in information regarding getting access to tenders as they were often not advertised especially in instances when they were reserved for particular entrepreneurs. This behaviour was associated with corrupt tendencies by government officials who deliberately marginalised others to manipulate those chosen by extorting bribes or to ask for sexual favours in exchange for the awarded tender. Having a collective voice (entrepreneurial advocacy) as women, promotes gender sensitivity into processes driving entrepreneurship. Besides, it would be motivation to break the stereotypes associated with women-driven entrepreneurship.

In the context of inclusion and participation, literature review and the findings of this study attest to the fact that women are not involved in decision-making platforms where women could be in a position to advocate for gender sensitive ICT policy and programme implementation. Accessing such platforms will be in their 'power' in enhancing transparency by challenging officers who deliberately violate procedures and holding them accountable for service delivery entrusted in their power. In this regard, women entrepreneurs' working together with government and private sector officials to solve blockages influencing women-driven entrepreneurship would be an affirming local organisation capacity. The findings of this study affirm women's assertive decisions on taking action to address gender sensitivity issues. Women's self-empowerment was perceived along the lines of getting access to business related information, improving education and skills training in ICT, participating in decision-making platforms to

mention a few. Empowerment in this regard meant being visible in environments dominated by men and having a voice in raising awareness on matters concerning women-driven entrepreneurship within the ICT sector. This type of leadership thinking is characteristic of Eagly and Carli's (2007) description of women's leadership qualities which entail being an inspiration for others (women aspiring to enterprise in the ICT sector). Eagly and Carli contend women tend to have a maternal concern for treating others (employees) compassionately and transferring skills. These views correlate with the findings of this study where women entrepreneurs (employers) demonstrated a passion for empowering others (employees, learners and community members). This kind of empowerment can be linked to role modelling. This also correlates with the findings which highlighted the need for role models especially in rural areas to encourage more women entrepreneurs to join the ICT sector.

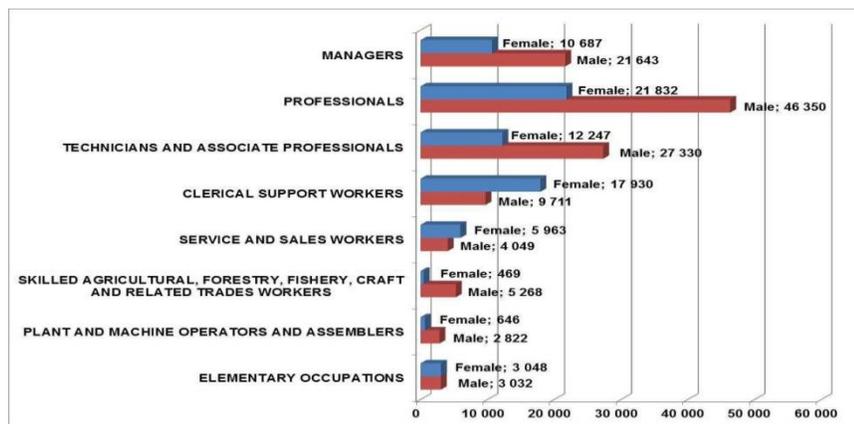
In the context of this study, women empowerment is viewed as a process that leads to women entrepreneurs' understanding of their assertive role in challenging and forming part of the decision-making processes where they could advocate for issues in relation to the development and implementation of ICT policies. For example, influencing change in the ICT education and training environment is critical.

The Women Empowerment and Gender Equality Bill (2013) endeavours to mainstream women empowerment and refers in Section 9 (3) to designated public and private bodies, as well as the ambit of their responsibilities. These responsibilities include the development and implementation of plans and strategies that would assist women to gain power and control over decisions and resources that determine the quality of their lives with the view of achieving the progressive fulfilment of women empowerment and gender equality. Section 5 of the Bill (2013) refers to the development and implementation of policies and programmes that, according to Section 6, should include economic initiatives (cf. Section 10 [3]) that benefit women and their rights to access such initiatives. This is congruent to the joint partnership approach discussed previously.

3.4.2 The relationship between ICT and business

Evidence of the role of ICTs in business has been well documented in literature and there is no doubt about the cost effective gains that accompany ICTs and the ability to accelerate several stages of technological development. However, little attention is paid to researching women-owned ICT enterprises in the ICT sector of the Eastern Cape Province, since there is no evidence of disaggregated data to identify and document differential access between men and women in order to inform provincial policy decision-makers and programme implementers. This study seeks to fill that gap. The disaggregated data in Table 3.4 should be readily available in the ICT sector of this province because it clearly indicates the disparity in favour of males at the managerial, professional, and technical occupational levels.

Figure 3.4: Number of employees in the MICT sector segmented by gender (2012)



Source: The MICTSETA (2012)

Lack of such data is contributing to diverting attention away from women economic marginalisation while the opposite should take place. According to Wood in Valenduc *et al.* (2004), ICTs that are sufficiently gender-sensitive have the potential to be inclusive rather than marginalising. Increasing women entrepreneurs' participation in the 'T' of the ICT sector is important as opposed to their evidential contribution to the 'IC' of the sector (Monyooe & Ledwaba 2004). This could be associated with claims made by Bibby in Valenduc *et al.* (2004:11) who suggest, in mapping ICT professions,

that ICT enterprises should focus on creating more value in the area of ICT knowledge (core ICT work, e.g. ICT producers) and less on ICT-enabled areas (business domain knowledge, e.g. ICT users).

It could be argued that the impact of women-driven entrepreneurship in the ICT sector is minimal, since the ICT sector of the province is still considered to be in its embryonic stages (ECDC website). The empirical findings of this study attest to this assertion as women entrepreneurs are faced with numerous challenges that obstruct them from contributing actively to the mainstream economy of this sector. Women entrepreneurship is regarded as the key to “unlocking economic growth for South Africa” (Global Entrepreneurship Monitoring 2008) and the barriers to this process are well documented in research studies (Small Enterprise Development Agency 2012). However, there is minimal impact on narrowing the digital divide between women and men entrepreneurs in the ICT sector, since no imminent support exists for these women-owned ICT enterprises, including those in rural areas, that are economically marginalised in comparison with men-owned ICT enterprises.

The SEDA Survey (2012:136) identifies specific challenges of businesses in the ICT sector that include:

- i. Access to finance is a serious challenge for ICT businesses as it hampers every aspect of the business from operations and management of cash flow to purchasing equipment and paying for running costs.
- ii. Working capital is another big issue that businesses face, particularly for a start-up ICT business. Accessing working capital could be difficult for SMMEs.
- iii. Lack of infrastructure is a serious concern, since the ICT industry is based on infrastructure. Therefore, having the necessary existing infrastructure, as well as having access to infrastructure are critical to developing a sustainable business.
- iv. The high cost of imported components and products for resale affects the cash flow and profit margins as price fluctuations cannot be mitigated. Yet, the price of

services and products need to remain relatively unchanged in order to retain existing client bases.

- v. The biggest effects of the obstacles and challenges on businesses in the ICT sector recorded in 2012 are:
- Decline in business (25 per cent);
 - Slow business growth (20 per cent); and
 - Increased operational costs (19 per cent).

However, there is a widely held consensus (American Express Open 2013, Herrington & Kelly 2012; Niethammer 2013:31-39) about the significant role that women entrepreneurs play in the economic growth and development of a country, especially in developing economies. Their impact is evident in the area of job creation.

Maria Pinelli, Global Vice Chair, Strategic Growth Markets, (EY G20 Entrepreneurship Barometer 2013) with regard to these issues observe:

“The need to act is clear. Entrepreneurs have the power to create jobs and drive growth – but first we need to give them the tools and the environment that will enable them to succeed.”

On the same note, Fanaroff (EY G20 2013) remarks:

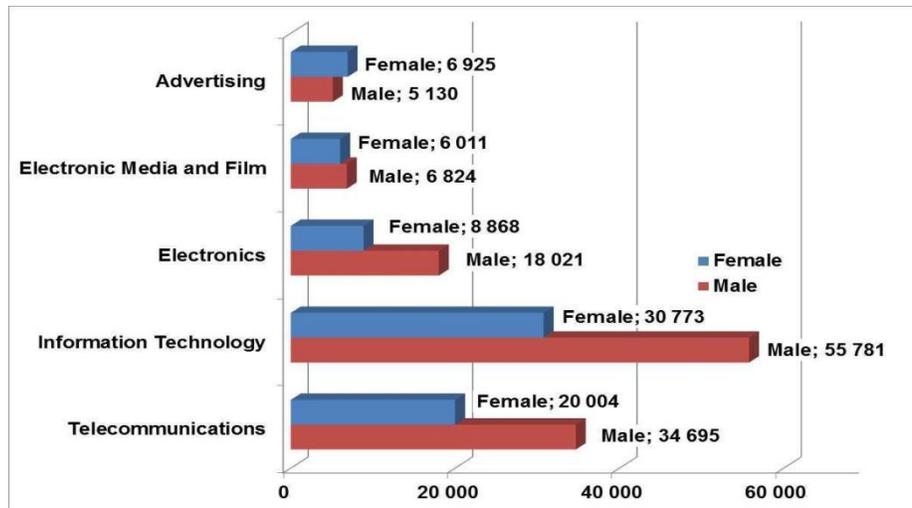
“It’s no secret that unemployment is a huge problem in South Africa. And one of the keys to dealing with this is to increase the number of entrepreneurs who can create new jobs. I think the Government needs to focus more attention on increasing the number of entrepreneurs and the numbers of new businesses” (EY G20 2013:5).

The MICTSETA shows evidence that SMMEs are making inroads into the ICT sector; between 2011 and 2012 there was an increase of seven significant enterprises in the

Electronic Media and Film, Electronics, and Information Technology sub-sectors These are areas where women are mostly concentrated.

Figure 3.5 shows it would appear that women are attracted to the advertising sub-sector in particular but they also favour the electronic media and film sub-sector.

Figure 3.5: Gender distribution of employees (2012)



Source: The MICTSETA (2012)

According to the MICTSETA, the number of small enterprises increased due to new start-up enterprises across all sub-sectors while the same trend does not appear in the large enterprises.

The innovation metrics of the EY G20 Entrepreneurship Barometer (2013:7), recorded low performance scores for the country in terms of spending on R & D and the number of registered researchers in this environment while “patent applications fell by 24 per cent between the year 2008-2011, an indication that the country’s research institutions are unlikely to produce a large number of innovations with a commercial application in the near future thus undermining prospects for the country’s innovation-led start-ups”. Challenges in education (poor or lack of orientation in science and technology) are contributing to these low levels of innovation by women entrepreneurs.

According to the Global Entrepreneurship Monitor Report (2012), elements that drive innovation and entrepreneurship are: i) R & D transfer; ii) Entrepreneurial finance; iii)

Government policies; iv) Government entrepreneurship programmes; v) Entrepreneurship education; vi) Commercial and legal infrastructure for entrepreneurship; vii) Internal market openness; viii) Physical infrastructure for entrepreneurship including culture and social norms.

3.5 THE IMPACT OF CORRUPTION IN RELATION TO WOMEN-DRIVEN ENTREPRENEURSHIP

Corruption is a common phenomenon in both developed and developing countries both in government and private sector. Corruption is commonly viewed as “acts in which public power is [abused] for personal gains in a manner that contravenes the rules of the game” (Jain 2001:73; Treisman 1998:1). In South Africa, the term “tenderpreneur” is commonly used to describe government officials who enrich themselves by awarding government tender contracts in a corrupt way. A survey conducted by the United Nations (2012) findings revealed SMEs resorted to corrupt tendencies to survive as they had to compete with large enterprises. The findings also reveal that corruption is tolerated by SMEs who have a “short-term vision and perspective since they tend to think only about the present or the very near future as they often see only the short-term benefits of corruption and don’t think about the hidden costs that will accumulate in the long run” (2012:2).

Jain (2011), in addition, explains how corruption occurs at many levels on a continuum of benign to extreme corrupt activities. Jain provides this example:

“Most people are exposed to corruption in its benign form when they have to pay a bribe to receive a service from a government official. Quite often, the service would have been a right of the citizen; the bureaucrat may merely have discretion over imposing some costs... on the citizen before granting the service” (Jain 2011:3).

This is akin to corruption activities that women entrepreneurs interviewed in this study levelled at government officials. These women claimed that they were expected to pay a bribe (percentage of the tender) in exchange for tenders awarded by government

officials. Another finding revealed fierce competition for government tenders between women and men-owned enterprises that were start-ups and established enterprises. Established enterprises were economically marginalised whilst start-up enterprises who had connections with government officials to by-pass bureaucracy. The term “destabilising the market” was used by one of the women entrepreneurs in articulating the radical change that was associated with unfair competition. They also claimed sexual favours were expected of women when awarded a tender. The findings also report no action was taken in reporting corruption as no action would be taken against these officials and women were not sure about the procedure to follow if they were to report them. Corruption in this context was a result of gender inequalities manifested in economic inequalities. In a study conducted in South Africa by the Institute for Security Studies in 2004, findings reveal, corruption was not reported based on a view that it would not change anything and the fear of being victimised was a contributing factor in covering up corruption including the lack of knowledge about where and how to report it. The United Nations report (2012) in this regard provides a guideline on how to curb corruption such as, making use of business networking forums to raise awareness and including corruption related issues in the curricular of entrepreneurship training.

In the context of the Easter Cape Province, corruption is bound to be rampant as confirmed by this study as there are stark inequalities between urban, semi-urban and rural areas where poverty levels are high, unemployment figures are high, the economy is slow and a majority of SMME activity is in urban areas. This is not surprising as the ICT sector is still in its embryonic stages of development and no legislative framework is in place to deal with matters of corruption as other countries are doing. Unless women entrepreneurs take action, corruption will continue to influence women-driven entrepreneurship processes to their marginalisation in the ICT sector.

In conclusion, whilst it is corruption is a common practice in many African countries (Global Entrepreneurship Monitoring Report 2012; 2013 PwC Annual Global Economic Crime Report), the effect that corruption has on entrepreneurship development is growing concern as it is creating entrepreneurial apathy and increasing further

economic marginalisation of those SMMEs that are not fortunate enough to have inside connections to influence tender processes to their advantage.

Trentini and Koparanova (2013) state that women entrepreneurs are less likely to engage in corrupt behaviour than men entrepreneurs. They further claim that women starting small businesses or expanding established activities are particularly affected and note that corruption in the public sphere limits the effects of special support programmes for women entrepreneurship. MEG (2012:79-80) also illustrates the magnitude of this corrupt culture that is increasing countrywide and affecting the ability of businesses to survive and grow in South Africa. MEG remarks:

“Government must enable market access for legitimate small companies by putting an end to ‘fronting’ and ‘tenderpreneurship’. Corruption must be eradicated completely, at all levels of society, to allow legitimate new and growing businesses a fair chance. Furthermore, not only does corruption have a negative impact on existing businesses, it could also lead to a decrease in both perceived opportunities and the desirability of entrepreneurship, thereby affecting our already small pool of potential and intentional entrepreneurs” (MEG 2012:80).

Trentini and Koparanova (2013:8) acknowledge the practice of corruption as a common behaviour, especially among new entrants who engage in corrupt behaviour that they term “administrative corruption”. It refers to illicit and non-transparent provision of payment to public officials in exchange for preferential treatment in procurement processes. In this study, women entrepreneurs alleged that new entrants were “destabilising the market”, since they had inside information to tender specifications, therefore, they were able to undercut the price of traditional suppliers (women-owned enterprises). Subsequently, those traditional suppliers hardly benefitted from the BEE scorecard system which government intended as an added advantage (extra points awarded) for women-owned ICT enterprises. In this regard, it could be argued that these perceptions confirm the close link between corruption and gender-based discrimination. The deductive section of Chapter 5 provides an extensive comparison

between empirical data and the theories of cyberfeminism and entrepreneurship that reveal the magnitude of the problem.

3.6 SUMMARY

This chapter provides a theoretical account of the insights extrapolated from existing theoretical frameworks that could broaden the understanding of the categories identified by the researcher that were central in the empirical findings. Discrimination levelled against women entrepreneurs appearing in different facets including corruption, as confirmed by literature, is an issue that women entrepreneurs from other business sectors and across the country are experiencing. Although legislation embraces women empowerment, in practice women remain marginalised in the ICT sector, since support from government remains illusive. Other studies also emphasise the insufficient capacity building of women entrepreneurs, especially, their lack of access to business related information. This includes their inactive role in activism for active participation in the mainstream economy of the sector. Despite the fact that government and the private sector recognise the significant economic role of women payoff in the ICT sector, no effective coordinated action programme addresses the needs of these women. The following chapter maps out the research methodology followed in the MGT design and ends with the data collection and analysis procedures.

CHAPTER 4

RESEARCH METHODOLOGY

“Qualitative research is like peeling away the onion, until one gets closer to the essence of the phenomenon.” (Sprenkle & Piercy 2005:69)

4.1 INTRODUCTION

This chapter offers a description of the MGT research design (Goldkhul & Cronholm 2010), a summary of the research aims, the research questions addressed in the study, and illustrates how the MGT method was systematically applied to generate the substantive theory with the purpose of exploring and explaining SMME women-driven entrepreneurship in the ICT sector of the Eastern Cape Province.

The research design emphasises an iterative analytical approach to data collection and analysis in developing the substantive theory. Data was analysed inductively and deductively. The inductive driven analysis was conducted following a sequence of procedures that included: i) full transcription, familiarisation and initial interpretation including member check procedure; ii) identifying early codes and conceptual labelling; iii) generating and relating substantive categories, properties and dimensions; iv) constant comparison (Glaser & Strauss 1967:115, Strauss & Corbin 1998: 223) within the first interview and between subsequent interviews; v) saturation of categories; vi) systematic and cumulative theoretical sampling (Strauss & Corbin 1998:210) and vii) theory condensation. Data was deductively analysed employing MGT analytical procedures not found in GT namely, explicit grounding, comprising of theoretical matching, explicit empirical validation and evaluation of theoretical cohesion. The chapter also highlights the limitations of the research design and describes the ethical considerations.

4.2 RESEARCH AIMS

The research study aimed at providing a grounded analysis of women-driven entrepreneurship in the SMME segment of the ICT sector in the Eastern Cape Province.

The researcher needed to develop an in-depth understanding that was grounded in the experiences of SMME women entrepreneurs who conducted enterprising business activities in this sector. The voices of women entrepreneurs were used to describe what happened contextually in practice in their enterprises and why it happened. In the process, the researcher sought to identify fundamental factors from emerging data that influenced women-driven entrepreneurship processes and exposed issues or restrictive conditions about the status quo that women entrepreneurs were concerned about. The analysed data enabled the researcher to substantiate a change orientated support programme with the view of continued growth and development of SMME women-driven entrepreneurship in the ICT sector of the Eastern Cape Province.

4.3 RESEARCH QUESTIONS

Based on the research interest, the following research questions were investigated:

- i. How do the selected SMME women entrepreneurs conceptualise the ICT concept as a technology and a sector?
- ii. How do SMME women entrepreneurs conceptualise the concept of entrepreneurship?
- iii. Why is the ICT sector regarded as a critical enabler in advancing SMME women-driven entrepreneurship?
- iv. In what way do SMME women entrepreneurs employ ICT as a core product and service of their ICT enterprises?

- v. How do SMME women entrepreneurs perceive the role of government in supporting the advancement of SMME women-driven entrepreneurship in the ICT sector of the Eastern Cape?
- vi. How do SMME women entrepreneurs perceive the role of the private sector in supporting the advancement of SMME women-driven entrepreneurship in the ICT sector of the Eastern Cape?

4.4 RESEARCH DESIGN

The research design of this study was the MGT (Goldkhul & Cronholm 2003, 2010) that was anchored in a GT design, described by Strauss and Corbin (1998:24) as “a qualitative research method that uses a systematic set of procedures to develop an inductively derived grounded theory about a phenomenon”.

Wertz, Charmaz, McMullen, Josselson, Anderson, and McSpadden (2011) in Charmaz (2012) point out the features that distinguish a GT from other forms of qualitative analysis. GT guidelines advise that each phase of inquiry should raise the analytic level of the work. Developing theoretical categories is a central part of the analytic process. We grounded theorists record, check, and presumably saturate the properties (i.e. characteristics) of our theoretical categories with data. In addition, we look for variation in these categories and relationships between them. Most qualitative studies address “what” and “how” questions (Wertz *et al.* 2011).

As a novice in grounded theory methods, the researcher guarded against methods that bordered on pure qualitative and GT analysis that required different coding processes (Charmaz 2012). The researcher employed Strauss and Corbin’s (1998) GT approach as a foundation for this study. Strauss and Corbin’s methodology was chosen based on their flexible methods (Glaser & Strauss 1967).

Guided by the research interest and research questions, the study aimed at exploring and describing SMME women-driven entrepreneurship in the ICT sector of the Eastern Cape Province. Since little was known about the phenomenon, the researcher was motivated to contribute towards literature where this “topic of interest has been

relatively ignored in literature or has been given only superficial attention” (Goulding 2002:55). In view of the fact that the development strategies of government and the private sector put SMME women-driven entrepreneurship in the ICT sector of the province on the radar screen, this gap in empirical research had to be addressed.

The MGT research design was, therefore, an appropriate choice for the researcher who needed a research methodology that would be flexible in facilitating the development of conceptual categories and their relationships that were grounded in the experiences of participants. The researcher was keen to discover entrepreneurship processes that indicated “reciprocal changes in patterns of action, interaction” indicative of “changes of conditions that are either internal or external” (Strauss & Corbin 1998:169) to women-driven entrepreneurship processes and to understand these processes from the perspective of the women entrepreneurs themselves.

The interchange between an empirically driven and a theoretically driven approach (Goldkuhl & Cronholm 2010) enabled the researcher to apply a bottom up method for grounding the evolving theory from an inductive iterative process of data collection, coding, data analysis, and interpretation. The method of constant comparison, theoretical sampling, and matching the inductively generated data with theoretical frameworks grounded the theory. The theoretical frameworks of entrepreneurship and cyberfeminism were considered because their inclusion was relevant for adequately addressing the research questions.

Given those research conditions, choosing the GT method (inductive approach) instead of the MGT method (inductive and deductive combined) was not an option in view of the fact that there were different versions of the same method (cf. Dunne 2011) that were not explicit about the use of pre-existing theories during theory development. Employing a GT framework, therefore, would not have sustained the researcher’s confidence in demonstrating procedural adherence to GT methodology that compromised methodological rigor. Finally, MGT (Goldkuhl 2004; Goldkuhl & Cronholm 2003; Goldkuhl & Cronholm 2010) was employed to provide contextual depth and detail to exploring this substantive area about the socially centred phenomenon of ‘SMME

women-driven entrepreneurship' that had not been well researched. In essence, the whole aim of employing the MGT methodology was based on it being an emerging design that could be employed to explore and “discover what is going on, rather than assuming what should go on” (Glaser 1978:159) in terms of SMME women-driven entrepreneurship in the ICT sector.

As a result of the epistemological underpinnings of this study, the researcher played an active role in co-constructing the substantive theory (Chamaz 2006) that was evident in this study because the researcher kept the voices of SMME women entrepreneurs audible in the meaningful interpretation of the in-depth interviews.

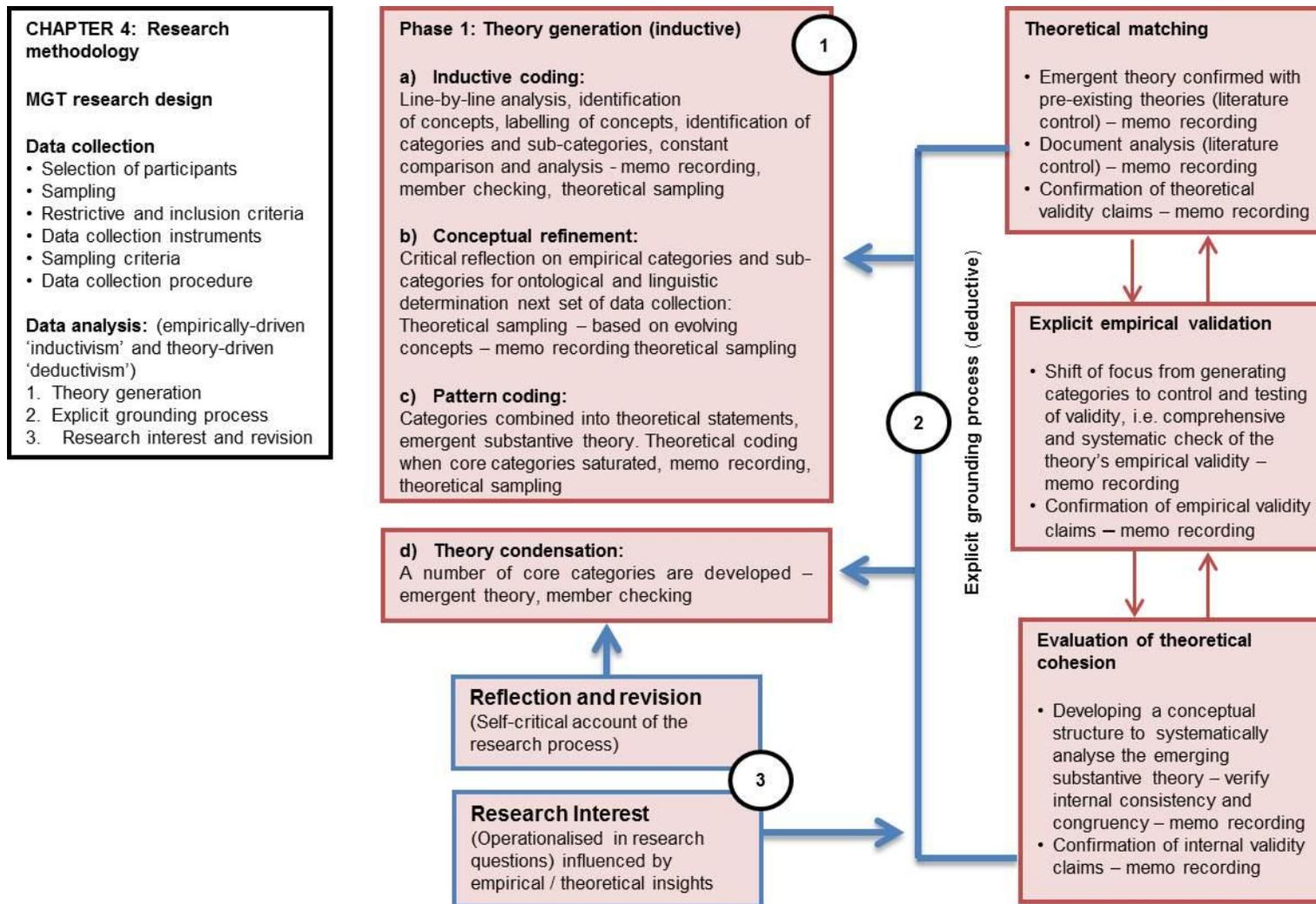


Figure 4.1: Core tenants of an MGT research design – SMME Women-Driven Entrepreneurship Substantive Theory: data collection and analysis (empirically-driven and theory-driven)

4.5 SECTION A: DATA COLLECTION

4.5.1 Selection of participants

Having conducted a controlled literature review earlier, the researcher had an indication of where to start looking for the sample. There were a number of factors incorporated in the inclusion and exclusion criteria that the researcher had to take into consideration that were likely to influence the process of purposive sampling such as, the geographic location (urban or rural) and the verification of the value chain of products and services offered by ICT enterprises to maintain data integrity. Some enterprises for example, although registered as an enterprise in the ICT sector, had since changed their primary focus from ICT products and services to general trading.

The researcher decided to focus on the Buffalo City Metropolitan (BCM) area – East London, King Williams Town and Bisho and the Nelson Mandela Metropolitan (NMM) area – Port Elizabeth, Uitenhage and Despatch. The two metropolitan municipalities were suitable locations because:

- i. Both metropolitan municipalities were urbanised with well-developed integrated economic development networks, developed infrastructure, full representation of industries across all sectors of the economy and an economically active contingence of enterprises. Statistically, 45 per cent of the province's GDP comes from the NMM area followed by BCM (21%) with the remaining shared among the remaining six district municipalities.
- ii. The contact register initially obtained from the MICTSETA before the researcher conducted the study indicated that a majority of ICT enterprises were situated in the two metropolitan areas. This confirming the findings from an earlier scoping exercise conducted to identify women-owned ICT enterprises from the six district municipalities. With the exception of one ICT enterprise based in Mthatha that was included in the interviews, other enterprises did not meet the inclusion criteria.

The first interview conducted was selected on purposeful sampling grounds with the purpose of pilot testing the interview guide. This interview was included in the sample as no significant changes were made to the interview.

4.5.1.1 Background on the Eastern Cape Province

The Eastern Cape Province is frequently measured as one of the poorest provinces of the country after Limpopo and KwaZulu-Natal. The province comprises of a large proportion of the population living in the rural areas. The province is characterised by spatial inequality of both infrastructure and economic development between urban and rural areas. According the Department of Economic Development, Environmental Affairs and Tourism (DEDEA) statistics (2014), the Nelson Mandela Metro (NMM) and Buffalo City Metro (BCM) are the two industrialised areas that contribute largely to the growth of the province's economy (GVA 59.9% & 25.1% respectively) although growth has been sluggish affected by the national economy's receding growth from 3.5 per cent in 2011, to 2.5 per cent in 2012 and 1.8 per cent in 2013 (StatsSA 2014). The province has the highest rate of unemployment compared to other provinces. According to the National and Provincial labour Market 2008-2014 report, the unemployment rate between 2008 and 2014 rose from 37.2 per cent to 39.4 per cent for males and from 38.1 per cent to 42.4 per cent for females over this same period.

The province comprises of a young working population between ages 15-34 with young women affected the most by unemployment (10% higher than males). Although the level of education attainment during the same period is reported to have improved, the skills shortage across industries, particularly where women are concerned remains a going concern for the province. Parallel to this is the mismatch between available skills and those required by industry against a backdrop of rapid technological change and the demands of modern manufacturing. According to stats issued by DEDEA in 2013, private sector contributes about 56 per cent to 61 per cent towards employment and the manufacturing sector relevant to this study in the context of the ICT sector, is counted among the top three sectors that provide the bulk of employment in the province, and government services being the largest (35.2%) employer.

Notably, in the DEDEA (2013) report, activities of the ICT sector do not feature among the listed four namely utilities, (electricity and water), construction, transport and finance which are measured based on strong forward and backward linkages created with other activities in the economy of the province. The manufacturing sector, regarded as an engine for growth (17% GVA), comprises of manufacturing ICT industries largely the automotive industry which also contributes to a fair share of employment. Not much is

reported on the other industries making up the ICT sector which could suggest the ICT sector is not prioritised in the development agenda although much noise is made about it in the media and investment platforms.

According to a DEDEA's (2014) presentation on the business environment in the Eastern Cape the following statistics were presented: the two metros, NMM and BCM contribute 84.6% of provincial manufacturing output; the export contributions are remarkably low and only 2 per cent of SMMEs are export oriented; the province has 261 000 SMMEs (StatsSA 2007) and the province is considered the third largest SMME market after Gauteng and KwaZulu Natal; the informal segment accounts for 13 per cent against a 5 per cent figure of formal SMME activity in South Africa and the provincial share of the SMME market is about 7 per cent; about 51 per cent of the small enterprises (micro and survivalist) are located in rural areas; the SMME bands are broken down as follows – survivalist (17% of national market) and largest, micro (10%) fourth largest; very small – relatively small compared to Gauteng (42%), Western Cape (16%), KwaZulu Natal (12%).

The ICT sector which is still in its embryonic stages of development is not immune to the socio-economic and technological structural imbalances articulated above especially in the context of their impact concerning SMME driven entrepreneurship in both semi-urban and rural areas where the bulk of small enterprises are concentrated. Issues of access to ICT infrastructure matched with the unavailability of ICT skills in these areas is a foreseeable challenge concerning bridging the entrepreneurial divide between these areas and urban areas. Inhibiting factors amongst many characteristic of the Eastern Cape Province that have a bearing on SMME driven-entrepreneurship in the ICT sector include, gender inequality, inequalities in education, economic inequality, and low rate of growth in job creation. In relation to connectivity, about 75.9 per cent of households have access to a cellphone and 81.2 per cent do not have access to the Internet (Stats SA 2014). Albeit increased mobile penetration levels in rural areas the use of computers and access to the internet is limited (SAnews 2014).

These factors have a bearing in harnessing SMME women-driven driven entrepreneurial activity as women are commonly more disadvantaged concerning ICT education attainment levels which are essential in a highly technical environment such as the ICT sector which is innovation-driven and thus requiring high qualifications that

are rare to find (MICTSETA 2012). However, as education attainment is an important determinant of an economy's capacity to compete successfully, the ICT sector of the province with the right skills mix SMMEs may well stand a chance to leapfrog the stages of technological development through the ICT sector. Although DEDEA attests to government rendering support in the form of incubation programmes for SMMEs, Notably, the statistics are not gender disaggregated to give an indication where their focus lies in concerning women. The focus appears to be on the automotive sector and the value chain ICT based activities that feed into this sector are not explicitly mentioned in the DEDEA report (2012).

The postulated utopian view relating to the ICT sector as being a springboard for SMMEs to accrue economic wealth and contribute to job creation where the Eastern Cape's ICT sector is concerned appears to be an exaggeration based on this review. Which correlates to the controlled literature review suggesting utopian views held worldwide (SEDA 2012) and the perceived importance of women's role in driving economic growth (Herrington & Kelly 2012; Niethammer 2013 & Women's Net South Africa) based on the premise that women-owned enterprises grow faster than those owned by men (Ernest & Young 2013) this against the backdrop of an environment that is not enabling (EC ICT strategy 2009-2014). These claims are yet to be proven where the Eastern Cape Province is concerned as there are no guarantors of success of SMME ICT enterprises in particular women-owned ICT enterprises.

Of significance to this study according to the census report (Stats SA 2014) is that, not only do women have high unemployment levels suggesting room for possible start-up business but that females according to the composition of the population of the Eastern Cape Province outnumber males (4.5%) suggesting a niche market that can be taken advantage in promoting entrepreneurship development. Evidently, drawing from the above findings, it would appear there is dislocation between existing literature and empirical grounded findings, which calls for a thorough analysis of the ICT sector at provincial level which this study seeks to do. Another study by Kent (2013) conducted on issues of ICT development in the three provinces of the country including the Eastern Cape, highlights disparities between urban and rural economies, and criticises the utopian ideology arguing development cannot be leapfrogged by technology based on the inherent structural imbalances facing underdeveloped areas.

4.5.2 Sampling procedures

4.5.2.1 Sample

The sample (Pilot & Beck 2010) for this study was defined as SMME women entrepreneurs trading in the ICT sector in the two major cities in the Eastern Cape Province, namely the Nelson Mandela Metropolitan Municipality (Port Elizabeth, Uitenhage, and Despatch) and the Buffalo City Metropolitan Municipality (East London, King Williams Town, and Bisho).

These SMME women entrepreneurs were either registered owners of an ICT enterprise, cooperative, part owner (51 per cent shareholding), or manager in charge who were responsible for the expansion and strategic development of the ICT enterprise.

4.5.2.2 Sample size

The sample was not fixed and relied on theoretical sampling. The “size” of the sample in grounded methods cannot be decided before the study commences (Strauss & Corbin 1998:214) but only when “theoretical saturation” has occurred. In essence, it means that no further information (concepts) or variation (theoretical) can be obtained from analysing data any further (Glaser & Strauss 1967:61). In this study, for example, theoretical saturation was attained at the end of the 14th interview. Although the sample was small it represented a wholesome account of all substantial experiences.

According to Creswell (2002), a sample size could be about 15 to 20 interviews. Maxwell (1998) and Strauss and Corbin (1998:281) suggest a figure between 10 and 12 is acceptable in a qualitative research study based on the fact that qualitative research is rigorous and detailed in its coding processes.

According to Charmaz (2006:114), the sample size could be small with “modest claims” and saturation is achieved quicker. This suggests that the quality of collected data “supersedes the sample size”.

4.5.2.3 Sampling criteria

- **Purposeful sampling**

Purposeful sampling is the process of selecting information rich cases for a study (Patton 2002: 230) based on the researcher's personal judgement (Polit *et al.* 2001). Purposive sampling – according to Omen, Krugman and Fink (2003) – can be used at the beginning of a qualitative study. For the purpose of this study, the research questions guided the purposeful sampling and were specifically used to pilot the interview guide (Jeon 2004). The subsequent interviews were conducted by means of “theoretical sampling” (Corbin & Strauss 1998:210). That meant the categories and concepts emerging from data collected from previous interviews guided the researcher where next to collect data. Hood, in Charmaz (2006:101), explains the difference between theoretical sampling and purposeful sampling asserting that theoretical sampling is “purposeful sampling according to categories that are developed from one's analysis and not based on quotas but theoretical concerns”.

- **The pilot interview**

The pilot interview was conducted at the premises of a participant in the Buffalo City Metropolitan Municipality. The researcher identified the participant from a pre-drawn list obtained from the MICTSETA.

Nune, Alajamy, Al-Mamari, Martins and Zhou (2010) advocate for pilot studies to be conducted in a grounded theory approach and state that:

“Pilot studies can... provide the researcher with the necessary reflexivity and awareness of having the human ecology that Strauss and Corbin (1990:42) define as 'the attribute of having insight, the ability to give meaning to data, the capacity to understand, and the capability to separate the pertinent from that which isn't”

The pilot interview aimed at evaluating the clarity and appropriateness of the semi-structured interview guide questions and gaining insight to changes that subsequently informed theoretical sampled interviews (Nune *et al.* 2010). Feedback from the pilot

interview informed changes made to the interview guide in terms of rephrasing some of the questions.

- **Theoretical sampling**

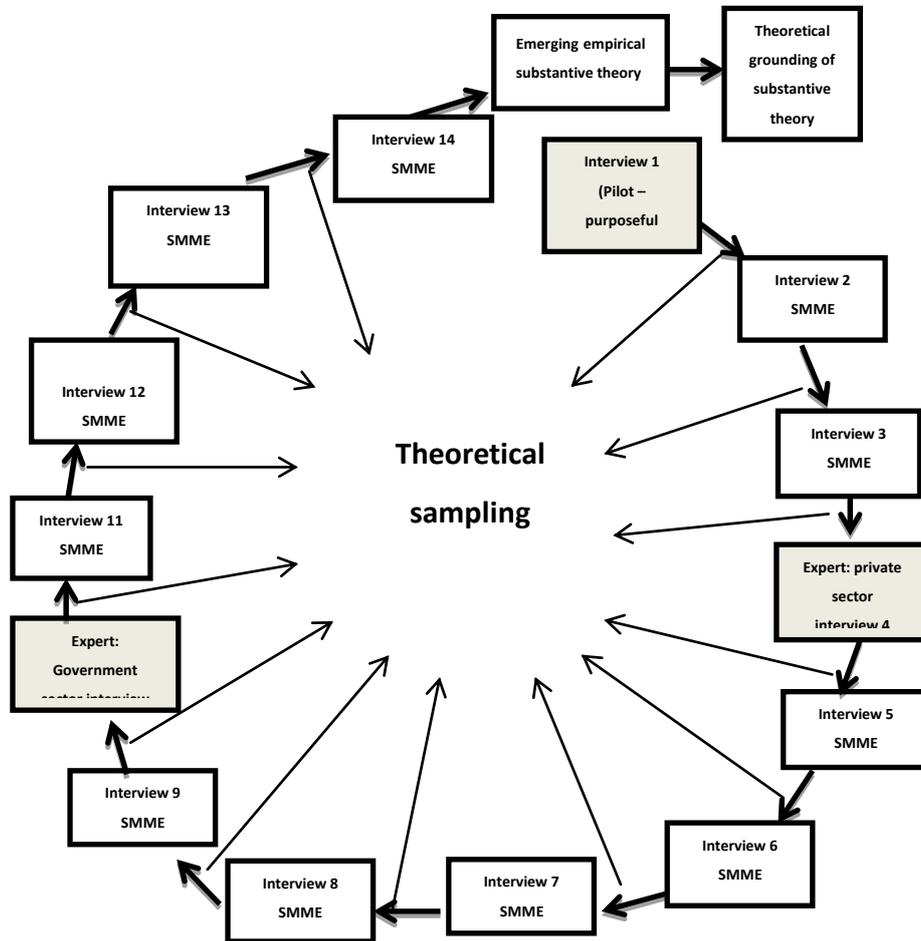


Figure 4.2: Theoretical sampling from Interview 1 to 14

Theoretical sampling (Glaser 1978:36, Glaser & Strauss 1967:45) in a GT research design happens by selecting subsequent interviewees based on information emerging from data that has been already coded. This implies that a researcher samples for the purpose of developing and refining identified tentative categories, their properties, dimensions, and variations as they emerge from data (Strauss & Corbin 2008:143). This sampling method is different to sampling applied in a conventional qualitative design that samples for population representation (Corbin & Strauss 1990:8, Strauss & Corbin 2008, Charmaz 2006:101; 2012:11). As such, in a quantitative approach “researchers want to use their data to make statistical inferences about their target

population” (ibid.). In a grounded approach, however, the aim is to fit emerging theories with data. Charmaz (2012) asserts:

“Theoretical sampling is predicated on fresh analytic categories and thus occurs later. Gathering data to fill out the properties of a tentative category is theoretical sampling. You keep gathering data until no new properties of your categories emerge. This strategy means that you saturate [theoretical saturation] the properties of your category, not the data” (Charmaz 2012:11).

The theoretically sampled women entrepreneurs were initially selected from the provincial database of the MICTSETA and subsequently through referrals from previously interviewed women entrepreneurs. The contact register, the researcher discovered, did not reveal whether the enterprises were women owned or not and that necessitated the researcher to proceed with a process of verifying ownership by telephoning every ICT enterprise on the list to ensure that every enterprise met the selection criteria. A number of ICT enterprises on the list, as it turned out, were owned by men. The verification process also confirmed a substantial number of ICT enterprises on the contact register that had either closed down or changed their primary focus of product offering. That could not have been coincidence. The researcher reflected on the research interest and speculated why these SMMEs were abandoning the ICT sector when there was so much emphasis on the promotion of SMME driven entrepreneurship in the ICT sector, in particular women-driven entrepreneurship.

- **Restrictive inclusion and exclusion criteria**

The restrictive inclusion and exclusion criteria (Polit & Beck 2010) were employed to control as many extraneous factors as possible to maintain trustworthiness in the sampling criteria. The inclusion criteria refer to specific characteristics or criteria that participants were expected to meet in order to be included in the study. These criteria included finding eligible participants who were SMME (as defined in the National Small Business Act 1996) women entrepreneurs from both metropolitan municipalities of Buffalo City and Nelson Mandela and whose core business, in accordance with the ICT sector definition (Stats SA 2012), corresponded with any one of the ICT industry categories; such as manufacturing, producing, or processing ICT related products or services.

The researcher also decided that industry experts would be considered for theoretical sampling to bridge any gap in information which participants provided. This would apply in instances where information that participants shared was insufficient due to a lack of adequate technical knowledge or orientation on a matter.

The exclusion criteria referred to participants whose characteristics or attributes, according to the sampling criteria, were found not suitable for inclusion. A number of ICT enterprises registered on the MICTSETA list had to be excluded, since they did not fit the selection criteria. Some enterprises, for example, had since changed their primary business focus from ICT to general trading.

4.5.2.4 Profile of participants

A total number of 14 participants from the different ICT enterprises were interviewed. Chapter 5 contains a detailed profile of participants. The interviews were conducted between April and September 2013.

4.6 SECTION B: DATA COLLECTION PROCEDURES

4.6.1 Interview guide

An interview guide “serves as a framework for the main body of a semi-structured interview and is based on the key questions that the study is addressing” (Arksey & Knight 1999:97). Different interview guides were developed for SMME women entrepreneurs, a government sector expert, and a private sector expert. The interview guides comprised a number of thematic questions that the researcher wanted to explore during the interview (Patton 2002:341). The interview guide assisted the researcher in structuring the interview by asking SMME women entrepreneurs the same questions while providing flexibility in pursuing certain questions in greater depth and modifying the questions for the industry experts (government and private sector) – as the MGT theoretical sampling procedures describe – in order to focus attention on areas of particular importance to the research questions (Lofland & Lofland 1984).

The interview guide contained both closed-ended questions (Part I, Section A and B) and open-ended questions (Arksey & Knight 1999:97) that were used in Part II, Sections C, D, and E. Part I was a short section and covered closed-ended questions

primarily designed to provide demographic and contextual information about the ICT enterprise while the more extensive Part II contained open-ended thematic questions designed to solicit business knowledge information and the role of the government and private sectors in SMME development.

The structure of the interview guide was:

Part I: Closed-ended questions

Section A: Demographic details of the woman entrepreneur

Section B: ICT enterprise related information (ICT enterprise development and operations)

Part II: Open-ended questions

Section C: Business knowledge information

Section D: Role of government in SMME development

Section E: Role of the private sector in SMME development

Appendix E contains the interview guides.

4.6.1.1 Semi-structured in-depth interviews

- **Interview**

An interview is defined as “a process in which a researcher and participant engage in a conversation focused on questions related to a research study” (deMarrias 2004:55).

- **In-depth interview**

An in-depth interview is “a qualitative research technique that involves conducting intensive individual interviews with a small number of participants to explore their perspectives on a particular situation” (Boyce 2006:3). Those individual interviews were suitable for extensively exploring specific situations in the context of guided conversations that allowed the researcher to gain insight into issues that were of “concern to particular segments [SMME] of the population [women entrepreneurs] that

had not [been given] an opportunity to be interviewed” (Laforest 2009:1) in the ICT sector. In this study, the researcher was more interested in listening to the point of view of the SMME women entrepreneurs than using a quantitative data collection instrument that would have limited the information to what the researcher wanted to know.

- **Semi-structured interview**

Saunders *et al.* (2009), Bogdan and Biklen (2007:103), Jimenz (1985) describe a semi-structured interview as comprising a combination of structured and unstructured elements in the format of open-ended and closed-ended questions (Iqbal, Gencel & Abbas 2012:19). Although “semi-structured interviews are characterised by an emphasis on relatively open questions” the researcher may include “certain closed questions (Wengraf 2001:162).

- **Closed-ended questions**

Although closed-ended questions, or “highly structured questions”, are commonly used in a quantitative interview design, they could also be included in a qualitative interview design (Merriam 2009:89). According to Berg (2007:94), closed-ended questions could also be used in a qualitative interview design especially when the purpose is to obtain demographic information that describes the sample. Berg advises the questions should be asked at the beginning of the interview preceding the open-ended questions. The structure of closed questions comprises “a pre-determined set of possible answers derived from the logic of the question” and the questions have a note explaining to the participant the options of answers to choose from (Bernsen & Dybkjaer 2009:163).

- **Open-ended questions**

“Open-ended questions yield in-depth responses about people’s experiences, perceptions, opinions, feelings, and knowledge. Data consists of verbatim quotations and sufficient content to be interpretable” (Patton 2002:339).

4.6.2 Interview Instruments

4.6.2.1 SMME women entrepreneurs – individual interviews

- **Face-to-face interviews**

Theoretical sampled face-to-face interviews comprised 11 participants. Theoretical sampling was conducted in manner that ensured each woman entrepreneur met the accepted definition of a member of an ICT enterprise and the ICT sector. That required the researcher to do a background check on every ICT enterprise before conducting the interview to maintain consistency in the application of MGT procedures and to avoid compromising the research findings from a credibility point of view.

The face-to-face interview technique supported the building of rapport with the participants. The level of enthusiasm and cooperation of participants was clear evidence of the importance of building rapport, for example, although there were too many questions available in the interview guide, participants enthusiastically volunteered information to the extent that they willingly exceeded the scheduled interview time. Another contributing factor to the cooperation was the encouragement of the researcher who egged the participants on to be candid about issues they felt would augment the improvement of ICT policy and programme implementation in relation to SMME women-driven entrepreneurship in the ICT sector of the province.

The face-to-face interviews also enabled the researcher to observe the nonverbal messages that the behaviour of the participants communicated. For example, the researcher's ability to detect when participants experienced difficulty in understanding a question by interpreting their facial expressions. Another advantage of choosing face-to-face interviews was the elimination of biases from the interpretation of verbal responses, since the researcher was able to notice incongruence between verbal and nonverbal responses. Non-verbal communication, in this study, contributed significantly to the interpretation of verbal responses and added richness to statements.

- **Telephonic interview**

The researcher conducted one telephonic interview in this study. Telephonic interviews were not chosen as an interview technique; however, the researcher had to

accommodate the participant who was not available for a face-to-face interview. One of the main disadvantages of a telephonic interview is the inability to observe nonverbal communication. Different to face-to-face interviews, during a telephonic interview it could be challenging to detect nonverbal subtleties without applying active listening skills. Applying active listening skills could eliminate bias in interpreting participant's responses (Creswell 1998). To eliminate bias in interpretation, the researcher applied "active listening skills" and "interpretive listening" to seek clarification (Ritchie, Burns & Palmer 2005:105) from participants during the interview. For example, for clarification purposes, the researcher confirmed messages by paraphrasing verbal responses (Beebe, Beebe & Richmond 2005), e.g. "Am I detecting from your voice a sense of...?", or "How does this make you feel?"

4.6.2.2 Industry expert interview

- **Private sector expert**

An interview was conducted with a seasoned SMME woman entrepreneur who owned an ICT enterprise. The interview was conducted on the grounds of theoretical sampling to bridge the gaps in information that had emerged from previous interviews that required input from an expert in the industry. Subsequently, changes were made to the interview guide to accommodate additional questions in accordance with the MGT model.

- **Government sector expert**

The researcher theoretically sampled an expert from provincial government who was responsible for ICT policy development. The expert was sampled to provide a perspective from a policy point of view to bridge the gap in information pertaining to policy matters.

4.6.2.3 Document analysis

According to Bowen (2009), document analysis is a systematic procedure for reviewing or evaluating documents both in print and electronic format. In this study, the researcher conducted a document analysis of two significant government policy documents (Eastern Cape ICT Strategy and ICT Sector Code for BEE) for comparison

purposes with empirical statements from the prior interviews. Document analysis was conducted during the deductive phase of theory generation, which is theoretical matching (Goldkhul & Cronholm 2010). Categories and their properties, including dimensions, were compared and contrasted with those identified from the specific policy and strategy documents.

The first advantage of using documents was that the documents were in the public domain and, therefore, accessible and secondly, it was far less time consuming to conduct the analysis, since the researcher did not analyse the entire policy document but only applicable passages that referred to promoting SMME women entrepreneurs in the ICT sector. The comparison of findings amongst data sets assisted with reducing biases in the study. The researcher identified a disadvantage, since the policy document reviewed was scheduled for review subject to ICT policy changes influenced by national government.

4.6.2.4 Role of the researcher

In accordance with the epistemological orientation of this study, the researcher was “actively” (Strauss & Corbin 2008) involved in the “co-construction” (Charmaz 2003:250) of the emerging substantive theory and, as a primary instrument, was responsible for collecting, interpreting, and analysing data (Fink 2000).

- **Memo recording: Personal notes, methodological memos, and theoretical memos**

The researcher in this study made use of different types of memos (Charmaz 2006; Groenewald 2008, Strauss & Corbin 2008) fittingly throughout the evolving stages of data collection and analysis and until the time of writing this research report. The memos comprised short passages of personal, methodological, and theoretical text that the researcher could manage and easily refer to.

- **Personal notes**

The researcher used personal notes to capture personal analytical thoughts on particular aspects, such as coding a process or noting observable non-verbal behaviour that could not be digitally recorded during the interview. These notes also enabled the

researcher to trace (audit trail) an idea initially conceived in relation to concepts and categories, as well as establishing the connection between the two. These personal notes were initially hand written and later typed into text format and filed.

Methodological memos kept the researcher immersed in the procedural methodological processes of identifying emerging substantive categories and developing their properties. Also, they were used to guide subsequent data collection, coding, and analysis and to assist the researcher with keeping an audit trail of decisions that informed the methodological approach and the critiquing of emerging categories.

Theoretical memos assisted with “the theorising, write-up of ideas about substantive codes and their theoretically coded relationships as they emerge[d] during coding, collecting and analysing data, and during memo [recording]” (Glaser 1998:177). The researcher derived meaning from theoretical concepts of descriptive data and “raising that description to a theoretical level through the conceptual rendering of the material” (Glaser 1978:84) in an attempt to point out connections between empirically generated data and deductively generated data.

4.6.3 Procedure for conducting interviews

4.6.3.1 Contacting interviewees

The initial interviewee was selected from a contact list obtained from the MICTSETA that the researcher verified in terms of identifying participants who met the sampling criteria. An interview invitation was issued to each participant and on acceptance the researcher secured an appointment that was confirmed either in writing, or telephonically. The invitation provided a brief explanation of the research topic in order to familiarise participants with the aims of the study and a consent form (Appendix A) that included a protocol procedure which was to be followed when conducting the interview, including permission to digitally record interviews.

Building “rapport” (DiCicco-Bloom & Crabtree 2006; Odendahl & Shaw 2001) and credibility of the study before the interview were necessary in order to: i) make each participant understand how invaluable their contributions would be in facilitating change; ii) let them understand that the study was confined to fulfilling the researcher’s academic obligations; and iii) get an indication of their possible interest in participating.

To minimise the level of disturbance, all the face-to-face interviews were conducted in seclusion at the premises of the respective ICT enterprises and lasted between 45 and 90 minutes.

Interviews were mainly conducted in English but also allowed for the use of vernacular (isiXhosa in this case) with the aim of encouraging each participant to articulate points of view clearly. All vernacular passages were translated into English, except in instances where actual word(s) uttered by participant “in vivo code” (Strauss 1987:33) had to be reserved.

4.6.3.2 Data management strategy

- **Data capturing**

The researcher developed a filing system for electronic and hard copy documents. File folders were opened for every document or record generated and an index file was used to facilitate ease of access to documents or records. The stored documents and records included: standard template for invitations, interview guide, transcripts, consent forms, participant contact register, backup digitally recorded interview CDs, memos, personal notes, as well as correspondence between participants and the researcher, e.g. member check requests.

- **Document tracking procedure**

All data collected was anonymously recorded and stored by replacing the participants' names with ascending code numbers (1 – 14) in the order of the initial interviews. Data was organised into different files in a chronological index file, that is all data was organised in the order of the date on which data was collected. This system made it possible to keep track of participants interviewed and enabled the researcher to access files easily, especially for the purpose of establishing when data saturation was reached in order to terminate further theoretical sampling.

4.7 SUMMARY

This chapter explains why the use of a multi-grounded research design is important.

The aim of the design was to develop a substantive theory about SMME women-driven entrepreneurship in the ICT sector. This chapter presents an overview of the design of the study that provided its structure by using the guiding principles of an MGT method. The systematic procedures followed in the MGT approach included clearly identified phases.

Section A comprised data collection procedures, that is the selection of participants and sampling procedures that included choosing the sample, determining the sample size, and sampling criteria which were initially purposeful sampling used for piloting the interview guide from which categories were drawn to sample theoretically in subsequent interviews.

Section B covered data collection procedures that included the preparation of the interview guide that comprised closed-ended and open-ended questions as part of a semi-structured approach that facilitated in-depth questioning that was favourable for the face-to-face approach. Theoretical sampling guided by emerging categories led the researcher in the direction of interviewing industry experts whose statements were compared and contrasted to previous ones to enhance credibility.

In chapter 5 data was analysed and interpreted at various levels of generating the empirically-driven and deductively driven substantive theory.

The interpretation of data in accordance with MGT procedures occurs at the level of pattern coding, as well as during explicit grounding and theory condensation. Interpretations, Strauss and Corbin (1998:160) maintain, “Must include the perspectives and voices of the people whom we study”. In view of the epistemology orientation of this study, the researcher had the responsibility to ensure that the voices of participants were kept audible and that interpretation reflected an “interplay” (Strauss & Corbin 1990:19) between a participant’s account of experiences (Bryman 2001: 265), and the researcher’s interpretive processes of analysis during which both co-construct a meaningful account that better described the state and action taken as a result of the condition(s) at that time.

In MGT, specific analytical procedures akin to GT are employed to facilitate the process of generating the substantive empirical theory. The analytical levels comprise inductive coding (open coding), conceptual refinement (not found in GT), and pattern (axial coding) to generate the empirical substantive theory. These analytical process levels in summary can be explained in the following logical sequence: i) full transcription, familiarisation, and initial interpretation including member check procedure (Strauss & Corbin 1998:48); ii) identification of early codes and conceptual labelling (Strauss & Corbin 1998:123); iii) generating and relating substantive categories, properties – characteristics or attributes and dimensions – and the location of a property along the continuum or range (Strauss & Corbin 2008: 159-160); iv) constant comparison (Strauss & Corbin 1998: 223) between the first interview and the subsequent interviews; v) saturation of categories (Bowen 2008; Charmaz 2012:11); vi) systematic and cumulative theoretical sampling (Strauss & Corbin 1998:210), the demonstration of an iterative process of data collection and analysis (Strauss & Corbin 1998:58) that promote greater “sensitivity” (Corbin & Strauss 2008:32) to data, thus enabling the researcher to revise interview questions as the analysis progresses; and vii) theory condensation where more than one category is identified (Goldkhul 2010:196).

SECTION A

5.2 PHASE ONE: THEORY GENERATION – EMPIRICALLY DRIVEN ANALYSIS (INDUCTIVE) - EXPLAINED

5.2.1 Inductive coding

The MGT processes followed at each level of data analysis are explained.

5.2.1.1 Full transcripts of recorded interviews

The following processes are undertaken to analyse data: first the researcher listens to the recording to check whether raw data (transcript) has been transcribed correctly by comparing the script to the recorded interview. In this study, this was an important verification process that was grounded in the epistemology orientation of this study where the voices of the participants were kept audible in the interpretation of meaning.

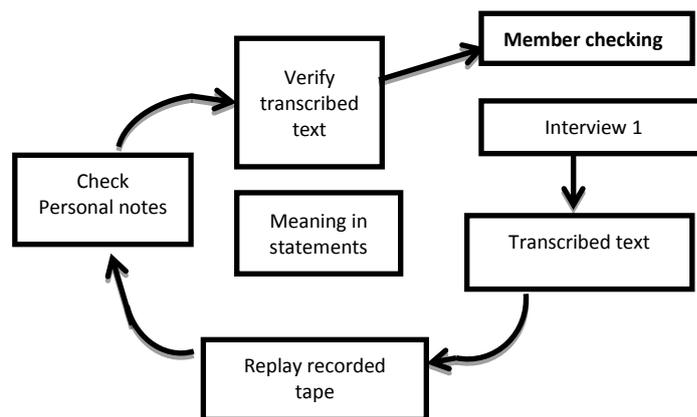


Figure 5.2: Iterative process of transcribing

In this study, on average it took about 48 hours to 60 hours to transcribe the recording of one interview. A sample of a full transcript of one of the interviews is available in Appendix I. The transcribing procedure followed an iterative process that involved listening to the recordings again and revisiting personal notes in an attempt to: i) interpret the mood of the conversation and observe the rules of grammar without altering statements in a manner that distorted intended meaning; ii) incorporate “in vivo codes” when necessary and ensuring that the transcript matched the recorded interview closely to ensure unbiased interpretation; iii) connect interpreted statements characterised by change in the thought process of the participant and capture the tone

whether flat or rising; and iv) capture from recording, the idiosyncratic elements of speech; such as stuttering, pause, sighs, short laughs, and emotional expressions that played their role in interpreting meaning in context.

5.2.1.2 Member checking procedure

“Member checks” (Creswell 2007:208) are conducted immediately after transcribing an interview by subsequently sending the transcript to the participant to confirm the accuracy of the interpretation of points of view and quoted statements (Lincoln 1995). In MGT procedures, inductive analysis involves an iterative process of cross checking interpretation and seeking clarity on unclear expressions from participants, a process Strauss and Corbin (2008:48) refer to as “validating”. “Respondent validation”, Creswell (1998:211) also affirms, is determined by the parties concerned recognising the validity of their documented experiences and as such, the participant potentially plays a participatory role in cross checking the transcript. Where errors are found, the researcher corrects them and sends it the transcript to the participant once again to be checked. This collaborative procedure of seeking and confirming clarification is a necessary component of MGT procedures to ensure that meaning is understood from the participant’s point of view to increase the “validity” (Creswell 2007:134-135) and “credibility” (Guba & Lincoln 1989:239) of the interpretation.

In this study, most responses to member checking were provided telephonically. The validation process of “member checks” (Creswell 2007:208) was an important quality control element in the epistemology orientation of this study, since the participants were also actively verifying the transcript to validate the researcher’s interpretation.

5.2.1.3 Early coding of script

This process is an open-minded analytical process (Goldkhul 2010:94). The analysis according to Strauss and Corbin (1998:121) involves developing a category (cf. Birks & Mills 2011:98) by identifying, naming, comparing and categorising concepts into ‘properties’ (a cluster that defines and gives it meaning) and ‘dimensions’ (range of variance the property demonstrates to provide further clarity) to assist with the discovery of the relationships that form the basis of developing tentative conceptualisations that have explanatory power.

- **Transcribing**

The typed transcript is read and reread line-by-line (labelling each line of data) to record analytical thinking in coded sentences as some concepts emerged repeatedly. Throughout the coding process, memos are used to record some thoughts on emerging relationships between statements (concepts) and evolving groups of related statements (categories).

In this study, all transcripts were transcribed following the logical sequence of topic questions appearing in the interview guide (e.g. questions 14 to 28 see Appendix I). Tables (exemplified in Table 4.1) were used to identify early open codes. The first column of the table depicted the question code (e.g. Q14); the following column a line number corresponding to each sentence (e.g. L1, L2 etc.) appearing in the subsequent column (transcript reflecting responses to question) showing underlined words or phrases described as early open codes (last column).

Table 5.1: Early open codes – Definition of entrepreneurship provided in Interview 9: Q14

Question Code	Line #	Transcript of Interview 8	Descriptive early codes
Q14	1	What is entrepreneurship? Please elaborate.	
	2	“Eh! Well for me, entrepreneurship is eh! Being	
	3	able to uh! <u>Understand the needs of the market</u> and	Understanding ‘market’ needs
	4	<u>come up with ideas</u> on <u>how to address</u> those needs.	Taking assertive action
	5	Eh! Also <u>understanding the need to develop people</u>	Developing ‘people’ * staff
	6	<u>who form part of that organisation</u> that <u>serve the</u>	Mission * serving ‘community
	7	<u>community needs</u> .	needs’
	8	“Also for me, although <u>I know that there are profits</u>	Acknowledging benefit
	9	<u>that have to be made</u> , entrepreneurship for me is	
	10	where the focus is more on <u>making the difference for</u>	Taking action on decision
	11	<u>the people</u> and <u>than profits coming afterwards</u> .	Affirming decision * prioritising
	12	<u>I know I might differ with other people</u> ”.	Affirming decision

- **Labelling**

After an idea is established, the researcher subsequently assigns “...’labels’ by means of descriptive words...” (early open codes) that were text bound in summarising the sentence to generate substantive “inferential or explanatory” statements (Miles &

Hurberman 1994:56). These statements became units of analysis that laid the foundation to theoretical conceptualisation based on emerging patterns in data.

The labelling procedure requires a researcher to first identify from the transcript (c.f. Table 4.1) key statements that seem significant in providing possible meaning or “fit in data” (Strauss 1987: 28). These key statements are underlined. As the analysis progresses any analytical thought around questions and ideas regarding statements are recorded in methodological memos. The actual verbatim words used by the participant, “in vivo codes” (Strauss & Corbin 1998:105) are included to enhance authenticity in data. In line with MGT procedures, the same labelling procedure is applied consistently throughout the analysis to ensure methodological rigor (Oman Oman, Krugman, & Fink 2003).

In this study, based on the study’s research questions examining entrepreneurship which has its processes of activities, statements were coded using “gerunds” (verbs ending ‘ing’) to focus the researcher’s thinking around an emerging pattern of action or process describing the participant’s entrepreneurial experience (Charmaz 2012:5).

5.2.1.4 Developing substantive codes

Strauss and Corbin (2008:159-160) refer to “lower-level” concepts and corresponding “higher-level” concepts in their conceptualisation method. According to them, “higher-level statements [categories] which are more abstract than lower-level statements, tell [the researcher] what a group of lower-level concepts are pointing to or are indicating”.

Corbin and Strauss (2008:143) assert the ability to see the difference (similarities and differences are brought about through constant comparison) in levels of abstraction between statements (lower- and higher-level). This ability enables the researcher to build a web of evidence, based on an interpretive account grounded in empirical data that facilitates a meaningful understanding of the process of interpretative creativity. Constant comparison (exemplified in Figure 4.2) implies systematically examining and refining variations in emergent and grounded concepts. Variations in the concepts need to be compared and contrasted.

**Table 5.2: Interview 6: Q 14 – Constant comparison between statements –
Definition of entrepreneurship**

Memo Notes						
Discovered concept	Comparison between statements of the same interview		Theoretical sampling (inductive level)		Data saturation	
			Yes	No	Yes	No
Innovation	Similarities	Variances				
Q 14	Personality characteristics	Business characteristics	X			X
Comments:						
Compared to interview 5 which focused on the business characteristics here the focus is on personality characteristics and the word 'innovative' is identified for theoretical sampling to expand its meaning.						

Statements (lower-level concepts) are subsequently clustered together to form a pattern as exemplified in Figure 4.5.

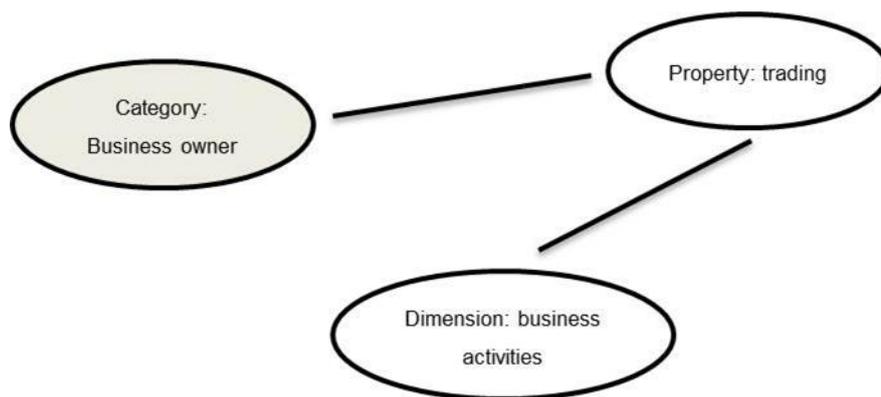


Figure 5.3: Interview 1: Q 14 – Relationships between selected statements defining entrepreneurship

The clustering results in the emergence of a list of categorised statements or “theme topics” (Tesch in Creswell 1994:154-155) which remain unverified and undeveloped; however, they provided insightful descriptive meaning interpreted from the views that the participants express. The conceptual ordering of substantive statements are exemplified in Table 4.3 describing the concept ‘entrepreneurship’ derived from the participant.

Table 5.3: Interview 10: Q 14 – Conceptual ordering of statements – entrepreneurship development from the interview with a government expert

Question Code	Line #	Descriptive codes : Entrepreneurship
Q14	2	'an entrepreneur'
	3	Taking something that is done normally
	4	'different way of doing it'
	5	'Enhancing' , 'making better' 'faster'
	8	'enhancing' , 'bringing in different skill'
	9	Different skill
	10	'looking outside the box'
	14	Doing something different, new
	15	Not depending on conventional ways
	28-29	Young minds given opportunity to 'challenge the normal'
	31	Coming up with something different – new
Memo: Conceptual ordering of statements (underdeveloped) <ul style="list-style-type: none"> • Concept: Entrepreneur – personal characteristics can be linked to – innovation: ability to do 'things in different ways', 'enhancing', 'looking outside the box', 'giving opportunity to young minds to challenge the normal' • Concept: 'looking outside the box' can be linked to an attribute of an entrepreneur • Concept: 'challenging the normal' can be linked to an attribute of an entrepreneur • Concept: 'enhancing with different skill' can be linked to an attribute of an entrepreneur • Concept: 'coming up with something different, new' can be linked to an attribute of an entrepreneur • Concept: 'not depending on conventional way different 'set ways' can be linked to attributes of an entrepreneur 		

“Coding”, Strauss and Corbin (1990:61) maintain, involves practising to think abstractly, since “the idea is not just to take a phrase from ‘raw’ data and use it as a label. Rather searching for the right word or two that best describes conceptually what the researcher believes is indicated by the data” (Corbin & Strauss, 2008:160). The researcher’s analytical intuition, at that stage, is kept as free as possible from imposing own perspectives but equally important to understand the need to “actively” react to and work with the statements and to keep the voice of the woman entrepreneur audible in the interpretation of co-constructed meaning (Strauss & Corbin 1998: 58,160) whilst remaining open-minded in order to enhance theoretical sensitivity.

The sentence numbering system (cf. Table 4.3) enables the researcher to rearrange, rename or refine concepts (Gibbs 2007:75-77) as the analysis progresses. This coding process is applied consistently to all text generated throughout the analysis process and the researcher is constantly aware of the need to engage in an iterative process (cf. Figure 4.6 below) of reflecting on analysed interview transcripts. The researcher

critically evaluates, compares, and contrasts interpretations in the context of coded statements (Leedy & Ormrod 2001; Corbin & Strauss 1990) using Corbin and Strauss's (2008:71) questioning technique which entails asking simple questions while analysing statements; such as, 'What is suggested by these sentences?', 'What is the participant's point of view?' and 'What is the situation subsequent to experience?' enabling the researcher to probe deeper into responses that facilitate a better understanding of the world view of the participants (Patton 2002:372). Re-reading text to look for variations from the grounded experiences articulated by participants assists in validating interpretation. At this level, the analysis goes beyond the descriptive level to one where the researcher begins to formulate tentative conceptualisations (exemplified in Table 4.3) noted in memos to interpret the emerging patterns of relationships between categories and providing an in-depth explanation that was fitting.

An advantage of MGT is its application of iterative and interactive procedures that "blur and intertwine continually" (Glaser & Strauss 1967:43) during various levels of analysis. This implies that a researcher goes back and forth during the process of data collection, coding, and analysis by revisiting some of the processes informed by theoretical sampling.

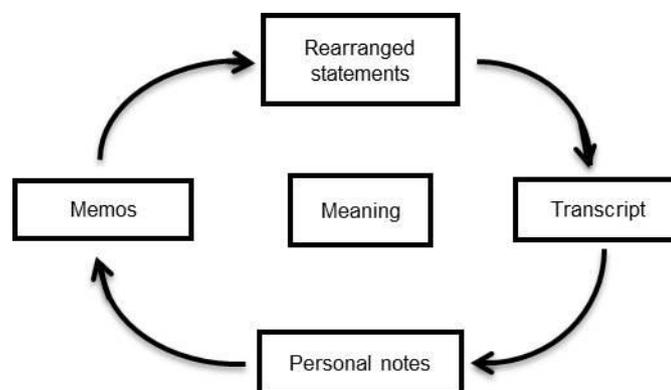


Figure 5.4: Demonstration of iterative process of giving meaning to concepts

Following MGT theoretical sampling procedures, the researcher at this level of analysis is mindful not to confuse theoretical sampling applied during the inductive phase when the discovery of information emerges from interview statements. Rather, considers its application during the deductive phase when established theories inform theoretical sampling (Goldkhul & Cronholm 2010).

The researcher uses methodological memos (exemplified in Appendix K, Table 1, 2 & 3) at this level of analysis to reflect on the meaning of statements emerging from ideas that were sparked by in vivo codes.

5.2.2 Conceptual refinement

The notion of “conceptual refinement” implies a level of analysis that a researcher “actively” (Goldkuhl & Cronholm 2010:194) works on clarifying statements, including the provision of a comprehensive interpreted descriptive meaning. This procedure requires a researcher to critically and constructively reflect on the categories and subcategories (statements and variations in statements) developed earlier that are conceptually refined ontologically and linguistically challenged. As statements (concepts) keep evolving during analysis, more focus is turned on refinement (using different questions to interrogate statements) to enhance rigor in the build-up of distinct categories generated from interview statements. This provides a “valid” theory described by Green and Thorogood (2004:192) as depending on the participants’ interpretation of validity constituted by socially situated truth that is contextually linked.

Goldkuhl and Cronholm (2010) suggest a ‘critical category determination’ procedure for ontological determination of scientific categories to reflect on, namely:

- i) Empirical statements: The conceptualisation of statements should not be taken for granted but challenged. Charmaz (2006:33) suggests the researcher should be aware and follow up on taken-for-granted responses so as to get the exact meaning and context in which statements are made. Statements, therefore, should be founded on a proper world view or social reality as articulated by participants.
- ii) Ontological statements: Here, six essential questions are considered in order to achieve an in-depth understanding of the context of conceptualised statements (cf. Goldkuhl & Cronholm 2010 for comprehensive description of a procedure for ontological determination of scientific categories), such as:
 - “What is it?": Content determination – an attempt to grasp the essence of the conceptualised phenomenon;

- “Where does it exist?”: Determination of ontological position;
 - “What is the context of it?”: Determination of context and related phenomena;
 - “What is the function of it?”: Determining the functions and purpose; and
 - “What is the origin of it?”: Determination of origin and emergence.
- iii) Linguistic statements: An understanding of how concepts are articulated and given substantive form in describing specific categories (noun, verb, quality) as construed in the ‘real world’ thereby validating the process of theory abstraction.

During the process of refinement some categories (statements) may be rejected whilst some developed into broader categories.

Goldkuhl and Cronholm’s questioning technique in this study is complemented with Scott and Howell’s (2008) questioning technique (c.f. appendix O) used in their conditional relationship guide (facilitating the move from open coding to axial coding) to link categories more clearly to data from which patterns of action and conditions emerged.

5.2.3 Pattern Coding

Goldkuhl and Cronholm (2010:196) in their recent writings prefer using the term “pattern coding”. Building categorical structures, Goldkuhl and Cronholm (2003) explain, refer to an interest toward conceptualising action patterns. Pattern coding is akin to axial coding in GT (Strauss & Corbin 1998) and, therefore, it adopts GT procedures.

Axial coding is defined as “a set of procedures whereby data are put together in new ways after open coding by making connections between categories” (Strauss & Corbin 1990:96). Diagrams of theoretical patterns and graphical representation are used to point out relationships between categories (Goldkuhl & Cronholm 2010:196). Strauss and Corbin (1998:223) encourage researchers to demonstrate their own style of creativity when developing or presenting the diagrams.

A “paradigm” contains three aspects: The condition, the actions, and the consequences. The conditions answer the questions: Why, where, how, and when the phenomena occurred. The actions answer the ontological questions (social reality), that

are the strategic responses made by the individuals or groups to issues, problems, happenings, or events that arose under those conditions. The consequences answer the question what happened as a result of those actions – or the failure of individual(s) to respond to arisen situations – and the consequential theoretical explanations that the researcher provided.

A researcher explores the specific conditions and consequences in respect of each category of statements and determines whether sufficient data ‘saturation’ (Bowen 2008, Strauss & Corbin 2008) exists to support these interpretations. At this stage, a researcher records theoretical ideas emerging through the process of constant comparison (Strauss & Corbin 1998:67) of incoming data (categories) to raise data to a conceptual level (emerging theory). Following MGT procedures closely prevents a researcher from building categories on the foundation of vague interpretations (Goldkuhl & Cronholm 2010:194).

5.3 PHASE TWO: EXPLICIT GROUNDING – THEORY DRIVEN ANALYSIS (DEDUCTIVE) - EXPLAINED

5.3.1 EXPLICIT GROUNDING

Explicit grounding (Goldkhul & Cronholm 2010:192) means the evolving empirically grounded substantive theory is subjected to rigorous validation against three explicit grounding processes namely theoretical matching, explicit empirical validation, and evaluation of theoretical cohesion.

5.3.1.1 Theoretical matching

Theoretical matching (Goldkhul & Cronholm 2010:197) means that the evolving empirical findings and abstractions are compared and constructed with other external theories to ground the evolving theory as opposed to being a starting point that governs analytical work (Cronholm 2005; Goldkuhl & Cronholm 2003).

The researcher in this deductive process verifies theoretical alignment by comparing and contrasting the evolving theory (empirically derived) with the pre-existing theories, namely cyberfeminism (feminism and technology) and entrepreneurship to establish

whether theory can match empirical statements of participants (SMME women entrepreneurs) in conjunction with industry experts and other documents (policy)

5.3.2 Explicit empirical validation

Explicit empirical validity (Goldkuhl & Cronholm 2010:197) means that the theory is in accordance with empirical observations of the world. Focus on theory generation portrayed in the earlier phases of analysis shifts to the control of validity in the sense that data is verified and compared to the claims of empirical data (Cronholm 2004).

Validating the emerging theory entails perusing identified categories and their properties. To a great extent, revisiting the initial formation of these categories confirms the interrelationships.

5.3.3 Evaluation of theoretical cohesion

Evaluation of theoretical cohesion (Goldkuhl & Cronholm 2010:198) is determined by: i) the degree to which data accurately and clearly assists in providing insightful understanding; ii) answers being provided to the research questions; iii) the researcher addressing issues of fit between participants' views (reality); and iv) the researcher's representation of these views (reality) includes determining whether the explanations fit the descriptive account to determine credibility in data that is enhanced by 'constant comparison' (Strauss & Corbin 2008).

In this study, this level of abstraction required a conceptual structure to systematically analyse the evolving theory and to verify internal consistency and congruency within the evolving substantive theory (Cronholm 2004). Emphasis was placed on applying systematic evaluation processes to verify consistency and internal congruency of core action categories and subsequent consequences evolving by using appropriate descriptive graphic and textual presentations (Goldkuhl & Cronholm 2003) to describe conceptual structures.

5.3.4 Theory condensation

This analysis concludes the processes of theory generation. Theory condensation (Goldkhul & Cronholm 2010:196), that is akin to selective coding in GT, entails condensing categories (higher-level concepts) that have been developed to form the

initial theoretical framework which provides “an explanatory scheme comprising a set of concepts related to each other through logical patterns of connectivity” (Birks & Mills 2011). This process enhances the substantive theory. Unlike the recommended one core category of a grounded theory (Strauss & Corbin 1998), a few core categories of themes are developed in MGT that appear frequently in the data without artificially inflating its importance (Glaser 1992).

In this study, the initial analyses of 33 categories from open coding were subsequently reduced to eight during axial coding, and subsequently to two in this phase, namely: recognising gender-based discrimination; and responding to gender-based discrimination that related to other subcategories. The graphic representation of the theoretical model that illustrates SMME women-driven entrepreneurship is portrayed in Figure 4.7.

5.4 PHASE THREE: RESEARCH QUESTION, REFLECTION, AND REVISION – EXPLAINED

5.4.1 Research question

According to Goldkuhl and Cronholm (2003, 2010), research questions should develop over time for allowing empirical observations and theoretical insights to influence their formulation. The researcher’s understanding of the participants’ account of reality (SMME women-driven entrepreneurship in the ICT sector) progressively increased from one level of data collection, analysis, and interpretation to another. That process enabled the researcher to gain a comprehensive understanding of the conditions that influenced the research issues, including proposed interventions aimed at mitigating the situation. The questions were constantly reflected upon to direct the empirical and theoretical orientation. The systematic application of MGT processes supported the processes of good “traceability between data, categorisation, and theory” (Goldkuhl & Cronholm 2010:190).

5.4.2 Reflection and revision

This process heralds the last phase of the analytical procedure that enables the researcher to conduct a self-critical account of the research methodology by reflecting on the research interest and questions and by authenticating confirmability (Tobin &

Begley 2004). The research questions are also aligned to the substantive empirical categories. That procedure also encompasses the verification of participants' responses to establish whether they are interpreted accurately and whether theory is grounded in the experiences and views of the participants.

SECTION B

5.5 APPLICATION – PHASE ONE THEORY GENERATION EMPIRICAL

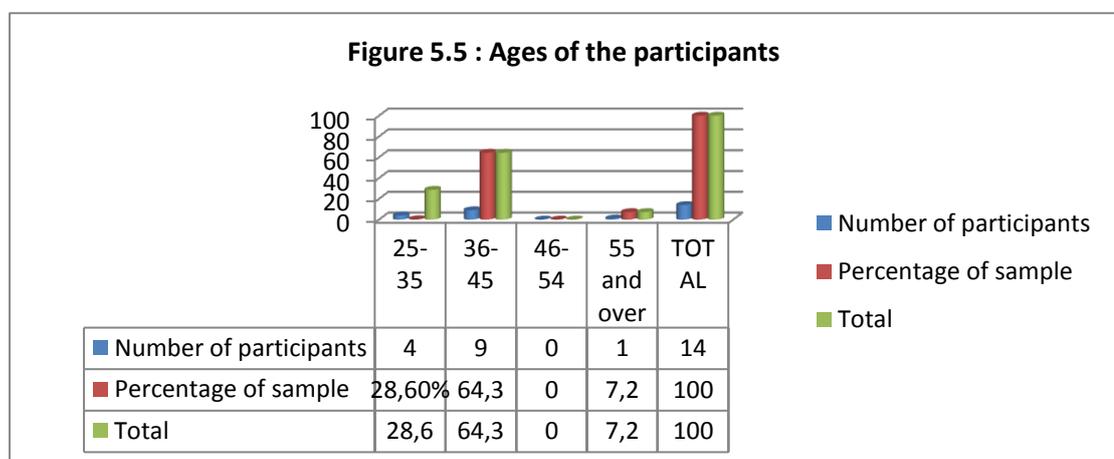
(INDUCTIVE ANALYSIS)

5.5.1 ANALYSIS OF CLOSED-ENDED AND OPEN-ENDED QUESTIONS

This section provides an analysis and interpretation of closed-ended questions and open-ended questions accompanied. Closed-ended questions were analysed before the open-ended questions. The structure and sequence of the interviews depict how data was cumulatively gathered through theoretical sampling from Interview 1 to Interview 14. Interviews were conducted on both SMME women entrepreneurs and industry experts from government and the private sector. The subsequent stage of analysis depicts a summary of the conceptual refinement process of concepts generated from open-ended questions. The next stage depicts a critical category determination procedure that illustrates the building of the categorical structures from data analysed during pattern coding. The last stage of analysis culminates in a substantive theory that comprehensively provides a meaningful interpreted account of ‘SMME women-driven entrepreneurship within the ICT sector of the Eastern Cape Province. This section provides good “traceability between data, categorisation, and theory” (Goldkuhl & Cronholm 2010:190).

5.5.1.1 ANALYSIS OF CLOSED-ENDED QUESTIONS

Question 1



Twelve SMME women entrepreneurs and two industry experts were interviewed, one from the private sector and the other from government. The ages of all participants interviewed ranged between 25 and 55 years. Four SMME women entrepreneurs were between 25 and 35 years old, seven between 36 and 45, and one person was older than 55 years. The two industry experts were between 36 and 45 years old. The ages had no relevance to the categories identified in the study, but useful for future research analysing age groups in early stage entrepreneurship activity.

Question 2

This question inquired about the race group the respondents belonged to.

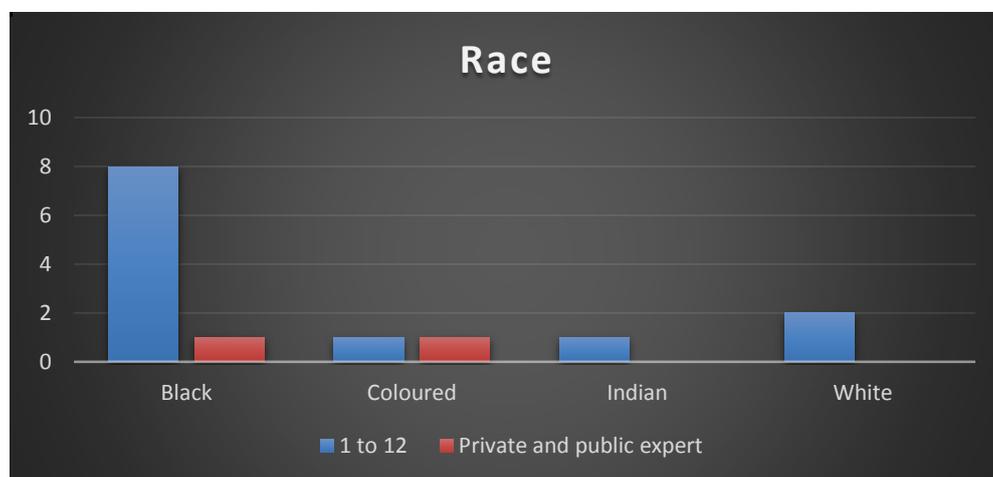


Figure 5.6: Participants' race groups

Eight SMME women entrepreneurs interviewed were Black, two White, one Asian, and one Coloured. The industry expert from the private sector was Black while the government sector expert was Coloured. The results suggested that the majority of the participants were Black. The sampling criterion was based on theoretical sampling, meaning these participants were interviewed guided by the emerging categories rather than on representative grounds. Therefore, the different racial groups had no relevance to the categories identified in the study.

Question 3

Table 5.4: Educational qualifications of the participants

Part I: Closed-ended questions		
Section A: Demographic information – Personal details of SMME women entrepreneurs and industry experts		
Interview	Interview ID	Participant's response
Q3 What is your highest educational qualification level in ICT?		
Interview 1	Woman entrepreneur	Bachelor's degree
Interview 2	Woman entrepreneur	Diploma
Interview 3	Woman entrepreneur	Grade 12
Interview 4	Private sector expert	Bachelor's degree
Interview 5	Woman entrepreneur	Certificate
Interview 6	Woman entrepreneur	Certificate
Interview 7	Woman entrepreneur	Grade 12
Interview 8	Woman entrepreneur	Diploma
Interview 9	Woman entrepreneur	Certificate
Interview 10	Government expert	Bachelor's degree
Interview 11	Woman entrepreneur	Certificate
Interview 12	Woman entrepreneur	Bachelor's degree
Interview 13	Woman entrepreneur	Bachelor's degree
Interview 14	Woman entrepreneur	Bachelor's degree

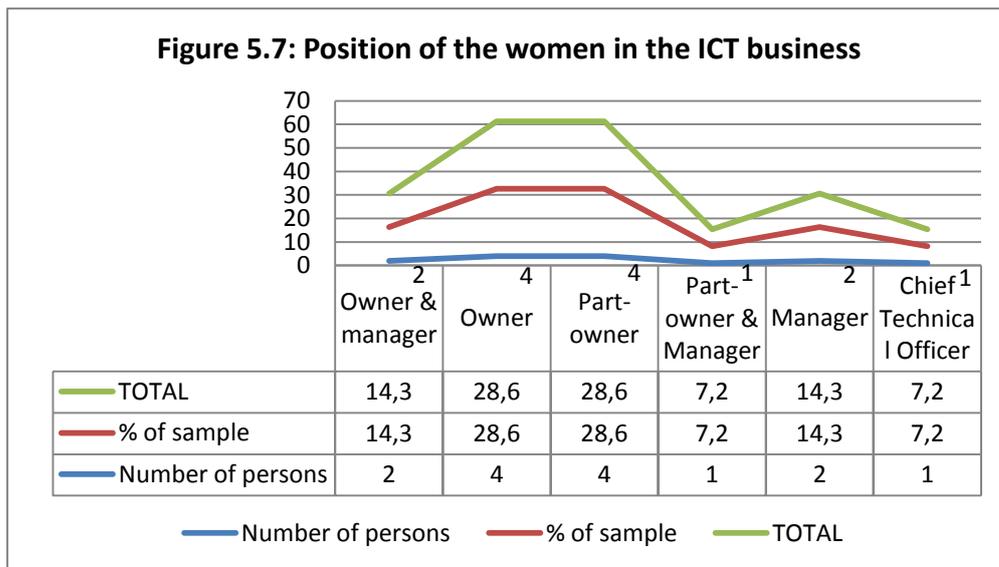
The highest education qualifications of participants were: One completed grade twelve, four completed a certificate course, two held diplomas, and three had bachelor's degrees. Both industry experts held a bachelor degree. This demographic did not have much relevance to the category gender inequalities as all the participants had some form of orientation of ICT relevant to the skill needed by enterprise.

Question 4

Table 5.5: SMME ownership status of the participants

Part I: Closed-ended questions		
Section B: ICT enterprise related information (ICT enterprise development and operations)		
Interview	Participant's ID	Participant response
Q4 What is your role in the ICT enterprise?		
Interview 1	Woman entrepreneur	Sole owner, Manager in charge
Interview 2	Woman entrepreneur	Sole owner, Manager in charge
Interview 3	Woman entrepreneur	Sole owner
Interview 4	Private sector expert	Sole owner
Interview 5	Woman entrepreneur	Part-owner
Interview 6	Woman entrepreneur	Part-owner
Interview 7	Woman entrepreneur	Part-owner; Manager in charge
Interview 8	Woman entrepreneur	Owner
Interview 9	Woman entrepreneur	Sole owner
Interview 10	Government expert	Chief technical officer
Interview 11	Woman entrepreneur	Manager in charge
Interview 12	Woman entrepreneur	Manager in charge
Interview 13	Woman entrepreneur	Part-owner
Interview 14	Woman entrepreneur	Part-owner

The roles of the participants were: Two sole owners were managers in charge. Sole owner meant they owned the ICT enterprise a 100 per cent and manager in charge meant the person was the responsible person for the day-to-day operations of the ICT enterprise. This demographic had no relevance to the categories identified in the study, but useful for future research analysing broad based black economic empowerment in terms of ownership.



The research results indicated that the ownership status of the SMMEs involved one woman part-owner and manager in charge, two were sole owners, and four were part-owners. This demographic had no relevance to the categories identified in this study.

Question 5

Table 5.6: Types of SMMEs owned by the participants

Part I: Closed-ended questions		
Section B: ICT enterprise related information (ICT enterprise development & operations)		
Interview	Participant's ID	Participant Response
Q5 What type of ICT enterprise is your business?		
Interview 1	Woman entrepreneur	Closed Cooperation
Interview 2	Woman entrepreneur	Closed Corporation
Interview 3	Woman entrepreneur	Closed Cooperation
Interview 4	Private sector expert	Closed Cooperation
Interview 5	Woman entrepreneur	Closed Cooperation
Interview 6	Woman entrepreneur	Profit Company
Interview 7	Woman entrepreneur	Closed Cooperation
Interview 8	Woman entrepreneur	Closed Cooperation
Interview 9	Woman entrepreneur	Closed Cooperation
Interview 10	Government expert	ICT Department
Interview 11	Woman entrepreneur	Non-Profit Organisation
Interview 12	Woman entrepreneur	Non-Profit Organisation
Interview 13	Woman entrepreneur	Cooperative
Interview 14	Woman entrepreneur	Closed Cooperation

A majority (10) of these enterprises were closed corporations (including the private sector expert), two were non-profit organisations (NPOs), and one was a profit company. The government sector expert worked in an ICT department. This demographic had no relevance to the categories identified in the study, but useful for future research making comparisons between the formal and informal sectors.

Question 6

This question inquired about the industry type of the ICT enterprise.

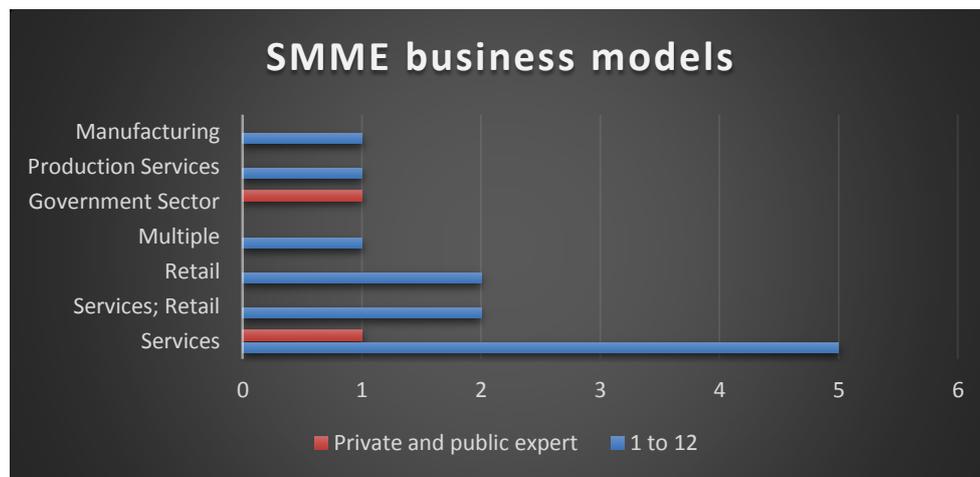


Figure 5.8: The SMMEs' business models

The breakdown of ICT enterprises according to the ICT sectors industries were: One represented the manufacturing industry, one operated in the production services, two were retail businesses, five represented the services industry while two operated in the services, as well as in the retail space. A multiple business model refers to an ICT enterprise that operates many industries; i.e. manufacturing, production, services, retail, as well as importers and exporters. This demographic was of little relevance to the categories identified except in giving an indication of possible sampling (i.e. random sampling) strategies that can be used for future research besides theoretical sampling which was used to explore a phenomenon that little was known about.

Question 7

Table 5.7: Services offered by the SMMEs

Part I: Closed-ended questions		
Section B: ICT enterprise related information (ICT enterprise development & operations)		
Q7 What ICT product(s) and / or service(s) are offered by the enterprise?		Participant's Response
Interview 1	Woman entrepreneur	Bulk printing, photocopying, laminating, binding, faxing, email
Interview 2	Woman entrepreneur	Computer training and skills development, retail (computer sales and repair)
Interview 3	Woman entrepreneur	Retail (computers and laptops sales, electrical equipment, printing equipment, and software)
Interview 4	Private sector expert	Computer training, IT solutions, web-design and hosting
Interview 5	Woman entrepreneur	Computer training, national end-user computing, technical support
Interview 6	Woman entrepreneur	Retail (ICT hardware and software), ICT equipment, maintenance and support service, design and networking
Interview 7	Woman entrepreneur	PostNet service: Faxing, courier, document solutions, mail boxes, manufacture, office supplies, digital solutions
Interview 8	Woman entrepreneur	ICT training and skills development
Interview 9	Woman entrepreneur	Retail (sales hardware and software), support service, networking, cabling infrastructure, desktop / server solutions, security systems solutions
Interview 10	Government expert	Policy development, strategic operations
Interview 11	Woman entrepreneur	ICT multi-purpose: ICT training and printing, photocopying, laminating, binding, faxing, email
Interview 12	Woman entrepreneur	Broadcasting: programming, advertising, and marketing
Interview 13	Woman entrepreneur	Film and television production, graphic design, and photography
Interview 14	Woman entrepreneur	Manufacturing and web-hosting

Products / services offered by the ICT enterprises included: One provided bulk printing and internet café services; one offered computer training and retail services; three operated in the retail industry; one offered computer training and technical support; one provided postal services; one conducted ICT training; one offered ICT training and internet café services; one operated in the broadcasting space; one was in the production industry; and one operated in the manufacturing industry. The government expert had the line functions of policy development and strategic operations while the private sector expert offered computer training, IT solutions, web-design, and web-hosting. A majority of enterprises were ICT training providers and providers of retail services. This demographic had relevance to the category analysing how ICT was used as a core product linked to the category lacking innovation which depicted the levels of innovation across a continuum between low-tech and high-tech.

Question 8

This question inquired about the market segment of the ICT enterprises.



Figure 5.9: The SMMEs' market segments

One of the ICT enterprises targeted the local, national and regional markets, three targeted the local and national markets, and eight focused on the local market only. The public service expert targeted the provincial market while the private sector expert concentrated on the local market. The demographic had no relevance to the category identified but useful for future research analysing market segmentation trends.

Question 9

This question inquired about the number of years the ICT enterprise had been in business.

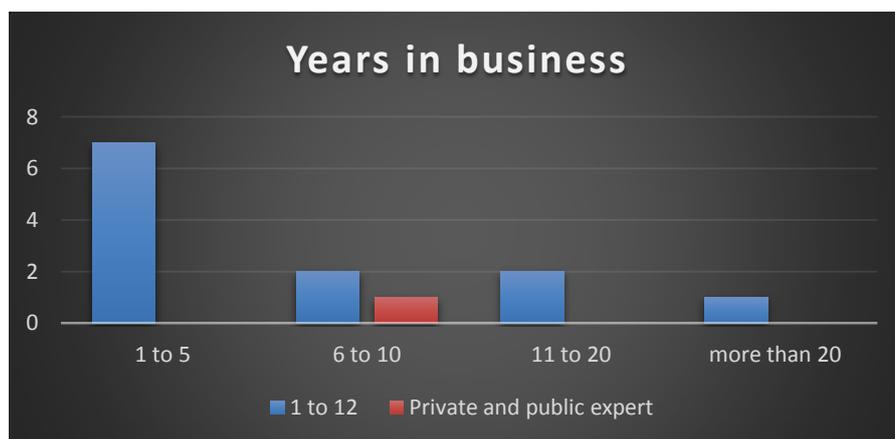


Figure 5.10: Number of years the SMMEs had been in business

A majority of ICT enterprises were in business between one and five years, two between six and 10 years, two between 11 and 20 years, and one for more than 20 years. Both the private sector and the public sector expert had between six and 10

years of experience. This demographic had no relevance to the categories identified in the study.

Question 10

Table 5.8: Size categories of the enterprises

Part I: Closed-ended questions		
Section B: ICT enterprise related information (ICT enterprise development and operations)		
Q10: What SMME category does the enterprise fall under?	Participant's response	
Interview 1	Woman entrepreneur	Micro
Interview 2	Woman entrepreneur	Small
Interview 3	Woman entrepreneur	Micro
Interview 4	Private sector expert	Micro
Interview 5	Woman entrepreneur	Small
Interview 6	Woman entrepreneur	Small
Interview 7	Woman entrepreneur	Micro
Interview 8	Woman entrepreneur	Micro
Interview 9	Woman entrepreneur	Micro
Interview 10	Government expert	Question not asked
Interview 11	Woman entrepreneur	Micro
Interview 12	Woman entrepreneur	Very Small
Interview 13	Woman entrepreneur	Micro
Interview 14	Woman entrepreneur	Micro

A majority (8) of ICT SMMEs of the women entrepreneurs were reported to be micro enterprises, three were small, and one was very small. The micro category represented an enterprise that employed one to five employees. The very small category represented an enterprise that employed five to 10 employees. The small category represented an enterprise that employed 10 – 100 employees, and the medium category had more than 100 employees. This demographic had no relevance to the categories identified in the study, but would be relevant to research analysing the number of enterprises in different categories.

Question 11

This question inquired about the number of people that every ICT enterprise employed.

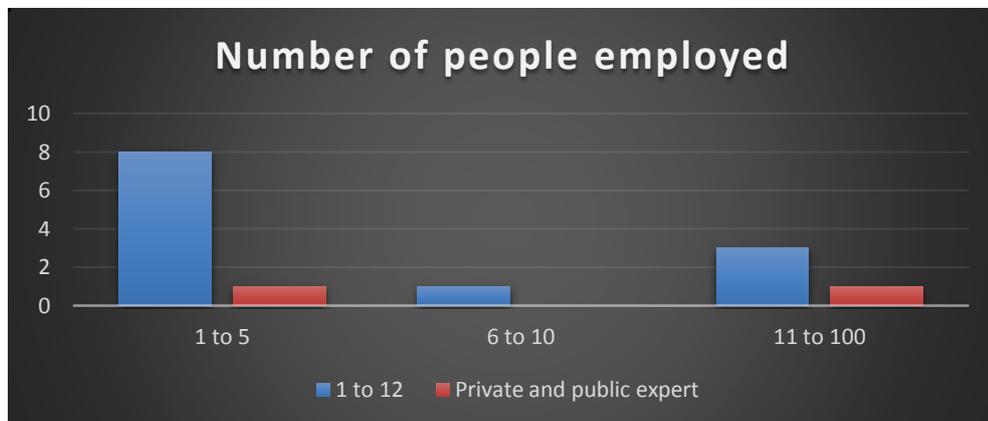


Figure 5.11: Number of employees at the businesses

A majority ICT enterprises employed between one to five people; one employed between six and ten people; three employed between eleven and one hundred people and another enterprise employed three from 11 to 100 years. The private sector expert employed between one and five people; and the public service expert between 11 and 100 people. This demographic had no relevance to the categories identified but would be useful for research analysing employment patterns in women-owned enterprises.

Question 12

Table 5.9: Educational qualifications of the SMME employees

Part I: Closed-ended questions		
Section B: ICT enterprise related information (ICT enterprise development and operations)		
Q12 What is the ICT education level of employees in the enterprise?		Participant's response
Interview 1	Woman entrepreneur	Certificate, Bachelor's degree
Interview 2	Woman entrepreneur	Grade 12, Certificate, Diploma, Bachelor's degree
Interview 3	Woman entrepreneur	Grade 12
Interview 4	Private sector expert	Bachelor's degree
Interview 5	Woman entrepreneur	Diploma
Interview 6	Woman entrepreneur	Grade 12, Diploma, Bachelor's degree
Interview 7	Woman entrepreneur	Grade 12
Interview 8	Woman entrepreneur	Certificate
Interview 9	Woman entrepreneur	Grade 12, Certificate, Diploma
Interview 10	Government expert	Bachelor's degree
Interview 11	Woman entrepreneur	Certificate
Interview 12	Woman entrepreneur	Certificate
Interview 13	Woman entrepreneur	Diploma; Bachelor's degree
Interview 14	Woman entrepreneur	Diploma; Bachelor's degree

In summary, seven were in possession with a bachelor degree qualification; five had a national diploma; five had a national certificate/vocational qualification; and four had a senior national certificate. This demographic had no relevance to the categories identified in the study, but useful for future research looking at ICT education attainment and skills levels in relation to employment.

Question 13

Table 5.10: The SMMEs' total annual turnover (in millions)

Part I: Closed-ended questions		
Section B: ICT enterprise related information (ICT enterprise development and operations)		
Q13 Total annual turnover (million) of the ICT enterprise?		Participant's response
Interview 1	Woman entrepreneur	0 – 1
Interview 2	Woman entrepreneur	6 – 10
Interview 3	Woman entrepreneur	0 – 1
Interview 4	Private sector expert	0 – 1
Interview 5	Woman entrepreneur	0 – 1
Interview 6	Woman entrepreneur	+10
Interview 7	Woman entrepreneur	2 – 5

Part I: Closed-ended questions		
Section B: ICT enterprise related information (ICT enterprise development and operations)		
Q13 Total annual turnover (million) of the ICT enterprise?		Participant's response
Interview 8	Woman entrepreneur	0 – 1
Interview 9	Woman entrepreneur	6 – 10
Interview 10	Government expert	Question not asked
Interview 11	Woman entrepreneur	0 – 1
Interview 12	Woman entrepreneur	0 – 1
Interview 13	Woman entrepreneur	0 – 1
Interview 14	Woman entrepreneur	2 – 5

The research results indicated that there was one ICT enterprise with an annual turnover of more than R 10 million, two with an annual turnover between R 6 and 10 million, another two had an annual turnover between R 2 and 5 million, and seven of the responding ICT enterprises had an annual turnover between R 0 and R 1 million. The private sector expert had a turnover between R 0 and R 1 million. This category had no relevance to the categories identified in the study, but useful for future research analysing productivity levels in the enterprise.

5.5.1.2 ANALYSIS OF OPEN-ENDED QUESTIONS

Q15: What problems in your view are encountered most by SMMEs? Please elaborate

The description provided by the first participant (pilot interview) was narrow. The statement, ‘that’s what I’m living for’ was scrutinised by asking the question, “What does the participant mean by this statement?” This was in relation to the in vivo codes ‘running’ ‘your’ ‘business’. The researcher continued questioning statements and making interpretations along the way, moving from formulating interpretations to reading the entire interview transcript over again to get a broader understanding of how the concept entrepreneurship was perceived by the participant. This approach was in line with considerations from Miles and Huberman (1994:57) who posit descriptive words should attribute meaning to a segment of text and interpretive codes with “reference to context [entrepreneurship] and other segments [entire transcript]”. The researcher had to apply theoretical sensitivity by reflecting on vocabulary acquired from professional literature on the concept, entrepreneurship and from experience as a practicing entrepreneur to think through the in vivo codes in order to widen interpretation (Strauss & Corbin 1990:62) fitting the participant’s description. Descriptive words generated were closely examined at this early stage of analysis through “constant comparison” (Strauss & Corbin 2008:143), a process which resulted in the identification of similarities and variations among in vivo codes and

Memo Notes						
Interview 1: Discovered concepts – Definition of entrepreneurship	Comparison		Theoretical sampling (inductive level)		Data Saturation	
	Similarities	Variances	Yes	No	Yes	No
Q14 'Business' owner	'Business' activity * Work	Income * Profit	X			x
Comments: “How is entrepreneurship described by others?” The category and its properties need to be further explored as the description can not be validated and thus disconfirming data saturation as further theoretical sampling was required.						

Table 5.11: Illustration of constant comparison between concepts

the disconfirmation of data saturation (Creswell 1998) which lead to theoretical sampling as exemplified in Table 5.11 above. The substantive descriptive words (concepts) were subsequently grouped into a cluster comprising of a category, property and dimension to demonstrate the interrelationships between the concepts (Corbin & Strauss 2008:159) as exemplified in Figure 5.12 below.

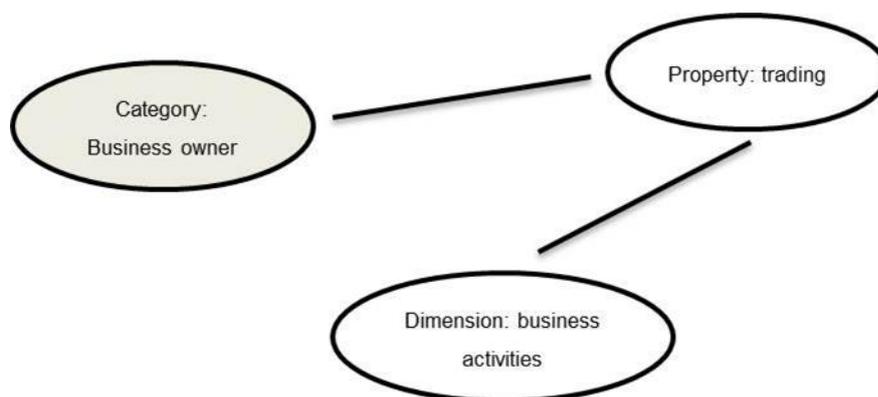


Figure 5.12: Interview 1: Q14: Relationships between selected statements

The category, business owner was associated with the concepts, ‘your’ and ‘business’ which were linked to the property, trading ‘that’s what I’m living for’ which was linked to day-to-day business activities (dimension). The researcher critically analysed the concept, business owner, in the context of entrepreneurship and observed from literature that there were distinct characteristics defining a business owner and an entrepreneur. A comparison between statements from other questions (16 and 17) in the interview guide associated with the description of the concept, entrepreneurship corresponded with the characteristics of a ‘business owner’. For example, statements associated with the description of business owner included i) participant’s concern about close by competition rather than appreciating competition as an opportunity to test their product as an entrepreneur would do; ii) expecting business to come to them ‘we thought we would have more walk-in customers’ rather than going out to get customers as an entrepreneur does and the focus on making profit were linked to the statement ‘have more walk-in-customers’ and iv) lacking motivation which was uncharacteristic of an entrepreneur who normally has a high level of motivation. Theoretical sensitivity in this regard went beyond the descriptive level (cf. Figure 5.12) to one where the researcher began to formulate substantive conceptualisations (cf. Figure 5.12) to interpret the emerging definition of ‘business owner’ in terms of its

properties and providing an in-depth dimension of explanations to demonstrate the interrelationship between the concepts. The researcher went back to a recorded memo on the various definitions of entrepreneurship and realised that Schumpeter (1942:78) in articulating the concept makes a distinction between an owner of a business and the entrepreneur. Constant comparison enabled the researcher to ensure that related concepts “earned” their relevance by accurately reflecting and including statements which the category was generated from (Corbin & Strauss 1998:292). Some descriptive words and statements were dropped on refinement (e.g. income and profit) and some exemplified in Table 5.12 below ‘were sharpened through theoretical sensitivity (Corbin & Strauss 2008:32). For example, the statement ‘that’s what I’m living for’ was replaced with occupation and ‘running’ replaced with operating activities. The sentence numbering facilitated ease in reshuffling and ordering concepts to a substantive theoretical level.

Codes	line	Substantive descriptive codes : entrepreneurship
Q14	2	‘business’ * work-‘living’
	4	‘running’- in charge of action- business activities * ‘your’- owner
Memo: Conceptual ordering of statements (underdeveloped)		
<ul style="list-style-type: none"> • Category: Business owner – associated with in vivo codes ‘your’ and ‘business’ can be linked to the business owner • Properties: Occupation – associated with the statement ‘that’s what I’m living for’ – can be associated with work – an occupation • Dimensions: Operating activities – associated with concept ‘running’ suggesting the management of day-to-day business activities - operating activities 		

Table 5.12: Interview 1: Q14 Conceptual ordering of substantive statements

The above analytical process provided basis for sampling on theoretical grounds to compare how the next participant would describe the concept entrepreneurship by expanding on the current interpretation of the concept. The researcher recorded a note to observe whether in subsequent interviews there would be a distinction made by participants between the characteristics of a business owner and entrepreneur. Doing so enabled the researcher to break through subjectivity and bias in interpretation of the concepts as the researcher understood that some concepts might have been unfittingly placed in the category and thus not belonging. According to Grounded Theory (GT) procedures, the researcher should keep looking and stop only when the concept was sufficiently described “saturated” (Corbin & Strauss 2008). Saturation of data – according to Morse, Barnett, Mayan, Olson, and Spiers (2002) in Bowen (2008:140) –

“ensures replication in categories; replication verifies and ensures comprehension and completeness”.

In the second interview, which when compared with the previous, expanded on the definition revealing characteristics fitting the description of the concept ‘business owner’, and thus yielding additional possible meaning. The in vivo code, ‘somebody’ was identified and interpreted similar to interview 1 implying a ‘business’ owner (category) as described by the participant was a person having an ‘idea’ (property) that could ‘turn’ (evolve an idea). The concept was interpreted as suggesting a transformation pattern associated with the in vivo code, ‘into a big venture’ (dimension) ‘bigger than one from hand-to-mouth’, implying expansion or growth of the ‘business’ which would become a source of employment (sub-dimension). This interpretation was drawn from the statement suggesting describing the business as being ‘sustainable for ‘self (business owner) and others’ (employees). The sub-dimension, source of employment compared to the previous interview was viewed by the researcher as a variance to the property, ‘that’s what I’m living for’ which after conceptual ordering was interpreted as suggesting the ‘business’ owner understood the ‘business’ to be an occupation to earn a salary from. The participant’s use of the in vivo code, ‘venture’, interpreted in the context of entrepreneurship was linked to risk involved when launching a venture and combined with the statement, ‘taking the business from nothing to a ‘desired state’, suggested a goal oriented action. Theoretical sampling continued with the view of expanding the description of the concept. In interview 3 the participant similar to interview 1 described the concept entrepreneurship as an act of ‘trading’ associated with ‘selling products to people’. This description, the researcher observed was focused on entrepreneurial activity ‘action’ and not on the ‘business’ owner or entrepreneur. Interview 4 (industry expert) was theoretically sampled with the view of getting insights that would expand on the definition. The participant articulated entrepreneurship as an ‘employer’ (category) who was a driver in creating ‘employment for self and others’ (property) similar to interview 2 where the ‘business owner’ perceived the ‘business’ as a ‘source of employment’ linked to the notion of employment creation suggested in interview 2 related to the in vivo code ‘job creation’ in interview 5.

The iterative process of collecting and analysing data, that is, moving from the current to the previous assisted the researcher in building theoretical sensitivity around statements in order to enhance meaning. In interview 1 for example, the back and forth analysis whereby the entire transcript was read again, enabled the researcher to discover a relationship between statements relating to the notion of 'job creation' drawn from the in vivo codes 'paying salaries' for 'people' (staff) appearing in the subsequent question (Q15). The description of entrepreneurship provided in interview 5 had both characteristics of an entrepreneur and entrepreneurial activities. These similarities were drawn from the in vivo codes, 'vision' and 'goal' (interview 2) described by the participant as having an influential role in decision-making. The concepts, 'goal' and 'vision' were interpreted in association with the statement, 'build a professional entity with sound monetary value'. A variance noted between both interviews were concepts used in describing factors determining the success of a 'business' such as, 'expansion' used in interview 2 and in interview 5, building a 'sustainable professional entity' (property). This suggesting evidence of a transformation pattern linked to the in vivo code, 'from nothing' interpreted as a starting point associated with an action to 'build it [business] up to a sustainable professional entity. This property was further described using a dimension of concepts such as, offering training (Dimension 1) having sound financial planning (dimension 2) and quality assurance standards (dimension 3) further explained as entailing research (sub-dimension 1) and risk management internal processes. Another similarity observed was between interviews 4 and 5 in the use of the concept, 'research' which was explained as being characteristic of entrepreneurship processes. In interview 5 'research' was described as a tool to evaluate internal systems and in interview 4 a tool in 'identifying a need in the market' (dimension). This statement was interpreted by the researcher in relation to entrepreneurial processes of starting a venture which involve planning. A variation was also identified between interviews 2, 4 and 5.

In interview 5 the statement 'rural development' empowerment (aimed at poverty alleviation and job creation) was related to the statement, 'creating employment for self and others' (interview 4) and 'job creation' (interview 2). Another variation noticed related to the scope of operation of the 'business', in interview 2 the in vivo codes, 'big business', 'bigger venture' and 'expand' were interpreted to denote a wider scope of operation where the focus would be on benefiting its internal audience denoted by the in

vivo code, 'others' interpreted as employees. In interview 5 the scope although wider, extended outside of the organisation to benefit 'rural' 'community' members. The in vivo code, 'rural' was linked to the in vivo codes 'mission' and 'vision' (identified as a category) taking from the participant's explanation that rural development was on the ICT enterprises agenda. The description of entrepreneurship similar to the previous interviews (2 and 3) depicted characteristics associated with entrepreneurial activity rather than the 'business owner' (interview 1) or the entrepreneur (interview 4). In interview 6, where entrepreneurial characteristics emerged from a number of related concepts did not earn their way to making a category, but were identified and compared for similarities and variances from previous interviews. For example, the relationship between in vivo codes, 'vision' appearing in interview 5, and 'somebody' a variation to 'business owner' also appearing in interviews 1 and 2 including 'enterprise owner' and 'employer' in interview 4.

Additional descriptions appearing for the first time in this interview, linked to characteristics of the entrepreneur which were drawn from in vivo codes such as, 'being innovative', 'looking out for the environment', 'seeing opportunities in the market place', 'creating something extraordinary', 'having the drive and passion'. The concept, 'looking out for the environment' was interpreted by the researcher as relating to conducting a SWOT analysis and thus considering the interpretation to be similar to the concept, market 'research' appearing in interview 4. The concept, 'creating something extra ordinary' interpreted by the researcher as implying innovation, was perceived by the participant to be a rare characteristic found in entrepreneurs. This acknowledgement also related to one made by the participant in interview 4 (industry expert) where the concept innovation was first theoretically sampled (Q23 was added to the interview guide cf. Appendix F). The industry expert also affirmed the 'low innovation levels' (category) claiming there was little room for innovation as 'ICT [was] not understood well enough by small businesses' to trigger innovation' (property) and made further claims that 'owners tend to be followers rather than leaders' (dimension). Other characteristics describing the concept entrepreneurship in interview 6 included, statements such as 'having the drive and passion' which were related to the in vivo code 'motivation'.

The description of the concept entrepreneurship was expanded in interview 7 where the concept, gender stereotyping (category) appeared for the first time. This category described a woman 'business owner' (property) who from the point of view of the participant was 'not recognised in the industry' (dimension). A similar claim was made in a previous interview (5) which related closely with the assertion that 'women's capability' was 'still questioned' in the industry. Other gender stereotypes were associated with the perceptions held by the public of the 'business owner' described in association with masculine descriptors such as, 'someone who dominates', affirmed by the participant 'people always look surprised when they see me' (feminine features). The in vivo code, 'surprise' was linked to 'astonished' used in interview 5 describing men's stereotype attitude that seeks to undermine a woman entrepreneur's ability to acquire ICT 'knowledge and skill'. The researcher at this juncture of analysis decided to consult dictionaries to draw "literature derived concepts" (Strauss & Corbin 1990:68) articulating gender as a number of concepts interpreted in relation to gender issues emerging from previous interviews (other questions in the interview guide e.g. Q17, Q20) were suggestive of an evolving theme. Consulting literature sources was a quality measure to ensure rigor in the build-up of distinct categories generated from correct interpretations.

Similarities were drawn between interviews 8 and 3 where entrepreneurship was described from a position of entrepreneurial activities relating to the 'business' generating profit (interview 3) and having financial sustainability (interview 5). Similarities and variances also emerged between interview 9, 4 and 5. In interview 9 the category, understanding the needs of the market was similarly interpreted in association with conducting 'market research' (interview 4). The category was subsequently linked to the property coming up with ideas on how to address these needs such as, developing people (similar to interview 5), focusing on making a difference for the people (dimension 1) and generating profit (dimension 2). Both participants (interviews 9 and 5) exhibited a passion to develop people in order for them to serve back in their communities.

The researcher made a note to reflect on the concepts, development and self-empowerment and to seek a clear definition with the view of guarding against interpreting both concepts narrowly in the context of the ICT environment. The

researcher, deducing from the experiences (interview 5 and 9) described by participants realised that the interpretations had thus far been narrowly articulated as the described experiences appeared to be heavily laden with meaning. This assumption was made taking into consideration that achieving the status of empowerment or development entails undergoing a process of on-going action. This subsequently prompted the question, “What action were these women entrepreneurs taking in addressing the identified obstacles hindering them from empowering themselves?”

In interview 10 the concept, ‘business owner’ was associated with the concept ‘risk’ which interpreted through theoretical sensitivity and in the context of literature on entrepreneurship was interpreted as implying a willingness to take risk, a characteristic expected of entrepreneurs. A variance was noted in the interpretation of the concept, ‘risk’ drawn from participant’s explanation in interview 5 where ‘risk’ was associated with quality assurance (risk management) that the ICT enterprise had to manage. The concept risk was further theoretically samples to get an expanded meaning as the concept had not rendered a variation of explanations. Another concept identified was ‘funding limitations’, associated with covering ‘operational costs’. In interview 11 a broadened meaning rendering the saturation of the concept innovation, came from a comparison of statement analysed that formed a close correlation between concepts such as, ‘challenging the normal’, ‘doing things differently’, ‘create new ways’, ‘looking outside the box’, and ‘not depending on conventional’ thinking. The definition of entrepreneurship both from the previous interview and interview 11 leaned more on the characteristics of an entrepreneur. A combination of entrepreneurial and entrepreneurial activities in the definition emerged in interview 12 where the concept entrepreneurship was saturated as sufficient explanations both depicting characteristics and entrepreneurship activities were rendered. The researcher identified similarities between previous interviews and interview 12 from concepts such as, the ‘art of creating a business’, ‘having business acumen’ which were all interpreted applying theoretical sensitivity from the in vivo code, ‘read’ as implying self empowerment referenced in interview 5. A variance in the use of the concept, ‘human resource’ (interview 12) and ‘empowerment’ (appearing in interview 5 and 9) was noted.

In interview 5 the emphasis was placed on self empowerment and the empowerment of community members and in interview 9, on ‘developing staff capacity’ and the concept

empowerment was subsequently saturated. In interview 12, the participant's definition of entrepreneurship leaned more towards describing the characteristics of the entrepreneur in relation to the importance of having employees 'human capital' that took the effort to empower themselves. In interview 11 'human resources' were considered a driving force of entrepreneurship, this associated with concepts such as, 'young minds given opportunity' and to 'bring in different skills' to create 'new ways of doing things'. Other concepts interpreted by the researcher through further questioning and theoretical sensitivity with the view of understanding in depth the meaning of the concept empowerment from interview 12 included, business acumen, 'read[ing]', business management skills, 'communication', 'marketing skills' and problem solving skills. All of these descriptors suggested the significance of human capital in the context of entrepreneurship. Linked to this interpretation were current problems facing ICT enterprises brought about by disempowerment such as, increased 'incompetency' levels linked to the lack of 'workplace experience'. In an interview (11) with the government expert, 'human resources' were also described as a driving force of entrepreneurship, this interpretation was associated with concepts used by the participant such as, 'young minds given opportunity' and to 'bring in different skills' to create 'new ways of doing things'.

In interview 13 the concept, 'guts' was identified and subsequently linked to the concept 'risk' appearing in interview 11 implying the entrepreneur's 'willingness to take risk'. The in vivo code, 'venture' (interview 2) interpreted in association with the concept, 'risk' was also linked to the interpretation of the concept, 'guts'. A variation in the interpretation of the concept, 'willingness to take risk' was noted from interview 8 where the concept, 'risk aversion' was perceived as a lost opportunity linked to fear. The researcher reflected on the definition of entrepreneurship and made a connection between failure and success. The interpretation of failure in entrepreneurship terms tends to be associated with success. The concept, 'risk' was considered saturated as its meaning was sufficiently articulated. In the last interview (14), entrepreneurial characteristics same as the ones emerging from the previous relating to the concept business 'business owner' was interpreted from the perspective of the participant as a skilled person with the 'capacity' to 'manage a business' and having a sharp 'business acumen'. This statement also related to interview 12 where the property 'business acumen' emerged.

With reference to the research question of this study, the researcher was able to identify emerging themes from the responses of participants that provided sufficient evidence in answering to the research question pertaining to the conceptualisation of the concept 'entrepreneurship'. Various themes that emerged evolved from a pattern depicting entrepreneurial process and action that emerged from a range of categories, and properties that were compared, and critically examined from other questions of the same transcript and between interviews looking for similarities and variances that would provide a clear understanding of how the participant understood the meaning of entrepreneurship as a concept. This back and forth critical analysis of categories and their properties culminated into a theme of characteristics identified from data that was either associated with the 'business owner', entrepreneur or entrepreneurial activities.

Characteristics associated with the 'business owner' or entrepreneur that were highlighted included: 'guts to establish business venture', 'initiate', 'develop idea' and drive an enterprise's 'vision', and 'goals'; 'turns idea into big venture', 'ensuring its [enterprise's] success through 'sheer determination and belief in one's concept', and 'creating value'; 'looking outside the box', and 'non-conventional' thinking; 'acumen' to 'organise resources', and 'risk' taker creative; and 'understanding the needs of the market' and coming 'up with ideas on how to address those needs', and passion for the 'development and empowerment of people'.

Other descriptive concepts associated with entrepreneurial activity included 'Art of creating business', 'turn business venture into big venture', 'expansion' of 'venture', seeking 'new' market trends, 'business opportunities', 'tenders', 'creating employment for self and others', 'creating new products and services', increasing 'productivity levels of the enterprise', 'doing things differently', and creating something extraordinary'.

The repetition of these concepts including the context in which concepts were interpreted, provided depth and breadth in understanding the concept from the point of view of the participants and the researcher's interpretation which corresponded to literature. This analytical process confirmed data saturation. The chronological order in which categories, their properties and dimensions were identified including stand alone concepts appear in Appendix N Table 1

In sum, in the context of marrying the theoretical definitions provided by participants from different perspectives and the researcher's observations of the real situation, highlighted similarities and differences between the participants and researcher in conceptualising the concept entrepreneurship and the actual modelling of what an entrepreneur does. For example, the articulation of the concept in relation to the in vivo codes 'expansion', innovation' and 'seeking new business opportunities' was well understood theoretically but in practice there appeared to be no workplace evidence in most enterprises. For example, the lack of evidence was observable in terms of the growth of the enterprise i.e. ventures into new markets, producing new products, acquiring new customers, or active involvement in research and development linked to new technological improvement. One of the advantages of conducting interviews in the workplace was that, the researcher could make such observations.

Another analysis made by the researcher on the backdrop of participants' understood meaning of entrepreneurship as being a dynamic process that needs entrepreneurs who can actively and consistently identify and pursue economic opportunities, was that in practice there seemed to be a disconnect suggesting these ICT enterprises were rather on the supply and demand side. This analysis highlighted the importance of definitions (the words used) in shaping the entrepreneur's frame of thinking and the strategy entrepreneurs adopted in influencing their entrepreneurial processes.

Q15 What problems in your view are encountered most by SMMEs? Please elaborate.

In this question (Q15), the participants were asked to share their understanding of problems encountered by SMME entrepreneurs within the ICT sector. The following question (Q16) asked participants to share their opinion on challenges that were specific to women entrepreneurs. Asking these two questions the researcher hoped, would provide a balanced understanding of problems generic to the ICT sector that would delineate parallels or differences between SMMEs in general and women entrepreneurs. In addition, the researcher (a practicing woman entrepreneur) would be able to see how different the problems experienced by SMMEs enterprising in the ICT sector were to other SMMEs enterprising in other sectors. This interest, prompted by the research interest of the study, was proof demonstrating how impossible it is for researchers to separate who they are as individuals, that is, their "background and prior

understandings” from the research and analysis they do (Creswell 2007:39). The coding of both questions (Q15 and Q16) required of the researcher to bracket out any preconceived notions held that would influence interpretation by letting interpretation guide the analysis. The researcher however, consistently made use of in “vivo codes” (Strauss & Corbin 1990:69) to allow participant’s own phrases to come through thus enhancing integrity in interpretation by keeping the data grounded in the participant’s voice.

In the first interview the category, experiencing difficulty in accessing capital was associated with the problem of entrepreneurs having a ‘limited operating budget’ (property) which influenced the purchasing of ‘stock/material’ (dimension 1) and inability to pay ‘staff salaries’ (dimension 2). The second category, local competition was a perceived threat to the new entrant (property 1) who was struggling to penetrate the local competitive market because of the ‘limited marketing budget’ (dimension) hence the ineffective marketing activities (sub-dimension 1) associated with the statement ‘unable to convince people’ suggesting low brand recognition linked to limited customer market share (sub-dimension 2) associated with the in vivo codes, ‘just come in’ implying ‘new entrant’ and therefore ‘unknown’ interpreted as suggesting low brand recognition. The established ICT enterprise (property 2) was identified from an association of concepts such as, ‘always been there’, ‘in existence’. This established ICT enterprise was linked to customer market share (dimension), which was interpreted by the researcher through theoretical sensitivity as suggesting the established ICT enterprise had a fair share of customers in the market. This interpretation was prompted by the participant’s statement suggesting that the established ICT enterprise had gained competitive advantage (sub-dimension) over ‘new entrant’ hence their increased customer market share.

The researcher made an observation from the analytical process that all identified categories had “conceptual power” hence the various layers of properties, dimensions and sub-dimensions were able to render an in-depth explanation deduced from interrelated statements (Strauss & Corbin 1990:65). In interview 2 the problem was that SMMEs were experiencing difficulty in accessing funding (category) due to barriers (property) such as, poor credit rating (dimension 1) associated with in vivo codes ‘credit rating and not having ‘collateral’ (dimension 2). The cause of this situation was

interpreted from a combination of in vivo codes that rendered an explanation that, monies 'owing' towards 'study loans' made it difficult to obtain a 'financial record' needed by funders. Similarly, interview 1 and 2 experienced the same problem pertaining to the limited 'operating budget'.

The second category, developing staff capacity, was associated with barriers linked to lack of business knowledge and skills (property 1), and the lack of human resource capital (property 2). Property 1 was linked to the statement, lack of business knowledge and skill which was interpreted in relation to a range of concepts rendering explanations such as, unfamiliarity with business operations in the area of 'finance' (dimension 1), management' and 'employment regulations' (dimension 2). Human resource capital (property 2) problems were associated with concepts relating to 'mentor[ing]' of staff which was lacking' and linked to 'workplace experience' which too was lacking. This associated with the use of the in vivo codes, 'incompetent'. The inability to create 'sustainable employment' (dimension 1), was associated with the statement, 'people are poached by other companies or go for better opportunities' (sub-dimension). Property 2 was also linked to statements highlighting high staff turnover (dimension 2) associated with the statements, 'you train them and they leave' and inability to create 'sustainable employment' (dimension 3) linked to 'cash flow' related problems associated with the statements, 'you cannot employ graduates because they are expensive' (sub-dimension 1) implying ICT enterprise was unable to pay salaries interpreted from the participants explanation that ICT enterprise was 'struggling to generate income' (sub-dimension 2). Interview 3 compared to interview (1) drew a similarity associated with the concept operating budget which was mutually perceived as a barrier. In interview 1 the association was linked to 'limited operating budget' and in interview 3 with 'high overhead costs'.

Similar to previous interviews, the problem of experiencing difficulty in accessing funding was also identified in interview 4 as a category and associated with concepts such as, 'capital' and 'start up finance' and similar to the previous interview (2) explained that 'qualified' people with 'experience' were 'expensive to hire'. The category experiencing difficulty in accessing funding was saturated but the researcher was open in accommodating other explanations. SMMEs were found to be lacking in marketing skills (property) also identified in interview 1. This property was associated

with the in vivo code, 'sales' which was perceived by the participant as an area 'overlooked [by SMMEs] to the detriment of the business' including a combination of statements such as, the need for SMMEs to 'create their own space' and 'finding a niche market' where similar products were offered. All of these statements were interpreted by the researcher as suggesting competitive marketing in the context of SMMEs inability to survive competition (dimension). Interview 5, similar to the previous interviews, the problem of experiencing difficulty in accessing funding (category) was linked to the statement, 'not understanding documentation requirements' (property) suggesting vagueness of information presented in documents (dimension) as 'there is always some loop hole that is used by officials as an excuse for you not to get funding' and 'there is always some fine print'. These perceptions were interpreted by the researcher through theoretical sensitivity as implying SMMEs do not fully understand the stipulated documentation requirements which were often too technical to understand and overlooked restrictions, implied by the in vivo code, 'in fine print'. However, reflecting on the interpretation, the researcher detected subtle connotations by linking these statements and body language communicated by participant such as, 'sighing' suggesting a 'sense of defeat' observed. This tentative interpretation was made in association with gender inequalities inhibiting women from accessing to business opportunities. These tentative interpretations were recorded in a memo to analyse at a later stage.

Another perceived problem was that women entrepreneurs were seen to be 'lacking self motivation' (category 2) linked to participant's (interview 2) perceived notion that motivation was a 'big factor when starting a business'. This statement was also linked to one made in interview 3 suggesting women have to 'think positively to stay in business' based on the challenges encountered. The lack of self motivation' was linked to the following statements, taking action in 'developing staff' (property 1), getting staff into the ICT sector (dimension) and developing learners (property 2) in order to 'give them the chances they did not have' (dimension). The concept, 'motivation' emerged as an evolving concept that was interrogated in subsequent interviews.

In interview 6 the concept, globalisation (category) was identified as a problem and linked to the property, SMME support lacking locally, perceived by the participant as a consequence of 'globalisation' linked to the in vivo code, 'multi-vendors' who were

perceived as creating a system favouring big companies over local SMMEs who were not considered by 'procurers of services' implying 'multi-vendors'. This treatment, explained from the participant's point of view was linked to the statement, SMMEs not trusted (dimension) drawn from the statement, 'they are not trusted until they have proved themselves' in the marketplace. The researcher's interpretation, confirmed through member checks, the lack of trust in SMMEs was based on limited service track records. This based on the grounds of limited business opportunities coming their way in terms of getting sufficient contracts. In interview 7 similar to previous interviews the concept, 'finance' emerged and was associated with inability to access finance related to the in vivo code, 'equipment'. The statement, 'banks will not fund you unless you present financials' was a problem mentioned from previous interviews (1, 2 and 5) and associated with women's poor credit rating. The researcher revisited thoughts recorded on the category 'experiencing difficulty in accessing funding' in a memo where gender inequalities were tentatively implied in association with the statement 'there is always some loop hole that is used by officials as an excuse for you not to get funding'. This also suggesting discrimination levelled by bank against women.

The problem with women entrepreneurs experiencing difficulty in accessing finance was a theme cutting across from all previous interviews and barriers encountered were sufficiently described for the researcher to consider the theme saturated as additional explanations did not add any new insights. In interview 8 the concept 'risk' was explained differently in that a distinction was made between men and women entrepreneurs who were perceived as being cautious in taking risk than men. The concept, 'risk' also reached a state of saturation at this point in the analysis and was considered saturated. However, gender comparisons were noted and at this juncture in the analysis of the theme gender sensitivity in the form of structural inequalities in the processes of women-driven entrepreneurial activities. Another problem identified was that, SMMEs tended to offer a limited range of ICT products or services and thus not competing favourably in the marketplace. This observation was made in interview 4 where the concept, competitive marketing was identified as a challenge facing SMMEs. In interview 9 the category, Eastern Cape market was perceived as a market where big businesses were thriving and SMMEs getting limited business opportunities as there was an existing private company preferred supplier list (property 1) that business was given to. This claim was linked to the statement, 'private sector already has its own

suppliers' (dimension 1) and that 'national companies already [had] contracts with local companies' (dimension 2). The researcher identified similarities between these claims and those made in interview 6 where globalisation was perceived as creating a system favouring big companies 'multi-vendors' over local SMMEs. The participant also identified problems faced by government suppliers (property 2) categorising suppliers as established companies (dimension 1) described as having high overhead costs (sub-category), standard market 'mark up rates' on products (sub-category 2), having a service 'track record' (sub-category 3). New entrants, 'black SMMEs' (dimension 2) were described in association with descriptive concepts such as, 'having government connections' (sub-dimension), 'getting inside information from government' (dimension 2), 'responding competitively to requests for quotations compared to established 'existing' company' (dimension 3), were 'marking down the price against a set standard market margin' (dimension 4) and were the ones 'getting work' and thus 'destabilising the market' (dimension 5). The researcher identified similarities and variances when comparing and contrasting these statements to previous interviews concerning uncompetitive pricing mentioned in interview 3 associated with small business lowering their price resulting in reduced profit margins and also in interview 1 where the problem was associated with black SMMEs not accessing tenders from government due to entry requirements for tendering being extremely high. The researcher recorded tentative thoughts from the comparison that were tentatively suggesting subtle corruption practices.

A variance to the above explanations was identified in interview 10 in relation to uncompetitive 'pricing'. There was an acknowledgement by the government expert that government was doing something to address the inequality between big and small business by allowing small business to inflate their price (preferential procurement rating system) in order for them to remain competitive. Another variance was noted between statements from interview 10 and 6 suggesting government had confidence in SMMEs (interview 10) as opposed to private sector where trust in SMMEs was lacking (interview 6). In interview 11, the category, technology stereotypes emerged for the first time. The reasons given for stereotypes attitudes were associated with the statement, 'people do not seem to understand that technology is vital nowadays' (property) and the researcher wondered why marketing was ineffective (dimension) asking the question, "Why would people not be interested in the media centre given the fact that the role of

telecentres' were seen as adding value in the development of underserved and rural communities in many ways for example, in the sphere of education and socio-economic (cf. Schreiner 1998; Lesame 2008) development. In interview 12 similar, to the problem cited in interview 2 regarding SMMEs lacking business skills, in this interview the concept, 'not knowing how to start a business' was interpreted by the researcher as implying SMMEs were lacking business skills. Similarly, in interview 2 the concept, 'incompetency' was linked to an explanation that people lacked business management skills. This problem similar to previous interview (2) was attributed to employers not affording qualified professionals working for them.

In interview 13 the concept, managing 'finance' was identified and related to the in vivo code, 'misused money' linked to the statement, 'the management of income and expenditure' and the consequences of mismanagement of finances. This statement was compared to a similar statement appearing in interview 5, making reference to 'women lacking financial skills' whilst men as 'accountants' were financially astute. Another problem identified linked to skills incapacity linked to the property, 'lacking decision-making power' associated with the statement 'oppression of women' in relation to gender-based discrimination (category). Other statements linking to this interpretation were, that, women lacked independent decision-making ability (interview 8) and 'women not hav[ing]' no power to 'challenge or change the situation' (interview 12). This linked to the issue of women's underrepresentation in decision-making positions. The skills gap was also identified in interview 14 linked to a statement explaining that entrepreneurs were lacking 'business mentors for guidance'. These statements confirmed prevailing gender inequalities suggesting implying women's economic marginalisation. The chronological order in which categories, their properties and dimensions were identified including stand alone concepts appear in Appendix N Table 2: Problems encountered by SMMEs.

By the end of the interviews, the researcher identified the following themes which emerged from this question (Q15) in relation to: Experiencing difficulty in accessing funding; local competition; developing staff capacity; lacking self-motivation; globalisation; Eastern Cape ICT market; technology stereotypes. Related concepts included: inability to manage finances; lacking business mentors; women cautious in

taking risk; managing finance; offering a limited range of products or services; lacking independent decision-making; and lacking business mentors for guidance.

In sum, one of the inhibitory factors that were interpreted by the researcher using theoretical sensitivity in relation to failed attempts in penetrating the market were linked to structural issues of local economic development (LED) priorities. In most of the underserved and rural areas, local economic development (LED) priorities are placed on other services such as, access to water, electricity and roads rather than on telecommunications. Therefore, the role of telecentres and their impact on socio-economic development may not be appreciated by the community. The lack of adoption and use of ICT services offered by the centre, albeit the purported claims of establishing the telecentre for purposes of resuscitating economic activity, promoting digital literacy and creating jobs within the local community, was interpreted by the researcher as a possible result of historically embedded structural factors emanating from previous colonialist perceptions regarding ICT manifested in socio-cultural and economic norms that continue to perpetuate the digital divide. This interpretation was linked to perceptions articulated by participants affirming colonialist thinking manifested in gender-based discrimination inhibiting previously disadvantaged communities from accessing and/or taking full advantage of ICT in leapfrogging the stages of development rather than perpetuating the existing digital divide. The researcher made a note to explore further reasons from the literature review that might explain factors influencing the disinterest in making use of the telecentre. The lack of investment and involvement by private sector in the promotion of women-driven entrepreneurship within the sector was interpreted by the researcher as confirmation of the absence of gender mainstreaming policies (interview 10) that could enforce investment in women programmes.

Q16: What in your opinion are the challenges faced by women as entrepreneurs? Please elaborate.

In interview 1, ineffective marketing (category) was linked to product diversification decisions (property) influenced by miscalculated marketing decisions which were associated with local competition (concept) interpreted in the context of a local competitive marketplace. Product diversification decisions were linked to decisions to diversify into new segments A and B (dimensions) which explained decisions for

product diversification. The competitor (category 2) was considered eminent competition for the new entrant because of the perceived product diversification advantage (property) associated with having a fair customer share (dimension). Gender sensitivity (category 3) interpreted and understood in the context of the woman entrepreneur being aware of existing gender biases, was linked to socio-cultural gender role expectations (property 1) associated with gender role stereotyping (dimension) attitudes linked to a perceived value standard regarding it unacceptable for women to hold business 'meetings' with 'strangers' 'after hours'. Gender-based discrimination (property 2) was associated with 'women-owned businesses' not getting access to business opportunities. This interpretation was associated with concepts suggesting gender based economic marginalisation (dimension) and partially met SMME woman entrepreneur's expectations (property 3) regarding government taking action (dimension) in recognising women entrepreneurs as 'business women'. The concept, low motivation was identified and associated with verbal and non verbal expressions interpreted in association to expectations that were partially met (business opportunities). The concept, local competition was identified and associated with local market forces influencing competition.

The category, gender sensitivity was theoretically sampled to explore in-depth some of the categories and properties of statements relating to gender sensitivity to prevent the researcher from building categories on vague interpretations (Goldkuhl & Cronholm 2003) influenced by own gender biases (feminism orientation). In interview 2 gender sensitivity was identified as a category and linked to gender stereotyping (property 1) associated with perceptions held of men as being 'better employers compared to women' (dimension 1); the perception that women were not given the 'credit they deserve' (dimension 2) and were still questioned (sub-dimension) in terms of their ability to operate at a level same as their counterparts (men). The third dimension linked to gender stereotypes was apathy. The concept, women developing apathy (dimension 3) was associated with the statement explaining they 'quickly give up' when faced with challenges. Gender role differences (property 2) were drawn from statements based on gender stereotypical sex role constraints such as, 'time' restrictions (discouraging women from attending meetings after work) and women 'multi-tasking' (balancing work and family responsibilities). Multi-tasking was associated with societal expectations that women were better skilled to care of domestic obligations. In interview 3 the concept

competition was identified as a challenge for the enterprise and was associated with a combination of statements describing uncompetitive circumstances whereby the enterprise had to lower their prices in order to be competitive.

In interview 4 gender-based discrimination (category) portrayed by men was identified as a concern as it resulted in women's economic marginalisation (property). Women were also subjected to men's patriarchal attitude linked to the in vivo code, 'males only club' (dimension1) referred to in interview 1 using terms such as 'it's a men's world' and term 'sexual innuendos (dimension 2) interpreted by the researcher as suggesting gender based sexual harassment behaviour linked to the statement that men had 'differing moral scales' (dimension 3) to women. This explained from the participant's perspective implied immorality in business ethics (sub-dimension) linked to other descriptive words such as, 'doggy and illegal' deals men engage in. The explication of gender comparisons suggested men were more prone than women to such deals. In interview 4 gender sensitivity (category) issues emerged again and gender stereotypes (property) similar to the previous interview (2) were identified. Additional concepts were added to describe gender stereotypes such as, gender based educational differences (dimension 1), gender based career choices (dimension 2), socio-cultural gender role expectations (dimension 3), workplace gender inequalities (dimension 4) linked to inequalities in earnings between women and men (sub-dimension 1) and maternal obligations (sub-dimension 2). The researcher determined whether sufficient data (saturation) supported these interpretations through constant comparison to facilitate an improved conceptual understanding of the gender sensitivity issues and decided to explore in-depth some of the categories and properties of statements relating to gender sensitivity.

In interview 5 a new category, lack of women representation was introduced and was linked to gender-based career differences brought about by women not taking ICT as a career choice (dimension). In interview 6 the acknowledgement of women lacking recognition (category). This acknowledgement linked to the suggestion that gender disaggregated data (property) needed to be generated through surveys within the ICT sector. The lack in 'effort' by the Women Business Associations in directing attention to the entrepreneur behind the ICT enterprise (dimension) was raised as a concern. This concern was linked to a statement suggesting the need to develop a profile of women

entrepreneurs in the sector (dimension). In interview 7 the concept, women lacking recognition was raised again but in the context of family and relatives not taking women entrepreneurs seriously. This statement was considered a variance to previous interviews (1, 5 and 6) where government and the ICT industry were blamed. Another perception held by the participant was for women to start recognising and praising themselves (dimension). This statement was made in acknowledgement of women's ability to balance 'family life' and 'business life'. Barriers confronting women similar to those expressed in interview 1 and 2 (agenda for 'meetings' perceived to be gender biased) affirmed the concern that networking platforms, were not accommodating women and the perception that these platforms were a place where doggy business deals were made and that women were subjected to sexual harassment behaviour. Similarities were drawn between this interview and interview 1 were concerning networking platforms not embracing women who needed business-to—business (B2B) platforms which were perceived as a source of support. The researcher analysed the concept 'networking' in the context of the interpreted meaning and asked the question, "What action are women taking to have their input or views considered as equals at such platforms?" The concept, sexual harassment which was kept active an earlier memo (interview 4) emerged again in interview 8. The notion of men asking for 'sexual favours' in exchange for tenders awarded was linked to an action statement from previous interview (7) linking 'sexual favours' to an action statement, 'It must stop, this thing of having to give out a percentage of your money to procurement officers in order to obtain a contract'. Additional insights on factors influencing the behaviour linked to gender-based discrimination which guided interpretation in identifying the concept, 'gender based sexual harassment' which was subsequently considered saturated.

Other concepts identified demonstrating forms of gender-based discrimination confronting women were: the exploitation of women through partnership ventures organised by government; women not benefiting from the BEE score card; uncompetitive tendering between traditional and new entrants who get inside information from government officials which results in the economic marginalisation of women and late payment turnaround which affects their cash flow. In interview 9 the concept women entrepreneurs taking assertive action (category) was identified and associated with the statement, women successfully operating their own business (dimension 1) despite gender stereotypes (dimension 2) that women were not feeling

intimidated by young men. Similarly, in interview 10, the category gender based stereotyping emerged and was linked to a stereotypical attitude demonstrated by men confirming men do expect women to own ICT enterprise (property) and to be in managerial positions (dimension). This perception was similar to interview 12 and was linked with the statement, 'women are usually boxed into secretarial responsibilities' (sub-dimension) and thus affirming women's underrepresentation in decision-making positions.

Another similarity identified between this interview and interview 8 was the interpretation of the in vivo code 'bribe'. The interpretation revealed a pattern suggesting irregularities in government's procurement processes linked to the statement, 'If I need funding I have to bribe' suggesting a common practice however, condoned by others as affirmed by the statement, 'it must stop...this thing of having to give out a percentage of your money to procurement officers in order to obtain a contract'. The concept 'bribe' was interpreted with the same understanding associated with the in vivo code, 'corruption'. The statement, 'it's the main problem' referring to corruption witnessed was repeated several times suggesting the magnitude of the problem.

The challenges in balancing family and work life also emerged as a theme linked to previous interviews (1, 2, 7 and 9) with in vivo code 'multi-tasking', 'mothers' 'nurturers'.

A variance was identified in the interpretation of the in vivo code 'mother' associated with the participants maternal responsibility towards staff (interview 9) and 'colleges' (interview 12). In interview 13 the concept, gender stereotyping emerged again rendering sufficient evidence of examples of stereotype behaviour demonstrated such as, differences in educational and career occupations based on perceptions about the ICT environment being a male dominated career path and industry; socio-cultural gender role expectations that enforce judgemental stereotypes including perpetuating inequalities based on perceptions that men were better performers, employers than women. Another emerging theme was 'networking' identified in interview 14 but treated as an evolving concept as it had not reached a point of saturation. The chronological order in which categories, their properties and dimensions were identified including stand alone concepts appear in Appendix N Table 3.

The by the end of the interviews, the researcher identified the following theme of categories which emerged from this question (Q16): Ineffective marketing; competitor; women needing action from government; gender sensitivity (women aware of existing gender biases); gender-based discrimination; women lacking recognition; women lacking representation; women experiencing difficulty in accessing funding. Concepts included: competition; women exploited through partnership ventures; late payment turnaround time; women not benefiting from BEE score card; condemning of bribing by officials; men asking for sexual favours.

In sum, an observation made was that women-driven entrepreneurial activities were characterised by socio-cultural, economic, and technological structural barriers that women entrepreneurs were aware of. However the question remaining in the researcher's was "Why were these women not taking action" especially being aware of gender sensitive issues impacting on their enterprises. Another observation was that women-driven entrepreneurship in the ICT sector was a competitive environment suggesting women-owned enterprises needed some form buffer in the form of policy or programme support in order to survive.

Q17: What is your understanding of the term ICT? Please elaborate

This question was asked to interpret an understood meaning from the perspective of women entrepreneurs on how the concept is defined and understood in the context of their operating environment. The researcher considered it important for entrepreneurs to understand definitions (knowing what business the ICT enterprise is in) which are at the core of business strategies directed by the primary focus of the ICT enterprise's products and services.

In Interview 1 The concept, technology gap was identified that suggested participant's limited understanding of the concept ICT. Skyping was, identified as a concepts from a combination of related descriptive in vivo codes, describing its functional usage (electronic means), technology features (voice, text, images), linked to in vivo codes, 'communicate', 'overseas' and 'instantly' which were described in association with electronically conveyed messages perceived as a convenience by the participant. Skyping was associated with the C of the acronym ICT. In interview 2 different to interview 1, the term ICT was interpreted as referring to 'information in the form of raw

or processed data' and communication in new ways using 'gadgets'. In interview 2 the concept, 'processed' was associated with the IT of the acronym and communication 'gadgets' with the C (same as in interview 1) of the acronym ICT. In interview 3 The participant understood the concept ICT as referring to a means of communication where communication is used as a tool to 'link up with clients and suppliers' and associated with the C of the acronym ICT. The interpreted description of technology was insufficient and needed to be explored further. In interview 4 The concept, ICT was described as having the components communication comprising 'computers' (hardware) and radio and cell phones (networks) including the function of processing, managing, and communicating information. In interview 5, the concept, ICT was described as comprising of a 'computer infrastructure'; 'communication networks' and human 'communicating. The elements of the description were associated with the I and C of the acronym ICT. In interview 6 Similar to the previous interviews, the participant described the concept ICT as 'a bridge' (network) used to communicate within the business world using 'technology'. The elements of the description were associated with the I and C of the acronym ICT. In interview 7 the participant understood the concept ICT as technology that uses computers (hardware) and the description was associated with the IT of the acronym ICT. In interview 8 Similar to interview 4 the participant described the term ICT as a 'combination of computers' (networks) used for 'document storage and retrieval of that information' interpreted as referring to hardware. The elements of the description were associated with the IT? and C of the acronym ICT. In interview 9 the concept was the described similar to the previous interview associated with the I, T, and C of the acronym ICT. Although the concept ICT had a variation of descriptions, it was described sufficiently and considered saturated. The chronological order in which categories, their properties and dimensions were identified including stand alone concepts appear in Appendix N Table 4

The by the end of the interviews, the researcher identified the following concepts that emerged from question (Q17) where ICT was perceived in association with: the I and C of the acronym ICT; the IT and C of the acronym ICT and the C of the acronym ICT. Descriptions falling under the I and C included: relaying and production of information through the use of telecommunications. Descriptions falling under the IT and C included: computers' (hardware), used to store and retrieve information facilitated

through satellite technology. Descriptions falling under the C included: platform that facilitates the communication of information using the latest technology available.

This question related to the research questions seeking understanding of how women entrepreneurs conceptualise ICT as a technology.

Q18: In your view what is the role of ICTs in business? Please elaborate.

In interview 1 a number of concepts were identified from statements that were compared for similarities and variance. The first concept, reduced travel was associated with in vivo code teleconferencing which was perceived as being a convenient technology for office meetings. Similarly, the concept, 'improved quality of work life' was linked with the in vivo code, 'making life easier' which implied convenience interpreted from the statement, 'sitting around the table' associated with long distance communication. Internet technology was perceived as a convenient communication tool for researching information. From a filing point of view technology was a convenience tool for electronic document storage associated with the statement, 'so that you have something that you can file on record as proof. In interview 2 the concept, communication tool was interpreted from the perspective of human communication drawn from in vivo code, 'face-to-face communication'. In interview 3 similarities were drawn from this interview and previous interviews (1) ICTs were perceived as a communication tool. This interpretation was associated with the following in vivo codes 'computer', 'fax line' and 'telephone' used by the participant. The participant's description in interview 4 was more elaborate compared to the previous interviews adding more functional aspects related to ICTs being the 'backbone' that 'assists in improving business processes', enhancing 'efficiency' and 'effectiveness' in performance levels. All subsequent interviews had some of the concepts mentioned in interview 4 except for two additional concepts describing ICTs as an 'enabler for innovative business processes' (interview 14) and 'financial gain' (interview 8). The concept of innovative business processes was interpreted in associated with the idea of one developing innovative products. This was linked to the in vivo codes, 'hardware' and 'software developers'. The concept, financial gain was interpreted in the same context of getting better paying jobs. The chronological order in which categories, their properties and dimensions were identified including stand alone concepts appear in Appendix N Table 5

The by the end of the interviews, the researcher identified the following theme of concepts emerging from this question (Q18): Benefit associated: reduced travel; improved quality of business life; facilitates improved business processes; increased productivity; functionality: communication tool; storage tool; research tool; efficiency in business processes; enabling innovative business processes.

This question related to the research question seeking to understand how women conceptualise ICT as a technology.

Q19: What problems do SMMEs have with ICTs? Please elaborate.

In interview 1 the category, 'lacking computer literacy' was interpreted from an association of problems associated with barriers (property) linked a dimension of problems linked to unaffordability linked to entrepreneurs not affording internet connectivity (associated with financial limitations), lacking computer literacy skills (associated with the following statements, 'unable to use the tool', and the concept, 'access to a computer' associated with computer literacy benefits, 'easy' work life and 'smooth' 'running' of operations. The researcher made a note to explore the concept 'access'. The researcher wanted to understand the context in which the concept 'access' was understood. On further probing the concept 'access' was linked to unaffordability and interpreted in association to costly ICT infrastructure. In interview 2 the category, infrastructure costs were linked to property, costly 'software and infrastructure' which required frequent updates (dimension). Similarly, in interview 3 costs related to 'frequent changes in technology' linked to statement, 'keeping up with trends of latest technology' and 'inability to train people on a regular basis'. The lack of computer literacy skills was a problem identified that related to gender sensitivity issues raised in interview 5 linked to gender stereotypes (property) associated with women being 'judged as being incompetent and lacking technical knowledge'.

The assertive action taken by women in dispelling these stereotypes was confirmed in this interview. The researcher noted the evolving theme of women taking assertive action in correcting the stereotypes in subsequent interviews. In interview 6 the participant acknowledged SMMEs lacked knowledge and training on retail products and services of the ICT enterprise. Lack of skills was also an evolving theme but the explanation of the causes of the lack of skills in this environment was not yet sufficiently

explained to render an in-depth understanding. In interview 7 the lack of training problems were related back to previous interviews to compare differences but only similarities were identified linked to the concept, 'self empowerment' appearing in interviews 1, 2, 5 and 12 where the need for entrepreneurs to empower themselves is expressed. The lack of business skills was also identified as a concern in interview 8 and linked to a claims in interview 13 'SMMEs are ill-informed about the benefits of utilising ICT in their enterprises' and 'this has kept them in the dark as they are not aware of the simplified formats offered by ICT to manage some of the sections in the ICT enterprises'. The chronological order in which categories, their properties and dimensions were identified including stand alone concepts appears in Appendix N Table 6.

The by the end of the interviews, the researcher identified the following themes which emerged from this question (Q19) which included: Computer literacy lacking; unaffordability of ICT infrastructure; awareness of gender sensitivity issues; SMMEs needing competitive advantage over big business and internal barriers (expensive equipment costs, expensive maintenance costs, licensing of software and external barriers (stringent government regulations).

This question related to the research question seeking to understand how women conceptualise ICT as a technology.

Q20: In your own words can you please describe your understanding of the ICT sector? e.g. how the sector is structured, applicable legislation and policy. Please elaborate.

This question required of the participant to describe an understood meaning of the ICT sector. The participant was not clear on the question requiring the researcher to explain the question further by giving an example of explanatory terms which were added to the interview guide. This question was one of the questions identified during the pilot that the researcher made changes to. This question, the researcher hoped, would shed an interpreted insight from the perspective of women entrepreneurs on how they understood the technological environment from a business perspective, influenced by "broader structural factors" Strauss and Corbin (1990:11) within the ICT sector having a bearing on the ICT enterprise such as, economic, cultural, social and political

issues to enhance the researcher's theoretical sensitivity in exploring evolving patterns and variations during interpretation.

In interview 1 the concepts, 'acknowledging an information gap' emerged from a close examination of similarities and differences in statements that revealed an information gap associated with statements making reference to women lacking information about the ICT sector. In interview 2 different to interview 1, where an interpreted gap in information was perceived, this participant had an understanding of the ICT sector in the terms of the role players, applicable sector policies and those that have a direct impact on the ICT enterprise. In interview 3, 4, 7 the concept, acknowledging an information gap was identified as they had no knowledge of about the sector. This left a question in the researcher's mind that was noted to reflect on asking the question, 'Why do these women entrepreneurs not know anything about the sector?' In interview 4 the participant, similar to interview 2 had an understanding of the ICT sector in relation to applicable policies within the ICT enterprise's industry governing its operational environment. In interview 8 and 9 participants expressed their limited understanding about the sector. In interview 6 the participant's understanding of the legislative environment was limited to Black Economic Empowerment (BEE). The descriptions provided thus far were not sufficient and prompted the researcher to ask the questions, "What motivated these women entrepreneurs to join the sector?" and "What distinct incentives were set aside for women entrepreneurs especially start-up enterprises to lure women entrepreneurs into the ICT sector?" The researcher made a note to follow up on these questions with an expert theoretically sampled from the public sector. The participant (government expert) in interview 10 had extensive knowledge about the ICT legislative framework and applicable SMME policies. For example, the Eastern Cape ICT strategy 2014 (property) was described as a policy making provision for SMME but with limited emphasis on SMMEs women entrepreneurs. This linked to an explanation that a great deal of the strategy was focused on government mobility in ICTs to enhance service delivery by automating government systems. The researcher recorded a note to examine the Eastern Cape ICT strategy 2014 document later (document analysis phase) to compare statements. The chronological order in which categories, their properties and dimensions were identified including stand alone concepts appears in Appendix N Table 7.

The by the end of the interviews, the researcher identified the following theme emerged from this question (Q20). Legislative environment: applicable legislation, policies and the structuring of the ICT sector. The concept: 'information gap' was a dominant theme.

This question also related to the research question seeking understanding on how women entrepreneurs conceptualise the concept ICT as a sector.

Notably the absence of a policy framework contributed in a way in terms of women entrepreneurs lacking information about the sector. Equally so, the lack of government support programme in the form of briefing sessions left a gap in information.

Q21: How are women stimulating entrepreneurship in the ICT sector? Please elaborate.

In interview 1, gender sensitivity (category) was identified from an association of statements validating women's awareness of existing gender biases influencing women's lack of participation within the ICT sector. Gender sensitivity was linked to gender based career differences (property 1) which were delineated into women careers (dimension 1) interpreted from an association of in vivo codes explaining careers that women are penetrating within the ICT sector such as, 'IT technicians', 'web design' and 'motor mechanics' which were interpreted by participants as suggesting women's assertive action in taking up careers in environments previously defined as 'men's world'. Men careers (dimension 2) were interpreted from an association of in vivo codes shedding light on their involvement in careers qualifying them to become 'engineers' and 'ICT technicians'. In vivo codes repeatedly used in describing these career environments included 'it's a men's world' affirming the lack of visibility of women in such careers. Gender sensitivity also linked to the statement making reference to more women-owned enterprises mushrooming in the sector implying women were making inroads into a 'men's world'. Gender sensitivity was also linked to gender-based educational differences (property 3) related to an affirmation that women were taking up science and engineering careers especially in IT. In interview 2 the category, lacking business knowledge was identified and linked to a statement explaining women's failed attempts and sustainably enterprising in the sector. The claim made by the participant was that entrepreneurs tended to start off with ambitious business goals (property 1). This statement drawn from a combination of in vivo codes implying start-up

entrepreneurs 'start big' with 'limited financial resources', 'instead of starting of small'. These statements were linked to an assertion made about the ICT sector being a 'tough' environment to do business in (dimension) and the suggestion that SMMEs need to start off small projects and then build up as they grow business confidence. This assertion was linked to a perception that 'women lack motivation to face challenges' and in the event fail. Failure was also linked to a claim that entrepreneurs lack business knowledge. This statement was interpreted through theoretical sensitivity which implied the lack of planning skills interpreted from in vivo codes, 'ambitious' and 'eager to enter the sector but failing as they 'lack business skills' and market intelligence.

In interview 3 the concept, limited knowledge was identified and associated with the notion that the ICT sector was perceived to be a 'tough' environment to trade in linked to similar opinion expressed in the previous interview. The statement acknowledging that other women trading in the ICT sector were unknown to the participant was affirmation that the sector was still male dominated. This interpretation was linked to other statements compared such as, 'I only know of a few women trading in the retail sector' linked to 'it's a few of us who have been in retail this long as we have been' and 'I just know of one business that is the same as mine' (interview 7) that were interpreted by the researcher as suggesting low representation of women in the ICT sector. Linked to this interpretation was the notion of survival in the sector which linked back to other statements (interviews 1, 2 and 6) implying women 'do not last very long' as 'most of the black businesses open and do not even last for a year'.

In interview 4, the concept, women making inroads into a male dominated ICT industry' was compared to the statement, 'women do things differently' implying being innovative. The researcher compared the concepts 'male dominated' and male's only club' (mentioned in a response to the previous question) and 'men's world' mentioned in interview 1 and identified a relationship suggesting male dominance (property). The concept 'male dominated' also appeared in the previous interview 1, where the concept was used by participants within a context of networking platforms where it was explained males dominate these platforms linked to assertions that women were voiceless. The researcher noticed a theme depicting gender sensitivity issues emerging from all interviews. In interview 5 planned actions such as, identifying the need for ICT training and development, motivating candidates to enrol for technical skills and

awareness about women not being visible in technical environment. These actions were interpreted as an assertive action taken by the ICT enterprise to address the shortage of skills in the ICT sector, especially women who were not visible in 'technical' environments where the gap was huge. In interview 6 the statement, 'I personally do not find many women participating in ICTs' was linked to statements from previous interviews (3 and 5). In this interview, the participant shed more insight on areas within the ICT sector where women were needed most but not visible. This interpretation was linked to the statement that women need to penetrate areas in 'policy-making' where they can 'recommend and implement solutions to solve [ICT] problems'. The participant made a comparison linked to 'sales positions' and 'accounts positions' where women were mostly represented as positions lacking influence in decision-making processes.

In interview 7 the notion of self empowerment in relation to the ICT sector was perceived as a necessary obligation considering that the sector was a difficult environment to enterprise in. This interpretation was linked and compared to previous statements affirming existing gender sensitivity issues such as, gender stereotypes, gender equality and skills development gap. The statement making reference to self empowerment was supported by the statement 'good knowledge of business orientation in information technology' linked to in vivo codes, 'knowledge of the business', 'keep on upgrading your skill', 'equipping yourself with knowledge' were used in interview 3, 5 and 6 in associated with the statement, 'not every woman can run a business in this environment'. In interview 8 gender stereotypes influencing women's participation were articulated and supported by in vivo codes such as, 'women boxed under administration' positions, 'limited creativity' interpreted as implying innovation and lack of visibility in management' decision platforms.

In interview 9 the concept, skills development was highlighted and similarities (interviews 2, 4, 7 and 8) were identified between statements affirming assertive action in addressing the issue of skills development. The researcher reflected on a previous memo asking the question, "What action are these women entrepreneurs taking in addressing the identified obstacles hindering them from empowering themselves?" The concept self empowerment was sufficiently explained as the researcher could make an interpreted correlation through theoretical sensitivity of a process leading to women entrepreneurs' understanding of their assertive role in taking action to change the

situation. In interview 10 and 12 the assertive action taken by women in addressing gender stereotypes and inequalities were also demonstrated in interview 13 where assertive action was associated with statements suggesting the need to 'exploit talent and passion as a source of business' and in interview 14 where the concept, motivation was linked to a statement advocating for women to start their own business linked to the concept, 'self employment' (interview 4). A variance was noted from previous interviews where motivation was directed at motivating people to acquire skill through education and becoming an employee rather than becoming an entrepreneur 'self employed'. At this junction in the analysis, gender based related concepts were all saturated as all possible explanations rendered an in-depth understanding of the experiences of women entrepreneurs in relation to gender issues impacting on their ICT enterprises. The chronological order in which categories, their properties and dimensions were identified including stand alone concepts that appears in Appendix N Table 8.

The by the end of the interviews, the researcher identified the following theme of categories emerging from question (Q21): gender sensitivity; women attempting to make inroads into sector; developing staff in ICT; women attempting to make inroads into the sector; gender stereotypes and women taking assertive action.

This question related to the research question seeking an understanding on how women entrepreneurs conceptualise the ICT sector.

In sum, if the perceived notion of the ICT sector is to promote the participation of women entrepreneurs in the mainstream economy of the ICT sectors particularly marginalised areas (underserviced and rural), then the sector should be one in which women entrepreneurs enterprising in both urban and rural areas, are not barely surviving but rather building upon a policy foundation that takes gender mainstreaming into account.

Q22: Describe ways in which SMME women entrepreneurs use ICTs as a core product or service of the ICT enterprise. Please elaborate

In interview 1 ICT usage was identified as a category linked to printing service (property 1) and Internet café services (property 2) which had a variety of services such as, email service, photocopying, binding, Internet and telephone service used by clients and for internal administrative purposes. The value chain of services offered indicated the ICT

enterprise was operating on the low-tech end of the continuum as opposed to the high-tech end of the continuum in terms of engaging with ICT. Although interview 2, different to the previous interview offered ICT training, the level of engagement with ICT was still not considered on the high end. Equally so, interview 3 (retail industry) did not sell products that were state of the art. The researcher decided to theoretically sample an ICT enterprise (interview 4) with experience in the ICT sector. The ICT enterprise operated at the high end of the continuum as it offered a wider scope of services that were not limited to conventional ICT training (same as in interview 2) but included engagement with technology on the high-end of the continuum as new training methods manipulated via new forms of technology.

Similarly, interview 6 was categorised on the high-tech end of the continuum as the ICT enterprise sold a range of primary sophisticated products in the range of ICT consumables, pastel software, networking equipment, digital printing, web design solutions, innovative technical advice and support on office and home office. Another ICT enterprise that was interfacing with technology on the high-tech end of the continuum was interview 9 offering a primary service comprising of network infrastructure solutions, mobile solutions, systems development solutions, a technical support service, eBook solutions, software and hardware equipment including high-tech ICT security systems.

The researcher subsequently theoretically sampled an expert (interview 10) in ICT policy to explore further insights. The participant (government expert) who intimately knew entrepreneurship developmental issues within the ICT sector affirmed women entrepreneurs were engaging in high-tech technology in the areas of software development, systems development, web design, business analyst, intelligence, and cabling which were described as environments where a lot of innovation was initiated by women. Research and development and innovative manufacturing of ICT products were identified from interview 14 as another area where women were engaging with high-tech manufacturing. In interview 13 the concept, innovation was associated with innovative ways of doing business using 'online' platforms that is, e-commerce.

The researcher reflected on questions raised earlier in a recorded memo from interview 1 to reflect on the concept innovation where the questions, "How are women entrepreneurs being innovative in their business world?" and if they were, "What

inventions had they produced?” This iterative process of constant comparison to seek understanding in the construction of interrelationships was typical of Grounded Theory analytical procedures (Strauss & Corbin 1998:123). Answers to these questions were answered in interview 14 and thus confirming saturation of the concept innovation derived from further evidence deduced from the statement, ‘we have produced a tablet and PC powered by solar’ which was marketed globally.

The need for women to engage at a higher level with ICTs was articulated in interview 12 where gender-based career differences were identified as a contributor in slowing down the advancement of women in the technical, engineering and decision-making positions within the sector. These actions taken by women were affirmed by participants in interviews 4, 5, 8 and 10 who were taking assertive action in addressing gender stereotypical orientations influencing the progression of women within the sector. The chronological order in which categories, their properties and dimensions were identified including stand alone concepts appears in Appendix N Table 9.

The by the end of the interviews, the researcher identified the following themes which emerged from question (Q22) which included services and products. Services: printing, ICT training, Internet café, administration, consulting, postal service, and systems development solutions. Products: retail products such as ICT consumables, brochures, electronic equipment, eBooks, and ICT security systems; as well as manufacturing of ICT products such as film production, network infrastructure, mobile solutions, and engineering.

This question related to the research question seeking understanding on how women entrepreneurs employ ICT as a core product and service of the ICT enterprise. In sum, what was encouraging to note was that these enterprises were surviving in the sector and willing to effect change to improve the women-driven entrepreneurial processes. The absence of a policy framework is the missing element to offset some of the structural barriers i.e. advocacy interventions addressing the unavailability of ICT infrastructure especially in semi-urban and rural areas.

Q23:

Describe the enterprise's value chain of business processes? e.g. which relate directly to the delivery of the enterprise's core products or service? Please elaborate.

In interview 1 the ICT enterprise's value chain processes (category) were linked to printing processes (property 1) linked to the following sub processes, laminating (dimension 1) and binding (dimension 2). Another process identified was concept development (property 2) and the Internet (dimension) which was a sub process; the third process creative design (property 3) linked to the following sub processes, editing (dimension 1) email (dimension 2) and outsourcing (dimension 4). Outsourcing decision processes linked to the sub processes, printing (dimension 1) and creative skills (dimension 2). The last process communication service (property 5) linked to the following sub processes, internet (dimension 1), editing (dimension 1), email (dimension 2), typing (dimension 3). Interview 2 processes included marketing (property 1) the following sub processes, design (dimension 1), developing posters (dimension 2) and distributing posters to existing and potential clients (dimension 3). The second process aftersales (property 2) linked to the following sub processes, database management (dimension 1), sending email and SMS (sub dimension 1), telephoning clients (sub-dimension 2). The third process content development (property 3) linked to the following sub processes, training manuals (dimension 1) and printing manuals (dimension 2). The last process, financial management (property 4) liked to the following sub processes, purchasing equipment (dimension 1), software and hardware (sub-dimension 1), invoicing (dimension 2) and generating and printing certificates (dimension 3).

In interview 3, processes comprised of, retail processes (property 1) linked to sales (dimension) and marketing and advertising (property 2) linked to advertising through posters (dimension). In interview 5, the processes comprised of, administration processes (property 1) linked to sub processes, registering the businesses (dimension 1) linked to compliance issues (sub-dimension), procedures for developing content for the curriculum (dimension 2) and submitting documentation for accreditation (dimension 3). The second process was marketing linked to word of mouth advertising (dimension 1) linked to brochures, banners, and pamphlets (dimension 2) and newspaper adverts

(dimension 3). In interview 6 the processes comprised of, market research (property) linked to sub processes, word of mouth (dimension 1), radio advertising (dimension 2), mail marketing (dimension 3) Internet (dimension 4), building up a customer base (dimension 5). The second process, maintenance (property 2) linked to sub processes, ICT equipment and tools (dimension 1), staff training (dimension 2). The third process procurement (property 3) linked to the following sub process, stores (dimension). Interview 7 had postal services (property) linked to sub process, information distribution and packaging (dimension). Interview 8 had the same processes as those described in interview 2 because both ICT enterprises were training providers. However, the variance was with the scope of services offered that did not include retail services. Similarities were identified between interviews 2, 3, 6, and interview 9 where a retail service was offered (sales) including marketing research mentioned which was not mentioned in interview 9 where processes were focused internally (inward-out approach) in building the capabilities and strengths of the ICT enterprise compared to the others whose processes were more focused externally (outward-in approach) focused on providing high calibre customer value associated with the notion of marketing research.

A similarity was also drawn between interview 11 and the previous interview that had internally focused processes. For example, there was reliance on walk-in (inward-out approach) clients suggesting reliance on the strengths of the product sold and reliance on word-of-mouth advertising (similar to interview 1) albeit knowing about the stiff competition facing them, advertising remained their weakest point. Interview 12 had process that included radio programming (property 1) linked to sub processes, informed by customer feedback (dimension 1), informed by the mandate of the board and committees (dimension 2). The second process, committee functions (property 2) was linked to the following sub processes, market our programmes (dimension 1) address technical issues that have to do with signal distribution (dimension 2), develop program content (dimension 3) linked to disability issues (sub-dimension), advertising (dimension 4) linked to media buying (sub dimension) and issuing of quotations and invoices (dimension 5). Interview 13 different to the previous interviews had processes which included, documentary production (property 1) linked to sub processes, drafting of proposals (dimension 1), and pre-production (dimension 2), linked to planning (sub-dimension 1), researching (sub-dimension 2) and drafting of the script (sub-dimension

3). The second process was production (property 2) linked to sub processes, film or re-enact scenes (dimension 1), editing of raw footage (dimension 2) and producing the final product (dimension 3). The third process, web designing and hosting (property 3) was linked to sub processes, generating the content (dimension 1) and creating and activating pages (dimension 2). Interview 14 was an affirmation to a statement made in interview 10 that SMMEs needed to develop research and development capacity linked to the inability to produce innovative products. The processes of the ICT enterprises included, research and development (property) linked to sub processes, new design processes, (dimension 1), production (dimension 2), manufacturing quality control (dimension 3) and packaging (dimension 4). The second process was marketing and promotion (property 2) which was linked to the sub process, distribution of the product (dimension).

The researcher observed from the participant's explanations that marketing was a critical aspect of their end-value chain which determined their competitiveness in the global market. This interpretation was deduced from the statement, 'we have to get the product out there before competition does'. The chronological order in which categories, their properties and dimensions were identified including standalone concepts appear in Appendix N Table 10.

The by the end of the interviews, the researcher identified the following theme of concepts which emerged from question (Q23): ICT enterprise value chain processes which included administrative functionalities, resource management systems, communication functionality, database management functionality, sourcing systems to mention a few. The value chain of processes were all ICT enabled and thus meeting the definition of an ICT enterprise.

Q24: How often does the enterprise introduce new products or services and what informs the decision to do so? Please elaborate

In interview 1, the category, market driven decision-making was identified informed by the emergence of an opportune gap in the market (property 1). Funding limitations (dimension) were identified as a barrier impeding women from taking full advantage of arising opportunities. Market driven decision-making was also interpreted in the context of addressing clientele needs (property 2) in terms of product line diversification

(dimension). The concept, yearly upgrades was linked to funding limitations, determining purchasing decisions. Similarly, in interview 2, decision making was driven by the market. However, different to the previous interview (relying on walk-in customers), these decisions were informed by market research (property) conducted by way of reading industry 'magazines' (dimension 1), conducting 'competitor benchmarks (dimension2) and through customer feedback (dimension 3). Similarly, upgrades on products were done yearly. The in vivo code, 'trends' used in interview 3, was interpreted in the same context whereby market research (interview 2) informs these decisions. This interpretation was linked to the statements making reference to getting latest trends from 'suppliers', 'customers' and 'students'. Subsequent interviews (4, 5, 6, 7 and 8) also made decisions informed by the market. The motivation for yearly upgrades were linked to in vivo codes such as, 'obsolete', 'keeping abreast with technology', 'technology changes quickly' and 'frequent technology changes'. Obtaining feedback from 'customers' or 'listeners' emerged from all interviews as a common factor in ensuring customer needs were met. These interpretations suggested customers were involved in informing decision-making. Interview 9 was an exception in that decision making was informed by a shift in [ICT enterprise's] internal strategic focus (category). The internal strategic focus was influenced by the market segmentation strategy (property) which focused on particular segments to introduce products (dimension). Another aim of the internal strategic focus was explained as a strategy to create strategic partnership ventures (property 2) within the mobile industry. The concept, innovation appearing from previous interviews was interpreted in relation to the concept 'market segmentation strategy' where different products were targeted for different markets by the enterprise. This strategy was linked to in vivo codes suggesting a focused plan of action aimed at being 'competitive' and offering 'something different' but 'relevant' to customers. The chronological order in which categories, their properties and dimensions were identified including stand alone concepts appears in Appendix N Table 11.

By the end of the interviews, the researcher identified the following theme of categories which emerged from question (Q24) describing factors influencing decision-making concerning the introduction of new products in the marketplace: market driven decision-making; technology driven changes; shift in internal strategic focus; and market research decision-making.

Q25: What is government currently doing to promote ICT women-driven entrepreneurship development? e.g. structured and unstructured support programmes and initiatives. Please elaborate.

In interview 1 the participant acknowledged an information gap (category) which was associated with barriers limiting access to formal channels of communication usually used as a source for business related information. Access to information was limited to, secondary sources of information (property). The property was associated with the statement made by the participant affirming not having 'full information' about government programmes. The researcher reflected on responses (notable the reasons for the information gap on the ICT sector) from previous interviews which also affirmed an existing gap in information and suggested action that participants expected government to take such as, providing information sharing platforms where the agenda of the session would centre on women issues only).

The consequences of an absence of readily accessible information was a contributing factor in women developing entrepreneurial apathy causing them to be despondent in following up on information and subsequently missing out on business opportunities that men were taking advantage of and using B2B networking platforms to disseminate business related information. The concept apathy was derived from a combination of statements compared and contrasted implying reduced levels of trust between SMMEs and government. For example, the statement (interview 7) 'I have lost trust and faith [government]. Especially as a white woman' was interpreted with clarification from the participant through member checking as implying economic marginalisation. This interpretation was further associated with the statement 'rather than using money that we give each other' uttered in interview 1, was interpreted from the perspective of the participant as implying unethical business conduct and an affirmation of women's desire to have inclusive B2B platforms where they too can get access to business related information. The researcher applied theoretical sensitivity in further interpreting the use of the in vivo codes, losing 'trust' and 'faith' in government, 'especially as a white woman', was linked to the participant's affirmation statement that 'there is so much corruption in government'.

A variance 'clean money' (interview 1) was also identified in relation to the in vivo code 'corruption'. 'Clean money' was used with reference to B2B networking platforms which

the participant envisaged should be a platform where businesses give each other 'support' and 'clean money', insinuating ethical business conduct. On the contrary, in relation to a perceived claim that networking platforms marginalised women entrepreneurs, on the contrary, in interview 9 there was confirmation of the inclusion of women in business networking platforms such as the ICT provincial networking council (comprising of captains from different industries within the ICT sector) where women entrepreneurs' input was recognised. The researcher conducted an analytical comparison between this interview and interview 1 and 2 in terms of the participants levels of business confidence at networking platforms and discovered interpreting from a combination of statement that other women did not feel intimidated by men at such platforms. The following statement was but one that affirmed this 'I deal a lot with these ICT heads' which was different to a statement from the previous interview (2) asserting women entrepreneurs were voiceless in networking platforms. This raised questions from the researcher who sought to understand the kind of demographics or psychographics that should be reflective of women entrepreneurs trading in the ICT sector. These questions confirmed the research gap that linked to the previous interview where the need for sex disaggregated data was identified. The researcher was of the view that these women should have certain characteristics unique to the ICT sector empowering them to deal with gender sensitive issues as gender insensitivity practices were identified in association with concepts implying information was readily accessible to men than to women. This interpretation was derived from the following in vivo codes, 'benefiting males' and 'attendance dominantly male' at 'networking' platforms. The acknowledgment of an information gap was also affirmed in subsequent interviews (3, 4, 5, 6, 7, 8 and 9) supported by gender stereotype statements such as, 'networking platforms inaccessible to women', 'limited formal sources of information'. At this juncture in the analysis, the concept networking was sufficiently articulated by participants rendering an in-depth understanding on how it happens and why including proposed action that has to be taken. Interviews 10, 13 and 14 were the only exceptions affirming support given to women. This affirmation was linked to the BEE preferential procurement scoring point system (interview 10) considered as an intervention giving women an advantage over men. In interview 13 and 14 participants acknowledged support that women were getting in terms of accessing through ICT hubs that were providing support such as, mentorship programmes, coaching, financial assistance and access to ICT infrastructure. The researcher noted a memo to reflect

on the statements suggesting expectations from government wondering “What expectations were created by government with regard to Black Economic Empowerment?” and “Why it was difficult to access tenders when there is legislation in place favouring women, whose development is prioritised on the development agenda of government?” The chronological order in which categories, their properties and dimensions were identified including stand alone concepts appears in Appendix N Table 12.

Q26: What more should government do? Please elaborate.

There were expectations from participants (interview 1, 8, 9, 10 and 11) for government to take action by paying attention to women issues. Statements relating to this included, creating venture partnerships ‘linking women with relevant companies’, government playing a mentorship role in the sector, ‘making available funding’, ‘addressing gender based inequalities in the sector, ‘providing training’, ‘funding the established of ICT centres in rural areas’, resuscitating economic activity in rural areas, providing ‘rental subsidy for office space occupied by small business’. The concept mentorship was saturated in this interview as the concept rendered a sufficient understanding in terms of what mentorship programmes were that were envisaged for the empowerment of women. The chronological order in which categories, their properties and dimensions were identified including standalone concepts appear in Appendix N Table 13.

The by the end of the interviews, the researcher identified the following themes emerging from question (Q26) which highlighted the following action categories: organise road shows; funding processes not fair to SMMEs; women entrepreneurs needing action from government and addressing gender-based inequalities.

Q27: What is the private sector doing to promote ICT women-driven entrepreneurship development? For example, structured and unstructured support programmes and initiatives implemented?

All participants acknowledged an information gap that was identified as a concept which providing limited insight. For example, there was only one participant (interview 5) acknowledged getting a grant from a private company as start-up capital. The participant from interview 10 acknowledged private sector's involvement in sponsoring only ICT sector recognition awards for 'women in ICT and 'women of the year award', an indication that not much was known in terms of private sectors involvement and initiatives supporting entrepreneurship development especially that directed at women. The researcher at this juncture of analysis decided to reflect back on the research interest where women entrepreneurs are encouraged to penetrate the sector but no information and support is forth coming in especially in view of commitments made in policy documents. This research question seeking to understand how women entrepreneurs perceived the role of private sector in supporting the advancement of SMME women-driven entrepreneurship in the ICT sector of the Eastern Cape Province could not be saturated as gaps of information were still missing. The researcher made a note and left this question for interpretation later (document analysis phase where existing literature would be perused). The chronological order in which categories, their properties and dimensions were identified including standalone concepts appear in Appendix N Table 14.

The by the end of the interviews, the researcher had identified only one theme: Acknowledging an information gap.

In sum, the lack of private sector's involvement in the province's development agenda of the ICT sector of the province can be regarded as a missed opportunity. This is in the light of the much talked about media and policy statements referring to joint partnership collaborations as a workable solution in promoting SMME driven entrepreneurship in the province.

Q28: What more should the private sector do?

In interview 1 the concept, give support by sponsoring 'networking platforms' was interpreted in association with an identified need for businesses to give support to each

other. This interpretation was drawn from the in vivo codes, 'give', 'grow' and 'support'. Another suggestion from interview 2 and 9 was that private sector should be encouraged to 'support local companies'. This suggestion was associated with the expectation that private companies 'avail business opportunities' and access to their 'webpages' advertising available business opportunities. Interviews 4, 5, 10 and 12 wanted support in the form of ICT training (formal and informal). The chronological order in which categories, their properties and dimensions were identified including standalone concepts appear in Appendix N Table 15.

The by the end of the interviews, the researcher identified the following theme of concepts which emerged from question (Q27): Private sector should be encouraged to use women-owned enterprises; conduct ICT road shows; conduct training for SMMEs and being a source of mentorship for start-up women entrepreneurs.

5.5.2 CONCEPTUAL REFINEMENT

In this study, the researcher "actively" (Goldkuhl & Cronholm 2010) worked with and clarified statements by applying different questions to derive meaning from the categories and concepts identified. The researcher critically and constructively reflected on seven categories and subcategories (empirical statements and variations in statements) developed, including six concepts identified earlier that were conceptually refined ontologically and linguistically challenged.

The researcher decided to complement Goldkuhl and Cronholm's questioning technique with Scott and Howell's (2008) questioning technique (cf. Appendix O) used in their conditional relationship guide (facilitating the move from open coding to axial coding) to link categories more clearly to data from which patterns of action and conditions emerged.

The advantage in combining the two techniques was that Goldkuhl and Cronholm (2010) place emphasis on the critical analysis of emergent concepts as they usually carry depth in meaning. On the other hand, Scott and Howell (2008:6) use questions such as: What is the category, when does the category occur, where does the category occur, why does the category occur, how does the category occur, and what consequence does the category represent? Akin to Strauss and Corbin's (1998:127),

the investigative questions of who, when, where, why, how, and with what consequences relate structure to process.

Answering these questions assembled the loose array of concepts and categories labelled and sorted in the inductive coding stage into a coherent pattern that enabled the researcher to stay close to participant's meanings of articulating factors that influenced the processes of women-driven entrepreneurship, including understanding how women entrepreneurs were "making sense" (Weick 1995) of this "constructed reality" (Walsham 1993; Guba & Lincoln, 1994).

The researcher observed from employing Scott and Howell's (2008) conditional relationship guide that during the transition towards axial coding, the coding boundaries were "artificial" as Corbin and Strauss's (2008:198) attest. There was no distinction between inductive coding and pattern coding. The researcher had to revert to inductive coding to expand the codes and had to return to rework the categories with the purpose of renaming them. For illustrative purposes, the following primary ontological category of the 33 identified categories were analysed and one of the 11 concepts. The rest of the categories are reflected in Appendix 0)

Gender sensitivity

According to the conditional relationship guide, the "What is it?" question, for example, was asked for the category gender sensitivity (Table 5.13 Abstract A). In answering this question, the researcher paraphrased the participants' collective descriptive phrases (derived from properties) that seemed to capture the collective intent of what all participants were saying. In some instances, in vivo codes used by specific participants were included in order to avoid researcher bias. The other reason was to accommodate the blending of researcher's meaning with that of the participants. Gender sensitivity was interpreted from the perspective of the SMME women entrepreneurs' as an acknowledgment of gender biases and problems interpreted from the following properties: i) socio-cultural gender role expectations; ii) gender-based career differences; iii) gender stereotyping; iv) gender-based discrimination; gender based inequality in the workplace; v) gender-based educational differences; partially met SMME woman entrepreneurs' expectations; vi) women's management style; vii) women have no decision-making power; and viii) women entrepreneurs taking assertive action.

Table 5.13 Abstract A: Conceptual refinement: gender sensitivity

Ontological Category	Properties	What	When	Where	Why	How	Consequence	
Gender sensitivity	Socio-cultural gender role expectations	Societal expectations that view women entrepreneurs different to their male counterparts	Women entrepreneurs have to market the ICT enterprise	Restaurants after hours	<ul style="list-style-type: none"> • Women not expected to hold business meetings after hours (night) • Women's role viewed to be more domesticated, attending to family after hours 	<p>Women being judged against cultural norms, 'improper' behaviour</p> <p>Women entrepreneurs are balancing work and domestic responsibilities, men have fewer domestic responsibilities</p>	Experiencing challenges in marketing and growing the business	
				Networking platforms	Networking platforms friendlier to men than to women	If you are a women, sexual favours would likely be expected	Experiencing challenges in building business relationships, 'networking', perceptions that it's a 'men's world'	
	Gender-based discrimination	Gender-based economic marginalisation	Seeking financial assistance 'loans'	'Banks'	Discriminated against by virtue of being a woman	Denied access to finance	<ul style="list-style-type: none"> • Have limited operating capital – low profits • 'black businesses' struggle and close down • Cash flow problems seen as a risk by banks 	
				No 'collateral' security	SMMEs in urban and rural areas	Poor credit history or no 'financial record', Do not earn a regular salary	Loans inaccessible	
						SMMEs neither know where, nor how to access funding.	Information not readily available	Develop apathy
			Access business opportunities	Government and private sector	Bias in tender adjudication processes	BEE scoring point system is not benefiting women as it intends to (due to lack of transparency)	<ul style="list-style-type: none"> • Women entrepreneurs shy away from pursuing tender opportunities • Playing field is not level 	

- i. The “What” reflected in the third column of the table above sought an answer to the question, “What is [the category]?” meaning “what is gender sensitivity?” was responded to by first understanding the property, “socio-cultural gender role expectations” that provided context in defining the “What”, i.e. societal expectations that view women entrepreneurs different to men.
- ii. The “When” sought an answer to the question, “When does [the category] occur?” meaning “When do these societal expectation occur?” The answer was facilitated by using the word “during” when “marketing the ICT enterprise”.
- iii. The “Where” sought an answer to the question, “Where does [the category] occur?” The answer was facilitated by using the word “in”. For example, the participant’s response to the first “where” was in restaurants after hours. In the second “where”, on networking platforms.
- iv. The “Why” sought an answer to the question, “Why does [the category] occur?” The answer was facilitated by using the word “because”. For example, the participant’s response in explaining societal expectations with regard to marketing in restaurants was women were not expected to hold business meetings after hours (at night) in restaurants. In the second instance, the explanation in relation to marketing on networking platforms was that women’s role was viewed to be more domesticated and, therefore, they were expected to attend to family after hours. In the third instance, networking platforms were perceived to be friendlier to men than to women.
- v. The “How” sought an answer to the question, “How does [the category] occur?” The answer was facilitated by using the word “by”. This question identified actions and interactions between the category and property by providing insight in terms of understanding the consequences. The participant, for example, explained that women were being judged according to cultural norms that regarded it ‘improper’ for them to hold business meetings after hours. Secondly, women were balancing work and domestic responsibilities, since men had less domestic responsibilities and lastly, ‘if you are a woman sexual favours [were] expected’.
- vi. The consequence sought an answer to the sixth question, “With what consequences does [the category] occur?” or how it was understood. The consequence of being judged according cultural norms resulted in women experiencing challenges in respect of marketing the business and growing the business. Secondly, the consequence of women balancing work and domestic

responsibilities resulted in women being unable to market their businesses after hours through business networking relationships and lastly, the consequence of sexual favours resulted in women experiencing challenges in building business relationships by 'networking' with peers.

Corruption

The following Table 5.14 Abstract B exemplifies the conceptual refinement of one of the 11 concepts 'corruption' reflected in the same procedure of questioning was applied as in the above example.

Table 5.14 Abstract B: Conceptual refinement: corruption

Concept	What	When	Where	Why	How	Consequence
Corruption	Bribing tendencies of government officials	Awarding of funds	SMMEs	Get money in exchange for granting funds	Ask for money	Women subjected to sexual harassment Women economically marginalised
	Irregular tender practices SMMEs have government connections	Loose 'trust' and 'faith' in government	SMMEs	Inaccessible tenders	Corrupt tendencies of government officials	Women do not have trust government 'I have lost faith, especially as a white woman'
	Funding processes not fair to SMMEs	Adjudication of tenders	Government	Officials ask for money in exchange for awarding tenders	'To get funding, SMMEs must know someone from inside or belong to a 'certain network group'	SMMEs are marginalised
	'Dole out a percentage of your money'	Seek funding	Government procurement officers	Stop the 'corruption'	Monitor and evaluate procurement	Exhaust SMMEs 'financially'
	Business is awarded on a friend-to-friend basis		Private sector procurement officers		National companies engage local companies that they have longstanding contracts with	Local companies miss out on business opportunities
	Men ask for sexual favours Sexual innuendos	Adjudication of tenders	Government	Officials ask for sexual favours in exchange for awarding tenders	Business proposals that have a precondition that business will be awarded in exchange for a personal relationships	SMMEs are marginalised
	Bribing tendencies by government officials	Awarding of funds	SMMEs	To get money in exchange for granting funds	'Asking for money'	Women subjected to sexual harassment Women economically marginalised

During the process of refinement, some categories (statements) the researcher observed appeared a few times in response to the 'consequence' questions and provided substance to explaining interrelationships with other categories. During refinement, some categories were rejected whilst some developed into broader themes and during the subsequent stages of analysis. The elimination was aided by the coding hierarchy that necessitated the renaming of some concepts (words) into more analytical substantive concepts to ensure congruence in the analysis.

This critical reflection on statements underpinned quality assurance in order to start building categories on explicit rather than vague formulations (Goldkhuil & Cronholm 2012:194).

5.5.3 PATTERN CODING

In this study, the researcher's interest, at that level of analysis, focused more on conceptualising the emerging pattern of statements by participants who explained their perceptions and experiences of SMME women-driven entrepreneurship processes. Statements were reformulated. Gender sensitivity for example, was changed to women experiencing forms of gender-based discrimination subsequent to the inductive coding (open coding) analytical phase. Meaningful connections between the categories of statements were – through constant comparisons (Strauss & Corbin, 1998: 67) – formed to build categorical structures (Axelsson & Goldkuhl 2004), i.e. critical category determination (Appendix P). During the process, the researcher recorded theoretical propositions in memos that diagrammatically illustrated how the substantive statements were associated whilst critically reflecting on previous notes made to obtain multiple points of view with the aim of comparing emerging interpretations.

The question: "Under what conditions are women experiencing forms of discrimination?" for example, was asked when the conditions were considered and in relation to consequences, the question: "What happens as a result of such discriminatory behaviour?" was asked. The coding paradigm stimulated thinking about how women entrepreneurs conceptualised discrimination. The conditions and context of discriminatory situations and strategies that women entrepreneurs

experienced included consequences of discrimination. These consequences were taken into consideration irrespective of whether they were positive or negative.

The coding paradigm was used as a guide to integrate structure (conditional context of discrimination) with process (sequences of response action / interaction over a period time). Integrating structure with process was a necessary procedure, since that contributed towards developing the substantive theory (Strauss & Corbin, 1998). Theoretically defining each category and making theoretical statements facilitated the identification of relationships among categories, as well as relating structure with its corresponding process. Strauss and Corbin (1998:168) outline types of questions to ask while analysing data for process, such as: "What conditions combine to create the context in which the action or interaction is located?"

Paying attention to participants' use of language was also a valuable analytical tool employed during inductive and pattern coding to develop categories. For example, the metaphor 'destabilising the market' was used to describe the participants' experience in relation to 'black SMMEs within the context of the category the 'Eastern Cape Market' that practised uncompetitive pricing which was a condition for the marginalisation of women entrepreneurs in the awarding of tenders. The metaphor 'destabilising the market' depicted how the women entrepreneurs organised and conveyed meaning from own experience of submitting tenders for government work (Coffey & Atkinson 1996). The metaphor also stimulated theoretical ideas and analytical thinking that the researcher related to the category experiencing gender-based discrimination. The metaphor was subsequently linked to a variation of the subcategory 'acknowledging gender equity' referring to the BEE scorecard point system which was developed to enable women entrepreneurs to access government tenders and also linked to the subcategory 'irregularities in tender practices'. The consequence of this described the nature of 'corruption' in the awarding of tenders by government procurement officers. Other metaphors repeatedly used were 'it's a men's club', 'boys club' and 'men's game' which stimulated analytical thinking that the researcher related to a range of statements explaining how women were facing economic marginalisation on the basis of gender discrimination.

The use of diagrams (cf. Figure 5.9) facilitated theoretical conceptualisation around an emerging pattern of actions that revealed a deeper understanding of the different forms of gender-based discrimination that women entrepreneurs were experiencing and how they were responding to it.

In accordance with the epistemology underpinning the study, women entrepreneurs' worldview of the ICT sector and their lived entrepreneurial experiences and consequent action taken by them as a result of the prevailing conditions were interpreted by the researcher through a symbolic interactionism lens (Chenitz & Swanson 1986) that facilitated a co-constructed meaningful account. The researcher had the "opportunity to examine continuous processes [entrepreneurial activity] in context [socio-economic and political] in order to draw out the significance of various levels of analysis and thereby revealing the multiple sources of loops of causation and connectivity so crucial to identifying and explaining patterns [gender-based discrimination] in the process of change" (Pettigrew 1989:14). In the case of SMME women-driven entrepreneurship, those processes were transformative.

The researcher determined whether sufficient data existed (theoretical saturation) to support those interpretations and by so doing provided an improved holistic conceptual understanding constructed from several perspectives that represented different points of view which the women entrepreneurs expressed. That understanding clarified the concerns and factors in terms of their experience of gender-based discrimination. Furthermore, the alignment of research questions with empirical substantive categories enhanced the rigor of the analytical process. The analytical process of comparing different snippets of data for similarities and differences confirmed to a large degree that open (inductive) and axial coding (pattern) were not discrete phases (Corbin & Strauss 1990:81).

The following table (5.16) exemplifies the conceptualisation of action patterns of statements in terms of the conditions, enablers, obstacles, actions, strategies, as well as consequences. Detailed lists of categories are listed in Appendix P). A graphical conceptualisation is depicted in Figure 5.13 below.

Table 5.15: First illustration of building categorical structures

Category	Conditions	Action / strategies	Consequence (outcome)
1. Women experience forms of discrimination	What gives rise to discrimination? Circumstance / situation	<ul style="list-style-type: none"> • Actions that allow it to occur • Strategic response to issue / problem 	Outcome of actions / interaction
	<ul style="list-style-type: none"> • Socio-cultural gender role expectations conflict with women's entrepreneurial role • Occupational differences • ICT sector predominantly a male career environment 	<ul style="list-style-type: none"> • Society judges women holding business meetings after hours • Men orchestrate women from networking platforms • Limit women's career advancement • Women take action through self-empowerment • Women do not have decision-making power • ICT understood as a combination of network, computers (hardware) used for 'relaying', 'communicating' information, storage of documents, retrieving information easily • Understand the significant role of ICT in business 	<ul style="list-style-type: none"> • Enforce gender stereotypes • Women are economically marginalised • Increase levels of underrepresentation of women in key ICT positions • Increase over-representation of women in non-professional ICT occupations • Penetrate 'technical' careers previously dominated by men • Inability to contribute to decisions that concern operations of the organisation • Become more assertive in stamping out gender-based stereotyping 'it's a men's club', 'boys club', 'men's game'
	<ul style="list-style-type: none"> • Not recognised in the industry as 'business owners' and equals to male entrepreneurs 	<ul style="list-style-type: none"> • Men undermine women's ability to run ICT enterprises • The EC Province lacks sex-disaggregated statistics of the ICT sector 	<ul style="list-style-type: none"> • Marginalise women in the ICT sector • Women's contribution in the ICT sector goes unrecognised despite weathering the challenges
	<ul style="list-style-type: none"> • Experience gender-based inequality in the workplace 	<ul style="list-style-type: none"> • Women identify the lack of knowledge about the ICT sector • Gender differentials in earnings • Inequalities in accessing career advancement opportunities • Gender differentials in earnings 	<ul style="list-style-type: none"> • Take assertive action in upgrading their ICT knowledge and skills • Unacceptability of women as equal working partners and their abilities are questioned • Women educationally underqualified in comparison with men, hence their earnings are less.
	<ul style="list-style-type: none"> • Experience educational differences 	<ul style="list-style-type: none"> • Government officials ask for money and sexual favours in exchange for awarding tenders 	<ul style="list-style-type: none"> • Economic marginalisation. • Women entrepreneurs shy away from pursuing tender opportunities

Category	Conditions	Action / strategies	Consequence (outcome)
	<ul style="list-style-type: none"> • Are exposed to gender-based sexual harassment 	<ul style="list-style-type: none"> • Subjected to unwelcoming 'sexual innuendos' from men in networking platforms 	<ul style="list-style-type: none"> • Widening inequalities in accessing information that could enable women to benefit from available resources and economic opportunities

Figure 5.13: Depiction of the graphical conceptualisation of action patterns of statements in terms of the conditions, enablers, obstacles, actions, strategies, as well as consequences.

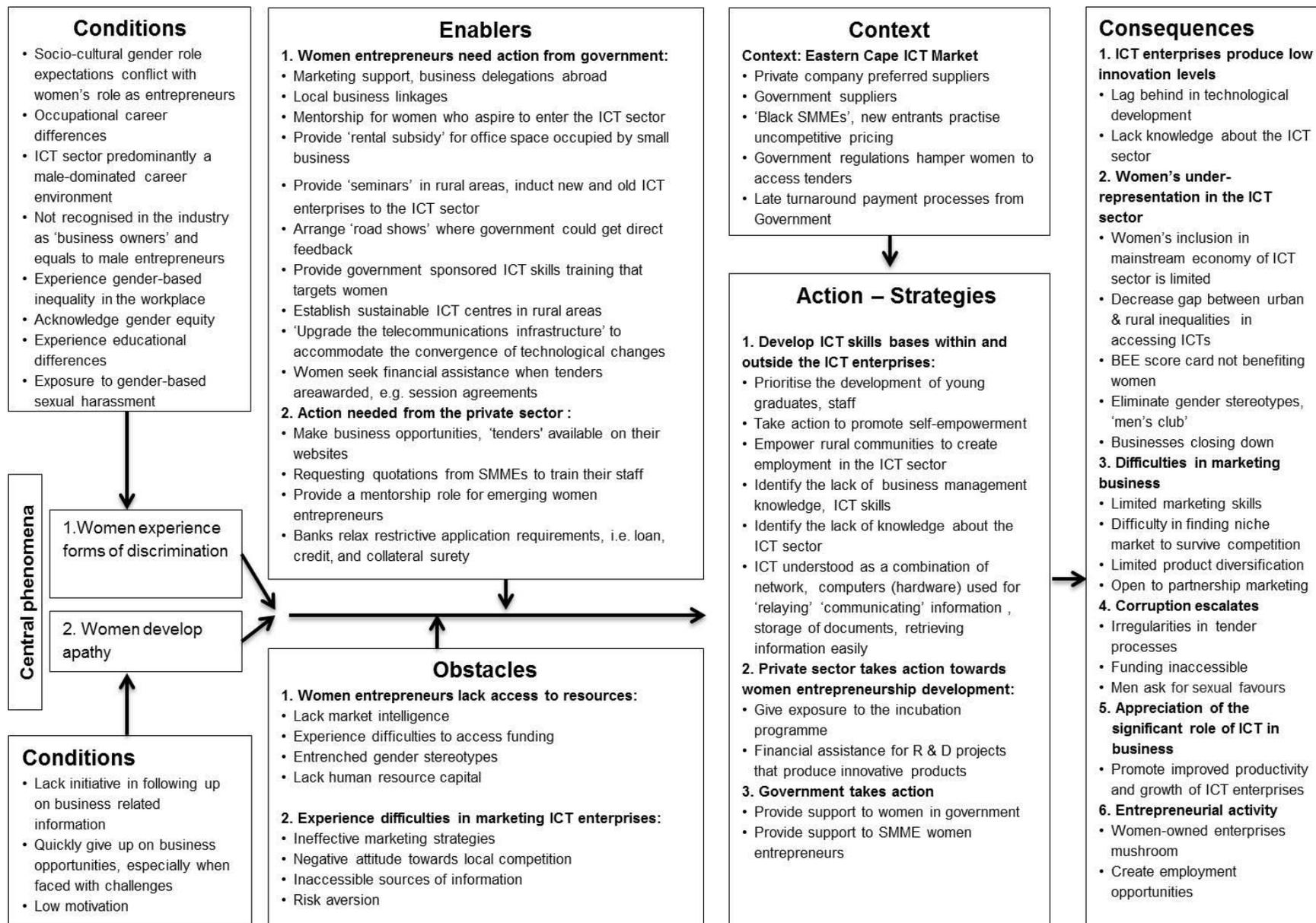


Figure 5.13: Second illustration of building categorical structure

5.6 APPLICATION: PHASE TWO: EXPLICIT GROUNDING – DEDUCTIVE DRIVEN ANALYSIS

5.6.1 Theoretical matching

The evolving theory was further integrated by contrasting it with the Eastern Cape ICT strategy and the ICT Sector Code for BEE while looking for statements / provisions referred to women entrepreneurs and the promotion of women-driven entrepreneurship in the ICT sector. The researcher also checked for coherence between the policy, the interview statements, and existing theories by establishing how similar or different policy statements were in order to achieve addressing comprehensive grasp of the responses to the research questions. The same coding procedures were followed during the inductive phase. Theoretical sampling continued and only stopped when data could no longer reveal new categories and theoretical insights.

The convergence of multiple perspectives and realities derived from the comparison of documents and empirical data gave the researcher greater confidence in terms of offering a comprehensive picture founded on evidence that was empirically grounded and deductively grounded. That approach enabled the researcher to avoid isolated knowledge generation (Bowen 2009:110). Theoretical memos (Glaser 2004:61; Strauss & Corbin 1990:10) were used at this stage to document written records of conceptual rather than descriptive analysis (Strauss & Corbin 2008). The empirically generated substantive categories were compared and contrasted with the entrepreneurship and cyberfeminism theories to ascertain whether they confirm theoretical interpretations. The outcome of theoretical validation provided insightful information that enhanced the evolving substantive theory.

The empirical substantive categories were compared to the following theories:

5.6.1.1 Cyberfeminism

Literature reviewed from the cyberfeminism school of thought was found to be synchronised with the categories developed from the empirical phase.

Table 5.16: Category: Women experiencing gender-based discrimination

Sub-category	Explanation
Socio-cultural gender role expectations	Women entrepreneurs shying away from technical environments discouraged by gender based stereotyping promoting a culture of masculinity – perceptions of ICT being a ‘men’s game’, ‘men’s club’ – which strengthens the gender gap.
Inaccessible sources of information	Limiting women entrepreneurs from accessing business related information, e.g. SMME technical support, funding, tenders, lacking access to government offices to obtain business related information, etc.
Networking platforms	<p>Women being discriminated against by men who make networking platforms inaccessible for women entrepreneurs.</p> <p>The voice of women entrepreneurs not heard, that is women issues are not included in the agenda.</p> <p>Exposure to intimidating behaviour such as, sexual harassment.</p>
Gender-based inequities	<p>Inequity in accessing tender opportunities; the “BEE scorecard point system” is not effective.</p> <p>The playing field is not level and due to irregular procurement processes, women entrepreneurs by default are economically marginalised from the mainstream economy of the ICT sector.</p> <p>Inequalities in the workplace concerning women getting paid less and men more as they are highly qualified than women.</p> <p>Inequalities in accessing ICT infrastructure and resources between rural and urban areas.</p>
Gender-based educational differences (structurally induced)	<p>Differences are distancing women from actively participating in the development of ICT due to lack of educational orientation in ICT.</p> <p>Increased over-representation of women in non-professional ICT occupations.</p> <p>Underrepresentation in high level decision-making structures, limiting women’s ability to make an input into ICT decision-making processes.</p> <p>Discrimination manifests in the absence of empowerment interventions directed at women empowerment in ICT skills development, e.g. in high level policy platforms to stimulate women careers and progression in ICT careers.</p>
Gender-based career differences	<p>Inducing inequalities in career advancement opportunities for women who are aspiring to climb up the ladder into core ICT environments.</p> <p>The ICT sector is predominantly a male-dominated</p>

Sub-category	Explanation
	career environment.
Inequalities in accessing funding	<p>Inaccessible funding is a barrier for women entrepreneurs who cannot afford technology, i.e. capital to upgrade ICT systems and equipment to keep up with technological developments.</p> <p>Restrictive administrative requirements prevent access to loans.</p>

These empirical categories were matched with cyberfeminism theory (Daniels 2009, Fernandez & Wilding 2003; Haraway 1991; Hawthorne & Klien 1999) that “refers to a range of theories, debates and practices about the relationship between gender and digital culture” (Flanagan & Booth 2002:12) and the investigation of gender power relations linked to technology (Wajcman 2004) where the conceptualisations of technology are inherently “masculine” (Kendal 2000; Adam 2004) or where “women have always been the machine parts for a very much male culture” (cf. Plant 1996: interview with geekgirl).

Women entrepreneurs, in this study, were of the view that government was not doing enough in terms of promoting gender equity in its BEE scorecard rating system by levelling the competitive playing field between women-owned and men-owned ICT enterprises.

Underrepresentation of women in the technology field (Hewlett 2008, Kitetu 2008), particularly in management positions, is acknowledged in numerous literature sources and identified as a global phenomenon. In this study, participants affirmed the underrepresentation of women entrepreneurs in the ICT sector:

“I think there are just as many technical women that are competent in this field like men but maybe not as many to pursue this sort of career direction. I think that it is probably because it is not seen as a woman oriented career choice as it is primarily dominated by men. Women more interested in other types of industries either [sic] than this industry [ICT].”

Another statement acknowledged women’s underrepresentation at managerial level and in the sector compared to men:

“Most women are presenters, few are station managers. About 80 per cent employed are men and 20 per cent women [sigh]. This shows “ukucinezelwa” [oppression] or the powerless position of women who do not have a chance to participate in decisions concerning the operations of the organisation.”

According to Kelan’s (2007) observations, women are still a minority in the ICT sector, especially in leadership positions. Participants in this study affirmed the low numbers of women in the ICT environment:

“At this point, women are not visible. If you look at employment there are about ten men versus one woman that have been employed.”

Vehviläinen (2009:6) concurs with this observation, “The nerd culture has often been seen exclusionary for women.” A recent study conducted by the European Commission (2012) also identifies that women are underrepresented in the technical environment. It is specifically true at decision-making levels where the number of women managers in the ICT sector is lesser than in other sectors. The gap in the technical environment was affirmed by participants in this study:

“Generally, [seeing] women in ICT is not common at all. I have personally come across very few women in the technical environment. You will find them in the sales environment but not really on the technical side.”

Pertaining to women entrepreneurs’ participation in decision-making platforms, a participant remarked:

“There is a provincial networking committee which was male-dominated in 2002 but now it is equally represented by a fifty-fifty split. This is an indication that women have the ability and capability to make decisions, deliver on them and are [becoming] more vocal.”

Decision-making, according to Leske (2010:370), is an important competency that every entrepreneur should have, since such a skill determines the survival of an ICT enterprise.

In line with the empirical findings of this study, Humbert, Drew and Kelan (2010:128) acknowledge the value added by women in respect of soft skills and they claim that these skills are essential in “modern” ICT operations, arguing women augment of the social skills capacity. One participant remarked:

“Women bring in the other element, which is soft skills [emotional intelligence]. Women look at all the elements [soft skills] that we men often forget. For example, the way we looked at one of our anti-corrupt campaigns [explains the campaign] certain parts of the system like reporting we [men] could not think from a mother’s perspective.”

Findings of the European Commission study (2012) also identify a gap in ICT education between men and women who are less qualified than men. Only 29 women hold a degree in ICT (compared to 95 per cent of men) and out of about 1 000 women holding a bachelor degree, only four eventually work in the ICT sector. About 19.2 per cent of ICT sector workers compared to 45.2 per cent of non-ICT sector workers have female managers.

The European Commission study (2012) also acknowledges the essential role of women’s active participation in the ICT sector and their contribution that directly impacts positively on the GDP of a country. Although the empirical findings of this study recognise the participation of women in the ICT sector of the Easter Cape Province, due to the lack of disaggregated data, women’s contribution could not be expressed in GDP terms.

In another international survey (Aymerich 2012), the comparison is historically drawn. The survey reports that men in the field of new technologies in developed and developing economies has a bigger presence than women who account for 51 per cent of the world population. Additional findings emphasised that:

- i. Worldwide, the usual 20 per cent of women with a computer science degree could possibly drop to under 10 per cent.
 - Considering the favourable labour market situation since 2005, 25 per cent of all European employees worked in high-tech knowledge intensive services (KIS).

- Only 2.4 per cent – around 160 000 people – were women, and this figure had dropped as low as 1.1 per cent – less than 18 000 people – in the high-tech manufacturing sector. These gender differences did not apply to certain Asian countries, such as Malaysia, but were found in advanced Western industrial countries.
- ii. Women lagged behind in terms of incorporating new technologies compared to other parts of the world. This key factor hampered progress:
- Some studies suggested the differences between men and women reflected women's supposed aversion to science and technology.
 - Other studies, however, suggest the differences are due to discrimination issues that underpin unequal pay for men and women.

In this study, in relation to the level of innovation found in the ICT enterprises, a majority of women are concentrated in the low-tech activities; such as retail and services, and a few in manufacturing that provides high-tech products. The lack of product innovation is influenced by a number of conditions that include the lack of Research and Development (R & D) capacity. Some ICT enterprises were making a breakthrough in innovation as acknowledged in a statement by one of the participants:

“Innovation is at the heart of any ICT business and women have to come through with innovative ideas that will improve the growth of the business. For example, we have come up with an innovative product which is a tablet PC powered by solar which is a first.”

The European Commission’s study (2012) refers to women’s working conditions in respect of balancing professional and personal life by recommending that corporations need to “speak [the] female language” in order to retain women in the ICT sector. Women’s retention in the ICT sector is very low Hewlett (2008). In this study, the concept ‘multi-tasking’ was used by participants to describe why they found it challenging to balance work and family responsibilities. Multi-tasking was an activity also linked to women’s inability to market an ICT enterprise that impacted negatively on achieving its growth targets:

“Men are more at an advantage than women because they have time on their hands to market the business and do not have to multi-task like us

women who, by day are business owners and after hours burdened with domestic responsibilities.”

Other findings suggested that women lacked confidence in their ability to run an ICT enterprise and the lack of “role models” exacerbated the situation (Bygrave & Minniti 2000). Disaggregated data for start-up ICT enterprises can boost women’s confidence levels as learning experiences can be drawn from other women (James, Leinonen, Smith & Haataja 2006:45; GEM South African Report 2008:21).

Participants, in this study, raised these issues that are related to gender-based discrimination. They also raised a concern about lack of mentorship and guidance for start-up ICT enterprises and emphasised that other SMMEs, government, and the private sector in general should assume the mentorship responsibility for women.

A participant who was playing the role of a mentor said:

“Most SMMEs do not have mentors for guidance. I feel it is my responsibility to nurture this talent and show them that there is a space for women in this sector. Make them realise that it is possible to get into this sector and become a women employers instead of being employees.”

Another participant suggested:

“The private sector can be a source of mentorship for up and coming women entrepreneurs. They [private company] can serve as a source of reference providing them [women entrepreneurs] with the basic knowledge or information on how the sector functions.”

In terms of mentorship guidance from government, the participant remarked:

“I think more should be done in encouraging women to get into this sector. I do not think government is doing enough. Women should be made aware of what is available for them [business opportunities], what women can offer [products and services] when getting into the sector, how women can be assisted [technical support] and to put it in isiXhosa, ‘Ungabhudi (okanye, ungaphazami)’. Meaning, getting the proper advice to enable you to avoid a situation where you offer something that is not relevant for the market.”

Vehviläinen (2009:6) refers to the conceptualisations of the ICT sectors as “men’s hobby clubs” and “male worlds”. These metaphors used by participants in this study when they described their marginalisation from business networking platforms were akin to a men’s world and men’s club. These masculine stereotypes, participants explained, reinforced public perceptions that owners of ICT enterprises were men. Participants related their perceptions of masculine stereotypes:

“When they come into the shop asking for the owner, you see a look of surprise when they see me. I do not know why. Probably they expect to see someone dominating and I am a quiet person. This attitude just goes to show how much women are not recognised as being capable of running a business in this environment.”

Another participant said:

“There is this stereotype attitude... when people come here... looking for the manager, they expect to see a man. For example, [smiles] they ask to speak to a Mr...“utata lo ndizakuthetha naye ngu Mr Bani kanene? [What is the gentleman’s name by the way? Mr whom?], and when the receptionist tells the person it’s actually a Miss or Mrs they seem amazed. It is this stereotype attitude I am talking about... they don’t expect it to be a women instead of a man... why must we be judged?”

James *et al.* (2006:45) also report on the “masculine culture” (cf. Wajcman 2004) of ICT sector that causes women to perceive the ICT environment as a men’s domain. Symanowitz (2012), who analyses gender stereotyping from the perspective of a management style in the corporate environment, remarks:

“While businesses [traditional culture] tend to follow methods focused on mutual respect and understanding of western business practices expect[ing] business leaders to be more ruthless, headstrong and less sensitive or respectful [which are] all primarily male traits, [however, when] a woman shows this behaviour, she is often considered aggressive, which has a negative connotation.”

A participant in this study emphasised the concern about women's management style in relation to gender stereotyping:

"An idea made by a woman maybe very clear but ignored because it's coming from a woman. I do not know why this happens. One can only attribute this tradition to a gender mentality thing coming from men who consider themselves as being in charge and being the only one entitled to make a decision on a matter."

Gender stereotyping was also emphasised when the participant described the manner in which women were undermined by the traditional attitude of men in an overwhelmingly male-dominated environment:

"Men are always astonished to see what women have achieved with regard to the skill and knowledge in ICT. This including women's ability to obtain a degree in ICT which surprises men who tend to question women's ability in becoming a graduate in this field which is regarded to be very scientific. Especially in technical support [A+, N+] environment where you need to be very scientific as it has to do with science and maths."

Participants in this study identified the almost non-existing promotion of rural-driven SMME entrepreneurship, especially in the case of women-driven entrepreneurship. Women entrepreneurs claimed they were marginalised from ICT due to a number of structural conditions, such as the lack of access to ICT infrastructure, that were linked to inequalities in educational development between rural and urban areas:

"People in rural areas do not... have access to the Internet to learn about available career opportunities in the ICT sector. For example, I can search the internet to learn more about ICTs. This I'm doing to upgrade my skills for better positions in this field [ICT]."

Wamala (2012:13) also attests to the glaring "gender digital divide" at community level that includes women's marginalisation from technology and influences women's relationship with technology. This disparity is evident in "cultural structures" that marginalise women into "domesticity" that limits their mobility and exposure to ICTs. Socio-cultural influences that portray inequalities between women and men are linked

to barriers in educational development influenced by gender role expectations. One of the participants affirmed this observation:

“Coming from a rural background and being forced to assist [family] financially left me with no option but to go and find work. Although I knew I wanted to study further, the immediate financial circumstances did not permit me to do so. After grade twelve, I had to go into the corporate world to find a job. Men, on the other hand, are always encouraged to further their studies.”

According to Wamala, women’s marginalisation is induced by a lack of education in ICTs. Participants in this study also identified this issue, since they viewed women’s marginalisation from ICT as one of the limitations causing gender-based educational differences and the subsequent inequalities in earnings between women and men in the sector. Jacobsen (2011), who advocates for gender equity, examines how technology affects gender and the value technological change adds. For example, “productivity gains” in economic terms emphasise the importance of educational attainment of entrepreneurs. Chandler and Hanks (1994) agree that entrepreneurs should have a learning culture. Women entrepreneurs in this study also expressed the same sentiments:

“SMMEs lack of [sic] knowledge and education on how to run a business. For some start-up, businesses it is not easy as they are not familiar with business operations such as, financial management, employment regulations.”

Another participant expressed a concern about educational inequalities between female entrepreneurs and male entrepreneurs:

“From a financial point of view and my experience as a woman, we are suppressed by our own ignorance... allowing our accountants to take advantage of our lack in financial skills. One of the business registration requirements according to SARS [South African Revenue Services] stipulations, you must have an accountant. For example, women struggle with book keeping and accountants who are usually men, abuse our dependence on them.”

Some participants who were aware of the existing inequalities in the sector appreciated the effort of government by introducing ICT in education:

“The ICT sector is no longer a boys club. Government has introduced ICT for education in many schools in South Africa, and hence we see women in the ICT sector.”

Cyberfeminists, in this regard, believe such patriarchal stereotypes could be weakened by women developing a close alliance with new technology that has the potential of facilitating gender equality in the ICT sector (Plant 1996). From a cyberfeminist perspective, women could only resist repressive gender regimes by being actively involved in the mainstream economy of the ICT sector.

Vehviläinen (2009:6) acknowledges the efforts that women entrepreneurs made by upgrading their knowledge and skills in the ICT environment despite their exclusion from ICT professions based on the grounds of cultural and socialisation influences:

“Women today are increasingly taking up ICT professions and holding high qualifications equal to men.”

A participant in this study also affirmed this assertive trend:

“I know historically women have been undermined but now I see that we [women] are proving to ourselves that there is so much we can do. Before, you would not find women in this industry but the gap is closing.”

Gathering from the empirical findings of this study, women entrepreneurs in the ICT sector of the Eastern Cape Province were steadily becoming visible in the engineering environment, traditionally known to be a male field (SME Growth Index 2013). In the context of a broadcasting environment, one of the participants remarked:

“If you look at their [women] positions they are administrators doing office related work and not involved in sound engineering... it is ‘rare’ to find them in this environment. Look at my position, few of us [women] are station managers...I know there are some people who aspire to become a station manager like me but do not have the qualifications [engineering] that I have.”

Participants also acknowledged the assertive action taken by women in upgrading their qualifications in the technical environment and skills in ICT:

“You are not going to get far if you are selling a commodity that anybody can sell without studying... technology changes all the time... it is changing so fast... every three months... you have to keep on upgrading your skill.”

Plant (1997), who advocates for gender inequality, states that power structures should be made more equal through a process of revealing and addressing overlooked female elements. This transformative approach is associated with assumptions about possibilities for freedom that are related to the expectations of new media ICTs as a means of socio-cultural transformation.

“With ICT, you are now able to sit around a table and be able to see another person in another place... you save your money... instead of flying to Johannesburg, you can actually have a meeting with the person sitting in the office [teleconferencing] without spending too much money travelling around.”

Wamala (2012) emphasises the necessity of a continued effort in initiating women-centred empowerment interventions that are not only directed at addressing the digital divide but at empowering women through ICTs in order to unlock opportunities for them. In this study, participants expressed their point of view with regard to skills development of women entrepreneurs:

“By giving skills to people in rural areas... women entrepreneurs will be able to create jobs like, computer training skills. Women are progressive. They should be given a chance.”

Another suggestion focused on rural educational empowerment initiatives:

“Government should penetrate the most rural areas informing and educating entrepreneurs about the benefits of ICT either through workshops or roadshows where presentations and information packs would be given to SMMEs on how to introduce ICT in their businesses.”

The following suggestion called on government to facilitate community-driven economic activity in rural areas by providing seed funding for infrastructure development:

“Government should assist by providing funding for the establishment of sustainable ICT centres in rural areas as well. This will create lots of business opportunities for the country’s youth living in remote areas and they will contribute to the economy [resuscitating economic activity].”

Wajcman (2004), who also advocates for women empowerment, expresses a concern about the ways in which technologies are often designed to either marginalise or subordinate women. In this study, women entrepreneurs also raised a concern about the frequent changes in technology (determined by big role-players who were in control of the market) that made it impossible for them to keep up with the training required to use newly introduced technologies. One of the participants shared this experience:

“For me, coming into the ICT environment... understanding the link between my computer and the shared network was just completely new. So, I had to undergo training... sometimes you get service providers that give you the tools [technology] that you need but you do not get the right training to enable you to utilise them to their fullest potential.”

James *et al.* (2006:46) and Kelan (2007) emphasise the workplace inequalities in earnings, arguing that women in the sector still earn less because they remain boxed in particular jobs which discourage career advancement. In this study, workplace gender inequalities were identified and associated with statements such as: i) women lacking work experience compared to men entrepreneurs who had work experience; ii) women not being competitive enough to earn a high salary; and iii) women starting off with a small salary compared to men who started with a higher salary.

Concerning career stereotypes, Vehviläinen (2009) observes that young women and men make their career choices based on the notion of hegemonic masculinity rather than on the job description. Participants in this study echoed similar sentiments, arguing the men’s club culture held by family (socio-cultural gender role expectations) contributed to influencing career choice:

“Women do not generally show interest in pursuing this direction [technical]. It could perhaps have something to do with family upbringing values, where men are pushed into technical oriented [sic] careers, whilst women are discouraged in pursuing this industry [ICT].”

In relation to women’s inability to access funding, Lester (2013) reports women face economic marginalisation based gender stereotypes induced by investors that encourage gender inequalities manifest in investment preferences for young, male, technocrats who have experience in well recognised corporations such as Google or Facebook. In this study, a participant stated:

“I think another problem for SMMEs, to a degree, concerns funding. They are not trusted until they have proven themselves. But how can they prove themselves if they do not get the support right from the beginning?”

5.6.1.2 Entrepreneurship

Entrepreneurship theorists attest, is about seeking market opportunities with the view of expanding the enterprise in terms of either new products for a new market, or new products introduced into an old market (Gaglio 2004; Schumpeter 1934; Timmons 1989). Participants in this study seemed aware of the need to introduce new products and to diversify their product range with the aim of accommodating the needs of their market segments.

Entrepreneurship could also be considered as a combination of managerial practices and acts of innovation (Drucker 1985) where the entrepreneur displays characteristics, (Brockhaus 1982) such as a “readiness to take risks with new or innovative ideas to generate new products or services” (Calcagnini & Favaretto 2011:55). Participants in this study acknowledged the importance of upgrading their skills in business management and the need for diversifying their product range to meet the needs of the market. Most ICT enterprises recognised the lack of innovation and product development as a challenge. A number of conditions influencing this challenge included the lack of R & D capacity.

The SME Growth Index (2013) survey reports women entrepreneurs are risk adverse (Still & Timms 2000). This characteristic was also described by participants in this

study. The survey also discovered that, in every region surveyed, women reported being more afraid of failure [risk averse] on average than their male counterparts with a majority showing reluctance to enter new and less tested markets.

Participants in this study expressed their concern about tough local competition (big business vs small business), as well as their reluctance to venture into new markets. They articulated their reservations about diversifying their product range based on financial constraints and the lack of confidence in gaining market share that was a result of lacking market intelligence. The empirical findings also revealed that only a few women entrepreneurs embraced competition. According to literature entrepreneurs in the ICT sector require market intelligence in order to competitively position them in the marketplace. In other words, having an understanding of existing competition is a necessary component of ICT-driven entrepreneurship. One of the participants explained:

“Competition is good as it helps you to be on your toes but it can also shut down your business. In the ICT environment you have to make sure that you are on top of things. Job seekers know they [employers] are looking for qualified people who have done Windows 7 and Office 10. Now here you [training provider] are, teaching your students XP and Office 2003 whilst your competition is offering Windows 7 and Office 10. Your business will suffer as students will go to competition. So you have to be on top of things.”

Competition determines the success of ICT enterprise while entrepreneurs are scouting for opportunities in niche markets that are likely to enable an ICT enterprise to gain competitive advantage. Humbert, Drew, and Kelan (123-141) claim that competitive advantage and product innovation go hand-in-hand. This implies that “entrepreneurs’ use of technology to create innovation will either be rewarded within the marketplace or find failure primarily due to competition” (2010:372). One of the participants in this study stated:

“We are trying to be competitive in the marketplace by offering something different [innovation] and relevant. We identified gaps that were overlooked concerning the needs of government. I had to look for niche solutions to offer the market because I got

tired of doing what everybody else was doing. To avoid becoming obsolete, I need to be relevant to my market as its needs change, just as ICT changes.”

Another factor associated with risk aversion was provided in response to a question relating to underrepresentation of women entrepreneurs in the ICT sector. Underrepresentation, participants stated, was linked to fear of joining the ICT sector because it was perceived to be a tough environment in which only men could survive. Participants claimed that being risk averse, especially when faced with challenges, resulted in women abandoning business and opting for employment. Other studies on entrepreneurship that cite women entrepreneurs as being more risk averse than men in the context of the ICT sector include the European Commission study (2012).

The SME Growth Index survey (2013) reports that innovation lacks in women-driven entrepreneurship. The empirical findings in this study also raised the issue of women entrepreneurs lacking innovation and this relates to the lack of R & D capacity in their ICT enterprises. From an entrepreneurship perspective, the creation of a new idea (innovation) is an important pre-cursor to the sustainability of an ICT enterprise that has to “offer products or services that are new to some or all customers, with additional consideration that no or few other businesses offer that same product” (GEM 2013:32).

Empirical findings in this regard have highlighted the low levels of innovation that correlated closely with the gap in entrepreneurial education. The lack of innovation was associated with ICT enterprises that offered products which were more on the low-tech side of the technology continuum.

Chell (2007) emphasises the social construct of entrepreneurship, arguing an entrepreneur by nature should invest in “social capital” that requires ‘networking’. Chell claims entrepreneurs characteristically are known networkers who have the ability to draw upon extant social and personal ties when necessary. In this study, participants described how they felt marginalised in accessing business related information shared or disseminated through business networking platforms. Networking platforms were perceived by participants to be an important platform for discussing business opportunities. A study by Vehviläinen, Vuolanto, and Ylijoki (2010:69-70) describes how women entrepreneurs in science innovation parks value networking platforms by initiating women networks where they could share issues relevant to women as

experienced in their business environments. In this study, participants identified the need for the creation of B2B network platforms that could focus on women issues.

Voesmek (2013), CEO of a global non-profit organisation called Astia that supports women entrepreneurs in obtaining funding, acknowledges the value of business networks:

“High-growth entrepreneurship is a part of the economy where women don’t really participate. Entrepreneurship is a deeply male place. Men and women exist in separate business networks and we look at this as an opportunity to build trusted business networks between men and women so it results not only in venture investment, but all subsequent business relationships that lead to big success.”

Davies, Minister of Department of Trade and Industry, affirms the value of business networking platforms with a remark in an article titled “Stronger symbiotic ties needed between big business and small SME” (Magubane & Goko 2013):

“We don’t have a strong culture of symbiotic relations between big business and small business... we have too much of the big businesses relating to the same old suppliers, and we need to create opportunities for small business and especially black business to relate to big business”.

This remark correlates with the category ‘Eastern Cape market’ that describes and explains the reason why networking is important for women entrepreneurs in the ICT sector if their enterprises were to survive. A chronic problem in the Eastern Cape ICT sector is the shortage of skills to operate or function in an information and digital environment.

5.6.2 Document analysis

5.6.2.1 The Eastern Cape ICT strategy (2009 – 2014, Section 39) states:

SMMEs play a crucial role in the provincial economy. Special measures that will accelerate participation of SMMEs, especially women-owned enterprises in the ICT sector, must be developed. This will include deliberate preferential procurement by government to stimulate participation of these enterprises. The aim is to specifically

address equity issues with regard to gender, disadvantaged groups, and those in rural and under-served communities.

The following passages in the ICT strategy document were identified to either compare, or contrast with empirical statements with regard to the category 'women experiencing gender-based discrimination':

Strategy 1: Accelerate SMME development and participation in the ICT sector

Initiative 1: Develop targeted procurement framework to grow ICT SMME supply.

This statement matched a statement that the government sector expert made by claiming women-owned ICT enterprises had the advantage over men-owned ICT enterprises due to the ICT BEE scorecard point system of through government which allocated women-owned enterprises extra points. Also, all women entrepreneurs interviewed were aware of this advantage, however, some confirmed not benefiting from the BEE scorecard due to the lack of access to tender opportunities (influenced by irregular tender processes).

The statement indicates how women are economically marginalised by being denied access to tenders even though legislation enabled access to tender opportunities.

Initiative 2: Establish framework to communicate ICT opportunities for SMMEs.

This initiative focuses on activities that assist SMMEs with developing sustainable business skills and facilitates collaboration between large enterprises and SMMEs for subcontracting opportunities.

A majority of participants confirmed not receiving any kind of assistance from government in terms of skills training.

Strategy 2: Bridging the digital divide

Initiative 1: A strategy to support women ICT companies.

Although the Eastern Cape ICT Strategy (2009 – 2014) aimed at supporting women, the participants had this to say:

“I do not think women entrepreneurs are getting the advantage that they should be getting as women. In most cases I have not been advantaged [BEE scorecard].”

A number of participants shared the view that procurement officers were not doing much in promoting the ICT sector scorecard, since women often were not benefiting from the policy. In terms of validating the empirically generated categories against existing theories, the researcher could claim that the emerging theory was in accordance with other theoretical abstractions.

5.6.2.2 ICT sector code for BEE

The BEE scorecard point system was developed in response to the inequalities that resulted from systemic exclusion of black people, women in particular, from participating in the ICT sector of the economy. Elements of the scorecard include: ownership, management control, employment equity, skills development, preferential procurement, enterprise development, as well as a “socio-economic development and sector-specific contributions element”. The following passage makes reference to women:

Section 9: Enhance recognition of certain categories of black people

9.1) Black women should form between 40 and 50 per cent of the beneficiaries of all elements of the generic scorecard

The passage makes reference to an element of the BEE score card which is ownership. In terms of ownership, a majority of the women entrepreneurs interviewed in this study either had full or part ownership over their ICT enterprise. Their enterprises were closed corporations and non-governmental organisations (i.e. telecentre, community radio station and postal service franchises). In terms of management control all women were practically involved with the operations of the enterprise.

A rigorous inclusion and exclusion vetting procedures employed in preparation for sampling purposes confirmed that women-owned enterprises in ICT were very few across the province in semi-urban and rural areas in particular.

Related to the aspect of low levels of ownership, is women's limited visibility in the entrepreneurial space in the ICT sector which literature review (SANEF 2013; MICTSETA 2012) attests to. In the context of the ICT sector of the Eastern Cape Province, the number of women enterprising in the sector as suggested by empirical findings was considerably small. Another industry news report (Getnews 2011) supporting these findings carried an article, "More Eastern Cape women leaders needed in ICT" ahead of the Eastern Cape Women in ICT awards raising awareness on the need for women to be encouraged to join the ICT sector of the province.

Another element of the BEE score card in this regard, which discourages women's economic participation as articulated by women entrepreneurs in this study, is the aspect of preferential procurement. The following statement confirms economic marginalisation.

"I do not think women entrepreneurs are getting the advantage that they should be getting [entitled to] as women. In most cases I have not been afforded the advantaged [BEE score card]."

This statement was made on the backdrop of the lack of alignment between BBBEE codes and ICT sector codes in terms of the scoring point system which by default is not enabling SMME women (who fall short of points as they make little business) to qualify for level 1 and 2 status in order to get big contracts. Another possible reason in the context of this study could be associated with the limited options for women in terms of set asides (projects reserved for women) where they could compete favourably. However, despite the enabling scoring card system women are still economically marginalised by corrupt officials who manipulate procurement systems as attested by participants.

9.2) Black people with disabilities, black youth, black people living in rural, areas and black unemployed people must form between 2 and 3 per cent of the beneficiaries of all elements of the generic scorecard.

The analysis from this policy statement points to the structural disparities between rural and urban areas which discourage aspiring entrepreneurs from joining the ICT sector. In relation to women, socio-cultural structural imbalances may discourage them from entering the ICT sector as the empirical findings suggest it to be an environment

dominated by men. Also, in the advent of the notable gap concerning an ICT policy framework to gender mainstream, women's participation including youth-driven entrepreneurship in rural areas might remain limited and thus further the digital divide.

5.6.3 Explicit empirical validation

In this study, the analysis indicated that what was voiced by participants pertaining to their experiences of gender-based discrimination and responses to gender-based discrimination were in accordance with 'reality'. Validating the emerging theory meant perusing the categories and their properties. To a great extent, revisiting the initial formation of those categories confirmed the interrelationships. The graphic presentation portrays in Figure 4.7 the theoretical model that illustrates women-driven entrepreneurship.

In this study, the initial analyses of 33 categories from open coding were subsequently reduced to eight during axial coding, and subsequently to two in this phase, namely: recognising gender-based discrimination; and responding to gender-based discrimination that related to other subcategories.

The selection of the core categories was based on six criteria outlined by Strauss (1987), cited in Strauss and Corbin (1998): i) all other major categories can be related to it; ii) it must appear frequently in the data; iii) the explanation that evolves by relating the categories is logical and consistent; iv) the phrase or concept used to describe the central category should be sufficiently abstract; iv) as the concept is refined analytically through integration with other concepts, the theory grows in depth and explanatory power; and v) the concept is able to explain variation, as well as the central idea of the data. That implies whether the conditions vary or not, the explanation still holds, although the way in which the phenomenon is expressed might look somewhat different.

Recognising and responding to gender-based discrimination were two concepts that consistently emerged from the data and interrelated to explain women entrepreneurs' awareness and experience of, as well as response to gender-based discrimination while enterprising in the ICT sector. For example, an issue that participants repeatedly explained and related was socio-cultural gender role expectations that also appeared in other categories; such as educational differences, career differences, and workplace

inequalities. Those categories influenced participants' interpretation and understanding of conditions and consequences that impacted on SMME women-driven entrepreneurial processes.

Following the emergence of those core categories, the researcher moved from descriptive to concept modification, integration, and eventually to a theoretical level by continually asking questions like, "What is the main analytical idea presented?" (Strauss & Corbin 1990:14). Categories from empirical data were subsequently combined into theoretical statements that provided a holistic explanation of issues, concerns, and challenges raised by participants in terms of SMME women-driven entrepreneurial processes. The researcher did not find a link from the empirical demographic data that could be associated with the categories identified in the analysis.

The iterative process of data collection and analysis continued until a point of theoretical saturation was reached. Charmaz defines theoretical saturation as the point "when gathering fresh data no longer sparks new theoretical insights, nor reveals new

5.6.4 Evaluation of theoretical cohesion

In this study, this level of abstraction required a conceptual structure to systematically analyse the evolving theory and to verify internal consistency and congruency within the evolving substantive theory (Cronholm 2004). Emphasis was placed on applying systematic evaluation processes to verify consistency and internal congruency of core action categories and subsequent consequences evolving by using appropriate descriptive graphic and textual presentations (Goldkuhl & Cronholm 2003) to describe conceptual structures

5.6.5 Phase Three: Research Interest, Reflection, and Revision

5.6.5.1 Research interest

According to MGT (Goldkuhl and Cronholm 2003, 2010), it is important for a researcher to continually reflect on the research interest (operationalised in research questions) of the study and that the questions should develop over time for allowing empirical observations and theoretical insights to influence their formulation.

The questions were constantly reflected upon to direct the empirical and theoretical orientation. The research questions were also aligned to the substantive empirical categories. That procedure also encompassed the verification of participants' responses to establish whether they were interpreted accurately and whether theory was grounded in the experiences and views of the participants.

5.6.5.2 Research reflection and revision

That process heralded the last phase of the analytical procedure that enabled the researcher to conduct a self-critical account of the research methodology by reflecting on the research questions and by authenticating confirmability (Tobin & Begley 2004).

The researcher's understanding of what was happening at the time of the research project in terms of SMME women-driven entrepreneurship in the ICT sector progressively increased from one level of data collection, analysis, and interpretation to another. That process enabled the researcher to gain a comprehensive understanding of the conditions that influenced the research issues, including proposed interventions aimed at mitigating the situation. The systematic application of MGT processes supported the processes of good "traceability between data, categorisation, and theory" (Goldkuhl & Cronholm 2010:190).

5.7 THEORY CONDENSATION

In this study, the initial analyses of 33 categories (cf. Appendix O) from open coding were subsequently reduced to eight during axial coding and subsequently to two in this phase (cf. Figure 5.14 below) namely:

Recognising gender-based discrimination

This core category related to other subcategories namely: i) Socio-cultural gender role expectations – economic marginalisation, stereotypes based on socio-cultural norms; ii) Gender based educational differences – gender based digital divide; iii) Finance inaccessible – cash flow problems, difficulty in accessing finance, late payment; iv) Opting out of business when faced with challenges – inequalities in access to ICT, lacking access to funding; v) Gender based inequalities in the workplace – women's underrepresentation in key ICT positions, digital divide between urban and rural driven

entrepreneurship; vi) Exposed to gender based sexual harassment – subjected to bribes, subjected to sexual harassment, lacking access to business related information; vii) Developing apathy – lack of recognition in the industry, government slow pace of change; viii) Low motivation – supply chain is not doing enough to promote BBBEE, limited access to finance, not benefitting from government and private sector initiatives; xi) lacking resources to ICT infrastructure.

Responding to gender-based discrimination

This core category related to other subcategories suggesting assertive action taken by women entrepreneurs in the following context:

i) Socio-cultural gender role expectations – taking assertive action through self-empowerment; ii) Gender based educational differences – taking assertive action by demystifying gender stereotypes; iii) Finance inaccessible – taking advocacy action in seeking transparency in procurement processes, seeking relaxation in restrictive loan application requirements; iv) Opting out of business when faced with challenges – developing apathy: lacking initiative in following up on business related information, experiencing low motivation, taking assertive action in developing self; v) Exposed to gender based sexual harassment – assertive action: self-initiated empowerment, gender sensitive entrepreneurship advocacy; vi) Developing apathy – experiencing low motivation; vii) Low motivation – developing apathy, not benefitting from government and private sector initiatives, advocating for change in government and private sector supply chain processes; and viii) Lacking resources to ICT infrastructure.

These two categories influenced participants' interpretation and understanding of conditions and consequences that impacted on SMME women-driven entrepreneurial processes.

The selection of the two core categories was based on six criteria outlined by Strauss (1987), cited in Strauss and Corbin (1998): i) All other major categories can be related to it; ii) it must appear frequently in the data; iii) The explanation that evolves by relating the categories is logical and consistent; iv) The phrase or concept used to describe the central category should be sufficiently abstract; v) As the concept is refined analytically through integration with other concepts, the theory grows in depth and explanatory

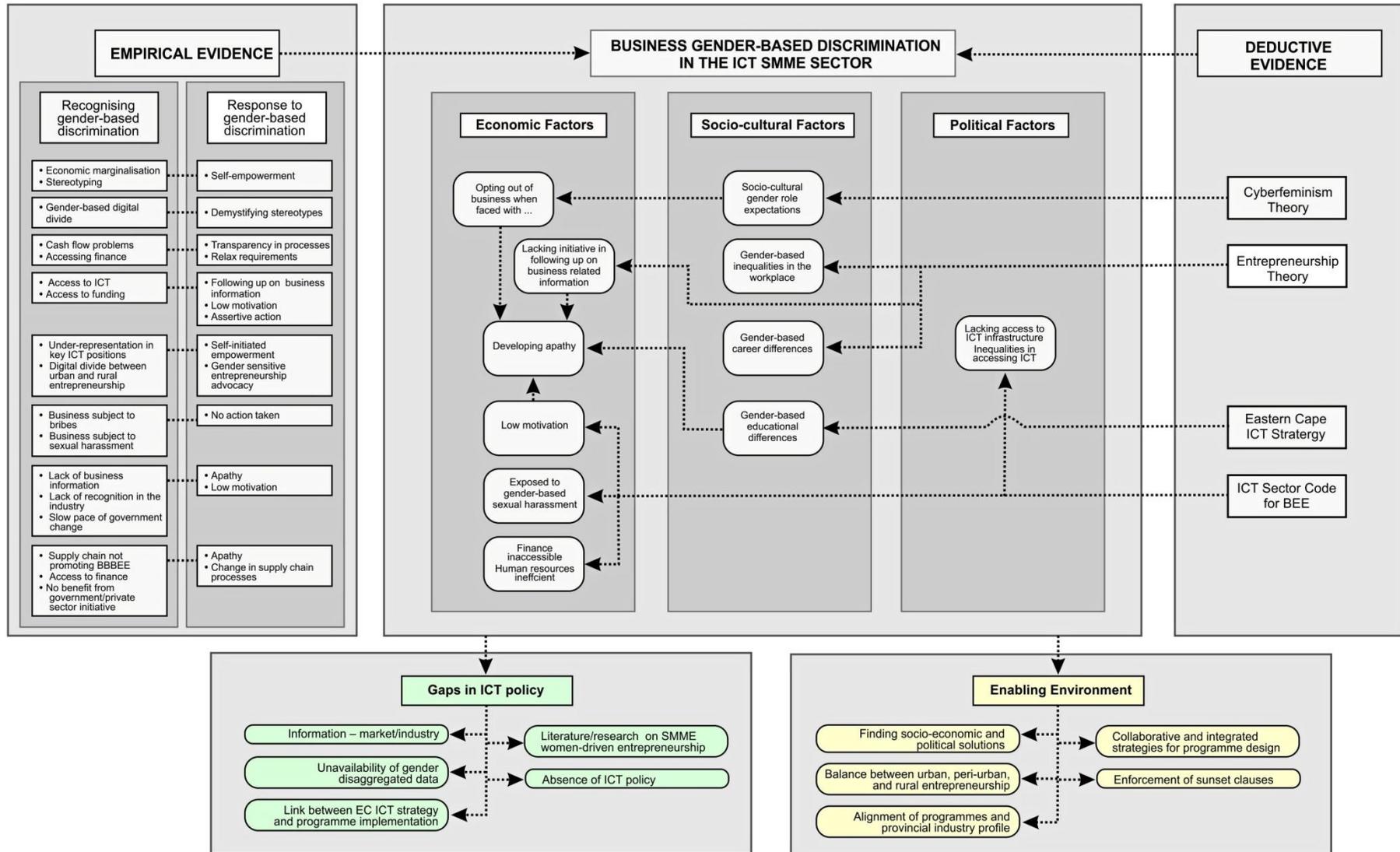
power; and vi) The concept is able to explain variation as well as the central idea of the data.

The researcher moved from descriptive to concept modification, integration, and eventually to a theoretical level by continually asking questions like, “What is the main analytical idea presented?” (Strauss & Corbin 1990:14). The MGT iterative analytical procedures facilitated the process of combining categories from empirical data into theoretical statements refined into two core categories, recognising and responding to gender-based discrimination (cf. Appendix L) emerging from the analytical processes of theory generation (cf. inductive coding – table 1 to 15 in appendix N; conceptual refinement in appendix O; Pattern coding in appendix P and Figure 5.13; including the deductive analysis comprising of explicit grounding processes – theoretical matching, explicit empirical validation and evaluation of theoretical cohesion), which rendered traceable evidence that provided a holistic understanding of issues, concerns, and challenges raised by participants relating to women’s experience of the various forms of discrimination they were subjected to whilst enterprising in the ICT sector of the Eastern Cape Province.

The various forms of discrimination (related subcategories mentioned above) which consistently reappeared from interview statements that were compared and contrasted within a single interview and with other interviews confirmed women entrepreneurs were experiencing different forms of gender-based discrimination influenced by socio-cultural, economic or political structural issues (cf. Figure 5.14) and that they were responding to it. This confirmation was solidified by empirical statements which when compared and contrasted with existing theories (cyberfeminism and entrepreneurship), matched the experience of other women entrepreneurs enterprising in the ICT sector of developing countries and thus confirming the substantive theory of this study that gender-based discrimination (induced by socio-cultural, economic and political structural factors) does influence women-driven entrepreneurship processes.

A graphic representation of the theoretical model illustrating gender-based discrimination in the ICT SMME Sector of the Eastern Cape Province is provided in Figure 5.14 below.

Figure 5.14: A graphic representation of theoretical model: Business Gender-Based Discrimination in the ICT SMME Sector



5.8 LIMITATIONS OF THE RESEARCH DESIGN

A major limitation was the fact that the interview questions were too many. Although the questions were many, the researcher was satisfied with the theme topics covered to address the scope of the research questions of the study. Unfortunately, that resulted in the questions accumulating heaps of data that made the coding processes tedious and time consuming, since the researcher had to religiously follow rigorous MGT processes; that limited the researcher's creativity to an extent. The unavailability of other high profile industry experts who were scheduled for interviewing limited the diversity of views as their input would have given a wider perspective about the status quo of women-driven entrepreneurship.

5.8.1 Ethical considerations

In line with Gibbs' (2007) recommendations (cf. Amdur, 2002: Belmont Report: Evaluating ethics in qualitative research), the researcher took into consideration the aspects of informed consent, anonymity of transcripts, confidentiality, and feedback.

Observing ethical considerations for this study was important, especially viewed from the perspective of the epistemology underpinning the study that necessitated the researcher to produce proof of identification, including the contact details of the supervisor, in order to confirm to participants that the research was indeed for academic purposes. The nature and purpose of the research study were clearly explained for them to make an informed decision whether to participate or not. Ethical aspects observed included:

Informed consent: The researcher had an obligation to protect participant's rights; the right to refuse participation or to withdraw from the interviews at any time for any reason and consent before commencement of the interview.

Anonymity of transcripts: The researcher ensured that confidentiality was preserved by making use of a coding procedure to obscure the identity of participants and their ICT enterprises, as well as identifying their ICT enterprises according to industry type. The researcher also ensured limited access to transcripts and committed to destroy recordings upon acceptance of dissertation.

Transcription: The researcher ensured that the transcription of interviews remained faithful and original representations of the views of the participants; when necessary, words were highlighted, i.e. “in vivo codes” (Strauss & Corbin 1998:105) included in the text. The researcher also made sure that the findings of the research study were true to its aims and objectives.

Confidentiality: Due to the sensitivity of some issues raised during the interviews, the researcher had to verify with participants their level of comfort with evidenced business or industry information during the interviews and member checking while reassuring participants that access to information would only be allowed to those identified persons directly involved with research.

Feedback: The researcher created participant awareness that the summary of findings would be available or might invite them to a meeting where the researcher anticipated discussing the findings. Participants were also made aware that their participation would not only give them an opportunity to share their experiences but would also contribute to the improved implementation of policies aimed at promoting women-driven entrepreneurship in the ICT sector of the Eastern Cape Province.

5.9 CRITICAL EVALUATION OF RESEARCH METHODOLOGY

Researcher trustworthiness

According to Lincoln and Guba (1985:290), trustworthiness results from asking the question, "How can an inquirer persuade his or her audiences that the research findings of an inquiry are worth paying attention to?" and the evaluation of the rigor of MGT analytical procedures (Aroni 1991:1).

Rigor

It was imperative for the researcher to demonstrate rigor throughout the levels of data collection and analysis procedures, according to MGT. Rigor was regarded as the means by which the researcher could “demonstrate integrity, competence, and legitimacy in the research process” (Aroni 1991:1), including demonstrating discipline and accurately representing the views and experiences of SMME women entrepreneurs.

Trustworthiness determines the credibility of a research project. To this end, the researcher observed relevant criteria and appropriate strategies to augment the MGT design of this study.

Credibility of the researcher and the research participants

Credibility addresses the issue of ‘congruency between the participants’ views and the researcher’s representation thereof (Schwandt 2001). The researcher acknowledges that:

- i. There could have been biases in the interpretation of statements that were clarified during member checking. Statements also reflected logical connection and definitive explanations;
- ii. Consistency was maintained at all the levels of analysis – between research questions and the methods, asking the same questions of all SMME women entrepreneurs and gathering similar data that allowed for constant comparisons between statements and reflecting on formulated statements from the point of view of SMME women entrepreneurs;
- iii. Transparent application of the MGT methods to data generation, recorded memos of decisions, and the provision of evidence for conclusions in such a way that other researchers could arrive at the same conclusions (Oman *et al.* 2003:218);
- iv. Providing an “audit trail” (Bowen 2009, Creswell & Miller 2000; Schwandt 2001) and ensuring that decisions were sequentially recorded in memos and linked to the interview transcripts and analysis. That epistemological process embedded the confirmability of MGT methodological processes;
- v. Research conclusions were grounded in the real-world patterns that emerged from the evolving substantive theory; and
- vi. Establishing credibility confirmed through “member checks” during transcribing and interpretation (Lincoln 1995; Strauss & Corbin 1998). Credibility was also confirmed by the quality of comprehensive information received from participants rather than the quantity and, in such instance, the researcher used

constant comparison (industry experts and participants) techniques to enhance the fullness of information gathered during interviews.

Confirmability of data

The researcher conducted a “confirmability audit” of data by giving participants an opportunity to study and comment (member checks) on transcribed interviews to verify whether views had been accurately interpreted and whether findings conformed to SMME women entrepreneurs’ experiences clearly derived from the data (Lincoln & Guba 1985: 290-327) and not to the researcher’s imagination (Tobin & Begley, 2004). That required an audit trail that consisted of raw data, transcripts, analysis of personal notes, and memos to enhance the trustworthiness of the data.

Authenticity of research findings

The researcher evaluated authenticity (cf. Christians 2000 in Denzin & Lincoln 2005) by ensuring that research findings represented a fairly balanced in-depth analysis and understanding of SMME women-driven entrepreneurship to stakeholders with a particular interest in promoting women-driven entrepreneurship in the ICT sector of the Eastern Cape Province.

5.10 SUMMARY

In the introduction an explanation is provided of the first phase of generating empirically-driven theory that proceed inductive coding of data followed by conceptual refinement of statements before building categorical structures by means of pattern coding.

Section A, explains the deductively driven procedures namely, explicit grounding that includes procedures, such as theoretical matching of empirical statements with existing theories (cyberfeminism and entrepreneurship). The section also explained the verification of categories in relation to ICT policies through a rigorous deductive process that ensured that the categories were theoretically sound and explained the procedure for theoretical condensation of data into two main categories. The section also provided a review of MGT procedures.

Section B

In this section the application of empirically and deductively driven procedures of generating theory are demonstrated. The section also provides an analysis and interpretation of both closed and open-ended interview questions. The analysis, supported by a graphical presentation of tables and figures attached in the appendix, provides good “traceability between data, categorisation, and theory” (Goldkuhl & Cronholm 2010:190). The section also depicts a summary of conceptually refined concepts generated from open-ended questions. A critical category determination illustrating the building of the categorical structures, deductive analysis procedures followed by the theory condensation procedure which solidifies the substantive theory that provided a comprehensive understanding of SMME women-driven entrepreneurship in the ICT sector of the Eastern Cape Province.

The section also provided a review of MGT procedures limitations of the research design and a critical evaluation of the research methodology.

CHAPTER 6

RESEARCH FINDINGS, ANALYSIS OF FINDINGS, AND RECOMMENDATIONS

6.1 INTRODUCTION

This chapter summarises the empirically and deductively generated findings of the substantive theory of women-driven entrepreneurship in the ICT sector of the Eastern Cape Province. According to the multi-grounded theory procedures, the empirical findings had to be congruent to existing theories, namely cyberfeminism and entrepreneurship, with the purpose of validating the emerging substantive theory. The aim of the study was to develop a substantive theory that explained and described SMME women-driven entrepreneurship in the ICT sector of the Eastern Cape Province. Data was gathered during one-on-one interviews with SMME women entrepreneurs who were taking part in the ICT sector of the two economic nerve centres in the Eastern Cape Province, namely the Nelson Mandela and Buffalo City Metropolitan Municipalities. The study identified two core categories, namely recognising gender-based discrimination and responding to gender-based discrimination. Both categories subsumed the majority of categorical data that comprised the model which explained this particular substantive theory.

6.2 ANALYSIS OF FINDINGS

The findings were firmly embedded in the categories of the data analysis that elicited some pertinent discussion points articulated in subsequent headings.

6.2.1 Recognising gender-based discrimination

It emerged from the findings that women entrepreneurs were acutely aware of the gender sensitivity issues influencing entrepreneurship development in the ICT sector. The empirical findings, when matched with existing literature of cyberfeminist and entrepreneurship theorists, confirmed that around the world a majority of women entrepreneurs were still faced with barriers influenced by socio-cultural, educational differences, gender-based inequalities at the workplace, gender-based occupational differences, and low motivation. Those barriers contributed towards women developing apathy because they became inactive in the mainstream economy of the

sector. A thread of evidence is built in the analysis between the core category and sub categories comprising the foundation of building theoretical statements.

6.2.1.1 Gender- based discrimination

Literature review attest to the difficulty in stamping out gender-based discrimination as it is embedded in society's historic fabric of remnants of a post-colonial regime permeating across corporate and business institutions, where social, economic and technological divides manifest as barriers in women's empowerment aspirations. The findings from this study articulate the push effects of discrimination on women's aspirations to climb up the ladder into leadership positions to influence decisions on the design and implementation of ICT programmes. The findings also reveal that women entrepreneurs were taking assertive action in empowering (ICT training and business skills) themselves and others that is, mentoring and training staff and community members in ICT in an attempt to bridge the digital divide. This assertive action was based on the background that men were not taking them (women entrepreneurs) seriously as equals by not giving recognition where deserved in terms of wins accomplished especially in male dominated environments. The following statement affirms this:

“We empower them; develop them with the skills and the knowledge to make a difference to their homes and the whole community; and to contribute to the economy of the country. We are focused on rural development it is our mission and vision to alleviate poverty and also create jobs for better life support in the social environment.”

The findings in this study concerning discrimination experienced by women entrepreneurs, on the grounds of economic marginalisation associated with women's non-representation at management level (Hewlett 2008), including advocacy action taken, corresponds to the literature review articulating gender-based discrimination in many facets also revealed in this study, for example:

- i) Career differences:

Findings revealed inequalities in career advancement opportunities for women aspiring to climb up the ladder into core ICT environments as the sector was predominantly a male dominated career option.

ii) Educational differences:

Findings revealed an inadequate access to human resources. However, according to the findings women were developing their skills (empowering self and others) in ICT training others through mentoring and venturing into technical environment (where women's representation was evident). This finding is suggested by the following statement.

"I feel it is my responsibility to nurture this talent and show them that there is a space for women in this sector. Make them realise that it is possible to get into this sector and become women employers instead of being employees."

However, findings also revealed that women were dominantly visible in administration careers on the low end of the continuum rather than in core line functions, such as policy making. This finding linked to sex stereotyping where women are pulled towards female occupations (Paludi *et al.* 2011:216) instead of leadership positions. The following statement supports this finding.

"They [men] do not expect us to do the job and responsibilities of a manager...the responsibilities that we do are those of taking minutes or being a secretary."

This linked to an assertion that, women lacked decision-making power to challenge ICT decisions taken on their behalf that have implications on their engagement with ICTs. These findings were indicative of the void in advocacy activism suggested in the literature review which could otherwise discourage the current situation of women's absence in decision-making platforms. The above correlates with international best practice 'team driven participation decision-making approach employed in the ICT environment to boost the confidence levels of women in ICT.

Besides Literature sources acknowledge the importance of decision-making as a skill that entrepreneurs ought to have, since “accurate and timely decisions” were crucial for the success and survival of small enterprises, including “competency in recognising, evaluating, and responding to potential possibilities” (Leske 2010:370).

iii) Occupational differences:

The findings suggested a notable over-representation of women in non-professional ICT occupations and stereotypes held about women’s ability to run an ICT enterprise undermined. This affirming opinions voiced by women entrepreneurs concerning them not being recognised in the industry as equals to men. The following statement suggests this finding is based against the background of women affirming gender divides in regard to equal treatment regardless of women being in management positions.

“We are equal to men. We are running our business on the same level that men do”

iv) Inequalities in the workplace:

The findings revealed inequalities between women and men in terms of accessing tender opportunities associated with the perception that the “BEE score card point system” was not effective as women were denied an entitlement that was designed for them to gain competitive advantage over men. The findings also revealed women entrepreneurs were experiencing low motivation levels as a result and consequently developing apathy. This form of economic marginalisation manifested in discrimination linked to corruption claims of detected irregularities in government’s procumbent processes articulated above. Economic marginalisation was also linked to women’s disapproval of stereotype perceptions questioning their ability as seasoned entrepreneurs. The following statement, on the backdrop of men perceived as being better employees than women, supports this finding.

“Women, you know, are not given the credit they deserve...they are better employers. I go around...ask how black males are paying and found I pay better and look after my employees. I suppose that is why

my business is successful. But I am still questioned [success]...like there is a man behind me”.

Inequalities in earnings and maternal obligations (Paludi 2010:209-212) were linked as factors influencing women’s inability to secure financial assistant linked to financial history and collateral surety discussed above. The above forms of discrimination bear evidence of embedded economic structural issues that continue to impact negatively on women-driven entrepreneurship and how difficult it will be to eradicate them.

v) Gender based sexual harassment;:

Gender-based sexual harassment (sexual innuendos) emerged as a common theme in women-driven entrepreneurship, since women did not usually have bargaining power. This finding correlated to literature reviewed in this study. Sexual innuendos were linked to networking platforms where women were marginalised from by men and this was associated with the void in women’s organisation as a collective to advocate against corruption. Interesting to note, women in this regard were not taking action in terms of reporting this behaviour. This may be tracked back in history to social upbringing where women are treated as sex symbols and therefore subservient to men’s behaviour carried into the corporate environment. This can be construed as a compromise of women entrepreneurs’ dignity and a violation of their rights. This finding can be linked to the following statement.

“If you are a female sexual favours can be expected. Another problem although I have not personally experienced this is that men ask for sexual favours from women, as you will find in government it is mostly men that we deal with especially in the ICT sector. There is an expectation from men for women to give themselves to men in order to get work. I have heard of instances where people got contracts because of that. This I think is a big disadvantage for women because if you are not prepared to go that route then the chances of you getting the work are limited”.

The following statement drawn from a study conducted on “women, business and human right” (2014:6) revealing discrimination levelling against women, attests to the above.

“The prevalence of sex discrimination is an indicator that women’s human rights continue to be regularly undermined whether it is equal access to business and leadership opportunities or the extent to which the practices of businesses at various points in the value chain have an impact on female workers and women in surrounding communities”.

vi) Stereotyping; and socio-cultural role expectation:

The findings show that gender stereotypes enforced through language such as, ‘men’s world’ and ‘boy’s club’ used within the ICT sector continue to undermine women’s contribution in the mainstream economy of the sector. This language discourages other women entrepreneurs aspiring to join the sector and thus defeating the political agenda of growing women-owned businesses to balance the gender divide.

Despite the political agenda veering for increased absorption of women entrepreneurs into the ICT sector, there are no provisions in ICT policy passages supporting such. This however, is characteristic of developing economies worldwide where policies do not encompass gender sensitive strategies to ensure high uptake levels of women-driven entrepreneurship in the SMME segment, especially in light of postulations considering SMMEs as having potential to create the much needed jobs wanted by government (NDP 2013). In this regard, findings reveal anticipations suggesting it may be unlikely for women entrepreneurs to create these jobs based on the high unemployment rate, low education and skill attainment levels linked to the assertion that highly qualified professional may contribute to unemployment figures in the SMME segment. These findings are supported by the following statements.

Pertaining to education attainment and skill acquisition:

“You have to train employees to use the technology. For me coming into the ICT environment...understanding the link between my computer and

the shared network was just completely new. So I had to undergo training...sometimes you get service providers that give you the tools that you need but you do not get the right training for you to be able to utilise them [ICT] to their fullest potential.”

Pertaining to employment:

“Another challenge is not having skilled people...like you [SMME] cannot afford to hire highly skilled people for example, qualified engineers...ha![short laugh] where would you get the money to pay them...you just do not have that kind of money! not when you don't even know where you are going to get seed money to grow the business.”

6.2.1.2 Acknowledging information gap

This category was identified in relation to business information concerning:

- i) Tenders not advertised. Findings suggest the lack of transparency in government's procurement processes where information on available tender opportunities were withheld to benefit preferred suppliers. This resulting in the economic marginalisation of women entrepreneurs who although on government's preferred supplier list, were denied the opportunity to tender for work. Another finding was the claim that tender information was not obtainable from some websites of private companies.
- ii) Limited information about available SMME support interventions (structured and unstructured). The findings revealed a majority of women entrepreneurs did not know where to look for information concerning financial assistance as financial institutions had turned them down on the grounds of not having a good credit record and collateral. The following statement supports this finding:

“You know, as a person coming straight from varsity...still owing on study loans, it is difficult to get a loan. You do not even have a salary. You cannot be given funding because you do not have a financial record to secure funding from the bank.”

The inequality gap correlates with affirmations that women were far inexperienced than men in the ICT field. The following statement supports this finding:

“I think another problem for SMMEs to a degree concerns funding. They are not trusted until they have proven themselves. But how can they prove themselves if they do not get the support right from the beginning?”

This statement also correlates to the researcher’s personal experience where banks, before granting the loan go through a vetting (on paper) process which involves evaluating the business plan to ascertain whether the enterprise is financially viable, has accounting, management and marketing systems in place including surety. The question of access to finance has been well documented in entrepreneurship literature. Survey results attest to the high discontinuity rate of start-up enterprises which are the most affected. In a recent study (GEM 2013), findings reveal high discontinuity of start-up businesses in South Africa compared to counterparts (Ghana, Zambia).

The findings discovered women entrepreneurs had developed a lack in initiative to follow up on available sources of information. This finding was linked to an affirmation that they did not know what kind of information to look for as they did not know what was being offered by both government and the private sector. In this regard, findings revealed a gap between urban, semi-urban rural communities in terms of an information gap.

- iii) Limited understanding of market related information: The findings revealed women entrepreneurs did not know other women-owned ICT enterprises in the local market and lacked an understanding of the ICT sector in terms of roles players and regulatory framework.

6.2.1.3 Lacking access to resources

This category was identified in relation to barriers confronted by women entrepreneurs in accessing funding concerning the following:

- i) Experiencing difficulty in accessing funding for operating capital: Findings revealed inequities in accessing funding due to restrictive loan application qualifying criteria that was associated with poor credit rating and the unavailability of collateral surety, this affected by one's employment record. Women were disadvantaged over men who had been in employment longer (more experience than women) and earning higher than women, although having the same qualifications. This indicated gender disparity in earnings which was a common factor in the workplace across countries worldwide (Acker 1992:250; StatsSA 2011). Concerning the ICT sector in Africa women earn less than men in terms of average income figures from a survey conducted by Research ICT Africa (2012) across 12 African countries.
- ii) Lacking financial skills. Findings were that men had better financial management skills than women.

“Women lack knowledge and education on how to run a business. For some start-up businesses it is not easy as they are not familiar with business operations such as, financial management.”

Findings also revealed that start-up entrepreneurs were likely to mismanage finances due to lacking financial skills. The following statement suggested this finding:

“A number of SMME's struggle to stay afloat as they have either misused money or cannot account for any of their income and in the process do not make any profit.”

Either way, the consequences of not having financial skills, may drive enterprises out of business. Findings also revealed that most women entrepreneurs had to raise money from their own coffers to cover equipment costs, telecommunications infrastructure set up costs, maintenance costs, licensing fees, upgrading software and hardware costs. Consequences to this were cash flow problems impacting on staff salaries, marketing and training budget.

- iii) Inequalities in accessing funding. The findings were linked to instances of irregular adjudication processes which were not transparent enough hence the economic marginalisation of women on the basis of not having inside connections with officials disbursing grants. This was common where non-governmental enterprises depended on government grants. The following statement suggested this.

'To get funding SMMEs must know someone from inside or belong to a certain network group'

This finding corresponds to statements supporting corruption claims that women entrepreneurs had to pay a percentage of the tender awarded as a trade-off. These officials can be referred to as Ono 10% (fee charged on total amount of tender awarded). The 'Ono' (plural) is a Xhosa translation referring to more than one individual (officials extorting bribes from entrepreneurs). As attested elsewhere in the literature review, corruption is viewed by some SMMEs as a way of doing business and therefore one has the option to either join the bandwagon (corruption) or ship out of business. These findings can be summed up as an indication of loose internal intelligence systems on the side of government.

Corruption in the context of women-driven entrepreneurship defeats the utopian views anticipating women's meaningful contribution in the mainstream economy of the ICT sector in the Eastern Cape Province in terms of job growth and creation. The Easter Cape Women in ICT Awards mentioned in this study is evidence of government's efforts in recognising women's role in the ICT sector. One of the aims of this event is to counter the digital gender divide in the sector through role modelling.

6.2.1.4 Disaggregated data

The unavailability of disaggregated statistics to demonstrate inequalities between men's and women's access to ICT is a common finding across developing countries worldwide (Research ICT Africa 2012).

In sum, theoretical sampling, prompted the researcher to get a thorough understanding of thought processes underpinning women-driven entrepreneurship in the context of socio-cultural, economic and political structural barriers embedded in historical post-apartheid regime. These findings suggest a call for an activists approach in raising awareness on women issues and concerns which although not unique to other sectors, are unique viewed in the context of a sector perceived to be difficult for both men and women to enterprise in based on the structural dynamics articulated in the literature review. This compounded by the absence of a regulatory framework. Although (at the time of writing) the ICT sector of Eastern Cape Province had an ICT Strategy, the strategy did not cater for women entrepreneurs but was gender sensitively biased to women in government. This gap defeats the realisation of women's potential role in contributing to ICT driven-entrepreneurship especially in rural areas where the gender divide is huge.

From a programme design and implantation point of view, a thorough review is needed of ICT policy and ICT development programmes promoting women-driven entrepreneurship. Based on the findings emerging from the constant comparison of empirical statements and document analysis, very little was being done to empower women in this provincial sector. From the perspective of women entrepreneurs, policy makers and programme developers need to design specific interventions for these women.

6.2.2 Responding to gender-based discrimination

This category subsumed the majority of categorical data. The analysis of statements revealed that women were ready to take assertive action in changing their situation in terms of meaningful engagement with technology for economic gain. The suggestions about what government and the private sector should be doing were clear messages that women entrepreneurs were very aware about the level of gender mainstreaming in entrepreneurship needed. It was also interesting to note from the findings that women were aware of the kind of changes expected of government and the private sector to bridge the gender digital divide some of which were short-to-medium and long term.

Despite strong evidence about the importance of the inclusion of women entrepreneurs in the ICT sector, a gender gap still persists in the Eastern Cape Province. Women remain underrepresented in the sector, particularly in technically orientated and decision-making positions. Women's active participation in the ICT sector is essential for the long-term growth and economic sustainability of the Eastern Cape Province. What remains worrisome, however, emanates from the lack of women entrepreneurs' understanding of the ICT sector which, affirmed from findings, is impacting on the productivity and innovative output levels and consequently causing the slow growth of women-owned enterprises in this sector which. The lack of disaggregated data also compounds the problem. The availability of disaggregated statistics and indicators are imperative in evaluating performance, would encourage the rapid growth of women-owned enterprises including the success stories of other women-driven entrepreneurial activities would accelerate women's desire to enter the sector.

6.2.2.1 Acknowledging information gap

This category subsumed the majority of subcategories providing an expanded holistic understanding of the reasons causing the information gap and women's intent to advocate for change.

Based on the following background, women entrepreneurs are assertively intending to advocate for an enabling environment (gender mainstreaming policies/programmes) facilitated through government and private sector intervention. Findings revealed the information gap was a result of information being inaccessible from government offices especially at regional level. Affordability (telephone costs) was a common theme identified as a barrier for women in accessing ICT services and infrastructure and this was interpreted as a form of discrimination. This implied to the 'slow' changes made by government in terms of addressing gender inequities in rural entrepreneurship which according to the findings, was non-existing due to inherent structural barriers perceived to be widening the gender digital divide attested in the literature review. Findings also reveal that ICT training was a serious limitation. This linked to low education (science and technology) attainment levels and technical skills acquisition which were a consequence of historical structural barriers influencing the digital gap. Another finding that was identified concerned the

need for government and private sector to support women entrepreneurs in terms of up-skilling them (interventions targeting women specifically) in ICT skills; providing information sharing workshops and road shows; and funding business-to-business (B2B) networking events. This included the upgrading of infrastructure (access to telecommunications and electricity) in rural areas where telecentres could be established. Government was also expected to provide rental subsidies for office space and to provide support for the establishment of ICT hubs to nurture innovation levels through mentorship programmes.

Regarding marketing, the findings revealed women were lacking marketing skills and market intelligence support (trading platforms) facilitated through government outbound missions. These factors were linked back to economic structural barriers linked to women's marginalisation from networking platforms. This correlated to literature review affirming women's marginalisation from such platforms which were considered an important source for information sharing especially for start-up business. Another suggestion related to curbing irregular business deals in terms of government monitoring and evaluating joint venture projects as women were taken advantage of by established enterprises concerning unequal remuneration although the scope of work done was equal to that done by established enterprises.

Concerning specific interventions aimed at promoting women-driven entrepreneurship, suggestions were that private companies should afford women offering ICT training, an opportunity to train their employees. This included an expectation that private companies' develop mentorship programmes specifically targeting women-owned ICT enterprises. Although there was an acknowledgement regarding action taken by government in terms of the ICT BEE scoring card, which gives women additional points over men to enable them to compete favourably, the findings revealed women entrepreneurs were not benefiting from the scoring point system. Women entrepreneurs interpreted this as discrimination levelled against them as they had an entitlement to such but were denied tender opportunities due to irregular tender adjudication procedures that were perpetuating corruption.

In conclusion, these findings, viewed through a cyberfeminism lens, suggested women entrepreneurs were acutely aware of how gender insensitive the sector was

and the need for assertive action to change the situation although not knowing how to go about with it.

The barriers and constraints identified from the findings are similarly observed from well researched studies that have paid particular attention to research, on the status of women in ICT in developing countries in Africa, South Africa and in particular in the Eastern Cape Province conducted by Adomi (2011), Buskens & Webb (2009), Chisango and Lesame (2014), Lesame and Seti (2014), Elnaggar (2007), Heeks (2010), Hafkin (2002), Hafkin and Heyer (2006), James *et al.* (2006), Kelley (2013), Lesame (2008), Maier and Nair-Reichert (2007), Obayelu and Ogunlade (2006) who identified the following aspects that were congruent to the findings of this study: i) The economic marginalisation of women entrepreneurs in the ICT sector; ii) The underrepresentation of women entrepreneurs in core ICT positions; iii) Insecurities held by women induced by gender stereotypes; iv) Lack of access to ICT infrastructure – physical access; v) Lack of local ICT content; vi) Gender empowerment lacking; vii) The focus on professional development rather than entrepreneurial development in ICT; viii) Lack of attention to rural areas where economic activity could be resuscitated by SMMEs; ix) Low levels of innovation; x) Lack of awareness on policy advocacy; xi) Women lacking networking skills; xii) ICT usage – dominantly confined to application rather than for economic gain; xiii) Women subjected to sexual harassment; and xi) The lack of women role models in the ICT sector.

The researcher's interpretations of the findings were confirmed through member checks with participants (Strauss & Corbin 1998:157; 2008:115). The researcher conducted that research process via email to communicate a summary of findings to the participants, since it was practically too difficult and time consuming to schedule member checking meetings to confirm the research findings. According to the participants, the findings were a true reflection of the prevailing state of affairs in respect to women-driven entrepreneurship characterised by gender-based discrimination and them responding to gender-based discrimination.

The researcher's interpretation of the findings confirmed the answers to the research questions seeking to understand how women entrepreneurs: i) conceptualised entrepreneurship and ICT as a technology and sector; ii) why the ICT sector is

regarded as a critical enabler in advancing women driven entrepreneurship; iv) in what ways ICT was employed as an offering to gain financial gain; and v) their understanding of the role played by both government and the private sector in promoting SMME women driven entrepreneurship within the sector of the province.

6.3 STUDY RECOMMENDATIONS

Based on the in-depth insights that emanated from the interviews, several recommendations are proposed.

6.3.1 Addressing economic stumbling blocks

A stakeholders' forum needs to be established as a platform for dealing with strategies that enable women entrepreneurs in the ICT sector to access financial support. Collaboratively, the business community, investment community, government agencies responsible for the support of small businesses, and policy makers of the ICT Sector Code for BEE (scorecard) have to be active contributors at such a platform. This is one of the issues women entrepreneurs identify as a critical success factor for their sustainability in the sector.

6.3.2 Government enforcing sunset clauses

Government needs to enforce sunset clauses in their procurement policies that specifically apply to women entrepreneurs in the ICT sector of the Eastern Cape Province in order to address the unique challenges in this sector.

6.3.3 Start-up funding

A special start-up fund needs to be provided by existing agencies for women in the ICT sector. This aspect can be a short to medium intervention whilst strategies are developed for long-term interventions (Section 7.3.1).

6.3.4 Capacity building and training

Women ICT enterprise owners lack knowledge about the ICT sector, including business and management skills. Training interventions (based on a skills audit) need to be designed. Having a leadership programme for entrepreneurs would effectively address continued learning, since short-term interventions do not factor in

progress evaluation over a longer period. One of the participants suggested that up-skilling should be extended over a long period because entrepreneurs (especially one-man driven enterprises) could not afford to leave their business for a protracted period of time. This disconnect could contribute to low levels of attendance. Other participants suggested mentorship programmes to create a level of comfort that there would be a person holding their hand and guiding them to develop core skills that an ICT entrepreneur required. Addressing the aspect of capacity building would assist with increasing the representation of women in core technical environments.

6.3.5 Government and private sector collaboration

Collaboration in the form of having leadership institutions with the mandate of facilitating the convergence of ICT organisations with mutual interests, including academia that deal with female orientated entrepreneurship and innovation. Such leadership institutions would raise the awareness of different women issues and needs. This would assist with addressing gender sensitivity in entrepreneurship.

6.3.6 Raising the visibility of women entrepreneurs in the ICT sector of the Eastern Cape Province

This is an important aspect as there is great potential to have many women joining the sector by learning from successful case studies. This would be an open opportunity for government and the private sector to include networking platforms into their social responsibility projects. Such a project would include a database of successful women from the Eastern Cape Province with the view of hosting host ICT workshops for a network of women entrepreneurs in the sector. Such a project would support a process for successful women to formally mentor emerging ICT enterprises. The findings did state that when women entrepreneurs are faced with difficulties, they are inclined to close business and return to full employment. The literature review attests to the fact that motivation plays an important role in entrepreneurship.

6.3.7 Establishing a business networking forum for women in ICT

This platform could be used by government and the private sector to disseminate information about business opportunities for women in the ICT sector and to get

feedback in the form of business surveys to improve their programmes. One of the participants claimed surveys that interrogated the main motivating factors of an ICT enterprise would benefit women entrepreneurs who aspired to join the sector by highlighting lessons about successes and challenges. This statement emphasised that existing surveys were too superficial to really discover the state of women-driven entrepreneurship in the sector.

6.3.8 Academia encouraging (funding) research studies

Academia should focus on women-driven entrepreneurship and government should commission research that specifically takes care of the circumstances of women entrepreneurs in the ICT sector of the Eastern Cape Province. This would increase the number of women in the Eastern Cape Province with the potential to create business consulting opportunities in the field of research.

6.3.9 Government improving its payment turn-around time

On paper, the turn-around time for payment is 30 days. However, in principle payment is often done after the stipulated 30-day period. If government enforces strict measures in its procurement processes and procedures, the payment period could be reduced to less than 30 days.

6.3.10 Private sector and academia (career search campaigns) should target women in rural areas

Learnership programmes (rural out-reach programmes) in ICT could be offered. These programmes would include internships memorandums of understanding (MOUs) between private companies and academia to arrange the allocation of students to ICT enterprises.

6.3.11 Ethics workshops for all government employees in the supply chain environment

These workshops need to be conducted in order to eradicate corrupt behaviour by officials. B-BBEE workshops would also assist them to understanding the value that SMMEs add to the marketplace. Participants were very vocal about government officials who did not understand the value that these ICT enterprises were adding.

6.3.12 Partnerships with academic institutions

Academic entities could design programmes for women entrepreneurs in ICT. The EC ICT Strategy cites the intent to establish an academy, however, at the time of submitting this thesis, no evidence was available that suggested measures to establish such an institution.

6.3.13 Private sector providing opportunities that promote diversity in their supply chain systems

Accredited ICT training providers should be given an opportunity by private companies to train their staff.

6.3.14 Private sector to conduct market research

Research in the ICT sector of the Eastern Cape should build a business case for interventions that target women.

6.3.15 The development of a comprehensive Eastern Cape ICT directory

Such a directory would enable ICT enterprises to access finance and opportunities, such as organisations that support women-owned ICT enterprises.

6.3.16 Government and the private sector joining hands

Together, the public and private sectors should design strategies to reach the women entrepreneurial market in rural areas and to identify support programme mechanisms in areas where there are many women entrepreneurs.

6.4 CONTRIBUTION OF THE STUDY TO THE FIELD OF COMMUNICATION SCIENCE

It is the researcher's hope that this research makes a contribution that is appreciated by government, the private sector, the ICT research community, and the women entrepreneurs in the ICT sector. These stakeholders stand to benefit from this research study in terms of gaining a deeper understanding of the status quo of women-driven entrepreneurship in the ICT sector of the Eastern Cape Province.

The findings, the researcher envisages, might inform the improvement of the ICT sector in the Eastern Cape in terms of policy guidelines, effective programme implementation, and the research community to become more interested in women-driven entrepreneurship to encourage increased participation by women entrepreneurs in the sector.

Findings from this study may be used by government policy makers to adapt their initiatives and programmes by assessing the status quo. The focus should be providing education and training programmes to women entrepreneurs that go beyond business start-ups. Those training programmes need to include growth and targeted initiatives with the purpose of providing women entrepreneurs with equal access and opportunity – as for their male counterparts – to the mainstream economy of the Eastern Cape ICT sector.

Disaggregated sex statistics should include the gender of those entrepreneurs who start and run ICT enterprises, the variety of industries in which women entrepreneurs participate, and the contribution of women-owned ICT enterprises to job creation. These statistics would assist with focusing attention on women-driven entrepreneurship. Then, researchers could hone in on specific areas of the ICT industries to investigate issues of concern in relation to women entrepreneurs. This would broaden the availability of reliable literature specific to the Eastern Cape Province.

The findings suggest the research can be generalised to other women entrepreneurs in the other provinces of South Africa, since gender-based discrimination appears to be a common phenomenon influencing women-driven entrepreneurship.

6.5 CONCLUSIONS

The rationale for prioritising SMME women is premised on their potential ability to contribute to the alleviation of the socio-economic challenges, especially in rural areas, facing most developing economies; such as unemployment, poverty, and low levels of economic development.

From a South African perspective, SMME development is viewed as an appropriate strategy that could assist government with its endeavours of bridging the gap that

exists between the formal and informal sectors of the economy (first and second economy). Since the Eastern Cape Province has a large informal economy, it is not immune to the divide between the formal and informal sectors. To date, the Small Enterprise Development Agency (SEDA) of government has utilised various approaches to facilitate the entry, development, and integration of small enterprises into the mainstream economy of other sectors but has not been successful in the ICT sector as the perceived impact seems to be minimal. The SMME women entrepreneurs interviewed in this study confirmed this perception.

The empirical findings suggest there are fundamental structural issues that need to be addressed in order to unlock the economic blockages that obstruct women-driven entrepreneurship in the ICT sector. The researcher confirms that findings are an authentic reflection of what is happening in reality. Although the Eastern Cape ICT Strategy provides for a governmental programme of action to support women entrepreneurs in the ICT sector, very little is done to assist SMME women entrepreneurs who remain economically marginalised on the basis of gender. Surprisingly, albeit women entrepreneurs face challenges, these women appear to have the vigour to survive. This is demonstrable in the assertive action that women take in advocating for change in the public and private sectors to provide proper support to women-driven entrepreneurship. Constant comparison augments the process of confirming and validating the findings. The promotion of women-driven entrepreneurship can only be successful when government and the private sector embark upon joint partnerships.

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APPENDIX A: CONSENT FORM

TITLE: Women-driven entrepreneurship in the information and communication technology sector: A grounded analysis of small, micro, and medium enterprises of the Eastern Cape Province

Date/...../.....

Dear prospective research participant.

1. INTRODUCTION

You are invited to participate in this research study undertaken for a Doctoral Study at the University of South Africa (UNISA).

Before you agree to take part in this study, you should fully understand what is involved.

If you have any questions that are not fully explained in this leaflet do not hesitate to ask the researcher.

If you agree to volunteer to participate, you will be asked to sign the consent letter.

2. THE NATURE AND PURPOSE OF THIS STUDY

The aim of this research study is to provide a grounded analysis of women-driven entrepreneurship in the Small, Micro, and Medium Enterprises (SMMEs) segment of the information communication technology (ICT) sector of the Eastern Cape Province. You have specifically been selected for participation in this research study based on your experience as an entrepreneur currently enterprising in this sector.

3. EXPLANATION OF PROCEDURES TO BE FOLLOWED

A theme of questions will be asked by the researcher and the interview will last for approximately 30 to 45 minutes. Please be advised the researcher will be recording the interview. Although the researcher will be taking some notes during the session, it may not be possible to write fast enough to record everything. Because the interview is recorded, please be sure to speak up so that we don't miss your comments.

4. RISK AND DISCOMFORT INVOLVED

The research will not involve any physical, emotional, and psychological discomfort.

5. POSSIBLE BENEFITS OF THIS STUDY

Participation in this study will give you the opportunity to share your experiences that will contribute to improvements in the implementation of policies aimed at promoting women-driven entrepreneurship within the ICT sector of this province.

I understand that if I do not want to participate in this study, it will not be held against me.

I may at any time withdraw from this study.

6. ETHICAL APPROVAL

The study adheres to the guidelines of the ethical committee of The University of South Africa (UNISA). You are free to discuss your participation in this study with the researcher contactable on inthedott@gmail.co.za. If you would like to speak to a representative of the university, you may contact Dr N. C. Lesame in the Department of Communication Science via email: lesamnc@unisa.co.za.

7. INFORMATION

I have read the information contained in the consent form and any questions I have asked have been answered to my satisfaction and any further questions will be addressed to:

Name of candidate: Miss Naledi Sekeleni

Contact details of researcher: email:inthedott@gmail.co.za

8. CONFIDENTIALITY

All records obtained during this study will be regarded as confidential. Results will be published or presented in such a fashion that you remain unidentifiable.

APPENDIX B: REQUEST TO THE ORGANISATION TO ACCESS DATABASE

8 Mgwali Crescent

Sunnyridge

East London

5201

5 December 2012

Dear Mr Louw

REQUEST: ICT SMME DATABASE

Could you kindly assist me with regard to the following matter?

I am conducting research in fulfilment of my PhD studies at UNISA (approval by the ethics review committee is attached) and my sample is CIPRO registered SMMEs () trading in the ICT (Information, Communication, Technology) sector of the Eastern Cape Province. I am specifically researching women-owned companies.

However, I'm currently struggling to find ICT companies let alone women-owned based on the following:

- A majority is not listed in the telephone directory, i.e. yellow pages;
- A majority is not listed in the register of business chambers / associations / ISETT-SETA; and
- A majority work from home, therefore, they are not easily identifiable.

I had placed advertisements in local newspapers in the past two months but it was a fruitless exercise, hence I am appealing for your assistance to kindly assist in providing me with a database of SMME companies trading in the ICT sector. All I need from you would be the contact details of the company and I will contact the company to identify whether the company is women-owned or not.

I do realise that you may not have a segregated database which would categorise companies according to either gender, ICT ventures but I am convinced that these companies might be identified by a commodity type index / code search.

Your assistance in this regard would be highly appreciated and I confirm that this information is going to be used solely for purposes of facilitating my studies and would not be divulged to any persons.

Regards



Naledi Sekeleni

PhD Candidate

University of South Africa (UNISA)

Tel: 078 302 2959

Fax: 086 510 9563

Email: naledi@inthedot.co.za

APPENDIX C: INVITATION: PARTICIPATION IN RESEARCH STUDY

8 Mgwali Crescent
Sunnyridge
East London
5201

20 August 2013

The Executive Manager
East London IDZ, Zone 1C
eMonti Science and Technology Park, Block B
Off Lower Chester Road

Dear Ms Patricia Dlamini

REQUEST: PARTICIPATION IN RESEARCH STUDY

You are invited to participate as a businesswoman in the ICT sector in this research study undertaken for a doctoral study at the University of South Africa (UNISA) by Naledi Sekeleni in the Department of Communication Sciences under the supervision of Dr N. C. Lesame who is contactable via email: lesamnc@unisa.co.za.

The study adheres to the guidelines of the ethical committee of the University of South Africa (UNISA).

The aim of this research study is to provide a grounded analysis of women-driven entrepreneurship in the Small, Micro, and Medium Enterprises (SMMEs) segment of the information communication technology (ICT) sector of the Eastern Cape Province.

You have specifically been selected for participation in this research study based on your experience and involvement in the ICT sector of the province. Your invaluable input will contribute towards the objectives of the study that seek to introduce

improvements in the implementation of policies aimed at promoting women-driven entrepreneurship in the ICT sector of this province.

A theme of questions will be asked and the interview will last approximately 30 to 45 minutes.

All records obtained whilst in this study will be treated confidentially. Results will be published or presented in such a fashion that you remain unidentifiable.

I, therefore, seek permission to arrange an appointment through your secretary at a suitable time for us to conduct the interview.

Regards



Naledi Sekeleni

PhD Candidate (07383312)

University of South Africa (UNISA)

Tel: 078 302 2959

Fax: 086 510 9563

Email: naledi@inthedot.co.za

**APPENDIX D: EMAIL APPROVAL FROM MICTSETA TO USE ITS
GRAPHICAL USER INTERFACE (GUI) INFORMATION**

Naledi Sekeleni <inthedott@gmail.com>

Request for information

Sekgana Makhoba <sekgana.makhoba@isettseta.org.za> Tue, May 13, 2014 at
12:08 PM

To: Naledi Sekeleni <inthedott@gmail.com>

Cc: Oupa Mopaki <oupa.mopaki@isettseta.org.za>, Tia Maloka
<tia.maloka@isettseta.org.za>

Good Morning Naledi

Thank you for your request.

I hereby grant the permission to use the information from the MICTSETA Sector
Skills Plan 2013-2018 as per your request below.

Please make sure that the source is properly referenced.

Regards



APPENDIX E: INTERVIEW GUIDE FOR INDIVIDUAL INTERVIEWS

Date of interview: .../.../....

INTERVIEW GUIDE FOR INDIVIDUAL INTERVIEWS

PART I: CLOSED-ENDED QUESTIONS

SECTION A: DEMOGRAPHIC INFORMATION – PERSONAL DETAILS OF WOMAN ENTREPRENEUR

Please provide me with the following information by selecting the correct answer and indicating it with a tick (✓) in the applicable box.

FOR OFFICIAL USE / RECORD NUMBER

Participant number (e.g. 1, 2, 3):

1	

Question 1

Please indicate your age group.

25 - 35	36 - 45	46 - 55	+55

2-5	

Question 2

What is your race group?

Black	White	Asian	Coloured

6-9	

Question 3

What is your highest educational qualification in ICT?

Grade 12	Certificate course	Diploma	Bachelors Degree	MA Degree

10-14	

SECTION B: ICT ENTERPRISE RELATED INFORMATION (ICT Enterprise Development and Operations)

Question 4

What is your role in the ICT enterprise?

Sole owner	Part owner	Manager in charge

15-17	

Question 5

What type of ICT enterprise is your business?

Sole Proprietor	Closed Corporation	Cooperation	Cooperative

18-21	

Question 6

What industry type is your ICT Enterprise?

Manufacturing	Production	Services	Retail	Importer	Exporter

22-27	

Question 7

What ICT product(s) or service(s) are offered by the enterprise?

28	

Question 8

What is the ICT enterprise's market segment, e.g. where are your clients located?

Local	National	Regional	International

29-32	

Question 9

How many years has the ICT enterprise been in business?

1-5	6-10	11 -20	+ 20

33-36	

Question 10

What SMME category does the enterprise fall under?

Micro e.g. 1-5 employees	Very small e.g. 5-10 employees	Small e.g. 10-100 employees	Medium e.g. +100 employees

37-40	

Question 11

How many people are employed by the ICT enterprise?

1-5	6-10	11 -100	+ 100

41-44	

Question 12

What is the ICT education level of employees in the enterprise?

Grade 12	Certificate Course	Diploma	Bachelors Degree	MA Degree

45-49	

Question 13

What is the total annual turnover (in millions) of the ICT enterprise?

0-1	2-5	6-10	+ 10

50-53	

PART II: OPEN-ENDED QUESTIONS

SECTION C: BUSINESS KNOWLEDGE INFORMATION

Question 14

In your own understanding, how would you define the term entrepreneurship? Please elaborate.

.....
.....

Question 15

What problems, in your view, are encountered most by SMMEs? Please elaborate.

.....
.....

What, in your, opinion are the challenges faced by women entrepreneurs? Please

elaborate.

.....
.....

Question 17

What is your understanding of the term ICT? Please elaborate.

.....
.....

Question 18

In your view, what is the role of ICTs in business? Please elaborate.

.....
.....

Question 19

What problems do SMMEs have with ICTs? Please elaborate.

.....
.....

Question 20

In your own words, can you please describe your understanding of the ICT sector, e.g. how the sector is structured, applicable legislation, and policy? Please elaborate.

.....
.....

Question 21

How are women stimulating entrepreneurship in the ICT sector? Please elaborate.

.....
.....

Question 22

Describe ways in which SMME women entrepreneurs use ICTs as a core product or service of the ICT enterprise. Please elaborate.

.....
.....

Question 23

Describe the enterprise's value chain of business processes, e.g. that relate directly to the delivery of the enterprise's core products or service. Please elaborate.

.....
.....

Question 24

How often does the enterprise introduce new products or services and what informs the decision to do so? Please elaborate.

.....
.....

SECTION D: ROLE OF GOVERNMENT IN SMME DEVELOPMENT

Question 25

What is government currently doing to promote ICT women-driven entrepreneurship development, e.g. structured and unstructured support programmes and initiatives? Please elaborate.

.....
.....

Question 26

What more should government do? Please elaborate.

.....
.....

SECTION E: ROLE OF PRIVATE SECTOR IN SMME DEVELOPMENT

Question 27

What is private sector doing to promote ICT women-driven entrepreneurship development, e.g. structured and unstructured support programmes and initiatives? Please elaborate.

.....
.....

Question 28

What more should the private sector do? Please elaborate.

.....
.....

The end

Thank you for time.

APPENDIX F: INTERVIEW GUIDE FOR PRIVATE SECTOR EXPERT

Date of interview: .../.../....

INTERVIEW GUIDE FOR PRIVATE SECTOR EXPERT

PART I: CLOSED-ENDED QUESTIONS

SECTION A: DEMOGRAPHIC INFORMATION – PERSONAL DETAILS OF WOMAN ENTREPRENEUR

Please provide me with the following information by selecting the correct answer and indicating it with a tick (✓) in the applicable box.

FOR OFFICIAL USE /

RECORD NUMBER

Participant number (e.g. 1, 2, 3):

1	

Question 1

Please state your age.

25 - 35	36 - 45	46 - 55	+55

2-5	

Question 2

What is your race group?

Black	White	Indian	Coloured

6-9	

Question 3

What is your highest educational qualification in ICT?

Grade 12	Certificate course	Diploma	Bachelors Degree	MA Degree

10-14	

SECTION B: ICT ENTERPRISE RELATED INFORMATION (ICT Enterprise Development and Operations)

Question 4

What is your role in the ICT enterprise?

Sole owner	Part owner	Manager in charge

15-17	

Question 5

What type of ICT enterprise is your business?

Sole Proprietor	Closed corporation	Cooperation	Cooperative

18-21	

Question 6

What industry type is your ICT Enterprise?

Manufacturing	Production	Services	Retail	Importer	Exporter

22-27	

Question 7

What ICT product(s) or service(s) are offered by the enterprise?

28	

Question 8

What is the ICT enterprise's market segment, e.g. where your clients are located?

Local	National	Regional	International

29-32	

Question 9

How many years has the ICT enterprise been in business?

1-5	6-10	11 -20	+ 20

33-36	

Question 10

What SMME category does the enterprise fall under?

Micro e.g. 1-5 employees	Very small e.g. 5-10 employees	Small e.g. 10-100 employees	Medium e.g. +100 employees

37-40	

Question 11

How many people are employed by the ICT enterprise?

1-5	6-10	11 -100	+ 100

41-44	

Question 12

What is the ICT education level of employees in the enterprise?

Grade 12	Certificate Course	Diploma	Bachelors Degree	MA Degree

45-49	

Question 13

What is the total annual turnover (in millions) of the ICT enterprise?

0-1	2-5	6-10	+ 10

50-53	

PART II: OPEN-ENDED QUESTIONS

SECTION C: BUSINESS KNOWLEDGE INFORMATION

Question 14

In your own understanding, how would you define the term entrepreneurship? Please elaborate.

.....

.....

Question 15

What problems, in your view, are encountered most by SMMEs? Please elaborate.

.....
.....

Question 16

What, in your opinion, are the challenges faced by women entrepreneurs? Please elaborate.

.....
.....

Question 17

What is your understanding of the term ICT? Please elaborate.

.....
.....

Question 18

In your view, what is the role of ICTs in business? Please elaborate.

.....
.....

Question 19

What problems do SMMEs have with ICTs? Please elaborate.

.....
.....

Question 20

In your own words, can you please describe your understanding of the ICT sector, e.g. how the sector is structured, applicable legislation, and policy? Please elaborate.

.....
.....

Question 21

How are women stimulating entrepreneurship in the ICT sector? Please elaborate.

.....
.....

Question 22

Describe ways in which SMME women entrepreneurs use ICTs as a core product or service of the ICT enterprise. Please elaborate.

.....
.....

Question 23

How do you regard the level of innovation in these ICT enterprises? Please elaborate.

.....
.....

SECTION D: ROLE OF GOVERNMENT IN SMME DEVELOPMENT

Question 25

What is government currently doing to promote ICT women-driven entrepreneurship development, e.g. structured and unstructured support programmes and initiatives? Please elaborate.

.....
.....

Question 26

What more should government do? Please elaborate.

.....
.....

Question 27

What is the private sector doing to promote ICT women-driven entrepreneurship development, e.g. structured and unstructured support programmes and initiatives? Please elaborate.

.....
.....

Question 28

What more should the private sector do? Please elaborate.

.....
.....

The end

Thank you for time.

APPENDIX G: INTERVIEW GUIDE FOR GOVERNMENT SECTOR EXPERT

Date of interview: .../.../....

INTERVIEW GUIDE FOR GOVERNMENT SECTOR EXPERT

PART I: CLOSED-ENDED QUESTIONS

SECTION A: DEMOGRAPHIC INFORMATION – PERSONAL DETAILS

Please provide me with the following information by selecting the correct answer and indicating it with a tick (✓) in the applicable box.

FOR OFFICIAL USE /

RECORD NUMBER

Participant number (e.g. 1, 2, 3):

1	

Question 1

Please state your age:

25 - 35	36 - 45	46 - 55	+55

2-5	

Question 2

What is your race group?

Black	White	Indian	Coloured

6-9	

Question 3

What is your highest educational qualification in ICT?

Grade 12	Certificate course	Diploma	Bachelors Degree	MA Degree

10-14	

SECTION B: ICT ENTERPRISE RELATED INFORMATION (ICT Enterprise Development and Operations)

Question 4

Sole owner	Part owner	Manager in charge

15-17	

What is your role in

--	--	--

 the organisation?

Question 5

What department do you work in?

18-21	

Question 6

What industry type is your department?

Manufacturing	Production	Services	Retail	Importer	Exporter

22-27	

Question 7

What ICT product(s) or service(s) are offered by the enterprise?
.....

28	

Question 8

What is the ICT enterprise's market segment, e.g. where your clients are located?

Local	National	Regional	International

29-32	

Question 9

How many years has the ICT enterprise been in business?

1-5	6-10	11 -20	+ 20

33-36	

Question 10

What SMME category does the enterprise fall under?

Micro e.g. 1-5 employees	Very small e.g. 5-10 employees	Small e.g. 10-100 employees	Medium e.g. +100 employees

37-40	

Question 11

How many people
are employed by
the ICT enterprise?

1-5	6-10	11 -100	+ 100

41-44	

Question 12

What is the
ICT education
level of
employees in the enterprise?

Grade 12	Certificate Course	Diploma	Bachelors Degree	MA Degree

45-49	

Question 13

What is the total
annual turnover (in
millions) of the ICT
enterprise?

0-1	2-5	6-10	+ 10

50-53	

PART II: OPEN-ENDED QUESTIONS

SECTION C: BUSINESS KNOWLEDGE INFORMATION

Question 14

In your own understanding, how would you define the term entrepreneurship? Please elaborate.

.....
.....

Question 15

What problems, in your view, are encountered most by SMMEs? Please elaborate.

.....
.....

Question 16

What, in your opinion, are the challenges faced by women as entrepreneurs? Please elaborate.

.....
.....

Question 17

What is your understanding of the term ICT? Please elaborate.

.....
.....

Question 18

In your view, what is the role of ICTs in business? Please elaborate.

.....
.....

Question 19

What problems do SMMEs have with ICTs? Please elaborate.

.....
.....

Question 20

In your own words, can you please describe your understanding of the ICT sector, e.g. how the sector is structured, applicable legislation, and policy. Please elaborate.

.....
.....

Question 21

How are women stimulating entrepreneurship in the ICT sector? Please elaborate.

.....
.....

Question 22

Describe ways in which SMME women entrepreneurs use ICTs as a core product or service of the ICT enterprise. Please elaborate.

.....
.....

Question 23

How do you regard the level of innovation in these ICT enterprises? Please elaborate.

.....
.....

SECTION D: ROLE OF GOVERNMENT IN SMME DEVELOPMENT

Question 25

What is government currently doing to promote ICT women-driven entrepreneurship development, e.g. structured and unstructured support programmes and initiatives? Please elaborate.

.....
.....

Question 26

What more should government do? Please elaborate.

.....
.....

SECTION E: ROLE OF THE PRIVATE SECTOR IN SMME DEVELOPMENT

Question 27

What is the private sector doing to promote ICT women-driven entrepreneurship development, e.g. structured and unstructured support programmes and initiatives? Please elaborate.

.....
.....

Question 28

What more should the private sector do? Please elaborate.

.....
.....

The end

Thank you for time.

**APPENDIX H: APPROVAL BY THE ETHICS REVIEW COMMITTEE OF THE
COLLEGE OF HUMAN SCIENCES AT THE UNIVERSITY OF
SOUTH AFRICA**

College of Human Sciences
Department of Communication Studies

08 April 2014

Reference number: 2014_CHS_Student_CommSt_001

Proposed title: Women-driven entrepreneurship in the ICT sector in the Buffalo City and Nelson Mandela metropolitan areas of the Eastern Cape Province: A Grounded Analysis

Principal investigator: Department of Communication Science

Approval status recommended by reviewers: Approved

The Ethics Review Committee of the College of Human Sciences at the University of South Africa has reviewed the proposal and considers the methodological, technical and ethical aspects of the proposal to be appropriate to the tasks proposed.

Ms Naledi Sekeleni is requested to maintain the confidentiality of all data collected from or about research participants, and maintain security procedures for the protection of privacy.

The committee needs to be informed should any part of the research methodology as outlined in the Ethics application (Ref. Nr.2014_CHS_Student_CommSt_001) change in any way.

It is the responsibility of the principal investigator to ensure that the research project adheres to the values and principles expressed in the UNISA Research Ethics Policy, which can be found at the following website:

http://www.unisa.ac.za/cmsys/staff/contents/departments/res_policies/docs/Policy_Research%20Ethics_rev%20app%20Council_22.06.2012.pdf

This certificate is valid for two years.

Sincerely



Mr D Wigston
Departmental ERC of Communication Science
College of Human Sciences



APPENDIX I: SAMPLE INTERVIEW 1 TRANSCRIPT – EARLY CODING LINE-BY-LINE

Codes	Line	Transcript: Interview 1	Early open codes | Descriptive code
Q14	1 2 3 4 5	What is entrepreneurship? Please elaborate. “That’s what I’m living for. Entrepreneurship in my view is really about running your business. I cannot think of anything else... more than that”.	The ‘business’ * income*profit* Explaining Operating*in charge business activities**your’- owner Affirming
Q15	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18	Generally what problems are faced by SMMEs? Please elaborate. I think the first one is... eh! [Pause]... <u>funding, or capital</u> rather. And again it’s the <u>market</u> . Like you are “ <u>competing</u> ” with <u>people</u> who have been in <u>existence</u> and you have just come in. And then on the other side you have the <u>limitation of finances</u> . So, you are <u>unknown</u> , you <u>do not have money, resources</u> and... Ha! soft [laugh]... so you are unable to <u>convince people</u> why they should stop going to <u>the people they trust, people who have always been there</u> and come to you when you are going to give them a <u>half-cooked service</u> . So I think those are the major things, obviously with the <u>limitations of</u> <u>funding</u> ... Err! [pause]... you have <u>office running costs</u> , you have <u>people that need to be</u> <u>paid you know</u> , You have to <u>buy</u> material like stationery and all what you call stock in manufacturing terms... and... [sigh] So, yea! It is those challenges that kind of make it difficult”	Accessing funding * capital Operating environment * customers New enterprise competing with established business new enterprise * low motivation Financial constraints * limited marketing activity New enterprise* financial and resource constraints emotional expression * ineffective marketing Stopping customers*trusting established enterprise Customers not coming *service planning problems Affirming * limited funding Office running costs*paying people Affirming ‘you know’ Buying material Affirming ‘yea’
Q16	1 2 3 4 5 6 7 8 9 10 11 12 13 14	What in your opinion are the challenges faced by women as entrepreneurs? “I <u>guess again</u> , obviously taking the second challenge I <u>was talking</u> about which is <u>marketing</u> ... if I <u>could pass through that</u> ... at first I <u>was thinking</u> that we would have more of walk-in clients... [sigh]... but as we started the business we realised that we <u>do not have much of walk-in clients</u> because <u>there is</u> ... [Company] <u>around the</u> <u>corner</u> ... [sigh]... which is <u>well known</u> , so people <u>would rather go there</u> although you still have <u>the same machine</u> , they know... [Mentions company] more. So, this means you <u>cannot rely</u> on walk-in clients, you have to <u>go out there</u> and market <u>to bigger businesses</u> like... [mentions name] and the <u>training providers</u> . Err! [Pause]... I <u>suppose</u> that things in the [country] are <u>slowly changing</u> as women are <u>a bit [shrugging] recognised these days</u> [meaning as business women] than before. You will find that sometimes people [women entrepreneurs] are <u>busy</u> . Like now, we	Reflecting *referring Marketing*taking action * miscalculated decision Despair Limitation *‘walk-in clients’ * close by competitor Despair*affirming competition*preferring Comparing service offering ‘same machine’ Acknowledging competitor’s service diversification Confirmation of decision taken ‘cannot rely’ Taking action *taking action, making choices Decision-making on choice of clientele segment Change in talk* Assuming* acknowledging change Slow*despondent *noticing action Comparing

Codes	Line	Transcript: Interview 1	Early open codes | Descriptive code
	15 16 17 18 19 20 21 22 23 24 25 26 27 28 29	are having a meeting <u>after hours</u> to do the interview taking a <u>risk</u> to meet with a stranger. <u>We women are both mothers and nurtures of our families.</u> <u>As you saw</u> this afternoon I had to pick up my <u>kids first</u> , drop them off at home <u>before</u> coming to the office. <u>But with men</u> you will find that they <u>do not have some of the responsibilities</u> that we have <u>so they do have time</u> to go out there and <u>market themselves</u> [business]. Again they <u>do not have time limits</u> where you would as a women feel like it is <u>improper</u> to meet [business meeting] with a man in some restaurant at <u>night</u> . <u>I think opportunities</u> [business] are there, because <u>discrimination no longer</u> exists [<u>sarcastic smile</u>], unlike before <u>where I would go to the bank and be told because you are a woman you cannot get this</u> [previously denied <u>on the grounds of being a woman</u>]. <u>As you may know... I think</u> the government is <u>opening up opportunities</u> for women-owned businesses”.	Offering evidence*offering evidence 'busy' Specifying time * personal judgement on action Generalisation* clarifying dual domestic roles offering evidence* prioritising 'kids first' Prioritising 'before coming to the office' Comparing gender roles Affirming action taken by men 'market themselves' Affirming gender role differences Socio cultural moral judging Affirming improvement in accessing bank loans Giving evidence Giving evidence *gender-based discrimination Verifying evidence *opportunities for 'women owned businesses'
Q16	1 2 3 4 5 6 7 8 9 10	What is your understanding of the term ICT? Please elaborate. “Well I am <u>running</u> this business that has IT (Information Technology) and communication and <u>what, what</u> [laughs] but I am really <u>not an IT expert</u> <u>I just know the basics</u> that it is a <u>means of communication</u> , it makes people’s <u>lives easier</u> ... I mean it has kind of ...err! ... <u>moved things from what they were before</u> ... were people would have to <u>wait</u> for letters to reach them <u>after a month or so</u> , now you can even communicate with somebody from <u>overseas</u> and they get the message <u>instantly</u> . I mean, you can skype, I just know it is some form of <u>information sharing</u> that has made life a lot easier for everybody”.	Action Acknowledging limited technology knowledge Affirming limited knowledge Acknowledging benefit Comparing pervious confirming waiting period 'communicating overseas' Instant communication Information sharing
Q17	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16	In your view what is the role of ICTs in business? Please elaborate “Well... err... I do not think I will be talking more about my business in this instance. <u>I think...eh!</u> What can I say...I think <u>communication</u> is a <u>significant</u> part of <u>every business</u> , like you find that <u>there are people who have offices</u> in different cities and with ICT you are now able to <u>sit around a table</u> and be able to see another person in <u>another place</u> all together. So firstly, I think that you would <u>save you money</u> instead of maybe <u>having to fly</u> to Johannesburg, you can actually have a meeting with the person <u>sitting</u> in the office and I think it ... [pause]... <u>eases</u> ... Like we with emails you are able to <u>share emails</u> . Which means that, instead of having to spend <u>travel money</u> you can <u>easily</u> communicate with that person and you have something that <u>you can file on record</u> as proof Err! What else? ... <u>Internet</u> ... [laughs] what would we be without it? You are able to use it to <u>google research topics</u> ... mean it is just something that makes business <u>easier</u> and I think largely it is a form of <u>communication</u> that makes life	Pronoun shifting Uncertainty *affirming value 'significant' Providing evidence Communicating long distance 'sit around table' Communicating long distance Affirming saving 'money' and time 'fly' Affirming convenience 'sitting in office' Affirming 'easier' Affirming benefit 'sharing emails' Affirming cost saving and convenience Affirming usage * function Affirming dependence on 'internet' Affirming usage 'google' information Affirming convenience and usage

Codes	Line	Transcript: Interview 1	Early open codes | Descriptive code
	17	<u>easier</u> for everybody without <u>spending</u> too much money <u>travelling</u> around”.	Affirming convenience and cost saving and travel
Q18	1 2 3 4 5 6 7 8 9 10 11 12 13	What problems do SMMEs have with ICT? Please elaborate “Err! You see the only problem from my experience is that when you are <u>unable</u> to <u>use</u> ... [laughs] the tool that you have. Like if you have got your <u>staff</u> component that is not that <u>computer literate</u> or unable to use <u>any other forms</u> of communication that you [company] are using, I think that would only be a <u>barrier</u> . Otherwise really it is something that makes <u>life easy</u> ... [smiles]... it's supposed to make things go <u>smoothly</u> . If you are <u>able</u> to use it and you have <u>access</u> , the only <u>barrier</u> would be <u>finances</u> , if you cannot <u>pay</u> for your Internet but you cannot say it is an ICT <u>problem</u> but largely the <u>part of the person</u> wanting to use the service. The <u>major</u> one really, would be you <u>having</u> the computers but <u>not knowing</u> how to <u>use</u> them”.	Staff lacking ICT skill Lacking computer literacy skills, inability to use other 'communication' tools used by 'company' Acknowledging 'barrier' Acknowledging benefit * emotional expression Acknowledging benefit Affirming 'If you are able to use' technology and have access to it *affirms only barrier would be 'finances' technology is not the 'problem' but with end-user 'major problem' user 'having the computer but' Lacking knowledge on 'how to use computer.
Q19	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18	In your own words can you please describe your understanding of the ICT sector? For example, how the sector is structured, applicable legislation and policy. Please elaborate. “As I said earlier, I'm <u>running</u> this business but I am not that into... [hand with <u>two</u> <u>fingers</u> signalling inverted commas]... [pause]... like I remember last week we were <u>experiencing</u> some problems with the Internet, it was slow and it was said <u>some ship</u> had hit something <u>in Egypt</u> and I was like [amazed look] how does that affect us we are so far away [smiling]. So really I <u>don't know</u> <u>much</u> about it [ICT sector], I am kind of an end user if I may put it that way. I have been an end user, even at school I did end user computing. So, as to what happens beyond <u>that</u> I do not know. <u>When the computer stops</u> <u>working</u> I have to get somebody else to come fix it”.	Affirming information gap Non verbal expression *providing evidence Providing evidence 'internet problems' Providing evidence on information gap 'technology' Affirming information gap 'telecommunications' Affirming information gap 'ICT sector' Providing evidence *affirming 'end-user' skills Affirming lack of interest *providing evidence Providing evidence 'somebody else to fix technical problem
		So there is nothing that you have heard being spoken about the ICT Sector? At any platform that you have been? No!	Confirming 'no'
Q20	1 2 3 4 5 6 7 8 9	How are women stimulating entrepreneurship in the ICT sector? Please elaborate. Women like you, your counterparts? [Question repeated – confused look]. About their <u>involvement</u> ? “Well I think these days as you may know, back then certain things especially <u>related to engineering</u> were kind of like [throws both hands up]... <u>this is a men's world</u> ... you know... because if you think about ICT now when you <u>move from the end-user</u> point of view, it is those <u>guys</u> who go to <u>work in jeans</u> because they have to sometimes go under the desk, but now women <u>own</u> IT	Questioning Making assumption * affirming * comparing Providing evidence relating to 'engineering' field Affirming gender imbalance and current state 'ICT' Comparing process*describing 'guys' occupation Gender-based comparison * 'woman owning IT...

Codes	Line	Transcript: Interview 1	Early open codes | Descriptive code
	10 11 12 13 14 15 16 17 18	companies... I know of one down the road [mentions the name] largely owned by woman. The way I see it things have changed. Women are no longer shy to be motor mechanics [laughs] I mean in the IT environment there has been a change from when I was growing up women are kind of into everything they can get into. I think I know a number of women who are IT technicians, are into web designing. I also remember from my school days there were actually few guys than women doing IT".	companies' Providing evidence on companies owned by women Affirming change Affirming 'women no longer shy' *occupation Acknowledging change*comparing evidence Affirming assertive evidence * occupations Affirming women's occupational and skill Providing evidence * comparing process 'schooling' women orientation 'IT'
Q21	1 2 3 4 5 6 7 8 9	Describe ways in which SMME women entrepreneurs put ICT to use as a core product or service. Please elaborate. "I think that is an easy one [laughs]. First, we provide a printing service, at the same time we also use this for our own business purpose like, we generate our own paperwork that is, and we print invoices. We provide an email service at the same time use email to communicate with clients. What about the services displayed over there? We provide an internet café [service, email service, photocopying, binding, Internet, telephone]	Printing Internal use Communication * tool External Internet café
Q22	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23	Describe the enterprise's value chain of business processes, e.g. which relate directly to the delivery of the enterprise's core products or services? Please elaborate? "How do I answer that one? [pause further explanation given by interviewer as question is not too clear] Look at the inputs that generate the outputs of the enterprise's processes that enable the enterprise to deliver its services or products for examples. [Question repeated] Ok lets take printing as an example, we have a person coming with their idea, we develop the concept, e.g. kwaito festival, identify singers get pictures from their USBs or if they don't have, we surf and download pictures develop creative design, sometimes do research via Internet. Currently, we are freelancing our graphic design because at times people look for certain design elements that we do not have in-house expertise. We then design the poster, communicate with the client to get approval and sign off. This can be done via email when unable to come in. Then print the poster. Again coming to the limitations I referred to earlier, depending on the size of the poster ...we have A3Z... and we had to outsource to the bigger guys... we outsource what we cannot print in house to the bigger guys [printers]. In instances were a client especially those in the training business. We sometimes have to type, proof read copy with client and get signoff, before printing and binding and manuals.	questioning * not clear printing process developing 'concept' process communication service process 'download pictures' creative design process* researching information free lancing process 'graphic design providing evidence 'in-house expertise' design process *communication process communication processes printing process taking decision to 'outsource' outsourcing decisions 'bigger guys' providing evidence on 'training business' typing and editing process 'printing and binding' process

Codes	Line	Transcript: Interview 1	Early open codes | Descriptive code
	24 25 26 27 28 29 30 31 32 33	Depending on the project, <u>lamination</u> is a service we offer So basically your service is printing and design? What about those services you mentioned earlier? Not really, it depends... like one of our clients do training in computers... sometimes they type for themselves... <u>we do typing for them</u> and <u>binding</u> of manuals...you undergo the same steps mentioned where you type check with the client before <u>printing</u> and <u>binding</u> the document So it depends on the client some may want <u>printing</u> and or <u>binding</u> some <u>laminating</u> which has its own processes... so not all in the same chain ...differs on what the client wants".	'lamination' service 'typing' service Binding service Printing and binding service Printing and binding or laminating service service
Q23	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16	How often does the enterprise introduce new products or services and what informs the decision to do so? Please elaborate "Ok, it's the <u>market</u> that informs the decisions we take. For example, if we talking about printing, as <u>you may well know</u> , printing does not involve printing on paper only, it may be printing on T-shirt or sling bag and pens that we had to do for a client but ended up <u>outsource our printing</u> because we could not in house... we have an [sic] ZA size. <u>But now we are thinking that this something we can do in house</u> because we are seeing there is a market for this service and based on the <u>opportune gap</u> identified <u>from our outsourced</u> print jobs. It took our <u>printers three weeks to finish the job</u> because they had a load of projects inline. <u>But now there comes the limitation of funds</u> . Would we be able to secure <u>funds to buy equipment?</u> <u>But again when you think about it</u> , instead of you continuing to <u>outsourced</u> services, you could <u>save the money to invest</u> in your <u>own equipment</u> . So I would say it is the <u>market</u> that dictates. If there is a need for it we will do it".	'Market informs the decision'* clients*competition Explaining of 'printing' product line 'paper' Explaining of 'printing' product line 'T-shirts, pens' Providing evidence of decision to outsource Taking decision 'in-house' production Opportunity identified in the market Providing evidence 'identified from outsourcing jobs' Affirming impact of outsourcing on enterprise Funding limitation identified Funding to 'buy equipment' Deciding on action to take 'outsourcing' Deciding on action 'save the money, invest in own equipment' Affirming what influences decision 'market'
Q24	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	What is government currently doing to promote ICT women-driven entrepreneurship development, e.g. legislation, policy, development programmes, etc.? Please elaborate. " <u>I think</u> there is a lot though one has <u>not really gone into reading</u> about them [initiatives]. You know how <u>rushed</u> our life is today you learn about things from the <u>television</u> and you go oh! <u>That is nice, thinking you are going to research this information but you never get to it</u> . I am <u>aware of</u> SEDA [a funding agency which provides financial support to small business] <u>but I have not followed up</u> . <u>I think</u> there is a lot government is <u>doing</u> though there is room for <u>improvement</u> . Like even the <u>Black Economic Empowerment scorecard</u> you will find that there are <u>more points when you are a woman entrepreneur</u> ... err! <u>I think there is a lot</u> that government is <u>doing</u> to <u>make sure that women</u> are given <u>preference</u> to most of the businesses. So I am aware though I have not gone	Assuming * information gap *lack of initiative Time management issue* secondary source of secondary source of information No follow up initiative *Aware of 'funding agency' No follow up initiative Acknowledging room for improvement on action taken by 'government' Affirming improvement -BEE scores Giving more points to 'women entrepreneurs' Explaining process 'more points' Developing apathy *no follow up Initiative 'not gone

Codes	Line	Transcript: Interview 1	Early open codes | Descriptive code
	16 17 18 19 20 21 22	to research. You see in this instance in terms of me <u>benefiting</u> from government support, I would <u>not blame</u> the government for not affording me <u>opportunities [tenders]</u> as I have not dedicated much <u>time</u> to actually tap into the <u>opportunities that are out there</u> . So I would not say government <u>is not doing something</u> , it is me not <u>making use</u> of the <u>opportunities out there at hand</u> ".	to research' Not benefiting from government initiatives Affirming lack of initiative* accessing tenders 'time' management "lack of initiative to find out Information gap*Affirming lack of initiative in following up 'making use' of 'opportunities* No action taken
Q25	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35	What should government do? Please elaborate What would you like to see government doing? [repeating question] Well, I <u>think</u> for example, <u>um!</u> I know the... [Sighs! Hesitant pause and sigh]... You see, one of the things that has been <u>holding me back</u> in terms of trying to <u>go to places</u> like [mentions agency that gives support and technical <u>assistance</u> to SMMEs] is because I <u>do not have time for doing a business plan</u> you see. So, if they [agency] <u>could</u> ... [Pause]... <u>but then again</u> I have <u>not been</u> to their offices... You see, [voice tone picks up] I <u>do not even know</u> if they do business <u>plans free</u> of charge... [soft laugh] you see what I mean. So, it is <u>a bit difficult for me to say</u> <u>government is not doing this</u> , where as, I <u>do not have full information</u> because <u>somebody might be reading this</u> and thinking and... <u>where does she live</u> ... you know... [laugh]... this is South Africa. Something that has been <u>holding me back is finances</u> which I do not have and this is kind of limiting me. But again I <u>have not been</u> to these <u>respective places</u> to see what they can do <u>for me</u> . <u>But</u> again when I look around... I <u>do not see everybody as busy</u> as I am... so I <u>ask myself a question</u> and <u>think to myself</u> [smiling] "OK, if it was so <u>easy why are people struggling</u> so much [laugh] in business?" because I see <u>most of the black businesses open</u> and do not <u>even last for a year</u> they kind of <u>close down</u> . Let me make an <u>example</u> , although I am not offering the travel service now, there was a <u>tender that came out</u> , advertising for travel agencies to be used by government. Now the first thing they asked for was that the service provider <u>should have a net worth of about a million</u> [soft sarcastic laugh] Secondly, be <u>registered</u> with an international travel agency [mentions the name] that does ticketing and the service provider has to <u>have about</u> two hundred and something thousand rand as a deposit for membership fees. Traveling has its own <u>professional body</u> that you <u>must be a member</u> of. But now if you look at it, how <u>many black people, just on the three</u> things I have spoke about will even be able to <u>submit</u> that tender...a net worth of a million [laugh] ... <u>who has that?</u> ... an organisation that <u>wants you to</u> subscribe to asks you to put down two hundred and something thousand. <u>What black person</u> without <u>even going out to women</u> , what <u>black person</u> has that kind of <u>money</u> . So, I think <u>those are the kind of things</u> that our own government... this is our <u>own black government</u> [laugh] that I am talking about... putting [terms and conditions]. Obviously without mentioning names, those [submitting tender] will be <u>big giants</u> that have long been	Uncertain* verbal expressions Affirming non-assertive action 'holding me back' going to 'places' Affirming lack of time to do 'business plan' Expressing expectation 'if * no follow up action lacking information affirming 'not able to say' 'government is not doing this' *affirming lack of information that others might have affirming financial limitations 'finance' affirming lack of initiative to find information comparing self to others 'busy' Rhetoric question - introspection Generalised perception that Black businesses unsustainable Offering evidence on previous experience Offering evidence 'tender' advert travel agent services *tendering requirement Qualifying criteria Accreditation criteria Qualifying requirement standard procedures 'membership' requirement identifying limiting conditions for 'black people' affirming inability to submit tender 'million' rand questioning restricting qualifying criteria Rhetoric question affirming restriction for 'black person'*making gender based and racial comparison Expressing opinion on 'black' government action Affirming restrictive tender requirements set Affirming unequal access to tenders 'big giants'

Codes	Line	Transcript: Interview 1	Early open codes | Descriptive code
	36	in the travel business.	favouring big business
	37	So, I am making this example which I think is a <u>general problem</u> that the <u>black</u>	generalising problem experienced by black business
	38	<u>businesses have</u> . Now that is just <u>black business</u> and not even <u>without getting to</u>	affirming problem experienced by 'black business'
	39	<u>women</u> who have even more challenges <u>than men</u> .	making gender based comparison 'women', 'men'
	40	<u>Even when you ask them</u> [officials issuing tender] what this [travel professional body]	Officials not clear on set tender terms and references
	41	they [government] <u>do not even know a thing about this professional</u> body <u>but have</u>	officials lack of information about accreditation body
	42	<u>put it there on tender</u> [sarcastic laugh] and <u>it has restricted people from doing</u>	Tender specifications not researched* consequence
	43	<u>business</u> [tendering] and	business unable to tender
	44	Again as a <u>black person I believe</u> that most people of the... <u>government</u> , are <u>black</u>	Expressing expectation as a 'black person' of 'black'
	45	<u>people</u> . As they are busy <u>drafting</u> these tender specifications... which are <u>clearly</u>	officials drafting tender specifications
	46	<u>saying that this is going to white people</u> [sarcastic laugh] because [sighs heavily –	Tender specifications restrictive * favouring 'whites'
	47	<u>sarcastic laugh</u>] <u>how many black people have a million in the bank?</u> [sarcastic laugh]	emotional expression*affirming restrictive 'million' tender
	48	Even with <u>us</u> [business owners] in the travel industry... <u>what assets would you have</u>	requirement not matching 'assets' required or 'nature of
	48	<u>really</u> , except for a computer because the <u>nature of the business</u> does not require	business'
	49	you to have big machines or <u>anything that would be worth a million</u>	Affirming 'million' rand restrictive
	50	So, they are <u>practically saying</u> you should have one <u>million</u> in the bank!	Rhetoric question affirming restrictive requirement
	51	So, these are the things that I think <u>government should look at</u> .	Suggesting action that government should take on
	52	Like the things that are kind of <u>restricting</u> . You know how... [big sigh – pause –	restricting tender requirements*emotion expression
	53	<u>sarcastic laugh</u>]... Do you [referring to researcher] know how you are <u>free</u> , but there	Expressing emotions * affirming expectation 'free'
	54	are still things that are <u>chains</u> [sarcastic laugh]...you are free <u>but not free</u>	Affirming unmet expectation 'chains'
	55	[voice louder and shaking head].	Expressing emotions 'rising 'shaking head'
	56	So these are the things <u>government should look into</u> . We see <u>printing tenders</u> every	Expressing expectation of government enabling access to
	57	week but they have these requirements that <u>you must have this</u> ... we will come for a	'printing tenders'*loosening restrictions
	58	<u>site inspection</u> to see if your <u>office has this and that</u> ... <u>where do they think we</u> [the	Affirming restrictive requirements
	59	enterprise] <u>take that from?</u> Because they <u>should provide</u> ... <u>like</u> ... <u>in the construction</u>	Expressing expectation* like in 'construction' which
	60	environment... access to <u>funding</u> on obtaining a tender. Because if <u>I could get a</u>	provides access to funding *expectation 'get tender'
	61	<u>tender then I can go to</u> [mentions big printing company] get a <u>bigger printer but</u>	expressing decision to get 'bigger printer'
	62	<u>right now</u> I cannot... I have to pay about <u>six thousand rand a month</u> [rental]. So, I	Affirming inability to afford equipment
	63	think they [government] <u>should start</u> creating <u>funding opportunities</u> sometimes	Suggestion 'creating funding opportunities'
	67	people have to <u>partner with white</u> people [companies] because <u>the requirements</u> of	Stringent qualifying criteria result in partnerships with 'white
	68	<u>the very same government</u> in their <u>tendering qualification process</u> is kind of <u>too</u>	people'*affirming tendering restrictions
	69	<u>high</u> [restrictive] for us.	'too high'
	70	And do you know <u>how they</u> [big printing company] <u>kill us</u> as well?	Affirming hiring equipment consequences
	71	You <u>do a job</u> for them [government] and you have to <u>borrow money</u> everywhere	Slow turnaround payment consequences
	72	<u>because you do not have it</u> ... then they <u>take for ever to pay</u> you, then they <u>lose your</u>	Implications of late payment*affirming careless supply chain
	73	<u>invoice</u> [high pitched laugh] and you have to print, they lose this [invoice]... and	administration processes 'invoice'
	74	then tell you at the end of the day that <u>black businesses</u> do not provide a <u>good</u>	disagreeing on assertion made by officials 'black business
	75	<u>service</u> .	do not provide a good service'
	76	But even if I had twenty thousand rand only and had to use it for printing, I still	
	77	would have to pay for this machine [hired printer] and return it... whilst you	Affirming inability to tender sustainably *delayed
	78	[government] <u>sit with my invoice</u> for the next three months... and then you come	invoicing
	79	back you [government] wanting me to spend another forty thousand rand for	

Codes	Line	Transcript: Interview 1	Early open codes | Descriptive code
	80 81 82 83 84	another job... where will I get this money? So I think the government should improve on this aspect. The very same <u>black people</u> [government officials] are the ones <u>killing black people</u> [businesses] and Unfortunately in most of these offices you will find that there are <u>ladies</u> ... I do not know [heavy sigh]... but that is the <u>reality</u> ".	Expectation 'improve' payment turnaround Affirming situation lack of support from government Expressing expectation not met Expressing emotions, affirming current status 'reality'
Q26	1 2 3 4 5 6 7 8 9 10 11 12 13 14	What is private sector doing to promote ICT women-driven entrepreneurship development, e.g. structured and unstructured support programmes and initiatives? Please elaborate. "Actually I have worked for NGOs. I know that <u>some of them</u> are private entities that are currently trying to assist the government in terms of <u>service delivery</u> . Other than NGOs <u>I do not know of any private sector assistance offered</u> . I am not saying there is no assistance but really [sigh] You see us black people [private businesses] <u>we do not know how to help each other</u> . You se [sic], what <u>white people do</u> that I have observed...like if you are running a bed and breakfast business...I am your friend and I have a shuttle service...and another friend has a travel agency... <u>white people give business to one another</u> . They look at the <u>clients needs</u> like flight, accommodation and airport shuttle service and each friend services the same client.	Confirming NGO sector experience Acknowledging private sector assistance with government 'service delivery' Confirming unaware of private sector assistance Expressed emotion*opinion about 'black' business Expectations of B2B – 'black' business Offering evidence 'white' business practice Affirming B2B 'white' businesses practice Explaining service value chain 'client needs' Affirming B2B practice
Q27	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22	What more should the private sector do? Please elaborate. Let me paint you a picture, I think when white people [business owners] meet, like <u>going out</u> on Friday night, it is not all about soccer ...maybe partly...but they look at how they can give each other business may be grow each other, <u>support each other</u> . This support is lacking among blacks. Look at [mentions a suburb previously strictly a residential area, turning into business are] how people [blacks] are converting their houses into <u>bed and</u> <u>breakfast businesses</u> and the mushrooming of small business. ...I am not saying blacks should trade with blacks but the very same black person <u>will</u> <u>leave your company and go elsewhere</u> ...wasting their fuel to print what I can print. Well, it could be they do not know me or the services that I offer or perhaps see this tiny shop and probably think it's a waste of time coming in, I do not know. But if we [business –to-business] were creating <u>networks</u> you know, whether they be <u>women forums</u> where people get to know each other, grow each other, knowing what our businesses offer and even supporting each other in business. I think that is the only way our <u>business can grow</u> . <u>Just to give an example</u> , one of the offices of an organisation I once worked for, we <u>moved into new offices</u> , a converted house, and discovered that the company that <u>did the construction belonged to the son</u> of the owner our company. Shortly after moving into the new offices a decision was taken that we have <u>a teambuilding</u> session. Whilst we were <u>thinking of whom to facilitate the session the owner told us</u>	Providing evidence Affirming networking business platforms Affirming B2B activity Affirming B2B support Affirming 'support' lacking in black business Providing evidence acknowledging the black business 'mushrooming' Affirming expectation of black B2B Affirming lack of black B2B activity Assuming the cause of action Assuming the cause of action Expressed expectation of B2B networking platforms 'women' B2B networking platforms Affirming need for B2B support Affirming benefits of proposed activity Providing evidence of learning experience from B2B Explaining value chain processes moving into office Value chain activity * B2B Decision making Value chain activity

Codes	Line	Transcript: Interview 1	Early open codes | Descriptive code
	23	<u>one of his sons was doing a teambuilding session</u> at [mentions the area].	B2B
	24	We sourced his services and started thinking about who would do the catering	
	25	and <u>it turned out the wife does catering</u> . You see [broad smile] the money did not	B2B
	26	go out of the family.	
	27	I think this is how we [private business], should grow each other as businesses.	Affirming need for private business to support 'grow'
	28	If we can network more like, at another <u>breakfast</u> meeting that I went to [mentions	Providing evidence of 'breakfast meeting' platform
	29	the name of a business association] which is kind of like a forum were business	
	30	people in the area [mentions the local municipal area] could <u>meet and talk</u> about	Suggesting proposed activity 'meet and talk'
	31	things and sometimes <u>invite the municipality</u> .	'invite local municipality'
	32	I think the private sector needs to encourage these platforms so people [business]	Recommending private needs to take initiate Explaining
	33	know each other, know where to get services, know <u>emerging businesses</u> , see how	network benefits
	34	to grow each other do meetings, <u>socialise</u> and give each other <u>clean money</u> rather	Explaining network purpose and B2B moral values 'clean
	35	the other money that we give each other".	money'
		The end	
		Thank you for time.	

APPENDIX J TABLE 1: SAMPLE – INTERVIEW PERSONAL NOTES

Date: 8/04

Code: Interview 1



Personal notes: Interview

Location:

Ice breaker:

Weather

News article

Referrals

Thank participant for seeing you this late

Daily Dispatch article

Observations:

Venue

Time

Verbal

Non-verbal

Attitude: positive / negative / assertive non-assertive

In town

Late rescheduling 17:30

Emotions displayed involuntarily constant sighing, short laughs – sarcastic?

Despondent? Where is this attitude coming from? Expectations not met? What has she done? Follow up, end of interview.

Despondent? Lots of non-verbal gestures? What is going on here? What is the meaning communicated here?

Reflections:

What to improve

Transcript

Ideas

Next on list

Timing – took too long: need to control pace next Time.

Transcribe immediately.

Bribe? What's going on here, gender differentials? Demographics?

Theoretical sampling ICT training provider.

Action:

Immediate

Later

Alter 22, 23, and 24

APPENDIX J TABLE 2: SAMPLE PRE-DATA COLLECTION

Date: 20/11

Code: ADM-3



Personal notes

Location: EL

Action:

Make sure interview contact register is verified – need to stay a day or two in PE to talk to the chambers, ECDC, SEDA and go from street-to-street to identify ICT enterprises to add to the contact list.

Admin:

Filing

Appointments

Correspondence

Send letters of request for access to ICT SMME database.

Reflections:

Day-to-day

Weekly

Visit to OR Tambo district municipality not worth it. I could only find 2 ICT enterprises owned by women entrepreneurs, lots of enterprises are owned by men? What's going on here?

Personal development:

Identify research workshops, conferences to attend.

Supervisor has suggested UNISA research workshops– need to attend.

APPENDIX K TABLE 1: METHODOLOGICAL MEMO – PRE-DATA COLLECTION

Date: 26/11

Code: PDC-26



Memo: Pre data collection

Location: EL

Literature:

Research Question

Methodology

Objectivism vs. subjectivism

Refine definitions

Reflect on research interest and questions and decide which method to adopt, (e.g. Glaser & Strauss & Corbin) suitable and in line with MGT including the epistemology of the study.

Pre-literature control, confine within context of research interest and questions. Identify types of data sources to consult, e.g. researched studies. Theoretical framework?

Need for balancing tension between objectivity and subjectivity meaning I have to “bracket” my thoughts based on being an SMME

Refine the ICT vs ICTs definitions.

Interview guide:

Structure

Types of questions

Length

Questioning technique:

How, what, why, where, who, when

Decision taken to conduct semi-structured in-depth interviews

Are questions addressing research questions? Yes!

A bit long but short questions flow, just concerned about being too broad. I need to zoom into key questions, need to consult an academic to look at the interview guide.

Reflections:

Sample

Decision taken to conduct interviews in BCM and NMM metropolitan municipalities.

Need to consult government department, business chambers, or maybe send out an advert, or go from street to street as I can't find participants.

Action:

Immediate

Later

Follow-up on request for database of ICT enterprises by setting up meetings with officials as the email system is not effective.

Database of stakeholders e.g. ISETT SETA, SEDA, ECDC has a limited list of enterprises available, most not fitting inclusion criteria.

Put a request for referrals as a standard item on personal notes.

APPENDIX K TABLE 2: METHODOLOGICAL MEMO – INTERVIEW – BEFORE AND AFTER

Date: 8/04

Code: Interview 1



Memo: Interview – before and after

Location:

Ice breaker:

Weather	Thank participant for seeing you this late
News article	Make reference to the Daily Dispatch article (BBBEE and SMMEs)
Referrals	

Observations:

Venue	In town
Time	Late rescheduling 17H30
Verbal	Emotions displayed include involuntarily constant sighing, short laughs – sarcastic?
Non-verbal	Despondent? Lots of non-verbal gestures? What is going on here? What is the meaning communicated here?
Attitude:	Where is this despondent attitude coming from? Expectations not met? What has
positive/negative/assertive	she done in response to them not being met?
non-assertive	Follow up end of interview to get an understanding.

Reflections:

What to improve	Timing – took too long: need to control pace next time
Transcript	Transcribe immediately – whilst memory is fresh
Ideas	The word bribe is repeated? What's going on here? Are there gender differentials?
Next on list	Look at the demographics to see if anything relates to bribing. Theoretical sampling of an ICT training provider

Action:

Immediate	Alter 22 & 23 & 24
Later	

APPENDIX K TABLE 3: SAMPLE METHODOLOGICAL MEMOS – EARLY OPEN CODING

Date: 8/04

Code: Interview 1



Memo – early open coding

Location:

Transcription:

Interview guide

Interpretation

Member checking

Transcript of pilot interview 001: Few questions to alter, taking too long to finish – was taxing (24hrs)

Challenging – not too sure whether others will interpret the same.

Script emailed for verification on 10/05

Coding:

In vivo codes

Emerging concepts

Comparisons

Categories / properties

Depending a bit on in vivo codes. Concerned about overly describing. Line-by-line is taxing but I have to immerse myself in the data. Will perfect coding with time.

Can improve on coding procedure, code Interview 2 using gerund – Charmaz?

Similarities and variations: develop template to illustrate differences.

The concepts funding, marketing, gender sensitivity, competition are emerging. There is an information gap re participant's knowledge about the ICT sector – surfacing in a couple of questions asked.

Reflections:

Conceptualisation

Relationships

Method / procedures

Saturation

Theoretical sampling

Need to improve on this. Consult Strauss and Corbin (1998)?

Identified with ease.

Convert pilot interview into actual sample. Make changes to Q23, 24, and 25.

A number of gaps in information surfacing. Need for theoretical sampling.

Theoretical sampling – maybe in different industry and SMMEs in business for 3 – 5 years. Do a background check on the ICT enterprise before conducting the interview to maintain consistency in the application of inclusion and exclusion criteria to avoid compromising the research findings from a credibility point of view.

Action:

Immediate

Later

Review contact register and check out referrals.

APPENDIX L: THE EMERGING CORE CATEGORIES

Categories generated during Pattern coding (axial coding)	Theory condensation (selective coding): Core categories	Theme
Women experience gender-based discrimination	Recognise gender-based discrimination	<p>Socio-cultural gender role expectations</p> <p>Conditions:</p> <ul style="list-style-type: none"> • Women judged when conducting business meetings after hours and as being incompetent • Domesticated role of female entrepreneurs • Men orchestrate women away from networking platforms • Women entrepreneurs are not recognised by industry • Gender segregation; women are discouraged from pursuing career aspirations <p>Consequences:</p> <ul style="list-style-type: none"> • Experience difficulties in marketing businesses after hours through business relationships • Multi-tasking, work and family responsibilities • Advocate for inclusion in networking platforms • Penetrate environments traditionally perceived as men's world • Limited career advancement opportunities
	Respond to gender-based discrimination	<p>Conditions:</p> <ul style="list-style-type: none"> • Women multi-task, work and family responsibilities • Women empower themselves and others, e.g. 'staff', 'community' • Women-owned ICT enterprises mushroom <p>Consequences:</p> <ul style="list-style-type: none"> • Women entrepreneurs are balancing work and domestic responsibilities • Women upgrade ICT skills and business skills • Venture into technical environments • Economic activity
Women experience gender-based discrimination	Recognise gender-based discrimination	<p>Gender-based career differences</p> <p>Conditions:</p> <ul style="list-style-type: none"> • Delineate women-orientated skills and men-orientated skills • ICT sector is predominantly male-dominated • Underrepresentation of women in key ICT positions • Increasing overrepresentation of women in non-professional ICT occupations • Stereotypes held about women's ability to run an ICT enterprise is undermined • Women do not have decision-making power • Becoming more assertive in stamping out gender-based stereotyping <p>Consequences:</p>

Categories generated during Pattern coding (axial coding)	Theory condensation (selective coding): Core categories	Theme
		<ul style="list-style-type: none"> • Enforce gender stereotypes, 'men's' environment • Penetrate technical environment predominantly occupied by men • Self-empowerment in ICT skills and mentorship through incubation programme • Take assertive action in making their voice heard • Young graduates become leaders of the next generation in the ICT sector • Increase number of women who occupy senior management and core ICT positions • Women entrepreneurs nurture the talent • 'Staff' through mentoring • Women have to prove their capacity • More women-owned businesses mushroom
Women experience gender-based discrimination	Respond to gender-based discrimination	<p>Conditions: Increase overrepresentation of women in non-ICT occupations</p> <p>Consequences:</p> <ul style="list-style-type: none"> • Forced to find employment in 'corporate world' as opposed to 'men' who have the opportunity to 'study further' • Women occupations are increasingly associated with 'administrative creativity and men with technical orientation • Inability to contribute to decisions in terms of operations of the organisation • Decrease underrepresentation • Become more assertive in stamping out gender-based stereotyping, 'it's a men's club', 'boys club', 'men's game' • Women's marginalisation from ICTs • Women empower themselves
	Recognising gender-based discrimination	<p>Experience gender-based inequalities in the workplace</p> <p>Conditions:</p> <ul style="list-style-type: none"> • Inequality in working conditions • Underrepresentation of women in key positions • Women lack workplace experience compared to men • Unacceptability of women as equal working partners • Women's ability is questioned • Women do not have decision making power in ICT • Widen the gap between rural and urban access to ICT • Innovation levels are low

Categories generated during Pattern coding (axial coding)	Theory condensation (selective coding): Core categories	Theme
		<p>Consequences</p> <ul style="list-style-type: none"> • Not competitive enough like men to earn high salaries • Women's voices are not heard • Inequalities in accessing funding • Marginalise women from economic mainstream of the ICT sector • Understand significant role of ICT in business • Low levels of innovation • Women-owned ICT enterprise lack R & D and not standing a chance to compete with big business
Women experience gender-based discrimination	Respond to gender-based discrimination	<p>Conditions:</p> <ul style="list-style-type: none"> • Take assertive action in self-development by upgrading skills • Take initiative in empowering rural communities in ICT skills • Women entrepreneurs demonstrate assertive action in penetrating core technical environments • Women work twice as hard • Advocate for change by government and the private sector to recognise them as business owners <p>Consequences</p> <ul style="list-style-type: none"> • Experience low motivation • Flexibility in stringent administrative requirements • Possibilities of opportunities for career advancement through ICT skills upgrade • Rural community create employment opportunities • Increased entrepreneurial activity in rural areas • Widen gap between rural and urban SMMEs in terms of marginalisation from ICT
	Recognise gender-based discrimination	<p>Experiencing educational differences</p> <p>Conditions:</p> <ul style="list-style-type: none"> • Inequalities in accessing career advancement opportunities • Underrepresentation of women in key positions • Women lack workplace experience compared to men • Unacceptability of women as equal working partners • Women's ability is questioned • Create mentors in ICT sector • Women do not have decision making power in ICT <p>Consequences:</p>

Categories generated during Pattern coding (axial coding)	Theory condensation (selective coding): Core categories	Theme
		<ul style="list-style-type: none"> • Take assertive action to upgrade ICT and business management skills • Penetrate core technical environments • Work twice as hard as men • Advocate for change by government and the private sector
Women experience gender-based discrimination	Respond to gender-based discrimination	<p>Conditions:</p> <ul style="list-style-type: none"> • Take assertive action in self-development by upgrading ICT skills • Women entrepreneurs demonstrate assertive action in penetrating core technical environments <p>Consequences:</p> <ul style="list-style-type: none"> • Women infiltrate ICT space
	Recognise gender-based discrimination	<p>Exposed to gender-based sexual harassment</p> <p>Conditions:</p> <ul style="list-style-type: none"> • Women are subjected to 'sexual innuendos' in exchange for tender awarded • Subjected to unwelcoming 'sexual innuendos' from men in networking platforms • Bribing tendencies by government officials <p>Consequences:</p> <ul style="list-style-type: none"> • Women shy away from pursuing tender opportunities • Widen inequalities to access information that could enable women to benefit from available resources and economic opportunities • Economic marginalisation • Bias in tender adjudication processes • Not doing anything about 'sexual innuendos'
	Respond to gender-based discrimination	<p>Experience difficulty in accessing funding</p> <p>Conditions:</p> <ul style="list-style-type: none"> • Women advocate for transparency in procurement processes • Relaxation of restrictive loan application requirements • Late turn around payment period <p>Consequence:</p> <ul style="list-style-type: none"> • Bring to an end the 'corrupt' behaviour by officials • Relaxation of restrictive tender requirements • Relaxation of restrictive loan requirements
Women experience gender-based discrimination	Recognise gender-based discrimination	<p>Lack initiative in following up on business related information</p> <p>Conditions:</p> <ul style="list-style-type: none"> • Do not know where or how to get funding • Government does not recognise women as 'business owners' • Slow change in government action

Categories generated during Pattern coding (axial coding)	Theory condensation (selective coding): Core categories	Theme
		<ul style="list-style-type: none"> • Lack of initiative in following up on information obtained from secondary sources Consequences: <ul style="list-style-type: none"> • Lack access to resources • Advocate for change by government • Low motivation
	Respond to gender-based discrimination	Conditions: <ul style="list-style-type: none"> • Develop apathy • Experience low motivation Consequences: <ul style="list-style-type: none"> • Lack access to resources
Develop apathy	Recognise gender-based discrimination	Quickly give up on business opportunities, especially when faced with challenges Conditions: <ul style="list-style-type: none"> • Lack access to resources, information is not readily available • ICT cost (online) a barrier to accessing government offices • Women entrepreneurs have limited scope in ICT skills • Lack orientation of ICT sector • Lack access to funding Consequences: <ul style="list-style-type: none"> • Low motivation, no role models • Lack initiative to following up on business-related information
	Respond to gender-based discrimination	Conditions: <ul style="list-style-type: none"> • Lack initiative to following up on business related information • Experience low motivation • Take assertive action to develop self Consequences <ul style="list-style-type: none"> • Advocate for government and the private sector to sponsor training, workshops, seminars
	Recognise gender-based discrimination	Low motivation Conditions: <ul style="list-style-type: none"> • Supply chain is not doing enough to promote B-BBEE • ICT enterprises face financial constraints • Women do not benefit from government and private sector initiatives Consequences: <ul style="list-style-type: none"> • Women do not benefit from BEE scoring point system • Supply chain is not doing enough to promote B-BBEE • Women miss out on business opportunities • Economic marginalisation

Categories generated during Pattern coding (axial coding)	Theory condensation (selective coding): Core categories	Theme
		<ul style="list-style-type: none"> • Develop apathy
	Respond to gender-based discrimination	<p>Conditions:</p> <ul style="list-style-type: none"> • Develop apathy • Do not benefit from government and private sector initiatives • Advocate for change by government and the private sector <p>Consequence:</p> <ul style="list-style-type: none"> • Lack initiative to follow up on business related information • Experience gender-based economic marginalisation • Advocate for availability of tender opportunities

APPENDIX M: THE MICTSETA SIC CODE LIST

SIC	Description	Sub-sector
5791	Manufacture of Alarm Systems	Electronics
75200	Telecommunication	Telecommunications
75201	Wired Telecommunication Carriers Telegraph	Telecommunications
75202	Television Broadcasting, Television and Radio Signal Distribution Television and Radio Signal Distribution	Telecommunications
75203	Cable Networks and Programme Distribution Cable TV Services	Telecommunications
75204	Telephone	Telecommunications
75205	Wireless Telecommunication Carriers except Satellite Radiotelephone	Telecommunications
75209	Television Broadcasting	Telecommunications
75211	Telecommunications and Wired Telecommunication Carriers	Telecommunications
75212	Paging	Telecommunications
75213	Cellular and Other Wireless Telecommunications	Telecommunications
75214	Satellite Telecommunications	Telecommunications
75215	Other Telecommunications	Telecommunications
75216	Security Systems Services except Locksmiths	Electronics
75217	Office Automation, Office Machinery and Equipment Rental Leasing including Installation and Maintenance	Electronics
86001	Software Publishers Pre-packed Software	Information Technology
86002	Computer Systems Design and Related Services Computer Integrated Design	Information Technology
86003	Computer Facilities Management Services	Information Technology
86004	Electronic and Precision Equipment Repair and Maintenance Computer Maintenance and Repairs	Electronics
86005	Computer Rental and Leasing	Information Technology
86006	Computer Programming Services	Information Technology
86007	Other Computer Related Activities	Information Technology
86008	Call Centre Systems Development and Installations Activities Call Centre and Customer Relationship Management System Development	Information Technology
86009	Computer System Design Services and Integrated Solutions	Information Technology
86010	Consumer Electronics Repair and Maintenance	Electronics
86011	Computer and Office Machine Repair, Maintenance and Support Services	Information Technology
86012	Communication Equipment Repair and Maintenance	Telecommunications
86013	Other Electronic and Precision Equipment Repair and Maintenance	Electronics
86014	Repair and Maintenance of Electronic Marine Equipment	Electronics
87142	Research and Development of Electronic Equipment and Systems	Electronics
87143	Import and Product Integration of Pre-Manufactured Electronic It and Telecommunications Equipment	Electronics
87146	Research and Development In The Physical and Engineering Sciences	Electronics
87147	Electronics Importation and Product Integration of Pre- Manufactured Electronics It and Telecommunications Equipment	Electronics
87148	Telecommunications Importation and Product Integration of Pre- Manufactured Electronics It and Telecommunications Equipment	Telecommunications
96131	Providing Radio and Television Transmission Signals	Telecommunications

SIC	Description	Sub-sector
96133	Installation, Maintenance and Repair of Tracking Devices For Cars	Electronics
96110	Motion Picture and Video Production and Distribution	Electronic Media and Film
96112	Related Activities - Film and Tape Renting To Other Industries, Booking, Delivery and Storage	Electronic Media and Film
96113	Film and Video Reproduction	Electronic Media and Film
96123	Bioscope Cafes	Electronic Media and Film
96132	Production and Broadcast of Radio and Television Broadcast Content	Electronic Media and Film
96200	News Agency Activities	Electronic Media and Film
88310	Advertising	Advertising
88311	Activities of Advertising Agents	Advertising
88313	Commercial Design	Advertising
88940	Photographic Activities	Electronic Media and Film

Source: Government Notice, No. 33756, Government Gazette, 11 November 2010

APPENDIX N:

Analysed open-ended questions

Table 1: Participants' understanding of entrepreneurship

Table 2: Problems encountered by SMMEs

Table 3: Challenges faced by women entrepreneurs

Table 4: Participants' understanding of the term ICT

Table 5: Role of ICT in business

Table 6: Problems SMMEs have in relation to ICT application in their businesses

Table 7: Participants' understanding of ICT legislation and policy

Table 8: How women are stimulating or advancing the ICT sector

Table 9: How the ICT entrepreneurs use ICT as a core product or service in SMMEs

Table 10: Enterprises' value chain of business processes

Table 11: The frequency of introducing new products or services by the SMMEs

Table 12: Role of government in promoting ICT women-driven entrepreneurship

Table 13: Additional requirements of the women entrepreneurs from government to promote women participation in the ICT sector

Table 14: Role of the private sector to promote ICT women-driven entrepreneurship

Table 15: Role of the private sector to further develop women in the ICT sector

Table 1: Participants' understanding of entrepreneurship

Part II: Open-ended questions		
Section C: Business knowledge information		
Q14 In your own understanding, how would you define the term entrepreneurship? Please elaborate.		Participant's response (category / property / dimension / concept generated)
Interview 1	Woman entrepreneur	Category: Business owner Property: Occupation Dimension: Operating activities
Interview 2	Woman entrepreneur	Category: Business owner Property: Having an idea Dimension: A big venture Sub-dimension: Source of employment
Interview 3	Woman entrepreneur	Concepts: Trading; selling products to people
Interview 4	Private sector expert	Category: Employer Property: Creating employment for self and others Dimension: Identifying a need in the market
Interview 5	Woman entrepreneur	Category: Driven by a vision and mission Property 1: Sustainable professional entity Dimension 1: Offering training Dimension 2: Sound financial planning Dimension 3: Quality assurance standards Sub-dimension 1: Research Sub-dimension 2: Risk management Property 2: Rural development empowerment Dimension: Poverty alleviation and job creation
Interview 6	Woman entrepreneur	Concepts: Entrepreneurial person, being innovative, somebody looking out for the environment, seeing opportunities in the market place, creating something extraordinary, having the drive and passion
Interview 7	Woman entrepreneur	Category: Gender stereotyping Property: Business owner Dimension: Not recognised in the industry
Interview 8	Woman entrepreneur	Concepts: Generating profit, having financial sustainability to run business
Interview 9	Woman entrepreneur	Category: Understanding the needs of the market Property: Coming up with ideas on how to address the needs Dimensions 1: Developing people, focusing on making a difference for the people Dimension 2: generating profit
Interview 10	Government expert	Concepts: Entrepreneurial person, creating something extraordinary, challenging the normal, doing things differently, creating new ways, looking outside the box, not depending on conventional thinking, introducing different skills
Interview 11	Woman entrepreneur	Concepts: Business owner, risk taker
Interview 12	Woman entrepreneur	Concepts: Art of creating a business, having business acumen, must have human and capital resources to run the business
Interview 13	Woman entrepreneur	Concepts: Someone who develops ideas, has the guts to establish idea as a business venture
Interview 14	Woman entrepreneur	Concept: Someone with capacity to manage business

Table 2: Problems encountered by SMMEs

Part II: Open-ended questions		
Section C: Business knowledge information		
Q15 What problems in your view are encountered most by SMMEs? Please elaborate.		Participant's Response (category / property / dimension / concept generated)
Interview 1	Woman entrepreneur	Category 1: Experiencing difficulty in accessing capital Property1: Limited operating budget Dimension 1: Stock material Dimension 2: Staff salaries Category 2: Local competition Property 1: New entrant Dimension: Limited marketing budget Sub-dimension 1: Ineffective marketing activities Sub-dimension 2: Limited customer market Property 2: Established ICT enterprise Dimension: Customer market share Sub-dimension: Competitive advantage
Interview 2	Woman entrepreneur	Category 1: Difficulty in accessing funding Property: Barriers Dimension 1: Poor credit rating Dimension 2: Lacking collateral Category 2: Developing staff capacity Property 1: Lacking business knowledge and skills Dimension: Not familiar with business operations in the area of 'finance', management', and 'employment regulations Property 2: Lacking human resource capital Dimension 1: Lacking workplace experience Dimension 2: Inability to create sustainable employment, not familiar with financial
Interview 3	Woman entrepreneur	Concept: High overhead costs
Interview 4	Private sector expert	Category: Difficulty in accessing funding Property: Lacking marketing skills Dimension: Inability to survive competition
Interview 5	Woman entrepreneur	Category 1: Experiencing difficulty in accessing funding Property : Not understanding documentation requirements Dimension: Vagueness of information presented in documents Category 2: Lacking self-motivation Property 1: Developing staff Dimension: Getting staff into the ICT sector Property 2: Developing learners Dimension : Giving staff chances you did not get
Interview 6	Woman entrepreneur	Category: Globalisation Property: SMME support lacking locally Dimension: SMME not trusted
Interview 7	Woman entrepreneur	Concepts: Finance for equipment inaccessible, no financials to present to banks
Interview 8	Woman entrepreneur	Concepts: Financial struggles, women are cautious in taking risk, offering a limited range of products or services, lacking independent decision-making capacity
Interview 9	Woman entrepreneur	Category: The Eastern Cape ICT market Property 1: Private company preferred supplier list Dimension 1: Private sector already has its own suppliers Dimension 2: National companies already have contracts with local companies Property 2: Government suppliers Dimension 1: Established companies having: Sub-category 1: High overhead costs sub-category 2: Standard market mark-up rate on products Sub-category 3: Track record Dimension 1: New entrant 'black SMMEs' Sub-dimension : Having government connections Dimension 2: Getting inside information from government Dimension 3: Responding competitively to requests for

Part II: Open-ended questions		
Section C: Business knowledge information		
Q15 What problems in your view are encountered most by SMMEs? Please elaborate.	Participant's Response (category / property / dimension / concept generated)	
		quotations compared to established 'existing' company Dimension 4: Mark down the price against a standard market margin Dimension 5: 'Are the ones who get the work' and 'destabilising the market'.
Interview 10	Government expert	Category: Cash flow problems Property: SMME prices not competitive Dimension: Have to inflate their prices in order to remain competitive Sub-dimension: Government taking action to address inequalities between small and big business Concepts: SMMEs providing quality jobs, lacking human resource capacity
Interview 11	Woman entrepreneur	Category: Technology stereotypes Property: Do not seem to understand that technology is vital nowadays Dimension: Ineffective marketing Sub-dimension: Need to 'educate our community'
Interview 12	Woman entrepreneur	Concepts: Not knowing how to start a business, know benefits accrued from registering a business as an NPO, not affording to employ qualified professionals, not knowing where to get money like seed money
Interview 13	Woman entrepreneur	Inability to manage finances
Interview 14	Woman entrepreneur	Lacking business mentors for guidance

Table 3: Challenges faced by women entrepreneurs

Part II: Open-ended questions		
Section C: Business knowledge information		
Q16 What in your opinion are the challenges faced by women as entrepreneurs? Please elaborate.		Participant's response (category / property / dimension / concept generated)
Interview 1	Woman entrepreneur	<p>Category 1: Ineffective marketing Property: Product diversification decisions influenced by miscalculated marketing decisions Dimension: Considering diversifying into new segments A and B Sub-dimension: Competitor eminent competition for the new entrant Concept : Local competition Category 2: Competitor Property: Product diversification advantage Dimension: Fair customer market share Category 3: Gender sensitivity (women aware of existing gender biases) Property 1: Socio-cultural gender role expectations Dimension: Gender role stereotyping Property 2: Gender-based discrimination Dimension: Gender-based economic marginalisation Property 3: Partially met SMME woman entrepreneurs expectations</p> <p>Dimension: Government taking action Concept : Low motivation Concept: Local competition</p>
Interview 2	Woman entrepreneur	<p>Category: Gender sensitivity (women aware of existing gender biases) Property 1: Gender stereotyping Dimension 1: 'Better employers compared to women' Dimension 2: Women were not given the 'credit they deserve' Sub-dimension: Still questioned Dimension 3: Women developing apathy Property 2: Gender role differences Dimension 1: Time restrictions Dimension 2: Women multi-tasking</p>
Interview 3	Private sector expert	Concept: Competition
Interview 4	Woman entrepreneur	<p>Category: Gender-based discrimination Property: Women's economic marginalisation Dimension 1: 'Patriarchy' and 'males only club' attitude from men Dimension 2: Sexual innuendos Dimension 3: Men having differing moral scales Sub-dimensions: Immorality in business ethics</p>
Interview 5	Woman entrepreneur	<p>Category: Gender sensitivity (women aware of existing gender biases) Property: Gender stereotypes Dimension 1: Gender-based career choices Dimension 2: Socio-cultural gender role expectations Dimension 3: Gender-based education differences Dimension 4: Workplace gender inequalities Sub-dimension 1: Inequalities in earnings between women and men Sub-dimension 2: Maternal obligations</p>
Interview 6	Woman entrepreneur	<p>Category: Lack of women representation Property: Gender-based career differences Dimension: ICT not a career choice</p>
Interview 7	Woman entrepreneur	<p>Category: Women lacking recognition Property: Needing gender disaggregated ICT sector data Dimension: Lack of 'effort' made by the women business associations in directing attention to the entrepreneur behind the ICT enterprise Sub-dimension: Need to develop profile of women</p>

Part II: Open-ended questions		
Section C: Business knowledge information		
Q16 What in your opinion are the challenges faced by women as entrepreneurs? Please elaborate.		Participant's response (category / property / dimension / concept generated)
		entrepreneurs in sector
Interview 8	Woman entrepreneur	Category: Women lacking recognition Property: Not being taken seriously by family and colleagues Dimension: Women not recognising and praising themselves Concepts: Women balancing family life and business Concept: Networking friendlier for males than for women who are subjected to sexual harassment behaviour
Interview 9	Government expert	Concept: Women exploited through partnership ventures Concept: Late payment turnaround time Concept: Women not benefiting from BEE scorecard Concept: Condemning of bribing by officials Concept: Getting inside information from government Concept: Request for quotation procedures marginalising women Concept: Men asking for sexual favours
Interview 10	Woman entrepreneur	Concept: Women looked down upon and undermined
Interview 11	Woman entrepreneur	Category: Gender sensitivity (women aware of existing gender biases) Property: Women entrepreneurs taking assertive action Dimension 1: Women are successfully operating their own businesses Dimension 2: Gender stereotypes Sub-dimension: Women ICT enterprises surviving in a sector dominantly pursued by young men doing IT
Interview 12	Woman entrepreneur	Category 1: Gender-based stereotyping Property: Men not expecting women to own ICT enterprise Dimension: Women not expected be in managerial positions Sub-dimension: Women boxed into secretarial responsibilities Category 2: Women experiencing difficulty in accessing funding Property: No financial support given to women Dimension: Women are expected to bribe officials to get funding Concept: Balancing family and work obligations
Interview 13	Woman entrepreneur	Category: Gender stereotyping Property: Predominantly male-dominated career path Dimension: Women forced to work twice as hard to prove themselves
Interview14	Woman entrepreneur	Concept: Women lacking networking skills

Table 4: Participants' understanding of the term ICT

Part II: Open-ended questions		
Section C: Business knowledge information		
Q17 What is your understanding of the term ICT? Please elaborate		Participant's response (category / property / dimension / concept generated)
Interview 1	Woman entrepreneur	Concept: Technology awareness gap Concept: Skyping
Interview 2	Woman entrepreneur	Concept: Information in the form of raw or processed data Concept: Communication in new ways using gadgets.
Interview 3	Woman entrepreneur	Concept: A means of communication Concept: Communication tool
Interview 4	Private sector expert	Concept: Communication comprising 'computers' (hardware) Concept: Radio and cell phones (networks) Concept: Processing, managing, and communicating information
Interview 5	Woman entrepreneur	Concept: Computer infrastructure Concept: Communication networks Concept: Human communication
Interview 6	Woman entrepreneur	Concept: 'A bridge' used to communicate within the business world using 'technology'.
Interview 7	Woman entrepreneur	Concept: A technology that uses computers (hardware)
Interview 8	Woman entrepreneur	Concept: A 'combination of computers' (networks) Concept: Document storage and retrieval of information (hardware)
Interview 9	Woman entrepreneur	Concept: Combination of computers (networks) Concept: Storage and retrieval of information
Interview 10	Government expert	Concept: Computers (hardware) for communicating information
Interview 11	Woman entrepreneur	Concept: Computers (hardware) Concept: Store and retrieve information Concept: Satellite technology
Interview 12	Woman entrepreneur	Concept: Computers (hardware) Concept: Store and retrieve information Concept: Satellite technology
Interview 13	Woman entrepreneur	Concept: Relaying and production of information
Interview 14	Woman entrepreneur	Concept: Communication technologies Concept: Access to information through telecommunications

Table 5: Role of ICT in business

Part II: Open-ended questions		
Section C: Business knowledge information		
Q18 In your view, what is the role of ICTs in business? Please elaborate.		Participant's response (category / property / dimension / concept generated)
Interview 1	Woman entrepreneur	Concept: Reduced travel Concept: Improved quality of work life Concept: Information research tool Concept: Communication tool Concept: Electronic document storage tool
Interview 2	Woman entrepreneur	Concept: Communication tool
Interview 3	Woman entrepreneur	Concept: Communication tool
Interview 4	Private sector expert	Concept: 'Backbone' that 'assists in improving business processes' 'efficiency' and 'effectiveness'.
Interview 5	Woman entrepreneur	Concept: Efficiency
Interview 6	Woman entrepreneur	Concept: 'Everything is basically worked on the backbone of ICT'.
Interview 7	Woman entrepreneur	Concept: Lifeblood of the ICT enterprise
Interview 8	Woman entrepreneur	Concepts: 'Efficiency', 'faster', 'productivity', and 'financial gain'
Interview 9	Woman entrepreneur	Concept: Benefit value
Interview 10	Government expert	Concept: An 'enabler' for business processes
Interview 11	Woman entrepreneur	Concept: Efficiency
Interview 12	Woman entrepreneur	Concept: Convenience
Interview 13	Woman entrepreneur	Concept: Efficiency
Interview 14	Woman entrepreneur	Concept: Enabling innovative business processes

Table 6: Problems SMMEs have in relation to ICT application in their businesses

Part II: Open-ended questions		
Section C: Business knowledge information		
Q19 What problems do SMMEs have with ICTs? Please elaborate.		Participant's Response (category/property/dimension/concept generated)
Interview 1	Woman entrepreneur	Category: Computer literacy lacking Property 1: Barriers Dimension 1: Internet unaffordability Dimension 2: Lacking computer skills Property 2: Access to computer Dimension: Computer literacy benefits
Interview 2	Woman entrepreneur	Category: Unaffordability Property 1: Infrastructure costs Dimension: Software and infrastructure updates Property 2: Inability to train people on a regular basis
Interview 3	Woman entrepreneur	Concept: Frequent changes in technology
Interview 4	Private sector expert	Concept: Security risks
Interview 5	Woman entrepreneur	Category: Gender sensitivity (women aware of existing gender biases) Property: Gender stereotypes Dimension 1: Women are judged as being incompetent and lacking technical knowledge Dimension 2: ICT is a men's game Dimension 3: Assertive action taken by women to in dispelling these stereotypes
Interview 6	Woman entrepreneur	Concept: Limited knowledge and training on ICT products
Interview 7	Woman entrepreneur	Concept: Scarce resources to train staff
Interview 8	Woman entrepreneur	Concepts: Unaffordable upgrades and maintenance costs
Interview 9	Woman entrepreneur	Concept: Infrastructure security Concept: Inadequate information protection systems Concept: Computer literacy lacking Concept: Frequency at which technology is changing Concept: Good and bad competition
Interview 10	Government expert	Category: SMMEs needing competitive advantage over big business Property: Employing the latest technology Dimension: Research and development capacity lacking Sub-dimension: Government support to SMMEs through arranged partnerships between big businesses and SMMEs
Interview 11	Woman entrepreneur	Concepts: Inadequate security for ICT systems
Interview 12	Woman entrepreneur	Concept: Business and ICT skills lacking
Interview 13	Woman entrepreneur	Concept: SMMEs uninformed about the benefits of utilising ICT
Interview 14	Woman entrepreneur	Category: Internal and external barriers Property: Unaffordability Dimension 1: Infrastructure equipment Dimension 2: Software and hardware devices Dimension 3: Expensive maintenance costs Dimension 4: Inability to license software

Table 7: Participants' understanding of ICT legislation and policy

Part II: Open-ended questions		
Section C: Business knowledge information		
Q20 In your own words, can you please describe your understanding of the ICT sector, e.g. how the sector is structured, applicable legislation and policy? Please elaborate.		Participant's response (category / property / dimension / concept generated)
Interview 1	Woman entrepreneur	Concept: Acknowledging information gap Concept: Limited scope in ICT Concept: Lacking information of the ICT sector
Interview 2	Woman entrepreneur	Concept: Understanding of ICT sector
Interview 3	Woman entrepreneur	Concept: Acknowledging an information gap
Interview 4	Private sector expert	Concept: Understanding the ICT sector in relation to applicable policies
Interview 5	Woman entrepreneur	Concept: Awareness of legislation policies
Interview 6	Woman entrepreneur	Concept: Awareness of legislation policies
Interview 7	Woman entrepreneur	Concept: Acknowledging an information gap
Interview 8	Woman entrepreneur	Concept: Limited understanding about the sector
Interview 9	Woman entrepreneur	Concept: Limited understanding about the sector
Interview 10	Government expert	Category: Legislative environment Property: Eastern Cape ICT Strategy 2014 Dimension: SMME policies
Interview 11	Woman entrepreneur	Concept: Information gap
Interview 12	Woman entrepreneur	Concept: Limited understanding about the sector
Interview 13	Woman entrepreneur	Concept: Information gap
Interview 14	Woman entrepreneur	Concept: Information gap

Table 8: How women are stimulating or advancing the ICT sector

Part II: Open-ended questions		
Section C: Section C: Business knowledge information		
Q21 How are women stimulating entrepreneurship in the ICT sector? Please elaborate.		Participant's response (category / property / dimension / concept generated)
Interview 1	Woman entrepreneur	Category: Gender sensitivity – women aware of existing gender biases influencing women's lack of participation Property 1: Gender-based career differences Dimension 1: Women careers Dimension 2: Men careers Property 2: More women-owned companies Property 3: Gender-based educational differences
Interview 2	Woman entrepreneur	Category: Women attempting to make inroads into sector Property 1: Starting off with ambitious business goals Dimension: Businesses failing, tough to do business in the ICT sector Dimension: Women lack motivation to face challenges
Interview 3	Woman entrepreneur	Concept: Limited knowledge of existing women-owned enterprises
Interview 4	Private sector expert	Concept: Women making inroads into a male-dominated ICT industry
Interview 5	Woman entrepreneur	Concept: ICT training and development Concept: Motivating candidates to enrol for technical skills Concept: Women not visible in technical environment
Interview 6	Woman entrepreneur	Concept: Limited knowledge of existing women-owned enterprises
Interview 7	Woman entrepreneur	Concept: ICT sector challenging environment for women to enterprise in
Interview 8	Woman entrepreneur	Concept: Gender stereotypes influencing women's participation Concept: Women boxed under administration, creativity, and management
Interview 9	Woman entrepreneur	Category: Developing staff in ICT Property 1: Prioritising the development of young graduates Property 2: Nurturing talent Dimension 1: Encouraging women to become women employers instead of being employees Dimension 2: Becoming leaders of the next generation
Interview 10	Government expert	Concept: Women making positive strides in taking up positions previously dominated by men
Interview 11	Woman entrepreneur	Concept: Limited knowledge of existing women-owned enterprises
Interview 12	Woman entrepreneur	Category: Gender stereotypes, women aware of existing gender biases influencing women's lack of participation Property: Most women are presenters Dimension 1: Few station managers Dimension 2: Influences of career differences
Interview 13	Woman entrepreneur	Concept: Women entrepreneurs making inroads into the ICT sector to overcome gender stereotyped assumptions
Interview 14	Woman entrepreneur	Category: Women taking assertive action Property: Self-employment creation Dimension: Unemployment a motivation for women to start their own business

Table 9: How the ICT entrepreneurs use ICT as a core product or service in SMMEs

Part II: Open-ended questions		
Section C: Business knowledge information		
Q22 Describe ways in which SMME women entrepreneurs use ICTs as a core product or service of ICT enterprises. Please elaborate		Participant's response (category/property/dimension/concept generated)
Interview 1	Woman entrepreneur	Category: Service Property 1: Printing service Dimensions: Internal purposes Dimension 2: Primary service Property 2: Internet café services Dimension 1: Internal communication tool Dimension 2: Primary service
Interview 2	Woman entrepreneur	Category 1: Service Property 1: ICT training Property 2: Computer used to market services via email Category 2: Product Property 1: Develop brochures Product 2: Sales and repairs
Interview 3	Woman entrepreneur	Category: Product Property 1: Sell computer consumables Property 2: Electronic equipment Property 3: Printing equipment Property 4: Software and hardware
Interview 4	Private sector expert	Category: Service, administrative function Property 1: Generating invoices and quotations Property 2: Generating payslips using software programmes Property 3: Sales and inventory management
Interview 5	Woman entrepreneur	Category: Service Property: ICT training
Interview 6	Woman entrepreneur	Category: Product Property: Selling ICT consumables Dimension 1: Pastel software Dimension 2: Printing entities Dimension 3: Networking equipment Category 2: Service Property 1: Consulting service Dimension 1: Web design Dimension 2: Advice support service on office and home office, ICT products
Interview 7	Woman entrepreneur	Category: Service Property: Postal service Dimension 1: Courier Dimension 2: Mailbox Property 2: Small office support Dimension 1: Document solution Dimension 2: Office supplies Dimension 3: Digital solutions
Interview 8	Woman entrepreneur	Category: Product Property 1: ICT courses Category: Service Property : IT used for internal communication tool Property 2: Marketing tool Property 3: Externally for networking purposes
Interview 9	Woman entrepreneur	Category: Service Property 1: Network infrastructure, mobile solutions offered in partnership with a mobile network operator Property 2: Systems development solutions Property 3: Support services Category: Product Property 1: eBooks sales Property 2: Software and hardware equipment

Part II: Open-ended questions		
Section C: Business knowledge information		
Q22 Describe ways in which SMME women entrepreneurs use ICTs as a core product or service of ICT enterprises. Please elaborate		Participant's response (category/property/dimension/concept generated)
		Property 3: ICT security systems Property 4: Fixed line solutions
Interview 10	Government expert	Concept: Software development, systems development, web design, business analyst, intelligence, and cabling
Interview 11	Woman entrepreneur	Category: Service Property 1: ICT training Property 2: Internet café service
Interview 12	Woman entrepreneur	Category: Gender-based career differences influencing use of ICTs Property 1: Women opting for occupations in the ICT environment Dimension 1: ICT training Dimension 2: Secretarial positions Dimension 3: Few in technical environment 'technicians'
Interview 13	Woman entrepreneur	Category: Product Property 1: Engineering Property 2: IT Category: Service Property: Film-making
Interview 14	Woman entrepreneur	Category: Product Property: Innovative manufacturing of ICT products Dimension: Solar tablet PC

Table 10: Enterprises' value chain of business processes

Part II: Open-ended questions		
Section C: Business knowledge information		
Q23 Describe the enterprise's value chain of business processes, e.g. which relate directly to the delivery of enterprises' core products or services? Please elaborate.		Participant's Response (category / property / dimension / concept generated)
Interview 1	Woman entrepreneur	<p>Category: ICT enterprise value chain processes</p> <p>Property 1: Printing processes</p> <p>Dimension 1: Printing</p> <p>Dimension 2: Laminating</p> <p>Dimension 3: Binding</p> <p>Property 2: Concept Development processes</p> <p>Dimension: Internet</p> <p>Property 3: Creative design processes</p> <p>Dimension 1: Editing</p> <p>Dimension 2: Email</p> <p>Dimension 3: Typing</p> <p>Dimension 4: Outsourcing</p> <p>Property 4: Outsourcing decision processes</p> <p>Dimension 1: Printing</p> <p>Dimension 2: Creative skills</p> <p>Property 5: Communication service processes</p> <p>Dimension 1: Internet</p> <p>Dimension 2: Editing</p> <p>Dimension 3: Email</p> <p>Dimension 4: Typing</p>
Interview 2	Woman entrepreneur	<p>Category: ICT enterprise value chain processes</p> <p>Property 1: Marketing</p> <p>Dimension 1: 'Design'</p> <p>Dimension 2: Develop posters</p> <p>Dimension 3: Distributing posters to existing and potential clients</p> <p>Property 2: After sales marketing</p> <p>Dimension 1: Database management</p> <p>Sub-dimension 1: Sending email and SMS</p> <p>Sub-dimension 2: Telephoning clients</p> <p>Property 3: Content development</p> <p>Dimension 1: Training manuals</p> <p>Dimension 2: Printing manuals</p> <p>Property 4: Financial management</p> <p>Dimension 1: Purchasing equipment</p> <p>Sub-dimension: Software and hardware</p> <p>Dimension 2: Invoicing</p> <p>Dimension 3: Generating and printing certificates</p>
Interview 3	Woman entrepreneur	<p>Category: ICT enterprise value chain processes</p> <p>Property 1: Retail processes</p> <p>Dimension: Sales</p> <p>Property 2: Marketing and advertising</p> <p>Dimension: Advertised through poster</p>
Interview 4	Private sector expert	<p>Category: Low innovation levels</p> <p>Property: ICT is not understood well enough by small business to trigger innovation</p> <p>Dimension: Owners are inclined to be followers rather than leaders</p>
Interview 5	Woman entrepreneur	<p>Category : ICT enterprise value chain processes</p> <p>Property 1: Administration processes</p> <p>Dimension 1: Registering the businesses</p> <p>Sub-dimension: Compliance issues</p> <p>Dimension 2: Procedures for developing content for the curriculum</p> <p>Dimension 3: Submitting documentation for accreditation</p> <p>Property 2: Marketing</p>

Part II: Open-ended questions		
Section C: Business knowledge information		
Q23 Describe the enterprise's value chain of business processes, e.g. which relate directly to the delivery of enterprises' core products or services? Please elaborate.		Participant's Response (category / property / dimension / concept generated)
		Dimensions 1: Word of mouth advertising Dimension 2: Brochures, banners, and pamphlets Dimension 3: Newspaper adverts
Interview 6	Woman entrepreneur	Category: ICT enterprise value chain processes Property: Market research Dimension 1: Word of mouth Dimension 2: Radio advertising Dimension 3: Mail marketing Dimension 4: Internet Dimension 5: Building up customer base Property 2: Maintenance Dimension 1: ICT equipment and tools Dimension 2: Staff training Property 3: Procurement Dimension: Stores
Interview 7	Woman entrepreneur	Category: ICT enterprise value chain processes Property 1: Postal services Dimension: Information distribution and packaging
Interview 8	Woman entrepreneur	Category: ICT enterprise value chain processes Property 1: Marketing Dimension 1: Products and service brochures Property 2: Administration Dimension 1: Invoicing Sub-dimension: Registration payments and submission procedures
Interview 9	Woman entrepreneur	Category: ICT enterprise value chain processes Property 1: Retail Dimension: Sales processes Property 2: Administration Dimension: Billing procedures and accounting work Property 3: Technical department processes Dimension: Project management Sub-dimension 1: Overseeing the delivery Sub-dimension 2: Implementation processes of internal projects and outsourced projects
Interview 10	Government expert	Concept: Low levels of innovation Concept: Innovation demonstrated in systems development, web design, business analyst, intelligence, and cabling
Interview 11	Woman entrepreneur	Category: ICT enterprise value chain processes Property 1: Advertising strategies Dimension 1: Posters Sub-dimension: Outsourcing work for design Dimension 2: Doing a quality job for return business Dimension 3: Word-of-mouth Property 2: Administration Property 3: Human resources
Interview 12	Woman entrepreneur	Category: ICT enterprise value chain processes Property 1: Radio programming Dimension 1: Informed by customer feedback Dimension 2: Informed by the mandate of the board and committees Property 1: Committee functions Dimensions 1: Market our programmes Dimension 2: Address technical issues that have to do with signal distribution Dimension 3: Develop program content Sub-dimension: disability issues Dimension 4: Advertising Sub-dimension: Media buying Dimension 5: Issuing of quotations and invoices

Part II: Open-ended questions		
Section C: Business knowledge information		
Q23 Describe the enterprise's value chain of business processes, e.g. which relate directly to the delivery of enterprises' core products or services? Please elaborate.		Participant's Response (category / property / dimension / concept generated)
Interview 13	Woman entrepreneur	Category: ICT enterprise value chain processes Property 1: Documentary production Dimension 1: Drafting of proposals Dimension 2: Pre-production Sub-dimension 1: Planning Sub-dimension 2: Researching Sub-dimension 3: Drafting of the script Property 2: Production Dimension 1: Film or re-enact scenes Dimension 2: Editing of raw footage Dimension 3: Producing the final product Property 3: Web designing and hosting Dimension 1: Generating the content Dimension 2: Creating and activating pages
Interview 14	Woman entrepreneur	Category: ICT enterprise value chain processes Property : Research and development Dimension 1: New design processes Dimension 2: Production Dimension 3: Manufacturing quality control Dimension 4: Packaging Property 2: Marketing and promotion Dimension: Distribution of the product

Table 11: The frequency of introducing new products or services by the SMMEs

Part II: Open-ended questions		
Section C: Business knowledge information		
Q24 How often does the enterprise introduce new products or services and what informs the decision to do so? Please elaborate.		Participant's response (category / property / dimension / concept generated)
Interview 1	Woman entrepreneur	Category: Market driven decision-making Property 1: Opportune gap in the market Dimension : Funding limitations Property 2: Addressing clientele needs Dimension : Product line diversification Concept: Yearly upgrades on products
Interview 2	Woman entrepreneur	Category: Market driven decision-making Property: Market research Dimension 1: Reading 'magazines' Dimension 2: Competitor benchmarking Dimension 3: Customer feedback Concept: Yearly upgrades on products
Interview 3	Woman entrepreneur	Concept: Market trends drive decision-making Concept: Yearly upgrades on products
Interview 4	Private sector expert	Concept: Market trends drive decision-making
Interview 5	Woman entrepreneur	Category: Market research driven decision-making Property 1: Constant competitor research Dimension 1: Being on par with latest technology for ICT training Dimension 2: Attract customers Concept: Yearly upgrades on products
Interview 6	Woman entrepreneur	Category: Technology driven changes Property 1: Avoiding becoming obsolete Dimension: Staying abreast of technology concept, product changes on a yearly basis
Interview 7	Woman entrepreneur	Category: Product change decision-making decided by head office Property : Sale promotions determined at branch level Concept: Equipment is replaced based on ware and tear
Interview 8	Woman entrepreneur	Concept: Market trends determine decision-making Concept: Introduction of products happens yearly and is informed by SETA policy requirements
Interview 9	Woman entrepreneur	Category: Decision-making driven by the shift in internal strategic focus Property: Market segmentation strategy Dimension: Focusing on particular segment to introduce products Property 2 : Strategic partnership ventures Concept: Changes in technology upgrades occurred on a yearly basis
Interview 10	Government expert	N / A
Interview 11	Woman entrepreneur	Concept: Market driven decision-making Concept: Upgrades occurred on a yearly basis
Interview 12	Woman entrepreneur	Category: Market driven decision-making Property 1: Listenership ratings Property 2: Feedback through surveys Concept: Product changes on a yearly basis
Interview 13	Woman entrepreneur	Concept: Market trends Concept: Product changes done yearly
Interview 14	Woman entrepreneur	Concept: Market trends Concept: Product changes done yearly

Table 12: Role of government in promoting ICT women-driven entrepreneurship

Part II: Open-ended questions		
Section D: Role of government in SMME development		
Q25 What is government currently doing to promote ICT women-driven entrepreneurship development, e.g. structured and unstructured support programmes and initiatives? Please elaborate.		Participant's response (category / property / dimension / concept generated)
Interview 1	Woman entrepreneur	Category: Acknowledging an information gap Property 1: Limited to secondary sources of information Concept: Lacking follow-up initiative Category: Developing apathy Property 2: Lack of initiative in accessing business related information Dimension: Time management issue
Interview 2	Woman entrepreneur	Category: Acknowledging an information gap Property : Inaccessible information sources Dimension 1: Networking sources of information inaccessible Dimension 2: Government sources of information limited
Interview 3	Woman entrepreneur	Concept: Acknowledging an information gap Concept: Unaware of specific projects benefiting women in ICT sector
Interview 4	Private sector expert	Concept: Lack of government intervention
Interview 5	Woman entrepreneur	Category: Gender sensitivity Property: Gender stereotypes Dimension: Males benefiting from sector Sub-dimension: Male-dominated environment
Interview 6	Woman entrepreneur	Concept: Not aware of projects implemented by government for women in ICT sector Concept: More women should penetrate ICT sector in technical environments
Interview 7	Woman entrepreneur	Concept: Gap in information about initiatives promoting women-driven entrepreneurship development in the ICT sector Concept: Losing 'trust' and 'faith' in government Concept: Especially as a 'white woman' Concept: There is so much corruption Concepts: Not into politics
Interview 8	Woman entrepreneur	Concept: Gap in information about initiatives promoting women-driven entrepreneurship development in the ICT
Interview 9	Woman entrepreneur	Concept: Gap in information about initiatives promoting women-driven entrepreneurship development in the ICT
Interview 10	Government expert	Category: Government taking action Property 1: Limited SMME support Dimension: Managing procurement from SMMEs through centralised electronic database Dimension 2: Thirty day turnaround payment Property 2: Giving support to women entrepreneurs Dimension: BEE scoring point system
Interview 11	Woman entrepreneur	Concept: Gap in information about initiatives promoting women-driven entrepreneurship development in the ICT
Interview 12	Woman entrepreneur	Category: Information gap Property: Inequality in accessing ICT programmes Dimension: digital divide between 'big cities' and rural areas Dimension 2; Programmes targeting people who are already aware
Interview 13	Woman entrepreneur	Category: Government providing support Property: Support through ICT hubs Dimension 1: Mentorship programmes Dimension 2: Coaching Dimension 3: Financial assistance Dimension 4: Access to infrastructure
Interview 14	Woman entrepreneur	Category: Government providing support

Part II: Open-ended questions	
Section D: Role of government in SMME development	
Q25 What is government currently doing to promote ICT women-driven entrepreneurship development, e.g. structured and unstructured support programmes and initiatives? Please elaborate.	Participant's response (category / property / dimension / concept generated)
	Property: Support through ICT hubs Dimension 1: Mentorship programmes Dimension 2: Coaching Dimension 3: Financial assistance Dimension 4: Access to infrastructure

Table 13: Additional requirements of the women entrepreneurs from government to promote women participation in the ICT sector

Part II: Open-ended questions		
Section D: Role of government in SMME development		
Q26 What more should government do? Please elaborate.	Participant's response (category / property / dimension / concept generated)	
Interview 1	Woman entrepreneur	Concept: Women entrepreneurs needing action from government Concept: Up-skilling for SMMEs
Interview 2	Woman entrepreneur	Category: Difficulty in accessing funding Property: Provide rental subsidy for office space occupied by small business
Interview 3	Woman entrepreneur	Concept: Unaware
Interview 4	Private sector expert	Concept: Upselling for SMMEs
Interview 5	Woman entrepreneur	category: Organise road shows on the ground property : Get input from small businesses' perspective dimension: Awareness of SMME challenges
Interview 6	Woman entrepreneur	Concept: Government not taking SMME women seriously
Interview 7	Woman entrepreneur	Concept: Government assistance lacking
Interview 8	Woman entrepreneur	Category: Funding processes not fair for SMMEs Property 1: Accessible when having inside connection Property 2: Monitoring and evaluation of procurement processes by government Property 3: SMMEs giving out a percentage of their money Property 4: Corruption must be stopped
Interview 9	Woman entrepreneur	Category: Women entrepreneurs needing action from government Property 1: Linking women with relevant companies Dimension: Monitor that these companies are not abused or used by bigger companies Property 2: Women entrepreneurs needing marketing support Dimension: Marketing the province abroad Property 3: Encouraging women to get into this sector Dimension 1: Women made aware of available business opportunities Dimension 2: Made aware what they should offer Dimension 3: Made aware of technical assistance that is available for women Dimension 4: Government to play mentorship role
Interview 10	Government expert	Concept: Procurement spend on SMMEs in ICT sector Concept: SMMEs should be given preferential treatment to favourably compete with big business
Interview 11	Woman entrepreneur	Concept: Government taking action Concept: Implanting procurement policy (BEE scorecard) Category: Addressing gender-based inequities Property: Historically women have been undermined Dimension: Women not receiving equal benefits to men property: Women taking assertive action Dimension: Making in roads into the 'industry'
Interview 12	Woman entrepreneur	Concept: Women entrepreneurs needing action from government Concept: Government taking action Concept: Providing training in the form of 'seminars' Concept: Funding training Concept: More technicians who are women and station managers
Interview 13	Woman entrepreneur	Concept: Information gap not aware of government intervention
Interview 14	Woman entrepreneur	Concept: Funding the establishment of sustainable ICT centres in rural areas Concept: Creating business opportunities for youth in rural areas Concept: Resuscitation of economic activity in rural areas

Table 14: Role of the private sector to promote ICT women-driven entrepreneurship

Part II: Open-ended questions		
Section E: Role of private sector in SMME development		
Q27 What is private sector doing to promote ICT women-driven entrepreneurship development, e.g. structured and unstructured support programmes and initiatives? Please elaborate.		Participant's Response (category / property / dimension / concept generated)
Interview 1	Woman entrepreneur	Concept: Acknowledging an information gap
Interview 2	Woman entrepreneur	Concept: Acknowledging an information gap
Interview 3	Woman entrepreneur	Concept: Acknowledging an information gap
Interview 4	Private sector expert	Concept: Limited but given through ICT innovation hubs
Interview 5	Woman entrepreneur	Concept: Limited support in the form of financial assistance
Interview 6	Woman entrepreneur	Concept: Acknowledging an information gap
Interview 7	Woman entrepreneur	Concept: Acknowledging an information gap
Interview 8	Woman entrepreneur	Concept: Acknowledging an information gap
Interview 9	Woman entrepreneur	Concept: Acknowledging an information gap
Interview 10	Government expert	Concept: Limited support given in terms of recognition awards
Interview 11	Woman entrepreneur	Concept: Acknowledging an information gap
Interview 12	Woman entrepreneur	Concept: Acknowledging an information gap
Interview 13	Woman entrepreneur	Concept: Limited to support through ICT hub
Interview 14	Woman entrepreneur	Concept: Acknowledging an information gap

Table 15: Role of the private sector to further develop women in the ICT sector

Part II: Open-ended questions		
Section E: Role of private sector in SMME development		
Q28 What more should the private sector do? Please elaborate.		Participant's response (category / property / dimension / concept generated)
Interview 1	Woman entrepreneur	Concept: Not aware of private sector initiatives Concept: Give B2B support Concept: Support networking forums
Interview 2	Woman entrepreneur	Concept: Private sector needed action Concept: Support local companies Concept: Avail business opportunities Concept: Avail access to business information via webpage
Interview 3	Woman entrepreneur	Concept: Unaware
Interview 4	Private sector expert	Concept: Support through ICT training
Interview 5	Woman entrepreneur	Concept: Support through training skills
Interview 6	Woman entrepreneur	Concept: Support SMMEs by developing their knowledge and skills in ICT and funding the training
Interview 7	Woman entrepreneur	Concept: Unaware
Interview 8	Woman entrepreneur	Concept: Unable to suggest
Interview 9	Woman entrepreneur	Concept: Use private companies based on their service track record Concept: Engage the services of women-owned companies Concept : National companies engaging local companies known by a friend
Interview 10	Government expert	Concept: Support through ICT training
Interview 11	Woman entrepreneur	Concept: Conduct ICT road shows to create awareness on the importance of ICT Concept: Afford SMMEs opportunity to train their staff
Interview 12	Woman entrepreneur	Concept: Empower rural people with ICT training
Interview 13	Woman entrepreneur	Concept: Playing a mentorship role for emerging women entrepreneurs.
Interview 14	Woman entrepreneur	Concept: Supporting SMME women entrepreneurs

Appendix O: Conceptual refinement – depicting the refinement of categories and concepts generated from open-ended questions

Ontological Category	Properties	What	When	Where	Why	How	Consequence
Gender sensitivity	Socio-cultural gender role expectations	Societal expectations that view women entrepreneurs different to their male counterparts	Women entrepreneurs have to market the ICT enterprise	Restaurants after hours	Women not expected to hold business meetings after hours (night) Women's role viewed to be more domesticated, attending to family after hours	Women being judged against cultural norms, 'improper' behaviour Women entrepreneurs are balancing work and domestic responsibilities, men have fewer domestic responsibilities	Experiencing challenges in marketing and growing the business Women unable to market their businesses after hours through business relationships
				Networking platforms	Networking platforms friendlier to men than to women	If you are a women, sexual favours would likely be expected	Experiencing challenges in building business relationships, 'networking', perceptions that it's a 'men's world'
	Gender stereotyping	Men are better employers than women	Employees compare employment conditions	Local market	Men are treated more respectfully, they pay good salaries, and they are more productive	'Women not given the credit they deserve'	Women entrepreneurs developing insecurities 'Women quickly give up' on business
Gender-based discrimination	Gender-based economic marginalisation	Gender-based economic marginalisation	Seeking financial assistance 'loans'	'Banks'	Discriminated against by virtue of being a woman	Denied access to finance	Have limited operating capital – low profits 'black businesses' struggle and close down Cash flow problems seen as a risk by banks

Ontological Category	Properties	What	When	Where	Why	How	Consequence
			No 'collateral' security	SMMEs in urban and rural areas	Poor credit history or no 'financial record', Do not earn a regular salary	Loans inaccessible	
					SMMEs neither know where, nor how to access funding.	Information not readily available	Develop apathy
			Access business opportunities	Government and private sector	Bias in tender adjudication processes	BEE scoring point system is not benefiting women as it intends to (due to lack of transparency)	Women entrepreneurs shy away from pursuing tender opportunities Playing field is not Level
Gender sensitivity	Gender-based inequality in the workplace	Underrepresentation of women in key positions	Career advancement	Senior positions	Men still question women's abilities.	Perceptions of 'men's world'	Women's voice not heard, no input in the decision-making platforms
		Inequality in working conditions		Workplace	Women and men not treated as equals, differences in remuneration, maternity leave (long absence from work) that affect women's financial standing	Credit rating affects loan application	Inaccessible funding affects cash flow
					Women lack work experience in comparison to their male counterparts and are not competitive enough to earn a higher income		Limited career advancement opportunities

Ontological Category	Properties	What	When	Where	Why	How	Consequence
					Women lacking ICT knowledge Women lacking knowledge about ICT sector Role of ICT in business acknowledged		Marginalisation from ICT
	Gender-based educational differences	Unequal educational qualifications	Compare women to men	Workplace	Inequalities in earnings between women and men	Women underqualified than men	Women's professional advancement limited
Women have less work experience than men					Women occupy subordinate positions	Inability to advance to senior level positions where decision-making in ICT happens	
		Women lack financial confidence	Bookkeeping	Enterprise	Bookkeeping purposes	Unable to compile financial documents	In debt at the receiver of revenue owing to outstanding information required on submission
	Gender stereotypes	'It is difficult in today's environment to be able to get a tender although you submit all required information for tendering'	Accessing tenders	Government	Women entrepreneurs are 'side-lined' 'The panel looking into these tenders are male-dominated'	Tender irregularities, giving preference to men get preferential treatment	Women's economic marginalisation in the ICT sector
Gender sensitivity	Gender stereotypes	Women are 'judged' as being 'incompetent' and lacking in technical knowledge	Meetings and workshops	Business	Women are always looked at as not being knowledgeable [in ICTs] Men perceived as being	Underrepresentation in technical environment	Women reverse these perceptions in taking assertive action enrolling for technical courses

Ontological Category	Properties	What	When	Where	Why	How	Consequence
					'the technical experts in computers', Men's game		
	Partially met SMME woman entrepreneurs' expectations	Government do not recognise women as 'business owners'	Seeking business opportunities	Government	Unequal access to business opportunities	Lack access to tender information Lack access to funding	Develop apathy and eventually close down business
		Slow change in government action	Women-owned business marginally recognised		Government not availing business opportunities for women-owned	BEE scoring point system	Tender opportunities are limited
	Women's management style	'sensitive personality'	Making their voices heard	Board meetings	Have a 'sensitive' and 'soft side'	Make their views heard using soft skills – emotional intelligence	Diffuse intimidating attitude from men
					Women are 'emotional' by nature	Lack emotional intelligence, have personal issues	Clouded judgement and decision-making
	'Women have no decision-making power'	'Women have no power to challenge or change the situation'			They are not involved in decision-making in environments, e.g. 'engineering'	Women's voice missing to advocate for issues affecting women	ICT decisions made on their behalf
					Gender-based occupational differences	Women distant to ICT – socialisation	Women are marginalised from ICT
	Women entrepreneurs taking assertive action	Reverse gender stereotypes	Professional and economic development	ICT sector	Operate their own businesses	'Pursue career options in IT historically pursued by young men'	Reverse gender stereotypes
Gender-based discrimination	Women have no decision-making power	Women are oppressed and in a powerless position	Decision-making	Workplace	Gender-based occupational differences, men in positions of power	Have no power to challenge or change the situation	Inability to contribute to decisions concerning operations of the organisation
	Gender-based sexual harassment	Women subjected to 'sexual innuendos'	Seek tender opportunities	Government	Government officials seek sexual favours in return for awarding tenders	Immorality in business ethics, 'differing moral scales'	Women are economically marginalised

Ontological Category	Properties	What	When	Where	Why	How	Consequence
Gender-based career differences	'Predominantly male-dominated career path'	Stereotypical notions of perceived different career paths for women and men	Pursue career choices	ICT sector	Underrepresentation of women in key positions in the ICT sector	Influenced by socio-cultural gender role stereotypes, men's world / males only club / men's club / boys club / men's game	Lack career orientation to and understanding of career possibilities in the ICT sector.
	Women career paths: Training providers Administrative workers Technicians				Women 'not seeing the value of ICTs' Men not expecting women entrepreneurs to take up senior management positions Inequalities in the workplace – women not having decision-making power in ICT	'In the past, all technical positions have been held by men and it is like an issue to have women in [the] technical [environment] ICT'. Marginalisation from ICTs Women empower themselves in ICTs	Few women role models in senior ICT positions Increasing stereotypes in 'women's jobs and 'men's jobs' Women entrepreneurs demonstrate assertive action in penetrating core technical environments
Gender stereotyping	Gender-based career differences	Gender segregation influenced by socio-cultural gender role expectations	Delineating female orientated skills and male orientated skills	Career development planning at workplace	Women discouraged from pursuing career aspirations	Forced to find employment in the 'corporate world' as opposed to 'men' who have the opportunity to 'study further'	Increases the underrepresentation of women in the ICT sector, especially in top management positions Increases overrepresentation of women in non-professional ICT occupations
					ICT sector predominantly a male-dominated career environment	Women occupations associated with 'administrative creativity'	Marginalises female participation in ICTs

Ontological Category	Properties	What	When	Where	Why	How	Consequence
Gender stereotyping	Public's stereotypical perception of the business owner	Stereotypes held about women's ability to run an ICT enterprise undermined	Women entrepreneurs not recognised in the industry	Business environment	'Women not given the 'credit they deserve'	Men's technical orientation better than women	Have to prove their capacity
Women lacking recognition	Needing gender disaggregated ICT data	Sex disaggregated statistics of the ICT sector in the Eastern Cape are not available	Business women's achievement awards	Business environment	To establish how many businesses are owned by women To look at the nature of the business [industry] women are enterprising in to appreciate the challenges they encounter	Sex disaggregated statistics of women owned businesses in the ICT sector should be available	Understand women-driven entrepreneurship in the province Women's contribution in the ICT sector goes unrecognised – despite weathering the challenges
Acknowledging an information gap	Limited to secondary sources of information	Limited to television, peers in business, hear say	Look for business opportunities	Small business support agencies	Challenges with time management	No follow-up with SEDA on advertised information	Miss out on business opportunities
			Seek funding		Non-assertive action	No follow-up initiative No research conducted about the market	Develop apathy, low motivation Not optimising available sources of SMME support
	Accessing support initiatives	Networking sources of information	Look for business information	Business networking platforms and meetings	Attendance is predominantly male	Agenda gender-biased, issues discussed do not speak to women issues	Widen inequalities in accessing information that could enable women to benefit from available resources and economic opportunities made available to business networking platforms

Ontological Category	Properties	What	When	Where	Why	How	Consequence	
							Networking among women entrepreneurs is lacking. They do not know one another and do not know how other women entrepreneurs are progressing	
		Lack of access to information that women are supposed to benefit from	Government tenders	Government sources of information	'Difficult to access business opportunities for women-owned ICT enterprises'	'Supply chain is not doing enough to promote Broad-based Black Economic Empowerment'	Women do not benefit from BEE scoring point system Widening gap between women and men in accessing economic opportunities	
Acknowledging an information gap	Inaccessible government offices	ICT cost (online)a barrier in accessing government offices	Business opportunities	Government departments	No national offices at local level	Learn more about assistance DTI provides to women	Difficulty to access information from relevant local departments	
			Access SMME support programmes			Access through the local agency	Often referred to consult the national office, information gap at the agency	Lack of access to information limits women's development business opportunities
				Private companies		No national offices at local level Cannot afford telephony cost as entrepreneurs are operating from home- teleworking	Information not readily available	Lack access to local branches, loss of training, learning, development and career opportunities

Ontological Category	Properties	What	When	Where	Why	How	Consequence
		Woman entrepreneur has limited scope in ICT skills, lacks ICT orientation in the ICT sector	Computer applications	Workplace	Familiar with end-user applications	ICT skills not upgraded, limited to end-user computing qualification	Limited knowledge and skills in ICT
			ICT enterprise experience technical problems, network infrastructure	Server network unavailable	Lack of in-house technical skills	Sourcing services of a technician to detect problem	Impact decisions pertaining to infrastructure upgrades, inflexibility to consider changes
		Women entrepreneurs lack information about the ICT sector	Accessing information	ICT sector	Limited exposure to information sources	Information not readily available	Inflexibility to changes in the ICT sector that may directly or indirectly impact the ICT enterprise
					Women not recognised as 'business women' Do not know what information to look for	Limited communication between SMMEs and government / private sector	Lack of access to information limits women's contribution to the sector
			Accessing business related information	ICT sector	'I do not know what is available for women out there'	Information not readily available	Missing business opportunities
Internal and external barriers	Unaffordability	'Expensive equipment costs' 'Expensive maintenance costs' Licensing of software	Upgrading	Workplace	Financial limitations	Access funding	Obsolete technology

Ontological Category	Properties	What	When	Where	Why	How	Consequence
		Access Internet	Look for business opportunities	Government and private sector	Financial limitations	Access online information	Missed business opportunities
	Unaffordability	Cannot afford salary of qualified staff	Hiring staff	ICT Market	Limited operating budget	Recruiting people with ICT qualification	Staff shortages 'one-man-show'
		Inability to conduct continual training	Upgrade systems	Workplace	Limited operating budget	Funding inaccessible	Marginalisation from ICT
	Government regulations	Stringent procurement systems	Tendering	Government	Women do not meet strict qualifying criteria	Denied access to finance	Could exclude the SMME from business Affect performance of the enterprise
		Inflexible administrative requirements and procedures	Access finance	Government	Restricting application requirements, i.e. loan, credit, and collateral surety	Compliance requirements Documentation too complex	Inability to access operating capital
	Access business information	Do not having 'full information' about government initiatives	Access business information	Government	Lack initiative	Self-imposed barrier	Get empowered
		'Most SMMEs do not have mentors to provide guidance'	Need exposure to information, networking opportunities	Government and private support initiatives	Women entrepreneurs need guidance through mentorship programmes	Government and private sector must establish SMME business incubators throughout the province	Decrease their visibility as entrepreneurs in the ICT sector
						Government should facilitate open dialogue sessions with women entrepreneurs	Under performance of ICT enterprises

Ontological Category	Properties	What	When	Where	Why	How	Consequence
Internal and external barriers	Access business information	Late turnaround payment processes of Government	Wait for payment	Procurement officers	Careless supply chain administration processes	'no accountability'	Unable to tender sustainably Cost implications for the ICT enterprise Cash flow problems
					Poor customer service		Bad reputation for ICT enterprises, pay their suppliers late
Experience difficulties to access funding	Inequalities in accessing funding	'To get funding, you must know someone from inside or be part of a network group'	Allocation of funds	Government	Funding processes are not fair A lot of corruption happens through government connections	Government must 'monitor and evaluate procurement processes'	Inequality in accessing funding
	'Operational costs'	'Although we get funding for infrastructure, equipment from an agency, we still need funding to cover operational costs' for the multi-media centre	Look for sources of funding	Private donor funding agencies Government	Limited operating budget	Generate funding for sustainability	Community media centre is a white elephant, inability to raise additional finance
		Lack of start-up capital, loans	Look for sources of funding	Government and private sector	For equipment and marketing costs	Not taking initiative to approach sources that provide funding	Lack of access to finance affects business performance
Eastern Cape ICT Market	Private company preferred suppliers	Local companies identified by 'National companies to do business with are getting business'	Requests for tendering services	From local market	'Already have contracts with local companies'	'Utilise those companies for their services'	Local ICT enterprises get marginalised
	Government suppliers	'Established companies' on the government supplier database are not getting business'	Requests for quotations	From local market	Unable to markdown	Do not have government connections	Economic marginalisation

Ontological Category	Properties	What	When	Where	Why	How	Consequence
		'Black SMMEs', new entrants are getting business	Requests for quotations	From local market	'Mark down prices against a standard market margin', 'they are the ones who get the work', uncompetitive pricing	Have government connections 'Getting inside tender information from government'	Do not last very long in business when relationships with government officials collapse
		They are 'destabilising the market', – they undercut everyone who has been playing in that space	Requests for quotations	From local market	Government looks at the cheapest quotation	Respond competitively to requests for quotations compared to established companies	Run out of business when connections collapse
Low innovation levels	'ICT is not understood well enough by small business to trigger innovation'	Lack of SMME innovation Innovation considered a contributing factor to successful entrepreneurship	Employing ICT for business purposes	Workplace	Not understanding 'innovation is at the heart of any ICT business'	'Owners are inclined to be followers rather than leaders'	ICT technology not optimised, not aware of simplified formats offered by ICT, e.g. online management of business processes Lack ability to propose new ideas and prospective or beneficial changes to the sector Lag behind in Technological Development
		Women-driven innovation observed in: 'systems development', 'web design', 'business analyst', 'intelligence', and 'cabling'	Occupation	ICT sector	Take assertive action to penetrate careers previously dominated by men	Manufacture innovative products and propose innovative systems and solutions	Compete favourably in the ICT sector
Developing apathy	Lack of interest in accessing business related opportunities / information	Lack of initiative to follow up on information obtained from secondary sources	Look for business opportunities	Government	No information research, that could benefit the ICT enterprise	Has not dedicated much time to actually tap into the opportunities that are out there	Economic marginalisation, Do not benefit from government initiatives

Ontological Category	Properties	What	When	Where	Why	How	Consequence
							Quickly give up on business opportunities, especially when faced with challenges
Globalisation	Lack of local SMME support	Big companies 'multi-vendors' favoured over local SMMEs that are not accommodated by the 'procurers of services'	Tendering	Eastern Cape ICT market	SMMEs 'considered to be a risk by multi-nationals'	SMMEs look at big business for 'support' in terms of getting business opportunities locally.	Economic marginalisation of SMMEs in the province, opportunities for small business in the province are obscured
Develop staff capacity	Prioritise the development of young graduates	Nurture the talent	Mentor young graduates	Workplace	'To become women employers instead of being employees' Demonstrate instinctive mother[ly] care	Looking opportunities to develop them through mentoring	Become leaders of the next generation in the ICT sector Address the shortage of women in key positions
Develop staff capacity	Lack business knowledge and skills	'Unfamiliarity with business operations' No workplace experience, 'incompetent'	Operational activities	Workplace	Start-up business	Lack skills in the area of 'finance', management', and 'employment regulations'.	Underperformance of the ICT enterprise
	Lack human resource capital	Inability to create 'sustainable' employment	Recruiting	Local market	'People are poached by other companies'	'Offered better salaries and better opportunities'	Low staff retention levels, wasteful expenditure, training for other companies
		Lack time to assume the role of mentor	Induction period	Workplace	Time management issues Understaffed	Mentoring 'takes about two to three months before they are ready to understand your business'	Staff shortages, one-man-show, owner burdened with responsibility
		ICT enterprise not able to hire people	Seek operating capital	Government and private sector	'enterprise not able to pay 'people' salaries	Do not generate sufficient income'	High staff turnover

Ontological Category	Properties	What	When	Where	Why	How	Consequence
		Experience difficulty in accessing funding					
Motivation	Develop people	'give them the chances you did not have'	Employees 'lacking in business and ICT skills'	Workplace	'To get everybody on board' in relation to the vision of the ICT enterprise	Impart business and ICT skills	Connect people with ICT
	Women who lack motivation are considered 'a big factor when starting a business'	Seek business opportunities	Marketplace	Lack 'sheer determination' and 'belief' in the 'idea' Do not diversifying product range	They 'start of big', miscalculate business decisions Fail to market the ideas	Fail to succeed because 'it is tough to do business in this sector' if business skills are lacking, poor profit margins	Women who lack motivation are considered 'a big factor when starting a business'
Lack business knowledge	Start off with ambitious goals	Women 'do not know how to 'start a business' Miscalculated marketing decisions result in low customer market share compared to competitors	Establishing the 'business'	ICT sector	'Women lack motivation' because it is tough to do business in the ICT sector'	'Women lack business knowledge'	Businesses fail because they start off with ambitious goals
Lack of development in ICT skills	Motivate candidates to enrol for technical skills	'motivate... women candidates to enrol for technical support skills'	An emerging demand for 'skills in the technical' environment	ICT sector	Women do not penetrate the core 'technical environments'	Skills shortage in the technical environment	An opportune gap for women to curb women's marginalisation from ICT Underrepresentation of women in the ICT sector creates a scarcity of role models for other women and perpetuates male dominance in the sector Inequalities affect

Ontological Category	Properties	What	When	Where	Why	How	Consequence
							women's ability to access, use, and master ICTs.
Lack of computer literacy lacking	Barriers	Unable to afford Internet service	Work assignments	ICT sector	Financial limitations	Internet costs	Marginalisation from ICT
		Lack of computer literacy			No training in ICT skills	Unable to use a computer	
Computer literacy	Access to computer	Able to operate a computer	Work assignments	Workplace	Aware of computer literacy benefits	Have a computer	Optimise ICT usage
		Cannot operate a computer to solve a network problems	Work assignments	Workplace	SMMEs don not have the necessary ICT background	Women have a poor awareness of the career possibilities in ICT Career possibilities in ICT do not have high profile, due to stereotype of 'men's world'	'SMMEs are reluctant to embrace change... new technology... they prefer the old'
		Inability to use new technology appropriately	Work assignments	Workplace	Lack of computer literacy	Divulge information	Compromise security of the protocols of the enterprise
Technology stereotypes	Assume that they do not have to know about technology	Ineffective marketing	Promote services and products	Local community	'Do not seem to understand that technology is vital nowadays'	'Educating community about the use of tele-centres'	Multi-media centre is a white elephant
					Inability to use new technology appropriately perceived as a possible risk for the enterprise		Community lags behind in technological advancement
Technology driven changes	Avoid becoming obsolete	Staying abreast of technology	Upgrading	Marketplace	Rapid technological changes	'Staff trained to keep up with latest technology'	The ICT enterprise lags behind competition and closes down

Ontological Category	Properties	What	When	Where	Why	How	Consequence
ICT enterprise value chain processes	Marketing	Marketing activities Aftersales communication activities (CRM) Content development Financial processes	Marketing the ICT enterprise	Marketplace	Get new clients and retain old clients	Marketing material 'distributed to existing and potential clients' Use Customer Relationship Management (CRM) processes	Return business, customer retention strategies
ICT enterprise value chain processes	Printing	Laminating Binding	Tendering services	Government, Local marketplace	Service offerings of the ICT enterprise	Bulk printing	Making profit
	Concept development Creative design	Internet , editing, email, typing, printing, outsourcing	Consulting	Local Client	Value-added service	Provide one-stop service	Customer retention strategy
	Outsourcing decisions	Printing, creative skills	Identify services not available in-house	Big business	Lack in-house capability	No capacity and lacking skills	Hamper the growth of the ICT enterprise
	Communication service	Internet, editing, email, typing	Client and internal communication	Marketplace Workplace	Business Internal messages	Internet, email, typing and editing	Improved customer service, quality checking of the services offered
	Retail	Marketing and advertising Image building	Promotion	In-store promotions	Get more customers	Posters	Improved sales
	Advertising	Word of mouth	Promote products and services	Local community	Get community to make use of the centre	Provide a quality product / service	Get more people to use the multimedia centre
	Sales	ICT computer courses	Provide service	At the multi-media centre	Train local community	ICT training solutions and Internet café service	
	Broadcasting	Radio programing	Provide service	Radio station	Community radio mandate	Broadcast programmes	Increase listenership levels
	Documentary production	Drafting proposals Preproduction Production	Documentation	Local and national	Create awareness of opportunities in the ICT sector through	Document stories	Enable SMMEs to regard documentaries as a career option

Ontological Category	Properties	What	When	Where	Why	How	Consequence
					documentary		
	Research and development	'new ways of doing things', new design processes	Develop products	Local market	Gain competitive advantage over competition	Create innovative products	Increase innovation levels in the SMME segment

Ontological Category	Properties	What
ICT usage as a core product	Printing	Bulk Printing
	Internet café services	Photo-coping, printing, laminating, faxing, and also phone calls
	ICT training	NQF Level 3 and 4 ICT courses
	Retail	"I sell computer consumables, electronic equipment, printing equipment, software, and hardware.
	IT solutions, web-design, and web-hosting	Consulting service
	Administrative ICT enabled function	'Generating invoices, quotations' and 'payslips using software programmes', 'sales and inventory management', and marketing (CRM)
	Multi-media service	ICT training and photo-coping, printing, laminating, email, faxing, and also phone calls.
	PostNet	Faxing, courier, document solution, mail boxes, office supplies, and digital solutions.
	Network infrastructure and mobile solutions	Systems development solutions and support services Broadband, hosting mobile Internet, cabling infrastructure, desk top / server solutions, and simplified school solutions Sales: eBooks, software and hardware equipment, ICT security systems, and fixed line solutions.
	Retail	Sales ICT hardware and software, IT equipment, and web-design / networking
	Documentaries	Film and television production, graphic design, and photography
	Community radio programmes	Broadcast
	PostNet	Information distribution, packaging, small business office documentation and management, design, copy, and print, and a postal agency service

Ontological Category	Properties	What	When	Where	Why	How	Consequence
Business owner	A person who has an 'idea'. Have 'a vision', 'innovative', high levels of motivation Risk taker Ability to organise resources, 'creating employment for self and others', passion for developing self and others, and understanding the needs of the market	Turn an idea into a big venture	Visualise the new enterprise	Business environment	Expand the business	'bigger' than than 'hand-to-mouth' venture	Grow the business
		Women are not recognised as managers and business owners	Interact with customers	Business	Gender stereotype attitude	Gender biases attitudes, not recognising women as equals	Increased gender discrimination

Ontological Category	Properties	What	When	Where	Why	How	Consequence
	'Art of creating business', seeking new market, limited marketing budget						
New entrant		Ineffective marketing activities, competition in marketplace	Marketing the ICT enterprise	Local market	Limited operating budget	Lack marketing budget	Unproductive
	Face local competition				Women entrepreneurs have negative attitudes towards competition	Risk aversion	Unknown in the market
Marketing	Product diversification decisions	Diversify into new segments A and B	Compete in the marketplace	Local market	Pressure from competition	Previous miscalculated marketing decisions influence future decisions	Competitive marketing
					Finding 'niche market'	Ability of SMMEs to survive competition 'where similar products are also offered'	Limited marketing skills Risk aversion Women entrepreneurs have negative attitudes towards competition
Shift in internal strategy	Market segmentation strategy	Penetrate niche market	Introduce products and services in the market	Eastern Cape ICT market	Offer niche solutions	Product diversification	Thrive in niche markets and be competitive
	Partner with mobile network provider	Partnership	Introduce products and services in the market	Eastern Cape ICT market	Gain competitive advantage	Cell phone contracts Data encryption solutions Cell phone data Fixed line solutions	Product diversification gives a competitive advantage

Ontological Category	Properties	What	When	Where	Why	How	Consequence
SMMEs need competitive advantage over big business	Employ latest technology	'Being at the fore front of innovation'	Tendering	Government	Government is looking for progressive SMMEs that are at the forefront of innovation	Support SMMEs that offer latest technology solutions Arrange partnership between big businesses and SMMEs to enhance SMMEs' research and development capabilities in order to launch their products	SMMEs do not stand a chance to compete with big business if they lack research and development capabilities
Government takes action	Provide support to women in government	ICT award programme	Development	ICT environments in government	Ensure that government has trained women in ICT	ICT award programme	Raise the profile of women in ICT
		Management and executive programme	Development	Senior management level	Accelerate the development of women in ICTs	Executive development support for women in ICT environments	Visibility of women in leadership positions
	Provide support to women entrepreneurs	Empowerment interventions for women	Access to tenders	ICT sector	Afford women-owned business an equal opportunity to access government tenders by awarding extra points	BEE scoring point system	Access to tender opportunities
		Implement centralised electronic database	Manage procurement in conjunction with SMMEs	Supply chain	Enable SMMEs to access tender opportunities	Register SMMEs on centralised electronic database	SMMEs able to tender, limited SMME support
		Honour a thirty day turnaround payment	Pay SMMEs	Supply chain	Enable SMMEs to tender sustainably	Improve turnaround payment period	SMMEs can improve cash flow management
		Facilitate partnership ventures	Tendering	ICT industry	Must be enabled to access tenders	Facilitate partnership ventures between small and big business	Big businesses assist SMMEs by carrying the financial costs, providing human resources, and providing surety
						Facilitate skills transfer	SMMEs can enhance their research and development technological capabilities

Concept	What	When	Where	Why	How	Consequence
Women entrepreneurs need action from government	Women entrepreneurs need marketing support 'You never hear of business women in this province being part of these delegations'	Create business linkages with other companies	'Marketing the province abroad'	'Ensure representation of women in business delegations' overseas	Government needs to include women entrepreneurs in overseas delegations	Decrease inequalities between provinces to access business networking opportunities outside the country that government facilitates
	'Linking women with relevant companies', local business linkages	Source partnerships	Government contracts	Enable SMMEs to access big tenders	Facilitate partnership between small and big companies, skills transfer	Make ICT sector attractive; not currently attractive to women entrepreneurs
				'Help grow these women-owned companies'	Government monitors partnership projects from adjudication to completion to guard against the abuse of small companies by big companies	Big companies abusing or using small companies, especially women-owned companies Lack of transparency in payment terms
	Women need to know what it is that they can offer in terms of products and services when entering the sector	Tender their products and services	ICT sector	Women are uncompetitive and not innovative	'Making women well aware and prepared in knowing what one can offer to benefit the client'	Result in low levels of innovation Low market share
	Government should play a mentorship role	Development initiatives	SMME segment	Encourage women to pursue ICT related careers	Guide women entrepreneurs who aspire to get into the sector	Increase women participation in the economic mainstream of the ICT sector
	Government provide 'rental subsidy' for office space occupied by small businesses	SMMEs look for sources of funding	Government	SMME development support	Establish throughout the province 'a place that will incubate start-up small business' Monitor the development of these SMMEs over a period of two to three years to get value for money	Support SMMEs to promote the growth of their enterprises

Concept	What	When	Where	Why	How	Consequence
	Provide 'seminars'	Induct women entrepreneurs	Eastern Cape Province	Women need to know what it is that they can offer in terms of products and services when entering the sector	Raise women's awareness of business opportunities available to them	'Making women well aware and prepared in knowing what one can offer to benefit the client'
	Provide 'road shows'	Getting feedback	Eastern Cape Province	'So that SMMEs can contribute to the growth of the economy'	Government is aware of the challenges that SMMEs face	Close the disconnect between government and SMMEs
Women entrepreneurs need action from government	Provide ICT skills	Induct women entrepreneurs	'Penetrate rural areas'	Know the benefits of ICT	Government informs and educates entrepreneurs about ICT	More women participate in the ICT
				The importance of ICT		Promote gender equality in ICT access and usage
				How to introduce ICT in their businesses	'Departments responsible for facilitating national communication like GCIS, must know what ICT is about'	Business owners employ ICT in their operating systems and produce ICT products and services
	Establish sustainable ICT centres	Look at promoting entrepreneurship development	Rural areas	'Create lots of opportunities for the youth living in remote areas and they will contribute to the economy.'	Infrastructure that will support local SMMEs	Increased entrepreneurial activity
	'Upgrading the telecommunications infrastructure'	Service delivery	Underserved areas, particularly in rural areas	Frequent technological changes necessitate frequent upgrades in technology	Flexibility in integrating technology	Access to infrastructure enabled by convergence of technologies
	Stop the 'corrupt' behaviour of officials	Procure services	SMMEs	Government officials ask for money and sexual favours in exchange for awarding tenders	Look into its supply chain administrative procedures, monitor and evaluate the procurement processes in order to curb corruption	Equal access to tenders End gender-based sexual harassment
	Relaxation of restrictive tender requirements	Due diligence	Site inspection	Start-up businesses don't have the assets stipulated in the tender	Start-up businesses need to produce evidence of assets	Start-up businesses would not be able to get access to tenders

Concept	What	When	Where	Why	How	Consequence
				requirements. These requirements most of the time are not relevant (don't speak to the type of tender advertised)		
	Women entrepreneur seek financial assistance	Tender is awarded	Government	Remove restrictive qualifying tender requirements, loan	'Should provide... like... in the construction environment session agreements on obtaining a tender'	Ability to tender sustainably
				Women entrepreneurs seek to attain financial independence	To circumvent the current practice that by default encourages joint partnerships between big business and small business confronted with funding limitations	Benefit minimally from partnership, 'and do you know how they kill us'
Private sector needed action	Sponsor networking platforms	Procurement service	Business community	So Business-to-Business (B2B) can 'grow each other', 'mentorship', 'support each other'	Initiate such platforms	Market business linkages
	Make business opportunities available on their websites	Request quotations from SMMEs	SMMEs	Encourage the participation of SMMEs	Enable access to 'webpages' for available business opportunities	Promote increased participation of SMMEs
	'Financially assist start-up businesses'	Loan application	SMMEs	Need operating capital	Need operating capital	Promote increased participation from women
	Support SMMEs by developing their knowledge and skills in ICT and fund the training.	Development initiatives	SMME segment	Advance women in the ICT sector	Fund training	Narrow the technology gap Increase participation of women in the ICT sector
	Must be encouraged to use women-owned companies	Procure services	Business environment	Promote women-driven entrepreneurship in the ICT sector	Look at the service track record and ability to deliver of a company	Promote increased participation of women in the economic mainstream of the ICT

Concept	What	When	Where	Why	How	Consequence
						sector
	Provide a mentorship role for emerging women entrepreneurs	Basic knowledge or information about the functionality of the sector	SMME segment	Skills transfer	'Private companies can serve as a source of reference for women'	Active participation of women entrepreneurs in the ICT sector
	Assist women in business	Empowerment initiatives	SMME segment	Produce innovative products	Financial assistance	Increase innovation levels enabled through R & D
	Information on business opportunities available in private sector	Investors in search of ICT businesses to provide support	SMME segment	Advance SMMEs in the ICT sector	Give exposure to the incubation programme	Increase business development and growth
Low motivation	Ineffective marketing strategies	Marketing	Marketplace	Local competition pressure Limited marketing budget	Competitor has bigger customer market share	Loose walk-in customers
	Self-motivation	Developing learners	ICT sector	Give them exposure to opportunities that were previously denied to women entrepreneurs	Pursuing the vision to 'motivate women candidates to enrol for technical support skills	Enabling women to get into the ICT sector
		Staff		Impart skills to prepare them to grab better opportunities	Develop young graduates	Profile of women in the ICT sector is raised
Development	Development of SMME women-owned enterprises	Look for business opportunities and information	ICT sector	Enable access to ICT business opportunities	Transfer of ICT knowledge, skills, and business related information	Increase growth and development of SMMEs in the ICT sector
	Staff	Career path development	Government and private sector	Get more women into the ICT sector	Mentor young graduates	More women occupy senior management and core ICT environments
	Community members	Community development	ICT training providers	Improving ICT skills	More people trained in ICT	More jobs in the ICT training that enable people to make a living from increased local entrepreneurial activity
	Economic development	Community development	Local communities	Uplift standard of living	local economic activity by SMMEs	

Concept	What	When	Where	Why	How	Consequence
Empowerment	BEE scoring point system	Women seek business opportunities and information	Government Private sector	Need to be economically empowered through BEE scoring	Access to business opportunities and information	Economic inclusion and growth of ICT enterprise Narrow the gender-based inequality to accessing business opportunities and resources
	SMME women (Self-empowerment)	Professional development	Workplace	Equal recognition status to men	Training and mentorship	Women's empowerment in ICT business knowledge skills career advancement in the ICT sector Increase the number of women who occupy senior positions Encourage women to eventually become employers 'self employment' rather than employees
Rural 'development' / 'empowerment'	Poverty alleviation and job creation	Community development	Local communities	Provide progressive women with skills to create ICT training jobs	Train people	Increase the number of women in ICT sector
	Inequities between rural and urban ICT environments	Community development	Urban and rural SMMEs	Inequalities in accessing information	Urban people have access to computers to search via the Internet available government opportunities and rural people don't Women entrepreneurs in rural communities have the potential to create jobs	Widen gap between rural and urban SMMEs in terms of marginalisation in respect of ICT Increase rate of rural entrepreneurship development

Concept	What	When	Where	Why	How	Consequence
	Lack of rural empowerment in ICT	Training	Urban areas, rural communities	ICT programmes target urban higher learning institutions and marginalise rural higher learning institutions Career advancement into ICT core positions 'station manager' Incompatibility issues	Inequities between rural and urban ICT environments to access training programmes as rural areas don't have access to telecommunication s infrastructure Don't have qualification in ICT	Rural areas lag behind urban areas Low levels of penetration into management positions
	Women do not empower themselves	Look for career opportunities	ICT industries			
	Lack of access to telecommunications infrastructure	Broadcasting	Community radio station		Telecommunications infrastructure not upgraded	
e-Commerce	Conduct business on e-commerce websites	Trading	Globally	Open 24/7 'around the clock', 'easier and convenient'	'making purchases from different countries'	Competitiveness in the global market
ICT significance for the ICT enterprise	Reduced travel	Travelling	Workplace	Cost saving	Hold office meeting via video conferencing	Improved productivity levels
	Improved quality of work life	Operational activities	Operating systems	'Efficiency', 'effectiveness', faster turnaround time, and productivity	'Backbone' that 'assists in improving business processes'	Financial gain
	Information research tool	Research information	Search the Internet	Generate and store information	Use the computer	Increase productivity levels
	Communication tool	Communicate messages	People in different places	Saving on travel costs	Communicate via email	Effective conveyance of message levels
	Electronic document storage tool	Store of documents	Computer	Keep a document as proof	Filing of documents	Increase efficiency
Acknowledge gender equity	'We are equal to men'	Access business opportunities	Government	'We are running our business on the same	BEE rules level the playing field	BEE rules a catalyst in promoting gender

Concept	What	When	Where	Why	How	Consequence
				level that men do'		equity
Corruption	Bribing tendencies of government officials	Awarding of funds	SMMEs	Get money in exchange for granting funds	Ask for money	Women subjected to sexual harassment Women economically marginalised
	Irregular tender practices SMMEs have government connections	Loose 'trust' and 'faith' in government	SMMEs	Inaccessible tenders	Corrupt tendencies of government officials	'White' women do not have trust government 'I have lost faith, especially as a white woman'
	Funding processes not fair to SMMEs	Adjudication of tenders	Government	Officials ask for money in exchange for awarding tenders	'To get funding, SMMEs must know someone from inside or belong to a 'certain network group'	SMMEs are marginalised
	'Dole out a percentage of your money'	Seek funding	Government procurement officers	Stop the 'corruption'	Monitor and evaluate procurement	Exhaust SMMEs 'financially'
	Business is awarded on a friend-to-friend basis		Private sector procurement officers		National companies engage local companies that they have longstanding contracts with	Local enterprises miss out on business opportunities
	Men ask for sexual favours Sexual innuendos	Adjudication of tenders	Government	Officials ask for sexual favours in exchange for awarding tenders	Business proposals that have a precondition that business will be awarded in exchange for a personal relationships	SMMEs are marginalised
Enterprise owner	Characteristics associated with the entrepreneur and entrepreneurial activities linked to the description of the concept entrepreneurship	Define term	Entrepreneurship context	Differences in interpretation	Characteristics of entrepreneur associated with: 'develops an idea', 'guts to establish new venture', 'risk taker', 'creating something extra-ordinary', 'non-conventional thinking',	Ability to identify market opportunities Lack marketing skills Lack access to markets Low innovative capacity Lack access to funding Lack access to business related

Concept	What	When	Where	Why	How	Consequence
					<p>'understanding the needs of the market', acumen to organise resources, passion for the development of people.</p> <p>Characteristics of entrepreneurial activity</p>	<p>information Lack access to resources Lack initiative to follow up on business related information Lack motivation Risk aversion Have a passion to develop Self and others Advocate for change in government and private sector Quickly giving up New women-owned businesses mushroom Limited entrepreneurial activity in rural areas Lack knowledge about ICT sector Skills limitation in business management and ICT skills Developing apathy</p>

Appendix P: First illustration of building categorical structures

Category	Conditions	Action / strategies	Consequence (outcome)
1. Women experience forms of discrimination	What gives rise to discrimination? Circumstance / situation	Actions that allow it to occur Strategic response to issue / problem	Outcome of actions / interaction
	Socio-cultural gender role expectations conflict with women's entrepreneurial role Occupational differences ICT sector predominantly a male career environment	Society judges women holding business meetings after hours Men orchestrate women from networking platforms Limit women's career advancement Women take action through self-empowerment Women do not have decision-making power ICT understood as a combination of network, computers (hardware) used for 'relaying', 'communicating' information, storage of documents, retrieving information easily Understand the significant role of ICT in business	Enforce gender stereotypes Women are economically marginalised Increase levels of underrepresentation of women in key ICT positions Increase over-representation of women in non-professional ICT occupations Penetrate 'technical' careers previously dominated by men Inability to contribute to decisions that concern operations of the organisation Become more assertive in stamping out gender-based stereotyping 'it's a men's club', 'boys club', 'men's game'
	Not recognised in the industry as 'business owners' and equals to male entrepreneurs	Men undermine women's ability to run ICT enterprises The EC Province lacks sex disaggregated statistics of the ICT sector	Marginalise women in the ICT sector Women's contribution in the ICT sector goes unrecognised despite weathering the challenges
	Experience gender-based inequality in the workplace	Women identify the lack of knowledge about the ICT sector Gender differentials in earnings Inequalities in accessing career advancement opportunities Gender differentials in earnings	Take assertive action in upgrading their ICT knowledge and skills Unacceptability of women as equal working partners and their abilities are questioned Women educationally under qualified in comparison with men, hence their earnings are less.
	Experience educational differences	Government officials ask for money and sexual favours in exchange for awarding tenders	Economic marginalisation. Women entrepreneurs shy away from pursuing tender opportunities Widening inequalities in accessing information that could enable women to benefit from available resources and economic opportunities
	Are exposed to gender-based sexual harassment	Subjected to unwelcoming 'sexual innuendos' from men in networking platforms	

Category	Conditions	Action / strategies	Consequence (outcome)
2. Women entrepreneurs lack access to resources	Lack market intelligence	Inaccessible sources of information Lack information about other women-owned ICT enterprises Do not have information about government initiatives Supply chain is not doing enough to promote B-BBEE ICT cost (online) is a barrier to accessing information from websites of relevant local offices Significance of the role of ICTs acknowledged	Experience difficulties in marketing the ICT enterprises Women's lack of mobilisation and self-empowerment Women entrepreneurs ask for guidance from government Women develop apathy Women do not benefit from BEE scoring point system Miss out on business opportunities
	Experience difficulties to access funding	Inequalities to access funding between men and women, funding processes are not fair Inability to access funding to cover equipment costs, telecommunications, infrastructure set-up costs, maintenance costs, licensing fees , upgrading software, and hardware costs Inability to access operating capital, to manage cash flow in order to pay staff salaries, marketing, and training budget	Are economically marginalised ICT enterprises experience cash flow problems
3. Developing apathy	Lack initiative in following up on business related information Quickly give up on business opportunities, especially when faced with challenges Experience low motivation	Have not researched information that could benefit the ICT enterprises Have not dedicated much time to tap into the opportunities that are out there Do not know where or how to get funding	Do not benefit from government initiatives Women lack motivation and are faced by Challenges
4. Eastern Cape ICT market	Private company preferred suppliers	Big companies 'multi-vendors' favoured over local SMMEs that are not accommodated by the 'procurers of services'	Local ICT enterprises are marginalised
	Government suppliers	'Established' SMME 'companies' on government's supplier data base not getting requests for quotations.	Denying women access to business opportunities and active participation in economic mainstream of the ICT sector
	'Black SMMEs', – new entrants practise uncompetitive pricing	'Black SMMEs' are 'destabilising the market', they are 'under-cutting established SMME 'companies' Government is looking at the cheapest quotation and not the quality and track record	Respond competitively to requests for quotations compared to established companies 'Established' SMME 'companies' are marginalised

Category	Conditions	Action / strategies	Consequence (outcome)
	Government regulations hamper women to access tenders	Stringent procurement systems hamper women from meeting strict qualifying criteria Inflexible administrative requirements and procedures Stringent compliance requirements, documentation too complex Restrictive application requirements, e.g. loans	Deny women access to business opportunities and active participation in economic mainstream of the ICT sector
	Late turnaround payment processes of government	Long waiting period for payment Careless supply chain administration processes	Experience problems in relation to tendering sustainably Bad reputation of ICT enterprises for paying their suppliers late
5. ICT enterprises produce low innovation levels	'ICT is not understood well enough by small business to trigger innovation'	SMMEs are found lacking in innovative product development Do not understand 'innovation as being at the heart of the ICT enterprise' Lack knowledge about the strategic use of ICT Do not optimise technology Lag behind in technological development	Not aware of simplified formats offered by ICT, e.g. online to manage business processes Propose new ideas and prospective or beneficial changes to the ICT sector Lag behind in technological development Innovation is limited in 'systems development', 'web design, 'business analyst', 'intelligence', and 'cabling'
6. Developing ICT skills base within and outside the ICT enterprise	Prioritising the development of young graduates	Motivating young women to enrol for technical skills Nurturing talent through mentoring	Addressing the shortage of women representation in key positions within the ICT sector Encouraging women to eventually become employers 'self employment' rather than employees
	Taking action by promoting self-empowerment	Empowering self in technical skills and business management skills	Seeking career advancement opportunities within the ICT sector
	Empowering rural communities	Women entrepreneurs are involved in social responsibility programmes aimed at empowering rural communities through ICT skills training Rural areas lagging behind in terms of accessing ICT for development	Addressing the inequities between rural and urban in accessing ICT training programmes Creating more jobs in the ICT training to enable people to make a living from Increased local entrepreneurial activity
	Lacking human resource capital	Inability to hire qualified 'graduates' staff Lacking time to play the role of mentor when inducting new staff Lacking training budget to train staff to keep up with latest technology Experiencing staff shortages in the	High staff turn over Preparing more women to penetrate senior management in core ICT environments

Category	Conditions	Action / strategies	Consequence (outcome)
		workplace	
	Lacking business management knowledge and skills	lacking computer literacy skills Inability to use new technology optimally lacking start up business skills lacking skill in the area of, 'finance', management' and 'employment regulations' No workplace experience – 'incompetent' and 'lacking orientation of ICT sector'	Women's empowerment in ICT and business knowledge and skills
7. Experiencing difficulty in marketing the ICT enterprise	Ineffective marketing strategies	Limited product diversification 'niche solutions' Having negative attitudes towards local competition Difficulty in finding 'niche market' in order to survive competition Having limited marketing skill Having limited marketing budget Being risk-averse Being open to partnership marketing Low motivation	Ineffective marketing limiting the ICT's ability to gain customer market share Women entrepreneurs having negative attitudes towards competition Women lacking motivation when faced with challenges
8. Government taking action	Giving support to women in government	ICT award programme aimed at raising the profile of women in ICT Management and executive programme aimed at developing women in senior management positions Executive development support for women in ICT aimed at enhancing the visibility of women in leadership positions	Raising the profile of women in ICT
	Giving support to women entrepreneurs	Affording women-owned businesses an equal opportunity to access government tenders by awarding extra points – BEE scoring point system Registering SMMEs on centralised electronic database Enforcing a thirty day turnaround payment period Facilitating partnership ventures between small and big business	Increasing women's access to tendering opportunities SMMEs can improved cash flow management Big business assisting SMMEs by carrying the financial costs, providing human resources and standing as surety Enabling SMMEs to enhance their research and development technological capabilities
9. Women entrepreneurs needing action from government	Women entrepreneurs needing action from government	Marketing support from government through business delegations 'marketing the province abroad' 'linking women with relevant companies'	Decreasing inequalities between provinces in accessing business networking opportunities facilitated by government outside the country

Category	Conditions	Action / strategies	Consequence (outcome)
		<p>– local business linkages For government to play a mentorship role for women entrepreneurs aspiring to get into the sector Government providing, 'rental subsidy' for office space occupied by small business Providing 'seminars' especially in rural areas – inducting new and old ICT enterprises about the ICT sector Facilitating 'road shows' where government can get direct feedback from women entrepreneurs Providing ICT Skills training targeting women and that is paid for by government Establishing sustainable ICT centres in rural areas – 'Upgrading the telecommunications infrastructure' to accommodate the convergence of technological changes Bringing to an end the 'corrupt' behaviour by officials Relaxation of restrictive tender requirements Women entrepreneur seeking financial assistance when tender is awarded e.g. session agreement</p>	<p>Enabling ICT enterprises to gain marketing intelligence Enabling ICT enterprises to access big tenders Making the ICT sector attractive for women aspiring to enter the sector Enhancing SMME development through incubation hubs Effective induction of new ICT enterprises about ICT sector and doing business within the sector Government improving its processes by getting feedback from women entrepreneurs Increasing access to telecommunications infrastructure in rural areas that will support local SMME ICT enterprises</p>
10. Private sector needed action	Private sector needed action	<p>Sponsored training in ICT skills Sponsored networking platforms Make avail business opportunities 'tenders' on their website Requesting quotations from SMMEs to train their staff Giving business to women-owned 'companies' with 'track record' 'Financially assist start up businesses' in terms of operating capital Playing a mentorship role for emerging women entrepreneurs Banks relaxing restricting application</p>	<p>Promoting economic participation of women in mainstream economy of the ICT sector</p>

Category	Conditions	Action / strategies	Consequence (outcome)
		requirements i.e. loan, credit and collateral	
11. Private sector taking action towards women entrepreneurship development	Providing support	Financial assistance for R & D projects producing innovative products Giving exposure from the incubation programme	Promoting innovation
12. ICT significance for the ICT enterprise	Significant role of ICT in business	Cost saving Reduced travel Improved quality of work life Information research tool Communication tool Electronic document storage tool Electronic document storage tool	Promoting improved productivity and growth of ICT enterprises
13. Corruption	Bribing tendencies by government officials	Women entrepreneurs subjected to sexual harassment from officials Women 'Giving out a percentage of [their] money'	Women entrepreneurs shying away from pursuing tender opportunities
	Irregular tender practices	Women entrepreneurs 'white' losing 'trust' and 'faith' 'especially as a white woman' in government Some SMMEs accessing tenders through government connections	White women economically marginalised Inequality in accessing tenders
	Funding processes not fair for SMMEs	Officials asking for money in exchange for awarding tender 'To get funding SMMEs must know someone from inside or belong to a 'certain network group'	Women economically marginalised Inequality in accessing tenders
	Business is awarded on a friend basis	Tender opportunities inaccessible National companies engaging local companies that they have standing contracts with	Being economically marginalised Denying local ICT enterprises access to business opportunities and active participation in economic mainstream of the ICT sector
	Men asking for sexual favours	Men (networking platforms) who propose personal relationships 'sexual innuendos' and government officials who are abusing their power by asking for sexual favours in exchange for awarding tender'.	Women entrepreneurs shying away from pursuing tender opportunities
14. Enterprise owner	Characteristics of enterprise owner associated with the entrepreneur and entrepreneurial activities linked to the description of the concept entrepreneurship	Characteristics of entrepreneur associated with: 'develops an idea', 'guts to establish new venture', 'risk taker', 'creating something extra-ordinary, 'non-conventional	Ability to identify market opportunities Lacking marketing skills Lacking access to markets Low innovative capacity Lacking access to funding

Category	Conditions	Action / strategies	Consequence (outcome)
		thinking', 'understanding the needs of the market', acumen to organise resources, passion for the development of people. Characteristics of entrepreneurial activity: 'art of creating business', turning business venture into big business',	Lacking access to business related information Lacking access to resources Lacking initiative to follow up on business related information Lacking motivation
	Characteristics of enterprise owner associated with the entrepreneur and entrepreneurial activities linked to the description of the concept entrepreneurship	'expansion of venture', seeking 'new' market trends and 'opportunities', 'creating employment for self and others', 'creating new products and services', 'increasing productivity levels of the enterprise, 'doing things differently'	Risk averse Having passion to develop self and others Advocating for change from government and private sector Quickly giving up New women-owned business mushrooming Limited entrepreneurial activity in rural areas Lacking knowledge about ICT sector Skills limitation in business management and ICT skills Developing apathy