



Cape Peninsula
University of Technology

**A STUDY OF DEVELOPMENT AGENCY AS AN AUGMENTER IN THE
COMMERCIALISATION OF THE MOBILE APPLICATIONS DEVELOPMENT SME
SECTOR IN THE WESTERN CAPE THROUGH BUSINESS MODEL INNOVATION IN
RESPONSE TO DISRUPTIVE INNOVATION**

by

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DECLARATION

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01 March 2018

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ABSTRACT

The central thesis of this study is that a multi-factorial strategy model can be evolved to enable development agency to be an augments in the commercialisation of the mobile applications development SME sector through business model innovation in response to disruptive innovation.

The concept of augmentation in the context of this study acknowledges that disruptive innovation is ubiquitous and that development agencies can help these SMEs to succeed through business model innovation. This can be achieved through the implementation of a multi-factorial strategy model.

A multi-factorial strategy model in this context is regarded as a method or plan having stemmed or stemming from a number of different causes or influences detailing the logic and the key considerations on the path to defining an organisation's strategy. The development agency can utilise it to determine the state of the business and what the appropriate response should be, by way of business model innovation in response to disruptive innovation.

This study rests on three tenets, namely, the uncovering of the dimensions of business model innovation; the nature of disruption; and finally, the potential role of the development agency in supporting SMEs in the technology sector.

The mobile application (app) economy has presented business potential for SMEs and this sector of the economy can be facilitated by development agencies. Governments make use of development agencies to assist, develop and support growth within a region through the provision of resources and assistance, usually from state organisations. The enterprise development strategy should ensure the viability of the business idea, which should lead to the creation of new business value.

The fieldwork for this critical realist study consisted of five phases. Phase 1 involved interviews with academics from the four higher education institutions in the Western Cape; Phase 2 involved an interview with mobile application development SMEs; Phase 3 comprised a focused interview consisting of members from industry and the development agency; Phase 4 involved interviews with entrepreneurs within the innovation and technology sector; and Phase 5 involved interviews with development agencies supporting the development of SMEs.

Despite their potential, mobile app development businesses in the Western Cape face difficulties in commercialising their applications. The study suggested that research is warranted around the establishment of a multi-factorial strategy model which could provide a

strategy for enhanced commercialisation of mobile app development. This model would have to address a number of concerns, depending on the propensity of the business towards mobile app development. Research into what adjustments to the current business models of these businesses are required to enter into mobile app development was also recommended.

The findings and interpretations of this critical realist study revealed a structured real world of the landscape of mobile application development in the Western Cape, South Africa, by identifying its key constructs. It then revealed that knowledge is socially produced by identifying the salient imperatives that inform the role of the development agent with respect to business model innovation and disruptive innovation. By means of critical discourse analysis of the views expressed by the respondents, it revealed the emancipation agenda of mobile application development in the Western Cape, South Africa. In doing so it also ultimately uncovered the generative mechanisms in understanding, amongst others, what the critical performance underpinnings are.

It is recommended that the SME sector implement business model innovation to respond to disruptive innovation, defined as “emerging technology whose arrival in the marketplace signifies the eventual displacement of the dominant technology in that sector” (Ganguly, Nilchiani & Farr, 2010, p. 35). The proliferation of disruptive innovation has led to technological innovation and such innovation will impact on SMEs in South Africa. The concept of business model innovation suggests that SMEs should move to a progressive interdependent modality where they participate through their shared strengths. The collaboration with other mobile app development SMEs would allow for their independent weaknesses to be moderated. Through business model innovation, mobile app development SMEs should be able to respond to the disruptive innovation and ensure success and sustainability. The antidote to disruption should be progressive management by way of business model innovation. In this sense then, the antidote to disruptive innovation is a management response that should be understood across the sector in which the study is undertaken.

This study has unravelled the value of the synergistic relationship of its three tenets. In response to its central thesis, this study has developed a multi-factorial strategy model to enable development agency to be an augments in the commercialisation of the mobile applications development SME sector through business model innovation in response to disruptive innovation. The models that have evolved are the Disruptive Innovation State Response Model and the Disruptive Innovation Praxis Model. The study ultimately proposed that the value proposition of the research is that a development agency, business person, technologist, venture capitalist, etc. could utilise these models to determine what state the business finds itself in and through its application, make the appropriate response.

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DEDICATION

For my beloved parents, Alfred Charles Francke, as well as Iris Muriel Francke, who passed on during the period of my study.

This thesis is dedicated to former President Nelson Mandela in whose name I received a scholarship to study towards a master's degree in Information Management and Systems in Australia, which ultimately laid the foundation for this doctoral study.

It is further dedicated to all my primary and high school educators who selflessly imparted their knowledge despite the inequitable conditions under which they operated during the 70s and 80s on the Cape Flats.

This thesis is also dedicated to all those who should have reached this milestone in life but owing to circumstances beyond their control were not able to do so.

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GLOSSARY

Augmenter	The process of building something already developed or that which is already in existence greater in size, extent, or quantity.
Business Model	The way in which a business identifies who its customers are, how to engage with their needs, how to deliver satisfaction, and how to monetise the value.
Business Model Innovation	Refers to the creation, or reinvention, of a business itself. Whereas innovation is more typically seen in the form of a new product or service offering, a business model innovation results in an entirely different type of company that competes not only on the value proposition of its offerings, but aligns its profit formula, resources and processes to enhance that value proposition, capture new market segments and alienate competitors.
Commercialization	Refers to the process by which a new product is launched into the market. It consists of the production, distribution, marketing, sales and customer support necessary to realise its commercial success.
Cloud Computing	Refers to the ability of users to upload and download data and other associated information communication services onto and from a server which is remotely positioned, other than where the user is operating from.
Development Agency	Refers to the means by which assistance is rendered by government to relevant stakeholders, in order to ensure the expansion of the economy.
Disruptive Innovation	Refers to an innovation that helps create a new market and value network, and eventually goes on to disrupt an existing market and value network (over a few years or decades), displacing an earlier technology.
Disruptive Technology	Refers to a new technology that unpredictably dislodges established technology and causes major change in the accepted way of doing things.
Mobile Computing	Refers to a variety of devices that allow people to access data and information from wherever they are.
Multi-Factorial Strategy Model	A method or plan having or stemming from a number of different causes or influences detailing the logic and the key considerations on the path to defining an organisation's strategy.
Praxis Model	Refers to a method or plan chosen to engage, apply or practise a theory or ideas while at the same time

	discerning the meaning of and contributing to the course of social change.
Small Business	Refers to privately owned enterprises, corporations, partnerships, or sole proprietorships. What constitutes 'small' in terms of the SA government support and tax policy varies by industry, ranging from between 5 and 200 employees and a turnover up to R50 million.
Social Network.	Refers to the personal or professional set of relationships between individuals. Social networks represent both a collection of ties between people and the strength of those ties. Often used as a measure of social 'connectedness', recognising that social networks assist in determining how information moves throughout groups, and how trust can be established and fostered.
Social Media	Refer to the various online technology tools that enable people to communicate easily via the Internet to share information and resources.
Strategy	Refers to a method or plan chosen to bring about a desired future, such as achievement of a goal or solution to a problem.
Technology Commercialisation	Refers to the movement of ideas from the research laboratory to the market place, i.e. a conversion of ideas into products and services.
Technology Transfer	Refers to the process of transferring technologies to ensure that technological developments are accessible to a wider range of users who can then further develop and exploit the technology into new products, processes, applications, materials or services.
Technology Innovation	Refers to new products and processes and significant technological changes of products and processes. An innovation has been implemented if it has been introduced on the market (product innovation).

CHAPTER 1: INTRODUCTION

1.1 Title of the study

A study of development agency as an augments in the commercialisation of the mobile applications development SME sector in the Western Cape through business model innovation in response to disruptive innovation.

1.2 Background to the study

As a preface to any discussion on the content of this study, I wish to declare my writing style in this thesis. Having consulted the literature and colleagues on what is most appropriate to a social sciences study, I have decided to adopt the views of Given (2008), Shelton (2015), and Honan and Bright (2016). Given (2008) states that authors who shun the use of the first-person pronoun in academic writing contend that it interferes with objectivity and impersonality in the writing. In many qualitative studies, however, authors prefer to use the first person as it gives a voice to their participants' perspectives. Honan and Bright (2016) declare that it is now acknowledged that the first person is appropriate in writing about research, although the third person is perhaps generally favoured in most cases. Lastly Shelton (2015) recommends the use of the first person and active voice to ensure accurate attribution of action in the research. Over and above the use of the first person in my thesis, as a means of further determining my writing style, please note that where no references are acknowledged in a paragraph, then such commentary is my own thinking; and where references are acknowledged, the entire paragraph is ascribable to the referenced author/s.

This study was motivated by reports of the proliferation of disruptive innovation from Gartner (2008) and years later from other studies that suggested that the mobile applications (apps) industry had experienced unprecedented growth (Rakestraw et al., 2013). Rowlands (2013), in a report by Juniper Research, predicted that in 2017 over 160 billion apps would be downloaded globally onto consumer handsets and tablets.

These and similar research studies stimulated my interest in the proliferation of mobile apps as a cause of disruptive innovation over recent years. My interest was not only limited to the technical aspects and functionality of the mobile apps, but also the business models. I realised that there are low barriers to entry for SMEs to participate in this sector. My ongoing interest extended to understanding if all of this was so, why were many more SMEs not participating in and benefiting from this

opportunity? Further exploration of the extant body of knowledge and discussions with SMEs revealed that SMEs find it difficult to convert their technical expertise into business solutions. They lack certain elements to do so. Initial enquiry led me to believe that development agencies as custodians of business development should support this initiative. Finally, it interested me to determine whether the development agencies knew how to assist SMEs in this dynamic sector.

My initial enquiry into this study suggested that I should be honing my investigation into discrete themes such as mobile apps as an instance of innovation; business models that best support mobile app development; the state and value of SMEs to the SA economy; and government support that could be rendered to assist these SMEs.

My curiosity around innovation in business models is supported by ideas of “business model ontology” of Osterwalder (2004, p. 3), and “the evolving business model concept” of Ammar and Ouakouak (2015, p. 80), as well as the contention of Díaz-Díaz et al. (2017) who state that many organisations of various industries are trying different combinations of business models, yet there are inadequate studies that focus on business models and business model innovation.

Nearly three decades ago, Krugman (1994) stated that South Africa (SA) was part of a truly global economy. In a post-politically reformed SA which now allowed for international trade, SA had to learn to compete in a competitive world marketplace. In this world higher productivity and product quality were indispensable. The author suggests that the SA economy had to move into high-value sectors that would generate jobs for the future. In order to ensure competitiveness, partnerships between the SA government and business had to be forged.

The Organisation for Economic Co-operation and Development (OECD) recently released its 2017 economic survey¹ relating to the economic outlook of South Africa. It suggests that the unemployment rate has increased from 25% to 27% due to economic slowdown and income inequalities remain wide between rich and poor. The survey proposes that entrepreneurship is vital to increase job creation. Entrepreneurship in South Africa is low in comparison with other emerging economies. This could be improved with government policies supported by financial

¹ <https://www.oecd.org/eco/surveys/2017-OECD-Economic-Survey-South-Africa-overview-2017.pdf>

and non-financial backing. In particular, the youth have an unemployment rate of 53%. The quality of the education system and lack of work experience contribute to gaps in entrepreneurial skills.

In recognition of Krugman (1994), SBP (2011) in their discussion of the SME Growth Index, mentions that SA's finance minister has declared that SMEs are critical to overall employment and job creation. The truth, however, is that the SA economy is shedding jobs, and those that are being created are disproportionately in the public sector. The report further suggests that the solution lies in entrepreneurship and small business. However, a subsequent report SBP (2015) warns that SMEs in SA indicate a waning in employment turnover and the bulk are struggling to survive. This is in contrast to international trends where SMEs are the largest employers in either developed or developing economies.

The efforts to expand the number of small businesses need to be located within an understanding of the nature of businesses that the economy can best support (SBP, 2011). This view is supported by the theory of entrepreneurship as proposed by Schumpeter (1947) who argued that the innovation and technological change of a nation come from the entrepreneurs. The theory suggests that the act of doing new things emanates directly from the free-spirited efforts of entrepreneurs. Schumpeter (1947) defines entrepreneurship from the economics perspective by focusing on the perception of new economic opportunities and the subsequent introduction of new ideas in the market.

Le Roux (2010) suggests that the partnership between government and business as proposed by Krugman (1994) can be achieved through development agencies. These are agencies that aim to assist, advance and support growth within a region through the provision of resources and assistance, usually from state organisations. The enterprise development strategy must ensure the viability of the business idea which should lead to the creation of new business value.

Mandel (2012) suggests that government's potential solution to boosting employment lies in innovation. A particular aspect of this is disruptive innovation, which causes major change to the way in which industries operate. The term 'disruptive innovation' was defined and its phenomenon was analysed by Bower and Christensen (1995). It calls for innovation not only at the technological level, but also at the business level. In this way, new goods and services are created, giving rise to new industries through which employment is created. A prime example of this would be the rise of a

disruptive innovation like mobile apps that could provide jobs for developers, designers, marketers, and other related staff. In the vein of Krugman (1994), who proposes that government forge better ties with business, this mobile app economy can be facilitated by development agencies.

In the wake of the challenges facing SMEs identified by Robson and Bennett (2000), Olawale and Garwe (2010), SBP (2011), Neneh and Van Zyl (2014), and SBP (2015), and in response to the potential of the mobile app economy, businesses might have to implement business model innovation which refers to the creation, or reinvention, of a business itself. While innovation ordinarily manifests in a new product or service, business model innovation results in a completely different type of business that competes not only on the value proposition of its offerings, but aligns its profit formula, resources and processes to enhance that value proposition, capture new market segments and alienate competitors (Francke & Alexander, 2012). Baden-Fuller and Haefliger (2013) argue that business models are fundamentally linked with technological innovation, yet the paradigm of the business model is fundamentally discrete from technology. Theories of strategic management are postulated by Porter (1990, 1998, 2001) in which the author constantly illustrates the importance of a business remaining competitive. In particular Porter (2001) warns that if a business views the business model in isolation from its strategy, it may hinder the business's most important advantages. The author further contends that a business must continue innovating as it is constantly exposed to new competitors and substitute products. It is, therefore, prudent for business owners to consider the various propositions around business models and the value of innovating them. It would appear that business model innovation could be regarded as the rejuvenation of a business's system of identifying who its customers are, how to engage with their needs, how to deliver satisfaction, and how to monetise the value.

In congruence with the views of Porter, the Theory of Diffusion of Innovation as postulated by Rogers (2003) expounds how, why, and at what rate new ideas and technology spread through cultures and the way that they are communicated via particular channels over time among the participants in a social system. This theory has relevance to this study by virtue of the fact that SMEs should consider that adoption of their innovation does not only rely on the innovation's technical capabilities. The SME would have to consider how its business model relates to the particular segment of the market to which its innovation is appealing.

A key aspect of this doctoral project was an investigation to determine the size and shape of the mobile app development sector in the Western Cape. The research revealed that mobile app development businesses see potential in mobile apps, but they appear to have difficulty in commercialising these apps by introducing them onto the market for financial gain. The investigation suggested that further research is warranted on the establishment of a model which could provide a strategy for enhanced commercialisation of mobile app development. This model would have to address a number of concerns, depending on the propensity of the business towards mobile app development. Research into what adjustments to the current business models of these businesses are required to enter into mobile app development was also recommended. The preliminary study is consistent with that of Gartner (2008) regarding the fact that the proliferation of mobile technologies is challenging IT sensibilities and should therefore be regarded as a disruptive technology.

This study proposes that a that a multi-factorial strategy model can be evolved to enable development agency to be an augments in the commercialisation of the mobile applications development SME sector through business model innovation in response to disruptive innovation. Dumanski and Pieri (1995), Gauthier and Lardic (2003), Linster (2003), Shoemaker et al. (2004), and Sidora-Arcoleo et al. (2012) all advocate the value of developing a model as a means of proposing an abstraction of reality. Dumanski and Pieri (1995) and Linster (2003) specifically promote the development of a multi-factorial approach in their social science studies. They present a Pressure–State–Response (PSR) Framework, used by organisations for environmental performance monitoring. Linster (2003) postulates that the PSR model emphasises the cause-effect relationships and assists officials to view environmental, economic and other issues as interconnected.

The background to the study interrogated the proliferation of disruptive innovation and unprecedented growth of mobile apps. It seemed to suggest that the proliferation of mobile apps could present an opportunity to SMEs in the mobile app development industry. In this way the mobile app development industry could potentially play a significant role in the development of the SA economy by creating jobs. However, other than innovation of product, SMEs in this industry would have to gear their business models to take advantage of the innovation in the mobile app industry. These SMEs are, however, challenged like many other SMEs and they would need support from government to ensure success and sustainability. It appears, therefore, that these SMEs would benefit from a strategy for business model innovation to promote efficacy enhancement of mobile app development.

1.3 Purpose of the study

This study is motivated by one fundamental argument. It resolves to prove the central thesis which is that a multi-factorial strategy model can be evolved to enable development agency to be an augments in the commercialisation of the mobile applications development SME sector through business model innovation in response to disruptive innovation. The golden thread of this study is the journey to uncover three tenets:

- I. the dimensions of business model innovation;
- II. the nature of disruption; and
- III. the potential role of the development agency in supporting SMEs in the technology sector.

Not much attention has been given in literature to the potential that business model innovation has for mobile app development SMEs in response to disruptive innovation. This study explored the landscape for mobile app development in the Western Cape, SA and the role of the development agency in attempting to promote mobile app development SMEs' success and sustainability which ultimately contributes to the development of the SA economy. The technology arena of this research study is the focus on mobile apps. Key to this study is the notion of technology transfer and technology commercialisation, where through a multi-factorial approach, development agencies are equipped with a model that will assist them in supporting mobile app development SMEs towards enhanced competitiveness. Molebatsi (2015) advances that ever more, innovation through technology transfer is regarded as a contributor to economic growth. The South African National Innovation System has been established to support SMEs and offer them technology-related services.

In essence then, the intent of the research is to elucidate the environment so that a strategy for business model innovation is arrived at. The study intends to show that business model innovation occurs at organisational level, while the strategy for business model innovation occurs at sectoral level. The study also intended to foreground the role of development agency to transfer skills around business model innovation in response to disruptive innovation. The research process would uncover a range of strategic imperatives applicable to various contexts in which the businesses find themselves. This would allow development agencies to propose certain interventions supporting businesses in various states in relation to disruptive innovation. It would further allow them to classify the state of a business and then

recommend a suitable response to the disruptive innovation. The resultant output to the development agency would be two models for qualifying the state of the business in response to disruptive innovation by way of a Strategy Model and a Praxis Model.

1.4 Rationale for the study

The literature study reveals that not much attention has been given in the extant body of knowledge to the potential that business model innovation has for mobile app development SMEs in response to disruptive innovation. Proceeding from this then, the main research question emanating from this study is, “How can a multi-factorial strategy model be evolved to enable development agency to be an augments in the commercialisation of the mobile applications development SME sector through business model innovation in response to disruptive innovation?”

Stemming from this main question, the foundation of this study is its three tenets and the unravelling of the value of their synergistic relationship. This unravelling aims to depict that the effect of the three tenets can produce an outcome better than the sum of their individual effects. Key to this study is the notion of technology transfer and technology commercialisation where through a multi-factorial approach, development agencies are equipped with a model that will assist them in supporting mobile application development SMEs towards enhanced competitiveness.

This study focuses on the mobile app development SME as a subset of the SME in the technology sector. The larger technology sector includes businesses that research, develop, manufacture and distribute products like electronics, software applications and other information technology (IT) related services.

As the custodian of economic development in SA, the Department of Trade and Industry (DTI) (Department of Trade and Industry, 2016) aims to facilitate transformation of the South African economy and to promote industrial development, investment, competitiveness and employment creation. It hopes to achieve this through the joint efforts of its development agencies which are a group of specialised, regulatory and financial institutions. In this way it strives to support SA's economic growth, employment and equity ideals, and deliver products and services to the citizens of the country. It specifically wishes to increase the contribution of SMEs to the SA economy, via financial, administrative and other support with the aid of development agencies. This study, therefore, explicated the potential role of development agencies in supporting mobile app development SMEs towards enhanced competitiveness.

This study proposed that the mobile app development SME requires meaningful intervention from development agencies in order to ensure competitiveness and sustainability. This would lead to the strengthening of the SA economy. In order to facilitate this meaningful intervention, development agencies would benefit from not only a multi-factorial strategy model, but also a praxis model, for enhanced competitiveness of the mobile application development SME.

It recommended that the SME implement business model innovation to respond to disruptive innovation which is defined as an “emerging technology whose arrival in the marketplace signifies the eventual displacement of the dominant technology in that sector” (Ganguly et al., 2010, p. 34). The emergence of disruptive innovation has led to technological innovation and these innovations will impact on SMEs in SA. As proposed by Christensen et al. (2008), the concept of business model innovation suggests that small business enterprises should move to a progressive interdependent modality where they participate on their shared strengths. The collaboration with other mobile app development SMEs would allow for their independent weaknesses to be moderated. Through business model innovation, mobile app development SMEs should be able to respond to the disruptive innovation and ensure success and sustainability.

Figure 1.1 is a graphical representation of the background of this study.

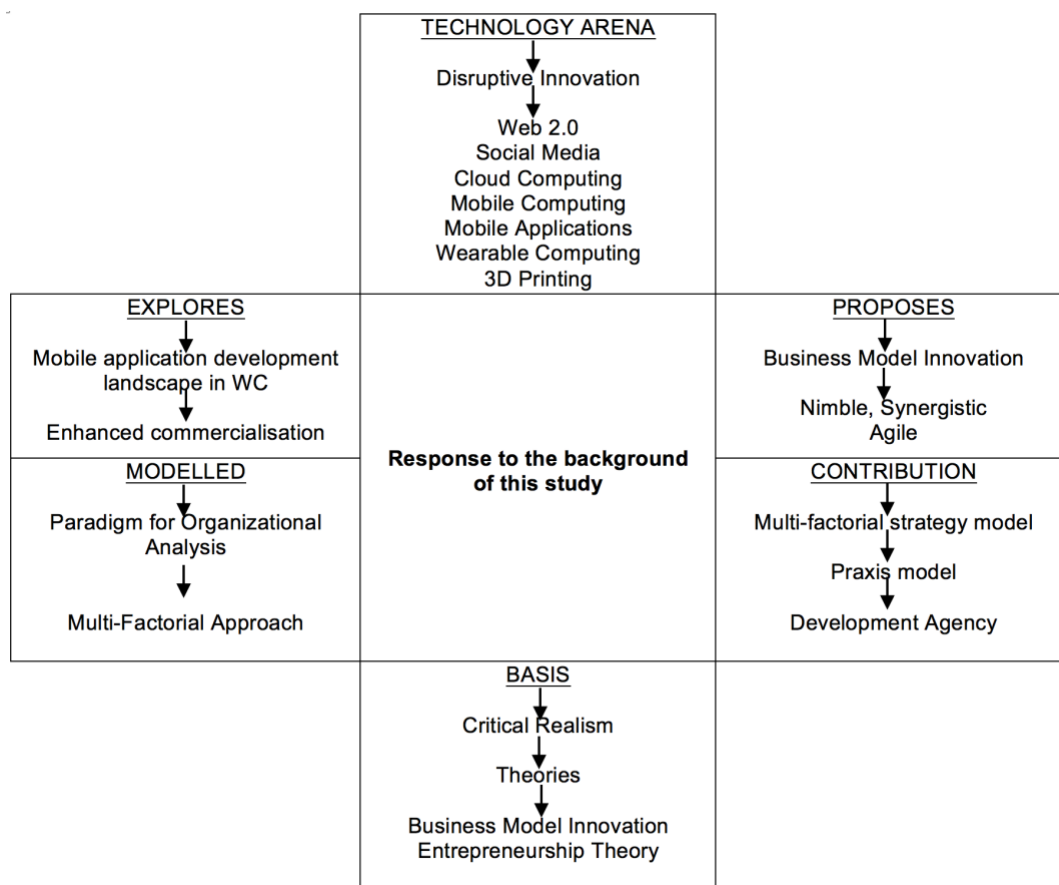


Figure 1.1: The response to the background of this study

1.5 Importance of the study

In light of the aforementioned, the focus of this doctoral study is on a specific type of disruptive innovation, namely mobile apps and the commercialisation of mobile app development in SA. It would be shown how development agencies can better serve the mobile app development SMEs through the adoption of not only a multi-factorial strategy model but also a praxis model, for enhanced mobile app development.

The proposed outcomes via the strategy model of this study could change the policy framework for development agencies' support to SMEs in this sector. It could also impact the manner in which development agencies view rendering assistance to SMEs.

It is expected of a doctoral thesis to produce novel work which makes a noteworthy contribution to knowledge. The proposed contribution of this study would vary from making a specific knowledge contribution by way of a unique discovery as to how development agencies should operate in this sector; a theoretical contribution through the rendering of the synergistic relationship between the tenets; and finally, a praxis

contribution as to how this industry might operate in responding to disruptive innovation.

1.6 Research context of the study

Gartner (2014) predicts that the magnitude of mobile apps may imply that mobile is a new revenue stream that could benefit many mobile application development SMEs; however less than 0.01% of consumer mobile apps will be considered a financial success by their developers and most mobile applications are not generating profits. Mobile app development SMEs that do not give thought to this may find profits elusive.

Chesbrough (2003) argues that businesses need to develop the capability to not only come up with ideas and technologies but also innovate their business models, since they have at least as much value to gain from developing an innovative new business model as from developing an innovative new technology. There are significant relationships between collaboration and SME performance. Collaboration appears to have some benefits in increasing market penetration and market share as well as in reduction of supplier costs and increase in product and service quality in order to increase profits and SME performance (Robson & Bennett, 2000). Parizi and Radziwon (2017) support the idea of collaboration and propose that SMEs should be amenable to network interaction. The authors show how collaboration between firms embedded in a regional ecosystem could result in the application of novel solutions. They acknowledge that there are challenges in implementing technological improvements but also recommend how these could be resolved through collaboration within the ecosystem of the SMEs. Rawlins (2015) states that SA has potential in ICT, yet analysts argue that government is inhibiting progress. The author argues that ICT investment is "critical" to a country's development. Besides Chile and China, SA is one of the three countries that have the most potential in ICT. The author postulates that this is measured by considering factors such as ICT patents, IT workforce, research and development, software developers, and market projections for the Internet of Things (IOT), cloud, big data, broadband, and data centres.

Not much attention has been given in literature to the effect of the lack of business model innovation in mobile app development SMEs and how this is experienced by SMEs. The literature has also not interrogated the potential that business model innovation has for mobile app development SMEs' success. In light of the proposed benefits of collaboration amongst SMEs, this study would focus particularly on

business model innovation within mobile app development SMEs as a potential solution to SME failure. The extant body of literature leaves an opportunity for further research into the synergistic effects of disruptive innovation, business model innovation and development agencies for mobile app development SME success. The notion of synergistic effects is classically used in the field of chemistry. It is what Abbaszadeh, et al. (2016) and Taylor (2016) refer to as the effect of two chemicals when combined being greater than the sum of their separate effects at the same doses. Synergistic reactions essentially amplify the power and potency of chemicals. Kumar et al. (2017) introduce the synergistic effects of social media and traditional marketing in their social sciences study. The authors suggest that academic understanding of the efficacy of social media is incomplete and research into the synergistic effects between social media and traditional marketing works is required.

Extending on this phenomenon of synergistic effect, the purpose of this study is, therefore, to explore the potential benefits of business model innovation and to develop a model for development agencies to assist mobile application development SMEs in response to disruptive innovation. The model will be valuable in assisting with mobile application development SMEs' success and sustainability, which ultimately will contribute to the development of the South African economy.

1.7 Research philosophy of the study

The interaction of organisations and how they function as a unit, sustaining and transforming one another, establishes a network in business. Based on this, the approach of Critical Realism is found to be convenient to describe the construct of business model innovation since it reflects the dynamic interactional nature of this construct in terms of ontology (view of the nature of reality), epistemology (view of the nature of knowledge) and methodology (view of the appropriate ways to study knowledge). As stated by McFarland (2008), there is much discussion in social science research around causation and how best to study it. Much of the deliberation focuses on establishing causes, but ignores emphasis and analysis of the generative mechanisms explaining that relation. The concept of mechanism implies the generative processes by which a causal relation is established. Critical Realism does not concentrate on finding a relation between constructs but rather on understanding why or how the relation is established. This study is, therefore, not only concerned with identifying and predicting relations but also understanding the phenomena by questioning why and how things exist as they do.

In practical terms, this socio-technical study investigated the interaction between society's complex infrastructures and human behaviour. It is what Westbrook et al. (2007) refer to as the interactions between socio-technical components, like users, technologies and policies. It therefore focuses not only on the types of disruptive innovation and how they are used. The emphasis is rather on mobile apps as a contemporary manifestation of a disruptive innovation as well as business model innovation and how these may benefit the sample population of development agencies supporting mobile application development SMEs. The target population of this study is those development agencies who assist entrepreneurs and/or small businesses aspiring to capitalise on the financial potential of mobile application development. The theoretical contribution of this study is moulded on the recommendations of Whetten (1989), namely, the four main building blocks of Theory Development, in order to ensure its validity.

1.8 Research design of the study

This study would adopt and adapt the Critical Realist Methodology Model as represented in Alexander (2013) as the basis of its research. It would support the principle of theory-to-practice or inductive research approach. Core to the model are the basic principles of Critical Realism as discussed by Bhaskar (1978) and Mingers et al. (2013), namely that a structured real world exists, knowledge is socially produced and the quest to discern the generative mechanisms that explain empirical experiences.

The key constructs of socio-technical systems are culture, structure, and (human) agency. For this study these key Critical Realist constructs have the following business context:

Giddens (1984) regards structure as rules and resources which exist only as memory traces that agents use to perform social actions. The author regards structure and agency as inseparable, as does Bhaskar (1978) in reference to the duality of structure. Archer (1995) suggests that structure is reproduced through agency which is simultaneously constrained and enabled by structure. The author argues that structure provides a context of action for future agents. In consideration of these views then, this study regards structure as business conduits, such as infrastructures, resources, and information systems. The important thing to note is that structure could simultaneously constrain and enable a wide range of business practices. Structure can, on the one hand, shape the lives of cultural participants by both limiting

and creating opportunities for accessing business resources. Structure could, however, also be shaped through the participation of communities, networks, and individuals in processes of change. This study would explore the collaboration practices through which small businesses make sense of structures.

Culture and society are generated by human activities suggesting that society is incessantly changing owing to the dynamic nature of human actions. In describing the concept of society, Archer (1995) argues that it is nothing other than the relationship between structure and culture. This study suggests that culture provides the context for business meanings in communities. Yet, at the same time, culture could also be influenced by these business meanings. In other words, culture and business are mutually constitutive. This is why culture is both central to and a vital peripheral component of this study. Culture within the model of this study is dynamic and constitutive, continually changing and at the same time offering a template for action.

Bhaskar (1978) postulates that agents always reproduce and transform social structures via their actions and that causal effects of the structures are always mediated through agents' intentional actions. Giddens (1984) proposes that structure and agency must be considered from within a common formulation since the notions of action and structure presuppose one another. The author further suggests that agency does not refer to a series of discrete combined acts, but to a continuous flow of conduct. This study would, therefore, regard agency as the capacity of individuals, groups, and communities to participate actively in determining the business agendas at the local level and creating solutions for business problems. Agency in sum is at the heart of this study, acknowledging the decision-making capacity and participatory impulse of communities. Because so much of the contemporary business landscape is increasingly controlled by corporates, this emphasis on the community as a locus of decision making is a key component in how the model for small business success is conceptualised.

The Critical Realist Methodology Model features four discrete areas of engagement, namely, (1) the project environment, (2) the research methodology, (3) the conceptual space, and (4) the academic effects.

The analytical association between the project environment and the research methodology is accomplished via two processes, namely, 'morphogenesis' and 'hegemony'. Morphogenesis has been popularised in social science studies by Archer (2007), who states that a dialectical relation exists between structure and agency without conflating the two. In this study, morphogenesis gives emphasis to the

intention of the socio-technical intervention which is to bring about change in the environment. Antoniadou (2008) regards the concept of hegemony to be a great capacity for coercion and/or a great degree of influence or control of the structures of a system over its units; hegemony therefore signifies one party's dominance over another.

Alexander (2013, p. 746) asserts that the examination of culture, structure and agency are conducted within the so-called 'conceptual space'. The analytical linkage between the research methodology and the conceptual space are the data processes that are defined by the information management cycle and the critical analysis that is applied to the data. The exercise of science, logical reasoning strategies, and creativity brings about the academic effects. These processes are crucial in order to reveal the generative mechanisms or causal powers that explain empirical experience. The project environment and the academic effects domain are enriched by design and practice respectively as emanating from the other domain. Figure 1.2 represents the design of a multi-factorial strategy model from a Critical Realist perspective.

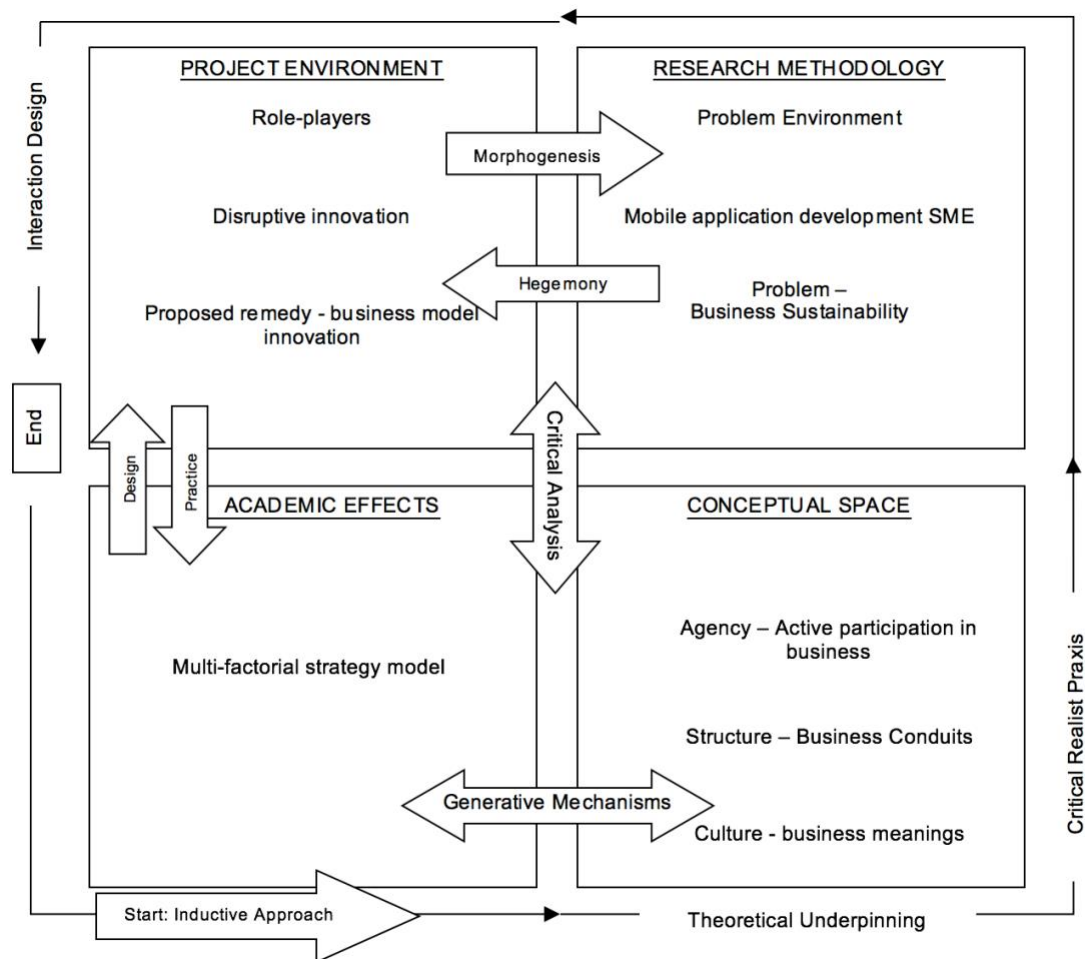


Figure 1.2: The design of a multi-factorial strategy model

Figure 1.3 represents the design of a multi-factorial information management process from a Critical Realist perspective which is based on Figure 1.2.

This research study makes use of an Inductive Approach, which as stated by Thomas (2003), provides a suitable and efficient way of analysing qualitative data for various research studies. The author argues that this approach enables research findings to transpire from the recurrent, central or major themes inherent in raw data, without the restraints imposed by structured methodologies. The approach allows the researcher to establish a model or theory about the underlying structure of experiences or processes which are evident in the raw data. Kanire (2012) extends this argument by suggesting that the inductive approach needs to observe data to determine tentative hypotheses, in order to expand or accept a theory related to a phenomenon. In this regard, this study establishes an a priori knowledge proposition as a basis for reasoning, without any assumption of the truth about the landscape of mobile application development in the Western Cape, SA. Observations on various matters or experiences can then be generated and interpretations can then be made.

The multi-factorial information management process indicates how data extracted from the existing body of knowledge by means of the literature study flows to and from the problem environment to refine the research problem. Through a process of critical analysis the data was used to critique case studies and establish focused interviews with relevant stakeholders in the mobile applications development and business sectors. The feedback from these interventions was analysed based on the three principles of Critical Realism, viz. Agency, Structure and Culture. The analysed data was synthesised by moderating it to a selection of theoretical considerations and in this way the data was transformed into information. This information then leads to the uncovering of the generative mechanisms which bring about the changes through the establishment of a multi-factorial strategy model. These research effects then ultimately feed back into the existing body of knowledge as new, socially produced knowledge.

Figure 1.3 is a graphical representation of the design of a multi-factorial information management process from a Critical Realist perspective, adapted from the Critical Realist Methodological Framework (Alexander: 2013).

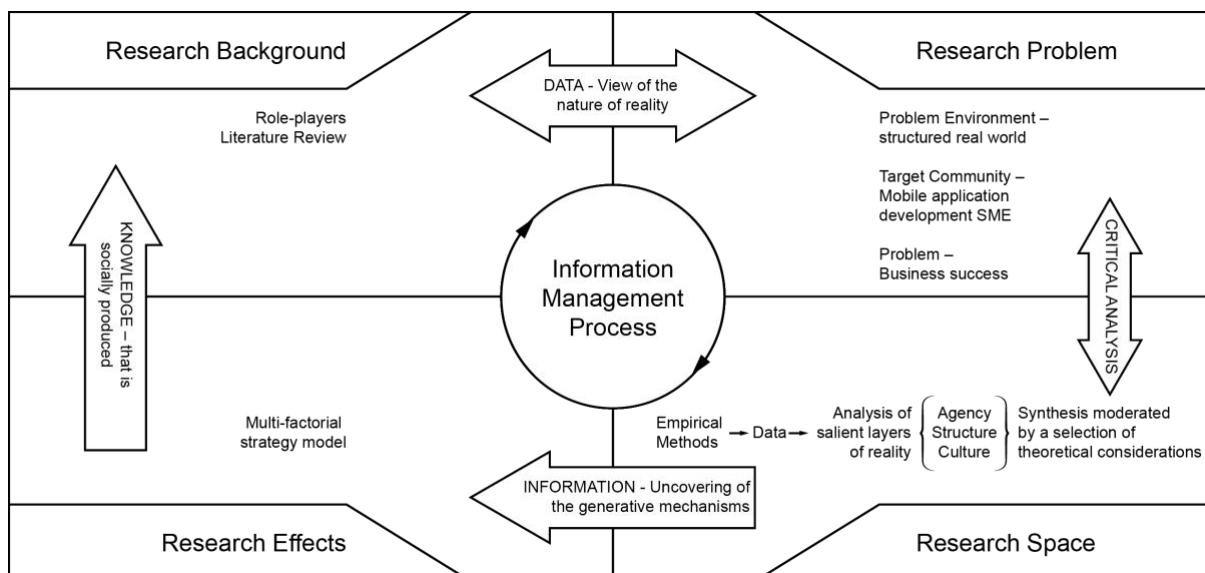


Figure 1.3: The design of a multi-factorial information management process

1.9 Theoretical underpinning of the study

The theoretical contribution of this study is underpinned by Whetten (1989) as well as Burrell and Morgan (1979).

According to Whetten (1989), a valuable theoretical contribution comprises the four main building blocks of Theory Development. This study therefore considered the following when developing the theory:

- The variables, constructs, concepts to be included in the contribution with due consideration of comprehensiveness and parsimony.
- The causal relationship of the variables.
- The underlying psychological, economic, or social dynamics that justify the selection of factors and the proposed causal relationships representing the logic underlying the model.
- These conditions place limitations on the propositions generated from a theoretical model. These temporal and contextual factors set the boundaries of generalisability.

Burrell and Morgan (1979), on the other hand, present a model to depict the nature of reality. This model, Paradigm for Organizational Analysis, presents four main views of reality:

- Is reality given or a product of the mind?
- Must one experience something to understand it?
- Do humans have "free will", or are they determined by their environment?

- Is understanding best achieved through the scientific method or through direct experience?

The authors suggest that reality is either objective (hard, physical, structural) or subjective (cognitive, individualistic). The regulation and change dimension of the model interrogates the natural state of reality in that it either is stable (towards equilibrium) or radical (towards disequilibrium). This study adopts their Radical Structuralist Paradigm (objective-radical change), where theorists see inherent structural conflicts within society that generate constant change through political and economic crises. This paradigm suggests that the nature of reality is observable and is under constant change. This is consistent with disruptive innovation which is regarded as innovation that causes major change in the accepted way of doing things.

1.10 Research approach of the study

The research methodology approach is based on a socio-technical research study and uses the concepts of Critical Realism Theory to provide a deeper consideration of the complexities involved in system development from a social and technical perspective. The study is based on the premise that in developing and using business model innovation, both social and technical aspects need to be taken into account.

In order to increase the credibility and validity of the results, the Delphi research method was applied. This involves an iterative process of collecting and filtering the anonymous judgements of experts by using a series of data-collection and analysis techniques interspersed with feedback. This fed into the multi-factorial strategy model which would lead mobile application development SMEs from the traditional to the agile approach and in so doing improve their ability to respond to disruptive innovation.

This applied research study would specifically present a multi-factorial strategy model for enhanced mobile application development. It postulates that business model innovation can be used for business success by allowing people to collaborate. The focus of the research is about small business success and sustainability which ultimately contributes to the development of the SA economy.

The study would make use of current international studies but be limited to mobile application development within the Western Cape.

Table 1.1: Overview of research problem and research questions

Research Problem	Not much attention has been given in literature to the synergistic effects of disruptive innovation, business model innovation and development agencies for mobile app development SME success. The purpose of this study is, therefore, to explore the evolution of a multi-factorial strategy model to enable development agency to be an augments in the commercialisation of the mobile applications development SME sector through business model innovation in response to disruptive innovation.	
Research Question	How can a multi-factorial strategy model be evolved to enable development agency to be an augments in the commercialisation of the mobile applications development SME sector through business model innovation in response to disruptive innovation?	
Research Sub-Questions	Research method(s)	Objectives
What are the dimensions of business model innovation?	Literature analysis Case studies Interviews Focused interviews	To formulate a set of assertions concerning the dimensions of business model innovation.
What is the nature of disruptive innovation?	Literature analysis Case studies Interviews Focus interviews	To formulate a set of assertions concerning the nature of disruptive innovation.
What are the roles of development agencies?	Literature analysis Case studies Interviews Focused interviews	To formulate a set of assertions concerning development agencies and their functions.
What is the landscape for Mobile Applications Development in the Western Cape, SA?	Literature analysis Case studies In-depth interviews Focused interviews	To articulate the size and shape of the mobile applications development industry in the Western Cape, SA.
What are the most prominent relationships between business model innovation, disruptive innovation and the development agency?	Literature analysis Case studies Interviews Focused interviews	To formulate a set of assertions concerning business model innovation, based on empirical studies relating to disruptive innovation, and the development agency. To develop a strategy model for development agencies to assist mobile application development SMEs based on the above-mentioned assertions in their business modelling efforts.

1.11 Thesis structure²

- I. Introduction: This section presents a lucid statement of the topic under investigation and presents the general context for the research. It also presents the theoretical background, elucidation of the methodology and contribution of the research. This section unequivocally rationalises the need for the study, and states its purpose and rationale.
- II. Review of the Literature: This section provides a critical review of extant literature and pertinent earlier research in this field. It illustrates how knowledge has been accrued in the research field and presents an unambiguous justification for the research project. The apparent gap in the field of research is presented by not only demonstrating the attainment and progress of previous contributions to the existing body of knowledge, but also the limitations of earlier research.
- III. Methodology – Research Design: This section considers the fact that the thesis presents an argument which is supported by scientific evidence. This evidence comes in different forms and it can be gathered in a variety of methods. Ultimately this section indicates how the research was conducted and justification for why it was conducted in that way. Its scope is not only the data collection and analysis methods, but also the theoretical framework that informs the selection of methods as well as the approach to interpreting the data. This is all tied directly to the research questions and guided by ethical considerations of the study.
- IV. Data Analysis and Reporting Results: In this section the data that forms the basis of the research investigation is presented, shaped by the research philosophy. This is where the results of the enquiry that have emerged from the findings are reported on.
- V. Discussion: This section discusses the findings of the research and is an exposé of the data in such a way that links between the data analysis and the extant literature are established. It should reveal several interpretations of the findings, within the context of the research questions, in order to make a meaningful contribution.
- VI. Conclusion: This section fuses all the academic essentials which have been established in the thesis and shows how the aims of the research have been fulfilled. This includes the extant literature, a summary of the research findings and in particular their importance to and implications for the existing body of knowledge. This section illustrates the relationship between the current findings

² <http://www.monash.edu.au/lls/hdr/write/5.10.html>

and earlier research with practice, with current theory, with opportunities for future research, and how theory has been developed through the study.

1.12 Summary of the study

This study explores the evolution of a multi-factorial strategy model to enable development agency to be an augments in the commercialisation of the mobile applications development SME sector through business model innovation in response to disruptive innovation. The academic arena of this research study is the focus on mobile apps. Key to this study is the notion of technology transfer and technology commercialisation, where through a multi-factorial approach to business model innovation, development agencies are equipped with a strategy model that will assist them in supporting mobile application development SMEs towards enhanced competitiveness.

In proposing that development agency is an augments in the commercialisation of the mobile applications development SME sector in the Western Cape through business model innovation in response to disruptive innovation, the golden thread of this study is the quest to epitomise three tenets:

- I. the dimensions of business model innovation;
- II. the nature of disruption; and
- III. the potential role of the development agency in supporting SMEs in the technology sector.

The value of the study is to assist development agencies to, in turn, assist SA mobile app development SMEs to conduct business in the twenty-first century and in so doing remove barriers to success. Various factors contribute to the demise of SMEs and this study focuses particularly on the lack of business model innovation within mobile app development SMEs as a contributory factor. The purpose of this study is to develop a multi-factorial strategy model to assist development agencies in supporting mobile application development SMEs. The significance of the research lies in the contribution the models will make to SMEs' success and sustainability, which ultimately contributes to the development of the SA economy.

CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

The background to the study seemed to suggest that the mobile application development industry could play a significant role in the development of the SA economy. In order to address some of their challenges, SMEs in this sector would have to gear their business models to take advantage of the innovation in the mobile applications industry. These SMEs would need support from government and could benefit from a strategy for business model innovation to promote efficacy enhancement of mobile application development.

In essence then, the study proposed that a multi-factorial strategy model could be evolved to enable development agency to be an augments in the commercialisation of the mobile applications development SME sector through business model innovation in response to disruptive innovation.

The purpose of this literature review was to establish an integrated platform for the key tenets of the research. Consequently, the objectives were to establish the dimensions of business model innovation that might inform the research proposition; establish the relationships between the key tenets of the research; and finally, to establish an a priori framework linking business model innovation and disruptive innovation based on a critical realist underpinning. The literature review would attempt to evolve the logic justified in the context of the research by creating an understanding of the extant body of knowledge. It would not attempt to portray the literature as procedural links between elements within it because the disciplines covered in this review were wide and the literature was deep.

In light of this then, the route of enquiry of this literature study would be the quest to represent the conceptual framework for the literature study, within the three tenets, namely:

- i. the dimensions of business model innovation,
- ii. the nature of disruption; and
- iii. the potential role of the development agency in supporting SMEs in the technology sector.

At the end of this chapter, the study wished to emerge with a centralised idea of the synergy between three concepts. The central idea is a framework for development agency to be able to impact the sector around disruptive innovation and how it can

support business model innovation. Certain discreet understandings of the three tenets would be arrived at and together they would provide a theoretical framework for the research. The study would mainly review the information technology and business literature, and where opportunity existed, it would look beyond these to inform the three tenets. Each of these three would be unpacked individually to understand the state of the thinking and a proposition would be made as to how these three would come together at a theoretical level.

2.2 The conceptual framework of the literature study

Conceptual frameworks are convenient to organise the extant literature of the study. They can be used to create conceptual discrepancies, identify synergistic views and shape accepted wisdom around the research topic.

The literature in the field of study of this thesis is overwhelmed with marketing hype as suggested by McManus and Scornavacca (2005), and in order to ensure the scientific value of the study, the literature study was framed around an established framework based on the seminal works of Locke and Golden-Biddle (Locke & Golden Biddle, 1997; Golden-Biddle & Locke, 2007). Alvesson and Sandberg (2013) regard the works of Locke and Golden-Biddle to be appropriate for interdisciplinary research in the fields of sociology, psychology, information systems education, political science, etc. In their strategic management research Golsorkhi et al. (2010) relied on the works of Locke and Golden-Biddle (Locke & Golden-Biddle, 1997; Golden-Biddle & Locke, 2007) to produce a systematic introduction to the various epistemological, methodological and theoretical aspects of the strategy-as-practice approach. Their approach breaks down many of the traditional paradigmatic boundaries in strategy to investigate who the strategists are, what they do, how they do it, and what the consequences or outcomes of their actions are. In consideration of the views of Golsorkhi et al. (2010) and Alvesson and Sandberg (2013), this study regards the works of Locke and Golden-Biddle (Locke & Golden-Biddle, 1997; Golden-Biddle & Locke, 2007) to be very appropriate. In opposition to the work of Locke and Golden-Biddle, Shields and Tajalli (2006) present some forms of conceptual frameworks, but because of their focus on constructing and problematising the literature, the approach of Locke and Golden-Biddle (Locke & Golden-Biddle, 1997; Golden-Biddle & Locke, 2007) was again preferred for the analysis of the extant literature in this study.

This study aimed to fill the gap that appears to exist for development agencies in addressing the benefit that business model innovation presents in response to

disruptive innovation for the commercialisation of mobile application development to SMEs.

The purpose of this literature study was to provide context and guidance to this study. With this in mind, the literature would elucidate scholarly enquiry into the sub-discipline by providing (1) key terminology with which to frame the narrative discourse; (2) perspectives on the state of the art; (3) prevailing challenges and emerging conceptions; (4) validation for the proposed study; and most importantly, (5) specific lines of enquiry to inform the focus (and delineation) of the study.

The literature study should be regarded as a creative endeavour and should, as far as possible, avoid simplistic quotations from the literature or paraphrasing text to provide snippets of insight into the literature.

The science of this literature study has extensively been dealt with by Locke and Golden-Biddle (1997) and Golden-Biddle and Locke (2007) who suggest a structured approach to the literature study. The authors contend that it is important to launch the study by drawing from the literature to firstly indicate the significance of the study. Secondly, the scope of the body of knowledge relevant to the study is established, in which regard the authors introduce the notion of 'intertextual coherences'. The authors introduce the notion of three forms of coherence, namely, (1) synthesised coherence, i.e., the linking of literature contributions from seemingly unrelated sources; (2) progressive coherence, i.e., the linking of literature contributions within a specific focus area that reflect the development of knowledge over time; and (3) non-coherence, i.e., contested knowledge. The authors refer to this process of establishing the coherences as "constructing the literature". They refer to the third step in the process as "problematizing the literature", which is about uncovering "gaps" in the literature. Locke and Golden-Biddle (1997, p. 31) and Golden-Biddle and Lock (2007) suggest three ways of categorising literature gaps, namely, (1) incomplete, which may or may not be so indicated by the relevant authors; (2) inadequate, owing to oversight, lack of application or relevant perspective by the relevant authors; and (3) incommensurate, where the conception has been incorrectly dealt with by the relevant authors. Finally, this study declared the "opportunity for contribution". The challenge of this study was, therefore, to propose theoretical and methodological insights that might close the gaps in the extant literature.

At the outset, the literature study required a plan to depict what this study wanted to achieve and how it would go about doing so.

Pragmatically, the literature study identified the key tenets of this study as formally declared in Chapter 1. The literature study was constructed in categories consistent with the key tenets by means of information gathered from journal articles and related sources to inform each one of the key tenets. Furthermore, this study identified the essential knowledge contributions drawn from each article or resource. This is presented in tabular format followed by more detailed analysis in later discussion. The knowledge contributions per category were evaluated and consideration given to whether they constituted a scenario indicative of synthesised, progressive or non-coherence as recommended by Locke and Golden-Biddle (1997) and Golden-Biddle and Locke (2007). Furthermore, I then extended the evaluation of literature (intertextual) coherences by identifying gaps and potential for contribution to this study.

In order to "construct opportunities for contribution" in this study, various tools of logic and argument as recommended by Meyer and Lunnay (2013) were used. These are namely, (1) deductive logic, where specific conclusions or inferences are drawn from a general principle or established premises to inform my own related context; (2) inductive logic, where general principles or inferences are drawn from specific observations or related observations (in the literature) to establish a new generalisation or new principle; (3) retroductive logic, where inferences are drawn from related observations that explain the mechanisms of an already commonly held position; and (4) abductive logic, where inferences are drawn from unrelated observations that stimulate intuitive and creative realisation of a new idea.

This study suggested that knowledge is never value free and is always underpinned by philosophy, something to be considered when engaging in this literature study. Positivists, interpretivists, and pragmatists will not view data and information in the same way. The epistemological approach of Positivists is essentially objective; Pragmatists are both subjective and objective in solving problems of utility; Critical Interpretivists are subjective but are most considerate of the manifestation of social powers; and Critical Realists are focused on uncovering the causal powers that explain reality. Since the study is required to develop inferences about the literature and contribute to the 'body of knowledge', all of these are based on the philosophical stance declared in Chapter 1.

Further detailing of this study's ontological and epistemological approaches are declared in the methodology section in Chapter 3, where the data–information–knowledge cycle in support of the research is comprehensively articulated. This literature study axiomatically formed an essential aspect of this cycle in this study.

2.3 Establishment of a state–response model for the study

The central thesis of this study is that a multi-factorial strategy model can be evolved to enable development agency to be an augments in the commercialisation of the mobile applications development SME sector through business model innovation in response to disruptive innovation.

A multi-factorial strategy model in this context is regarded as a method or plan having or stemming from a number of different causes or influences detailing the logic and the key considerations on the path to defining an organisation's strategy. The development agency can utilise it to determine the state of the business and what the appropriate response should be by way of business model innovation in response to disruptive innovation.

In their study, Sidora-Arcoleo, Feldman, Serebrisky and Spray (2012) make use of a multi-factorial model for ethnic differences in children's acute asthma appointments through parental illness representations. The authors explored the association of parental asthma illness representations, sociodemographic characteristics, health care provider factors and social–environmental context with children's acute asthma appointments. Sidora-Arcoleo et al. (2012) propose a multi-factorial model indicating that health and illness are a function of multiple factors involving biological, psychological and cultural domains, and their interactions.

Beyond the field of pure science studies like that of Gauthier and Lardic (2003), Sidora-Arcoleo et al. (2012) adopt a multi-factorial approach in their social science study of credit risks in banks. The authors suggest that scientific methods for analysing and quantifying this category of risk have transpired only lately. Their multi-factorial model proposes a tool for analysing and forecasting credit spreads to assist managers in their portfolio choices.

Fundamental to the thesis of this study is the development of a multi-factorial strategy model. The extant body of knowledge reveals that such models have been utilised in the pure sciences as indicated by Sidora-Arcoleo et al. (2012), as well as in the social sciences as indicated by Gauthier and Lardic (2003) when a method had to be adopted to deal with a number of different causes or influences. Shoemaker et al.

(2004) provide practical advice on how such a conceptual model can be developed within the field of social science. The authors suggest that a model is actually a process of developing and postulating an abstraction of reality. That which is modelled represents a system or structure and it is not a mirror image of reality but purely constructs certain salient aspects of reality. Shoemaker et al. (2004) caution that a model does not explain or predict anything but rather describes and implies relationships. It can assist to advance theory and be an effective heuristic tool to enable users to discover things for themselves.

At a more pragmatic level of model development, Dumanski and Pieri (1995) propose their PSR model, used by organisations for environmental performance monitoring. Their model is a derivative of the multi-factorial model and manifests in a state–response model. The authors depict three conditions in their model: firstly, pressures on the environment as a result of human activities; secondly, the ‘state’ of the environment, be it land, air, water, etc., and thirdly, the ‘response’ from society to these changes by instituting environmental and economic programmes and policies. Linster (2003) postulates that the Dumanski and Pieri (1995) PSR model emphasises the cause–effect relationships and assists officials to view environmental, economic and other issues as interconnected.

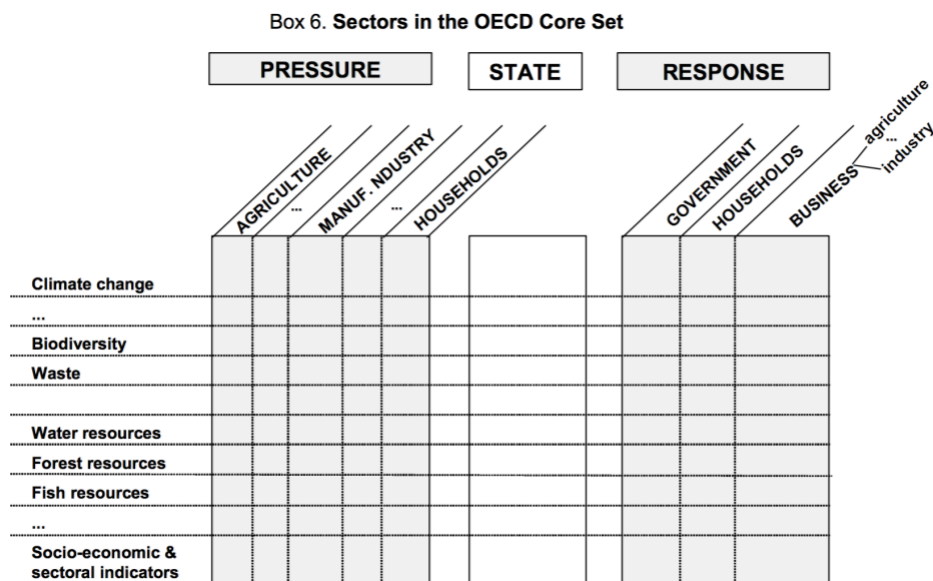


Figure 2.1: Pressure–State–Response Model (Dumanski & Pieri, 1995)

I shall draw on the contributions of all the authors listed in this sub-section to arrive at an appropriate state–response model for disruptive innovation for this study.

2.4 Tenet One: The dimensions of business model innovation

This study now focused on the first tenet, the dimensions of business model innovation, by critically reviewing its aspects or features. Based on the views of Assink (2006), Bo and Qiuyan (2012), and Kaplan (2012), business model innovation in the context of this study refers to the creation, or reinvention, of a business itself. It results in an entirely different type of company that competes not only on the value proposition of its offerings, but aligns its profit formula, resources and processes to enhance that value proposition, capture new market segments and alienate competitors.

The study would (1) draw contributions of knowledge from various articles and related academic resources; (2) evaluate the knowledge contributions per category and decide whether they constitute synthesised, progressive or non-coherence, and (3) extend the evaluation of the intertextual coherences by identifying gaps and potential for contribution by this study.

2.4.1 Contribution of knowledge

Too much emphasis on only product or technological innovation is an impediment to new business opportunities and makes the business vulnerable to competitors with expansive perspectives. Sawhney et al. (2006) suggest that too many businesses only view innovation as new product development or traditional research and development. This constricted perspective is to the detriment of their business as they tend to become too similar to any other competing business within their sector. To illustrate this, the authors state that Starbucks Corp. was able to charge more for their coffee than their competitors not because their product was any better. Starbucks Corp. was able to create a customer experience; a communal space between home and work where their clients could meet. In light of this, the authors define business innovation as, “the creation of substantial new value for customers and the firm by creatively changing one or more dimensions of the business system” (Sawhney et al. 2006, p. 76).

The Starbucks Corp. case reinforces my view that SMEs should not only focus on product or technological innovation but rather on the entire business system and value offering to their customers. Along with the views of Sawhney et al. (2007), this study proposes that business innovation is characterised in various ways. Business innovation is about new value and not only new things, because innovation is relevant only if it creates value for customers and if they are prepared to pay for it.

Furthermore, business innovation presents itself in different guises since innovation can take place on any dimension of business, like changing customer segments, customer offerings or process improvement. Lastly, business innovation is systemic and consequently requires the careful consideration of all aspects of a business.

In addition to the characteristics of business innovation, Sawhney et al. (2007) also reflect on the dimensions through which a firm can look for opportunities to innovate. The following table is an adaptation of the authors' views:

Table 2.1: The dimensions of business innovation (adapted from Sawhney et al., 2007)

Anchor dimensions of Business Innovation	Minor dimensions of Business Innovation	Definition
The offerings a company creates		Develop innovative new products or services.
What the company does...	Platform for the offering	Use common components or building blocks to create derivative offerings.
	Solutions of the offering	Create integrated and customised offerings that solve end-to-end customer problems.
The customers it serves		Discover unmet customer needs or identify underserved customer segments.
Who the company serves...	Customer experience	Redesign customer interactions across all touch points and all moments of contact.
	Value capture	Redefine how the company gets paid or create innovative new revenue streams.
The processes it employs		Redesign core operating processes to improve efficiency and effectiveness.
How the company operates...	Organisation	Change form, function or activity scope of the firm.
	Supply chain	Think differently about sourcing and fulfilment.
The points of presence it uses to take its offerings to market		Create new distribution channels or innovative points of presence, including the places where offerings can be bought or used by customers.
Where the company serves...	Networking	Create network-centric intelligent and integrated offerings.
	Brand	Leverage a brand into new domains.

2.4.1.1 Diffusion of innovations

In consideration of the views expressed by Kaplan (2012) and Evans (2011), I suggest that the theory of diffusion of innovations is valuable to explain consumer adoption of complex and controversial technologies. The theory as postulated by Rogers (2003) has its roots in the fields of psychology, sociology and mass communication. The author proposes that innovations are assimilated in a system as the spread of ideas, behaviours, or objects that is perceived as new by its audience. Rogers (2003) also argues that consumers have certain socioeconomic and psychological qualities that place them within certain innovation adopter categories. In congruence with Rogers (2003), Robinson (2013) postulates that diffusion of innovation recommends distinct qualities to ensure success in the innovation.

Diffusion of innovation is a vast study in its own and its relevance to this study lies in the fact that SMEs should consider that adoption of their innovation does not only rely on the innovation's technical capabilities. The SME will have to consider how its business model relates to the particular segment of the market to which its innovation is appealing.

2.4.1.2 Business model

The literature review on business models revealed contestation about what a business model is. Definitions range from the composite description of all business functions within a business's value chain by Chesbrough and Rosenbloom (2002) and Chesbrough (2003), to the minimalist view that a business model is simply a depiction of how a business generates or intends to generate income by Drucker (1994). Key to the debate of business models appears to be the view of Chesbrough and Rosenbloom (2002) that the business model itself is pivotal to the profits a business will derive from an innovation. A mediocre innovation with a superior business model may be more profitable than a superior innovation with a mediocre business model.

Magretta (2002) argues that there is a strong view in the extant body of knowledge that 'business model' as a concept has been misunderstood, distorted, inadequately stated and applied. It has been frequently confused with other popular terms in the management literature such as strategy, business concept, revenue model, economic model, or even business process modelling. A business model is traditionally viewed as a mechanism that is utilised by an organisation to derive value from technological innovation. What is significant is

the increasing awareness that business models can also be the object of innovation themselves (DaSilva & Trkman, 2014; Cortimiglia et al., 2016).

Cortimiglia et al. (2016) further suggest that a business model assists a business to simplify the numerous variables that influence how it is structured and to present those in a coherent and unified form. In so doing it serves as a structured and analytical model to create, deliver and capture customer value for the business.

Sivertsson and Tell (2015) regard business models as tools managers use to design, implement, operate, change, and control their businesses in the form of a blueprint. In essence, business models define how the pieces of a business integrate as a system to create sustainable competitive advantage.

Definitions of business models appear to be plentiful in the existing body of knowledge. In consideration of the aforementioned arguments relating to business models, pertinent to this study is the view of DaSilva and Trkman (2014) who suggest that when a business does not succeed, then the business model is often criticised when it would be more appropriate to criticise the way in which it is implemented. Concomitantly, Porter (1990) cautions against the danger that in taking the business model in isolation from the company's strategy, it may hinder the firm's most important advantages. The author contends that a business must continue innovating as it is constantly exposed to new competitors and substitute products.

2.4.1.3 Business model innovation

With due regard to the views expressed by Assink (2006), Bo and Qiuyan (2012), and Kaplan (2012), the literature study now explores the field of business model innovation.

Beyond the debate of what a business model is, the literature review presents the study of business model innovation. Business model innovation refers to the creation, or reinvention, of a business itself. While innovation ordinarily manifests in a new product or service, business model innovation results in a completely different type of business that competes not only on the value proposition of its offerings, but aligns its profit formula, resources and processes to enhance that value proposition, capture new market segments and alienate competitors (Francke & Alexander, 2012).

Bashir and Verma (2017) elucidate how business model innovation can create value creation in a data service provider business. An Indian company, Connect Broadband, became the first company in the broadband industry to innovate their existing business model in 2014 by merging antivirus solutions with data services. The authors indicate that consequently the business's penetration rate improved by more than 50% and revenue improved significantly along with a growth in customers. The business model innovation resulted in the company reaching second position in the market with reference to the customer base or market share in Punjab, India.

In establishing the value of business model innovation, Christensen et al. (2008) define the role of business model innovation by stating that initially, a simplifying technology is needed to trigger the disruption; a new business model is then needed to extend the reach of the technology and a comprehensive value network must ultimately evolve to support it.

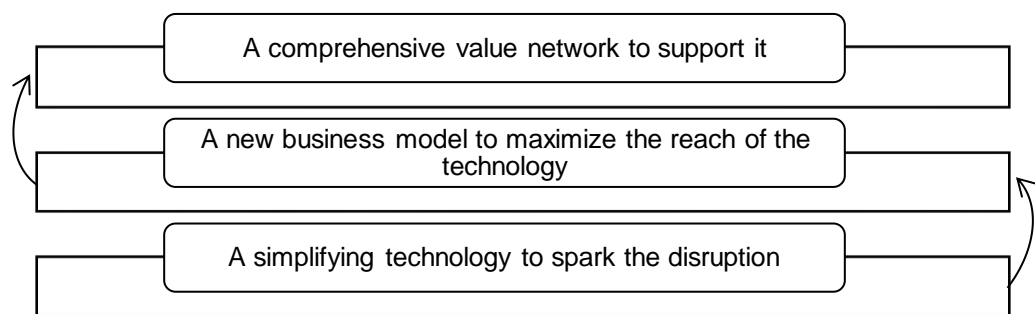


Figure 2.2: Defining the role of business model innovation

In support of Christensen et al. (2008), Johnson et al. (2008) indicate that in light of this, the new business model has to respond at various business levels, namely, the customer or the client; the product or the service; the internal capacity around the human resources provision; and lastly around its governance. In fact part of the provision to customers and clients in terms of differentiation is both externally to its customers and clients and internally to its employees. The business will need to establish a culture of responsiveness which then becomes the hallmark of the brand of the organisation that must be understood and internalised by its employees and customers. Innovation of the business model needs to be exercised both at production and service provision as well as branding of the company so that it is intrinsically understood. This then shows what sort of business it is in terms of its ability to modernise its operation and benefits to the customer and is also inspirational to its employees.

I suggest that the second aspect is that the industries in which SMEs operate will definitely respond to the disruptive innovation and the industry is in actual fact defined by the corporate sector. Normally SMEs lag in terms of adopting new technologies because of their under-resourcing. SMEs effectively work on the deficit model so they to prioritise the way they respond as they are most at risk when they do not adequately react to innovations around these disruptive innovations. The new agile and innovative business unit must evolve to develop strategies in order to respond. Christensen (1997) suggests that these strategies are based on the awareness and engagement of existing opportunities such as disruptive innovation as well as capacity to meet these challenges.

I found the 4-Box Model to develop business model innovation established by Johnson et al. (2008) intriguing as it is congruent with the views expressed by Rogers (2003), Robinson (2013), Kaplan (2012), and Evans (2011) regarding innovation.

This model suggests that a business model comprises four interlocking elements that, taken together, create and deliver value. Innovation can occur in one or more of these areas simultaneously.

- I. Customer Value Proposition – find a way to create value for customers
- II. Profit Formula – how the company creates value
- III. Key Resources – required to deliver the value proposition
- IV. Key Processes – how to deliver the value to customers

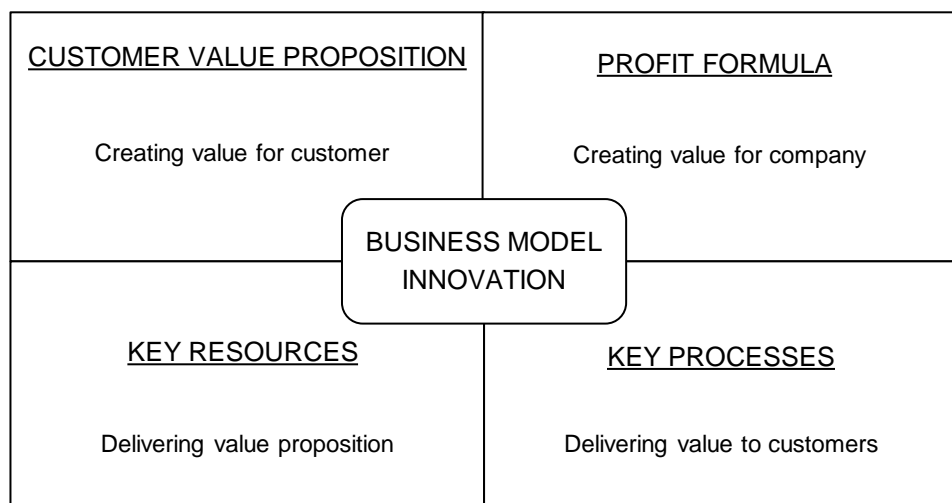


Figure 2.3: The 4-Box Model for business model innovation

It is apparent that Johnson et al. (2008) argue strongly for the synergistic relationship of its four interlocking elements to create and deliver value for the business.

2.4.1.4 Business models to capture value from technological innovation

It is essential for technological entrepreneurs to ensure that their business models capture value from their innovation. Teece (2010, p. 183) extends the argument by suggesting that it is important for businesses to understand the consequences of business models and to explore their connections with business strategy, innovation management, and economic theory. The author recommends that innovation should be aligned with the development of a business model because technological innovation in itself does not automatically guarantee business or economic success. The business has to understand how to organise the production system/value chain, taking into account the 'appropriability regime' and the innovator's prior asset positioning. The business model has to define its 'go to market' and 'capturing value' strategies. Teece (2010) advises that established businesses will wallow if they do not understand that good business model design and implementation, coupled with vigilant strategic analysis, are necessary for technological innovation to have commercial success.

Li and Tan (2017) argue that irrespective of their size, new product innovation is vital in technology-driven businesses. Inept innovation models within large corporations lead them to externalise innovation risks through costly acquisition of fast-growing startups and SMEs to sustain their growth. They suggest that this emerging phenomenon has received little attention in innovation and manufacturing management literature. Their study divulges the advent of assertive, fast-growing enterprises with radically innovative products that threaten the existence of incumbent businesses. The impact of this has compelled governments to amend outdated business regulatory practices.

Koskinen (2017, p. 4160) argues for what is referred to as "inclusive innovation", which is the inclusion of societally marginalised groups into the innovation process so that they too may benefit from innovation. The chief actors in innovation appear to be multinational organisations or entities from the public sector. In a developing country context, inclusive innovation might be equally relevant for SMEs. Koskinen (2017) focuses on the role of inclusive innovation in technology SMEs in East Africa. Of significance to this study is that Koskinen (2017) raises the debate of innovation from the business level as stated by Teece (2006, 2010) and Li and Tan (2017) to the sectoral level. Koskinen (2017) argues that despite their profit seeking purpose, contextual factors compel many of these SMEs to inevitably adopt methods promoted by inclusive innovation. This has

significant implications for evaluating the role of SMEs as providers of services and products that can be seen as having a positive impact on the lives of these groups.

The table overleaf is an adaptation of innovations that were not supported by good business models as suggested by Teece (2006) and Christensen et al. (2016):

Table 2.2: Innovations not supported by good business models (as adapted from Teece, 2006 and Christensen et al., 2016)

Innovation	Problem
The CAT scanner	Electromagnetic interface was unable to sustain its position in the medical equipment industry.
The Personal Computer	Xerox invented the technology for one of the fastest-growing products of recent times, then miscalculated and mishandled the opportunity to fully exploit it.
Thomas Edison's recording disks	Edison abandoned the recording business after arguably failing to get its business model right by insisting that Edison disks be designed to work only on Edison phonographs.
Google+	Consumers did not see the value of combining search and social networking, so while Google maintains its exceptional search business, its social network failed to gain momentum.
Blockbuster's DVD-by-mail business	The two "bricks-and-clicks" models were at war with each other because the asset velocity required to maintain a profitable store network was incompatible with the DVD-by-mail offering.

Table 2.2 illustrates the importance of matching the business model and the technology strategy to achieve commercial viability and a resulting sustainable competitive advantage for technological entrepreneurs.

Teece (2006, p. 184) proposes different modes within what is called the "Profiting from Innovation Framework":

- The integrated business model applies when an innovating firm bundles innovation and product together, and assumes the responsibility for the entire value chain.
- The outsourced (pure licensing) business approach where the innovating firm licenses the production to the licensee firm on an outsourced basis.
- The hybrid approach involves a mixture of the two approaches, for example, the manufacturing is outsourced but the firm provides its own sales and support.

Christensen et al. (2016) postulate that business leaders should correctly categorise the innovation opportunities in terms of their fit with their existing business model's priorities, by the following:

- Determining how consistent the opportunity is with the priorities of the existing business model.
 - It is critical to ascertain to what degree the innovation aligns with the existing priorities of the business model to avoid rejection by the current business or its customers.
- Focusing on creating new business models, rather than changing existing ones to achieve successful business model innovation.
 - Dedicated capabilities that are decidedly precious to an existing business model may be totally unsuited to the new business model.

Given its importance to business design, particularly in the context of capturing value from innovation, Teece (2010) is critical about the attention that business model innovation has received. The author is critical of the lack of attention given to it by scholars in the fields of economics and strategic management, and suggests that this may be why great technological achievements fail commercially, because little, if any, attention has been given to designing a business model to take them to market properly. This has to be resolved to improve our understanding of a variety of subjects, including market behaviour, competition, innovation, strategy, and competitive advantage.

2.4.1.5 Summary of the dimensions of business model innovation

With reference to the contributions from the various authors, Table 2.3 summarises the contributions of knowledge of the dimensions of business model innovation.

Table 2.3: The contributions of knowledge of the dimensions of business model innovation

The dimensions of business model innovation	References
The creation of substantial new value for customers and the business	Sawhney et al. (2006), Johnson et al. (2008)
The market focus of the business’s innovation	Rogers (2003), Teece (2010), Kaplan (2012), Robinson (2013)
The value generation from technological innovation	DaSilva & Trkman (2014), Cortimiglia et al. (2016), Christensen et al. (2016), Koskinen (2017)
The constant monitoring of new competitors and substitute products	Porter (2001)
The creation, or reinvention, of a business itself	Johnson et al. (2008), Francke and Alexander (2012), Christensen et al. (2016)
The achievement of commercial viability and a sustainable competitive advantage	Porter (2001), Teece (2006), Li and Tan (2017)

2.4.2 Evaluation of the knowledge

Table 2.4 extends the aforementioned contributions of knowledge of the dimensions of business model innovation by evaluating the body of knowledge to determine intertextual coherence.

Table 2.4: The evaluation of knowledge of the dimensions of business model innovation

The dimensions of business model innovation	References	Intertextual coherence
The creation of substantial new value for customers and the business	Sawhney et al. (2007), Johnson et al. (2008)	Progressive coherence
The market focus of the business’s innovation	Rogers (2003), Teece (2010), Kaplan (2012), Robinson (2013)	Progressive coherence
The value generation from technological innovation	DaSilva & Trkman (2014), Cortimiglia et al. (2016), Christensen et al. (2016), Koskinen (2017)	Synthesised coherence
The constant monitoring of new competitors and substitute products	Porter (2001)	Coherence
The creation, or reinvention, of a business itself	Johnson et al. (2008), Francke and Alexander (2012), Christensen et al. (2016)	Synthesised coherence
The achievement of commercial viability and a sustainable competitive advantage	Porter (2001), Teece (2006), Li and Tan (2017)	Synthesised coherence

With reference to Table 2.4, an evaluation of the body of knowledge reveals that the literature sways toward synthesised coherence in the contributions to the existing body of knowledge. There appears to be a relation of literature contributions within two specific focus areas, technology and business, which reflect the development of knowledge over time. The fact that authors from what might be perceived as unrelated disciplines are in agreement on the dimensions of business model innovation, demonstrates the need for further investigation into this.

Progressive coherence occurs in the discussion at the definitional and functional levels of business model innovation, where there is a cumulative knowledge growth within the literature. The respective authors focus on the understanding of business model innovation and their contributions have a strong correlation with the business imperative of business model innovation.

The only outlier is the coherence contribution of Porter (2001, p. 62), who argues that a dimension of business model innovation is to constantly monitor new competitors and substitute products.

2.4.3 Gaps and potential for contribution by this study

Table 2.5 finally problematises the literature by identifying the gaps and potential contribution as recommended by Locke and Golden-Biddle (1997) and Golden-Biddle and Locke, (2007) that this study could make in establishing the dimensions of business model innovation.

Table 2.5: The evaluation of knowledge of the dimensions of business model innovation

The dimensions of business model innovation	Intertextual coherence	Gaps in the literature	Logic
The creation of substantial new value for customers and the business	Progressive coherence	Incomplete	Deductive
The market focus of the business's innovation	Progressive coherence	None – adequately dealt with	Deductive
The value generation from technological innovation	Synthesised coherence	Inadequate	Abductive
The constant monitoring of new competitors and substitute products	Coherence	Incomplete	Deductive
The creation, or reinvention, of a business itself	Synthesised coherence	Inadequate	Deductive
The achievement of commercial viability and a sustainable competitive advantage	Synthesised coherence	Incomplete	Deductive

Through deductive logic as recommended by Meyer and Lunnay (2013), I suggest that the literature deals incompletely with the fact that the dimension of business model innovation is (1) the creation of substantial new value for customers and the business, (2) constantly monitoring new competitors and substitute products, and (3) the achievement of commercial viability and a sustainable competitive advantage. I draw this inference from established premises or principles in the literature to inform my point of view that business model innovation can lead to business growth and opportunity.

Abductive reasoning suggests to me that the literature deals inadequately with the fact that the dimension of business model innovation derives value from technological innovation. This inference, which is drawn from unrelated observations in the literature, suggests to me that business model innovation can result in business growth and sustainability.

Finally, by applying deductive reasoning to the fact that the dimension of business model innovation refers to the creation, or reinvention, of a business itself, I suggest that the literature is inadequate. This inference is drawn from unrelated observations in the literature suggesting that business owners fail to develop the potential of business model innovation to transform their existing businesses.

2.5 Tenet Two: The nature of disruptive innovation

Having explored the first tenet of this study which focuses on the dimensions of business model innovation, I now focus on the second tenet, namely the nature of disruptive innovation. Having considered the views of Bower and Christensen (1995), Christensen (1997), Christensen et al. (2016), Bashir et al. (2016), and Moazed and Johnson (2016), this study considers disruptive innovation as innovation that helps create a new market and value network, and eventually goes on to disrupt an existing market and value network (over a few years or decades), displacing an earlier technology.

I will again (1) draw contributions of knowledge from various articles and related academic resources, (2) evaluate the knowledge contributions per category and decide whether they constitute synthesised, progressive or non-coherence, and (3) extend the evaluation of the intertextual coherences by identifying gaps and the potential for contribution to research by this study.

2.5.1 Contribution to knowledge

The literature relating to the nature of disruptive innovation is far more established than in the previous tenet. At a definitional level, I sense that disruptive innovation is regarded as innovation not only at the technological level but also at the business level and it causes major change to the way in which sectors operate. This is corroborated by Gartner (2008) and Bashir et al. (2016), who argue that over and above the technological innovation, disruptive innovation hones in on business models, processes, revenue streams, industry dynamics and consumer behaviour. In the pursuit of understanding the nature of disruptive innovation, I felt it prudent to interrogate the basic or inherent features, character, origin, and qualities of the innovation.

2.5.1.1 The evolution of contemporary disruptive innovation

In further attempting to understand the nature of disruptive innovation, I found it sensible then to reflect on how these have emanated over time.

With the growing need for users not only to be passive recipients of but also contributors to the Internet, I wish to illustrate one such disruptive innovation in the form of Digital Social Networking (DSN) which has emerged over the last decade. Digital Social Networking enables its participants to contribute views, ideas, opinions, and interests to a specific community on the Internet. What used to be the sphere of Web experts and developers, has now become accessible to

ordinary users with the advent of Web 2.0. In conjunction with the growing popularity of mobile computing, Web 2.0 has enabled users to publish and share more freely than ever before. This technology is the foundation of popular social media applications like Facebook, etc.

This study has determined that this disruptive innovation gave people an opportunity to express their ideologies and mobilise others in an unprecedented fashion via the Internet. This is corroborated by Mansour (2012) who states that social networking sites are shown to have played a central and pivotal role in the events known collectively as the Arab Spring in 2011. These events refer to the January 25th revolution in Egypt where protesters were able to share their protests with the rest of the world via Facebook, YouTube, etc. The importance of social networking sites as a source of non-governmental information and as a means of informing the external and internal community of internal events is highlighted by all protestors. These sites were used not only to inform one another of events but also to coordinate their efforts against the regime. In this way disruptive innovation has proved itself to be empowering. In support of Mansour (2012), Fuchs (2012) also presents the role of social media in the 2011 UK riots and the Arab Spring, arguing "that social media has become a new fetishism of technology that distracts from the contradictions of capitalism underlying contemporary societal changes and conflicts" (Fuchs 2012, p. 383). Smith (2011) reports that a leader of the youth movement credited Facebook and the Internet with the success of the Egyptian people's uprising. Smith (2011) and Holehouse and Millward (2011) report that the UK riots were organised by teenage gangsters who used cutting-edge mobile phone technology to provoke and record the looting and violence.

Significant to this study is the fact that these incidents were uploaded to Twitter with the help of their BlackBerry mobile devices. This was largely owing to the BlackBerry Messenger service which enabled users of the devices to communicate with one another for free, privately and instantly. Users were now creating their own news content and did not rely on traditional media for reporting.

Some small businesses have discovered that a Web 2.0 feature like a blog can provide real business value as a communications tool that helps define their image and bring them closer to their customers. A case in point is an international small business called VerticalResponse™ that has reaped the benefits of

launching their own blog. They believe that business can derive benefits like competitive positioning, customer relations, search engine marketing, brand building and media relations from the use of a blog (VerticalResponse, 2008). Colliander and Dahlén (2011) contend that social media marketing is growing prodigiously and that it has generated much international media attention. A popular blog endorsement has helped one company increase its revenue from \$100 000 to \$4 million.

A further advantage of DSN is the idea of collaboration to improve service and product offering. As early as 2006, Boulos et al. (2006) indicated an increased use of Web-based 'collaborationware'. Web 2.0 applications like wikis, blogs and podcasts have been increasingly adopted by many online health-related professional and educational services. Their simplicity of use and speed of deployment, together with the opportunity for powerful information sharing and ease of collaboration, make them very desirable. This collaboration could be extended to address social and economic inequities as proposed by Giustini (2006, p. 1284), who argues that “the web is a reflection of who we are as human beings—but it also reflects who we aspire to be”. DSN may be one of the most influential technologies, as old proprietary notions of control and ownership fall away. A medical wiki, for example, may be the answer to the world's inequities of access to medical information. It is apparent then that the nature of disruptive innovation is such that it can be beneficial to business.

Other than DSN, another form of disruptive innovation manifests in the form of cloud computing. This is aptly named as it allows users to upload and download data and other associated information communication services onto and from a server which is remotely positioned, other than from where the user is operating. Cloud computing can generally be classified into three service models or categories, viz. Platform as a Service (PaaS), Infrastructure as a Service (IaaS) and Software as a Service (SaaS). Conceptually, cloud computing is not necessarily a new concept, but in unison with mobile computing it has become extremely valuable to business. This is confirmed by Menychtas et al. (2011) who state that while cloud computing as another distributed computing paradigm is not brand new, there is an ever-increasing number of people and organisations who are exploiting its potential and research in this area is growing. The real significance of this in my view is that this disruptive innovation is altering the way software, storage and networking resources are procured and expended. In this

way, new business models and value chains from ownership to leasing have been created.

The other advantage of this disruptive innovation lies in Drew's (2011) view that cloud computing enables a business to take its applications, as well as its data, beyond its physical boundaries and in so doing affording business the ability to have access to these from anywhere and at any time. Other benefits lie in reduced costs to businesses as they no longer have to support this type of internal network infrastructure and its related resources. A further benefit is that businesses will have more predictable costs as it is easier to do upgrades to their systems in the background by the vendor, allowing businesses to enjoy the most updated and best versions of the latest applications. Access to data can be done remotely and data will be backed up and as secure as locally stored data. Local product installation is eradicated and hardware compatibility issues are reduced. These instances display the portable nature of disruptive innovation.

The next form of disruptive innovation is mobile phones which represent the foundation for one of the supreme developments of human capabilities in modern history and within a very small span of time as well. This growth is also expected to continue exponentially. Mobile phones allow for increased access to timeous information and connectedness between people, as contended by Smith (2011) and Holehouse and Millward (2011). Etzo and Collender (2010, p. 659) provide an African perspective on what the authors refer to as "the mobile phone revolution" on the continent. Given the underdevelopment of and dependency on expensive infrastructure of fixed-line phones and broadband internet, mobile phones remain the cheapest and fastest way to communicate. Africa is home to 350 million mobile phone subscribers and their numbers are increasing faster than anywhere else in the world. Key to this mobile proliferation are the authors' claims that the "ubiquity of mobiles is matched only by the ingenuity of their users" (Etzo and Collender, 2010, p. 660. Mobile phones are used for money transfers, election monitoring, and the delivery of public health messages to slums and inaccessible villages. Africa has grasped the business opportunities in mobile phone innovation and entrepreneurship. In this way a sizeable informal economy has also developed to support the mobile sector with the sales of airtime, charging, renting and repairs of mobile phones. The significance of the "African mobile phone revolution" to this study is summarised by Etzo and Collender (2010) as totally different from what the business and research communities had originally anticipated for mobile phone adoption in Africa.

In respect of the African adoption of mobile phones, Bankole and Bankole (2017) claim ICT innovation is one of the major forces in socioeconomic development. They regard this innovation as a significant component in spurring growth in a country's economy. Encouraged by the proliferation of mobile phones, they observe the effect of socio-cultural factors on mobile banking services in South Africa. Their findings indicate that culture is an appropriate concept to describe how innovation in ICT can be influenced by human behaviour. The findings of Bankole and Bankole (2017) regarding the cultural factors in ICT innovation are also significant to this study.

Rakestraw, et al (2013) propose that the mobile app development industry commenced with inception of smartphones like the Apple iPhone, Motorola, LG, and Samsung. The improved processing capabilities of these phones enable them to run mobile apps like sending and receiving e-mail; playing music, movies and video games, etc. The field of mobile app development advances from the need to develop software that a user can install on a smartphone to perform tasks like navigating maps while driving, etc.

According to Pieters (2014) the local mobile applications market is still dominated by cheaper feature phones including BlackBerry and Symbian devices despite the fact that smartphone platforms like iOS, Android and Windows Phone has gained significant market share in the South African market. With this in mind mobile application developers are catering for the local mass market and they are developing new apps primarily by using Java for dedicated platforms. The use of cross-platform frameworks are being avoided due to the complex technical requirements in the local market. The author continues to suggest that there is a lack of senior, local mobile app development skills. The result of this is a spike in salaries and the cost of software development which ultimately makes resourcing for key projects more challenging, resulting in delivery delays. The local mobile app development industry will be characterised by an increase in in-house development, to a split between in-house development on popular platforms like Android. App development on other platforms will be achieved through outsourced development.

Disruptive innovations in Web 2.0, social media, mobile computing, and cloud computing rely on one very distinct element, namely the Internet. So, the Internet on its own could be deemed to be a disruptive innovation. Evans (2011) maintains that the Internet is one of the most powerful and substantial creations in the history of mankind. The Internet has already had a significant impact on education, science, communication, government, business, and society in general. In addition to this, the Internet of Things (IoT) will alter everyone and everything in the near future. Chui et al. (2010) note the physical world is being transformed into an information system by way of the IoT. Sensors and actuators implanted in physical objects like machinery, roadways, houses, pacemakers, etc., are linked through wired and wireless networks across the Internet. These networks agitate huge volumes of data that flow to computers for analysis. When things can both sense the environment and communicate, they develop into tools for understanding complexity and reacting to it quickly. Much of this interaction between these things occurs without human intervention.

The IoT embodies the next evolution of the Internet, now encompassing beyond the Internet's ability to merely collect, analyse, and distribute data that can be converted into information, knowledge, and finally, wisdom. The Internet exemplifies the nature of disruptive innovation by being pervasive, overwhelming, unsettling, etc., to many sectors worldwide. It has created efficiencies within business, yet at the same time, it has been the cause of many subversions. The conduit for this disruption will in all likelihood be the mobile phone, and in particular, via mobile applications.

Upon reflection of the evolution of contemporary disruptive innovation, it appears that it has impacted significantly on the way businesses function. These pervasive technologies unpredictably dislodge established technologies. The status quo and functioning of small businesses across various sectors will be significantly impacted by these technologies.

2.5.1.2 The association between disruptive innovation and business

It appears that the business challenge is to determine how all of these ICT developments will impact business models and the importance for businesses to respond appropriately through innovation.

Bashir et al. (2016) notes a technology company called Uber Technologies Incorporated, founded in 2009 in California, USA. Uber has since developed into

one of the largest taxi service providers, with a global presence in excess of 55 countries. Uber is regarded as the predominant start-up in the US over the last five years and is anticipated to surpass many of the corporations in the US in the next few years. Bashir et al. (2016) anticipated Uber to reach \$10 billion in revenues by the start of 2016. In comparison, a technology company like Facebook that has been operating for 10 years, was also expected to earn \$10 billion in revenues by 2016. Key to this study is that Uber's CEO has declared that Uber is not a taxi service provider but a technology company. Uber has disrupted a conventional capital-intensive industry into a high-tech business by relying on a self-regulating pool of contractors who register themselves on Uber's website. The drivers earn 80% of the payment for every trip and Uber 20%. Moazed and Johnson (2016) concur with Bashir et al. (2016) that Uber is a classic low-end market disruption that initially was not very competitive with taxis for the majority of passengers. With the proliferation of the Uber network, journey charges dropped, wait times reduced and the driver rating system kept quality fairly constant. Based on these factors, Uber moved upstream to confront taxis directly. The authors suggest that as in the case of Uber, a shift in technology platform can move a business within an industry to be regarded as disruptive.

Over and above the Uber case, Moazed and Johnson (2016) introduce another disruptive business in the hospitality industry, called Airbnb. Airbnb is another content platform concept recently launched that competes with established hotels, rental apartments and other hospitality facilities. The company's business model is similar to that of Uber in that it does not own any accommodation (as Uber does not own any taxis). Oskam and Boswijk (2016) support the views of Moazed and Johnson (2016) by stating that Airbnb is a technology company supported by online platforms like a website and a mobile app (like Uber). The company is an online marketplace and receives a percentage service fee as commission from both guests and hosts for every booking. With such rapid growth and more than three million accommodation listings in 191 countries and 65 000 cities, Oskam and Boswijk (2016) regard Airbnb as a serious contender within the hospitality industry.

The meteoric rise of both Uber and Airbnb has not been welcomed and celebrated from all quarters within their industries. The introduction of network platforms such as Uber and Airbnb are referred to by Oskam and Boswijk (2016, p. 25) as a form of collaborative consumption and sharing in what they call the

“Sharing Economy”. Uber and Airbnb successfully use disruptive innovation within their industries and their traditional competitors will have to respond. Their business model innovation has resulted in calls from within their industries for regulatory policies. Oskam and Boswijk (2016) suggest that endeavours to sanction these disruptive companies can be regarded as an impediment to innovation, while at the same time protecting those few companies with the majority of market share in their sectors. The authors call for more responsive policies to facilitate businesses and governments to outline positions and strategies.

An aspect of the nature of disruptive innovation is that it is troublesome. Tynan (2008) supports Christensen (1997) with the argument that IT is extremely dynamic and its development certainly has a means of confounding established ideas and industries. Information technologies will often pair up to become disruptive innovation.

Over and above the cases already discussed in this section, a few more significant partnering disruptive innovations are listed in Table 2.6.

Table 2.6: The troublesome nature of disruptive innovation on industries

Disruptive Technology One	Disruptive Technology Two	Impact on Industry
YouTube	Cheap digital cameras and camcorders	Digital video has encouraged mass movie production. Social media applications afford the masses an opportunity to stage their amateur movies which has a significant impact on sectors like journalism, politics, and entertainment.
MP3	Napster	The concept that music should be portable and free is disruptive.
Cloud computing	Always-On Devices	Cloud computing provides business with benefits of a data centre without the expense and trouble of maintaining one. It offers the average user a lower cost of storage with fewer devices and ubiquitous access to data and applications. Hardware and communication networking industries are significantly impacted by this.

A further aspect of the nature of disruptive innovation is that it is engulfing. Mulholland (2011) identifies technological devices that have been impacted by disruptive innovation. What were once indispensable devices are now being replaced by smarter and ostentatious ones. A few of these are listed in Table 2.7.

Table 2.7: The engulfing nature of disruptive innovation

Old Technology	Disruptive Technology	Possible reasons
Camcorders and compact cameras	Smartphones and tablet computers	Smartphones are equipped with up to 12-megapixel cameras that compare well with many cameras. While all the sophistication might not presently exist, the evolution of these phones will lead to improved photos and videos.
iPods and other portable music players	Smartphones and tablet computers	Apple has fallen prey to its own success as sales of its iPhone and iPad have reduced sales of its iPod music players. Sales of iPod peaked in the US in 2008, one year after the iPhone appeared, and have been plummeting ever since.
GPS devices	Smartphones and tablet computers	External GPS navigation devices are being threatened by smartphones largely owing to the Android operating system that extends Google Maps to phones and tablets.
Answering machines	Smartphones and tablet computers	In the world of instant communication, answering machines and voicemail services are regarded as being too slow. Facebook, Twitter, instant messaging and email are the preferred options.
eBook readers	Tablet computers	Recently books were threatened by e-readers, now they have in turn been threatened by tablets.
External storage devices	Cloud computing	The ability to store data in the cloud is threatening the continued existence of zip drives, flash drives and perhaps computer hard drives.
Watches, alarm clocks and wall calendars	Smartphones and tablet computers	These devices are able to reliably and conveniently provide users with the time and date, which threatens the sale of calendars, alarm clocks and watches in general.

The discussion on how business should respond commences with Evans (2011) who suggests that technologies are becoming pervasive in the modern world and an increasing number of people have access to the Internet, personal computers and associated technologies. What is critical now seems to be how well businesses react to the pervasive nature of these disruptive innovations.

Wessel (2013) presents a thought-provoking alternative to what is often misinterpreted to be disruptive innovation. The author argues that if a new business launches a better product, at a higher margin, to an established business's best customers, then that does not represent disruption, but rather innovation. Disruption would lose its meaning if it is used to describe any successful innovation. I shall pursue the argument of Wessel (2013) to ensure that disruptive innovation is clearly identified and that it is not whittled down in

its significance, by confusing it with the natural process of transformative innovation.

It is my opinion that part of the response from business requires good leadership. These leaders should be aware of the opportunities for innovation through emerging disruptive innovation and solutions. In 2008, Gartner published the company's survey of its top predictions of strategic technologies for 2008 to 2012 and beyond (Gartner, 2008). It illustrated the IT trends and events that would alter the nature of business today and over the next few years. Gartner defines a strategic technology as one that is likely to profoundly impact business over the next three years. It is characterised by a high probability for disruption to IT or business, the necessity for significant financial investment, or the threat of being adopted late.

I further state that business leaders will have to consider the human factor of disruptive innovation and understand the significance of the socio-technical imperative. Ratto and Ree (2012) indicate that as in the case of the Internet or Computer Numerical Control (CNC) manufacturing, 3D printing is a socio-technical invention. This invention involves not only technological intervention, but also necessitates and is manifested by organisational and business innovations. Concerns of organisations adopting these technologies without due consideration are raised by Lindström and Hanken (2012). They suggest that while technologies like wearable computing may result in improvement and re-engineered work processes, they can also create alignment problems as employees may adopt the new technology before organisations are ready for its adoption. Over and above these concerns is the readiness of supportive models for the disruptive innovation.

It appears that technological innovation does not exclusively sit within larger corporations. Bo and Qiuyan (2012) emphasise that smaller business enterprises have consistently been the protagonists of technological innovation and technology transformation in China.

I suggest that business opportunities associated with mobile applications are in their infancy phase and it is to be expected that smarter applications are yet to enter the market. McCarthy (2011) reinforces this by reporting that the mobile application internet and the associated extended wave of application development disrupt the traditional delivery and management of applications.

Over and above this, they will also significantly impact how traditional software is retailed and delivered. All aspects of the ICT delivery system will be impacted by mobile applications. Supporting the concept of business opportunities in mobile applications, McCarthy (2011) reports that it is anticipated that the combined spend on mobile applications and services will reach approximately \$US54.6B a year by 2015.

Upon reflection then, it seems that the current state of the research suggests that there are different dimensions of disruptive innovation advanced by different authors and that a working definition will serve as a key building block for organisations. Assink (2006) guides the development of the tools and methods that can assist organisations to enable and manage disruptive innovation as a key competitive strategy. It is also apparent that businesses often fail to develop disruptive innovation owing to key inhibitors or barriers. In an effort to provide a better understanding of how companies can improve their disruptive innovation capabilities, the author argues that there is an interrelationship between and interdependence of the inhibiting factors. Kaplan (2012) extends this debate by stating that having a disruptive innovation capability is mandatory, both for growing a business and protecting existing markets. The author cautions that disruptive innovation requires new mindsets and behaviours, for leaders themselves and for the organisations that develop them.

The problem is that a disruptive innovation is more easily identified in retrospect. What is probably more difficult is how to convert the understanding into a formal and repeatable process. It is more about best principles than best practices, and requires a disruptive approach to management itself.

2.5.1.3 Summary of the nature of disruptive innovation

With reference to the aforementioned, Table 2.8 summarises the contributions of knowledge of the nature of disruptive innovation.

Table 2.8: The contributions of knowledge of the nature of disruptive innovation

The nature of disruptive innovation	References
Innovation not only at the technological level but also at the business level	Gartner (2008), Johnson et al. (2008), Menychtas et al. (2011), Oskam and Boswijk (2016)
Innovation that causes major change to the way in which sectors operate	Tynan (2008), Christensen (1997), Chui et al. (2010), Fuchs (2012)
Innovation that can bring about efficiencies	Schadler (2012), Gartner (2008), Menychtas et al. (2011), Drew (2011)
Innovation that has enabled users to collaborate, share views, ideas, opinions, and interests on the Internet	Boulos et al. (2006), Mansour (2012), Smith et al. (2011)
Innovation that is empowering in nature	Giustini (2006), Mansour (2012), Fuchs (2012)
Innovation that has business value	VerticalResponse (2008), Colliander and Dahlén (2011), Menychtas et al. (2011), Bashir et al. (2016), Moazed and Johnson (2016)
Innovation that is troublesome and unpredictable	Johnson et al. (2008), Menychtas et al. (2011), Chui et al. (2010)
Innovation that is engulfing	Mulholland (2011), Menychtas et al. (2011), Chui et al. (2010), Bashir et al. (2016), Moazed and Johnson (2016)
Innovation which is socio-technical	Ratto and Ree (2012), Lindström and Hanken (2012)
Innovation that is dynamic	Wessel (2013), Tynan (2008), Christensen (1997), Chui et al. (2010), Oskam and Boswijk (2016)

2.5.2 Evaluation of the knowledge

Table 2.9 extends the aforementioned contributions of knowledge of the nature of disruptive innovation by evaluating the body of knowledge to determine intertextual coherence.

Table 2.9: The evaluation of knowledge of the nature of disruptive innovation

The nature of disruptive innovation	References	Intertextual coherence
Innovation not only at the technological level but also at the business level	Christensen (1997), Gartner (2008), Johnson et al. (2008), Menychtas et al. (2011), Oskam and Boswijk (2016)	Progressive coherence
Innovation that causes major change to the way in which sectors operate	Christensen (1997), Tynan (2008), Christensen (1997), Chui et al. (2010), Fuchs (2012)	Progressive coherence
Innovation that can bring about efficiencies	Schadler (2012), Gartner (2008), Menychtas, et al. (2011), Drew (2011)	Progressive coherence
Innovation that has enabled users to collaborate, share views, ideas, opinions, and interests on the Internet	Boulos et al. (2006), Mansour (2012), Smith et al. (2011)	Progressive coherence
Innovation that is empowering in nature	Giustini (2006), Mansour (2012), Fuchs (2012)	Progressive coherence
Innovation that has business value	VerticalResponse (2008), Colliander and Dahlén (2011), Menychtas et al. (2011), Bashir et al. (2016), Moazed and Johnson (2016)	Progressive coherence
Innovation that is troublesome and unpredictable	Christensen (1997), Johnson et al. (2008), Menychtas et al. (2011), Chui et al. (2010)	Progressive coherence
Innovation that is engulfing	Christensen (1997), Mulholland (2011), Menychtas et al. (2011), Chui et al. (2010), Bashir et al. (2016), Moazed and Johnson (2016)	Progressive coherence
Innovation that is socio-technical	Ratto and Ree (2012), Lindström & Hanken (2012).	Synthesised coherence
Innovation that is dynamic	Christensen (1997), Tynan (2008), Chui et al. (2010), Wessel (2013), Oskam and Boswijk (2016)	Progressive coherence

An evaluation of the body of knowledge reveals that there is progressive coherence among all of the contributions to the existing body of knowledge, except one. There appears to be a relation of literature contributions within two specific focus areas, technology and business, that reflect the development of knowledge over time.

2.5.3 Gaps and potential for contribution by this study

Table 2.10 finally problematises the literature by identifying the gaps and potential contribution as recommended by Locke and Golden-Biddle (1997) and Golden-Biddle and Locke (2007) that this study could make in establishing the nature of disruptive innovation.

Table 2.10: The evaluation of knowledge of the nature of disruptive innovation

The nature of disruptive innovation	Intertextual coherence	Gap in the literature	Logic
Innovation not only at the technological level but also at the business level	Progressive coherence	Incommensurate	Inductive
Innovation that causes major change to the way in which sectors operate	Progressive coherence	None – adequately dealt with	Deductive
Innovation that can bring about efficiencies	Progressive coherence	Inadequate	Abductive
Innovation that has enabled users to collaborate, share views, ideas, opinions, and interests on the Internet	Progressive coherence	Inadequate	Retroductive
Innovation that is empowering in nature	Progressive coherence	Incomplete	Inductive
Innovation that has business value	Progressive coherence	Inadequate	Abductive
Innovation that is troublesome and unpredictable	Progressive coherence	None – adequately dealt with	Deductive
Innovation that is engulfing	Progressive coherence	Inadequate	Deductive
Innovation that is socio-technical	Synthesised coherence	Incommensurate	Inductive
Innovation that is dynamic	Progressive coherence	None – adequately dealt with	Deductive

By applying deductive reasoning as recommended by Meyer and Lunnay (2013) to the fact that the nature of disruptive innovation is innovation that (1) causes major change to the way in which sectors operate, (2) is troublesome and unpredictable, and (3) is dynamic, I suggest that the literature is adequately dealt with. I base my argument on the fact that there are established premises or principles which inform my own related context of the nature of disruptive innovation.

Through inductive logic, I suggest that the literature incommensurately deals with the fact that the nature of innovation is (1) not only at the technological but also at the business level as well as (2) that it is socio-technical. I draw these inferences from the related specific observations in the literature to establish an argument that disruptive innovation impacts the business and its people.

Abductive reasoning suggests to me that the literature inadequately deals with the fact that the nature of disruptive innovation is innovative and that (1) can bring about efficiencies and (2) has business value. These inferences are drawn from unrelated observations in the literature that stimulated me to believe that disruptive innovation has inherent business opportunity.

By applying retroductive reasoning to the fact that disruptive innovation is innovation that has enabled users to collaborate, share views, ideas, opinions, and interests on the Internet, I suggest that the literature is inadequate. This inference is drawn from related observations of the relevant authors' failure to expound on the potential of disruptive innovation for business collaboration.

Through inductive logic, I suggest that the literature is incomplete in respect of the fact that disruptive innovation is innovation that is empowering in nature. This inference is drawn from related specific observations in the literature to establish the fact that disruptive innovation can cogently be used in a business context.

Lastly, I address the fact that disruptive innovation is innovation that is engulfing. Deductive reasoning suggests that the literature in this regard is inadequately dealt with. I base my argument on the fact that the academic literature is scant in detailing how disruptive innovation could subsume other innovation in its path.

2.6 Tenet Three: The role of the development agency

With a better understanding of the first two tenets, the study now shifts its focus to the third tenet which is the potential role of the development agency in supporting SMEs in the technology sector. I shall again (1) draw contributions of knowledge from various articles and related academic resources; (2) evaluate the knowledge contributions per category and decide whether they constitute synthesised, progressive or non-coherence; and (3) extend the evaluation of the intertextual coherences by identifying gaps and the potential for contribution by this study.

2.6.1 Contributions of knowledge

Table 2.11 summarises the contributions of knowledge of the potential role of the development agency.

Table 2.11: The contributions of knowledge of the potential role of the development agency

The potential role of the development agency	Reference
Strategic Support: The identification of long-term and overall aims and interests of the SME and the means of attaining them.	Le Roux (2010), Davies (2013), DTI (2016)
Promote Opportunity: A set of conditions that makes it possible for the SME to generate revenue.	Mountford (2009:9), Mandel (2012:1)
Capacity Building: Assistance to SMEs that require development of a certain skill or competence, or performance ability.	Mountford (2009), Le Roux (2010); Feinstein (2013)
Growth and Sustainability: The creation of enabling environments for SMEs to develop enduring business.	Le Roux (2010:2), Davies (2013:1), SEDA

I regard development agency to be the means by which assistance is rendered by government to relevant stakeholders to ensure the expansion of the economy. Lexical definitions of ‘development agency’ seem to aggregate into the common understanding that these are entities whose aim it is to assist, develop and support growth (particularly but not exclusively, economic growth) within a region through the provision of resources and assistance, usually from state organisations. According to Le Roux (2010), this development either refers to the creation of a new business, the redevelopment of the business, or the growth of existing businesses. The enterprise development strategy must ensure the viability of the business idea which should lead to the creation of new business value. The agencies partner with the business through the provision of funds, guidance or support of the enterprise development activity in pursuit of the business objective.

All of this agency should lead to the strengthening of the local economy through the creation of jobs, enlargement and reinforcement of the tax base, and ultimately improving the standard of living of citizens. With specific reference to the creation of jobs, Mandel (2012) suggests that the potential solution to boosting employment lies in innovation. Through innovation, new goods and services are created, giving rise to new industries through which employment is created. A prime example of this would be the rise of the app economy, where each app represents jobs for developers, designers, marketers, and other related staff. Based on this then, it appears that development agency could have a pivotal role to play in the mobile application development sector.

Mountford (2009) states that internationally over the last two decades governments have fashioned innovative development tools and development agencies, and other entities specifically to pursue their development agendas. The author also states that development agencies have been re-inventing and refreshing their role, shifting their intervention foci and changing which tools are applied to ensure that they remain relevant. With this in mind then, it is important for a development agency to establish a vibrant rationale, mission, strategic framework and considered choices of tools and programmes to function effectively.

It is vital to this study to understand the types of development agency in the Western Cape of South Africa which will serve as a sample for empirical research. Table 2.12 represents a summary of the key development agencies in SA, with either national, regional or local mandates for development.

Table 2.12 The key development agencies in South Africa

Development Agency	Geographic Focus	Function
Business Support and Skills Development (BSSD) (https://www.capetown.gov.za/en/ehd/Pages/BusinessSupportandSkillsDevelopment.aspx)	Cape Town	The aim of this entity is to ensure that the City of Cape Town's strategic objectives to ensure a greater and wider impact are met. This is achieved through recommendations to the regulatory and policy environment surrounding business. It provides information to businesses, supports procurement processes, and encourages enterprise development services and entrepreneurship by driving various relationships, partnerships, and agreements.
Cape Higher Education Consortium (CHEC) http://www.chec.ac.za/	Western Cape	This entity aims to establish the Western Cape as a strong higher education region which, through systemic inter-institutional cooperation and academic programme collaboration, will be, amongst others, instinctively responsive to regional, national and international developments in the knowledge economy of the 21 st century.

Cape Town Partnership http://www.capetownpartnership.co.za/	Cape Town	This entity was formed in 1999 as a non-profit (Section 21) organisation to mobilise and align public, private and social resources towards the urban regeneration of Cape Town's central business district.
Council for Scientific and Industrial Research (CSIR) http://www.csir.co.za/	National	This entity sees itself as one of the leading scientific and technology research, development and implementation organisations in Africa. It undertakes directed and multidisciplinary research and technological innovation as well as industrial and scientific development to improve the quality of life of South Africans.
Department of Trade and Industry (DTI) www.thedti.gov.za	National	This entity is the department of the South African government charged with overseeing commercial and industrial policy. The DTI works closely with the BPO/Call Centre sector and has been instrumental in driving investment to SA through various initiatives including the incentive scheme.
Government Communication and Information System (GCIS) www.gcis.gov.za	National	This entity provides strategic communication leadership and support to all of government. Its vision is to create government communication that empowers and encourages citizens to participate in democracy and improve the lives of all.
National Research Foundation – The Technology and Human Resources for Industry Programme (THRIP) www.nrf.ac.za/thrip	National	This entity aims to boost SA by supporting research and technology development, and by enhancing the quality and number of appropriately skilled people.
Small Enterprise Development Agency (SEDA) http://www.seda.org.za/Pages/Home.aspx	National	This entity is mandated to implement government's small business strategy; design and implement a standard and common national delivery network for small enterprise development; and integrate government-funded small enterprise support agencies across all tiers of government.
Support Programme for Industrial Innovation (SPII) http://www.spii.co.za/index.html	National	The South African Government through the Department of Trade and Industry (DTI), has always placed a priority on the development of new technologies as part of an important thrust to strengthen SA's competitiveness globally. This entity is an initiative of the DTI, and strives to play a key role of supporting the development of new technologies in the South African industry.
TABEISA http://www.dut.ac.za/support_services/tabeisa_enterprise_centre	National	This entity is a unique national initiative that harnesses the resources and knowledge of the university and the creativity and enthusiasm of staff and students to uplift communities by creating new businesses and jobs.
The Barn http://www.bandwidthbarn.org/	Cape Town	This entity enables people to start successful businesses, develop great products and thus help change the world. It drives social and economic prosperity by leading Cape Town's and the region's innovation mission.

The Business Place eKapa. (TBP) http://www.tbp.co.za/capetown/index.htm	Cape Town	This entity is a network of small business support centres with a branch in Cape Town. It assists new entrepreneurs with information, referrals, training, workshops, networking and business opportunities.
The Cape IT Initiative (TheCITi) http://www.citi.org.za/	Western Cape	This entity was established in 1998 to address systemic challenges undermining the growth and sustainability of the technology sector) in the Western Cape, SA.
WESGRO http://wesgro.co.za/	Western Cape	This entity is the official marketing, investment and trade promotion agency for the Western Cape. Its aim is to grow the economy through trade and investment opportunities to benefit the people of the Western Cape.

Having identified a sample of the development agencies in SA, I now establish the framework within which they operate. Present development agency interventions in SA have their roots within the Industrial Policy Action Plan (IPAP) 2013 – 2016. The IPAP is located in the vision of the National Development Plan and forms one of the principal pillars of the New Growth Path of the South African Government. Part of the future plans of the IPAP is to strengthen technology platforms that will encourage innovation and technology development and the acquisition and commercialisation of new technologies. Close coordination and the integration of support measures and incentives managed by the DTI and the Department of Science and Technology for industry are envisaged. Amongst others, further attention will be given to the promotion of technology sharing and the support of small business development (Davies, 2013).

In attempting to identify the potential role of the development agency in supporting SMEs in the technology sector, I believe that it will be useful to map the dimensions of business innovation against the functions of the development agency. The following table represents the potential functions of the development agency as recommended by Le Roux (2010), Mandel (2012), Mountford (2009), and Davies (2013), combined with the dimensions of business innovation as suggested by Sawhney et al. (2006).

Table 2.13: The potential functions of the development agency

Anchor dimensions of business innovation	Minor dimensions of business innovation	Definition	Function of the development agency
The offerings a company creates		Develop innovative new products or services	Strategic Support Capacity Building Promote Opportunity
	Platform for the offering	Use common components or building blocks to create derivative offerings.	
	Solutions of the offering	Create integrated and customised offerings that solve end-to-end customer problems.	
The customers it serves		Discover unmet customer needs or identify underserved customer segments.	Growth and Sustainability Promote Opportunity
	Customer experience	Redesign customer interactions across all touch points and all moments of contact.	
	Value capture	Redefine how the company gets paid or create innovative new revenue streams.	
The processes it employs		Redesign core operating processes to improve efficiency and effectiveness.	Growth and Sustainability Capacity Building Promote Opportunity
	Organisation	Change form, function or activity scope of the firm.	
	Supply chain	Think differently about sourcing and fulfilment.	
The points of presence it uses to take its offerings to market		Create new distribution channels or innovative points of presence, including the places where offerings can be bought or used by customers.	Strategic Support Promote Opportunity Growth and Sustainability
	Networking	Create network-centric intelligent and integrated offerings.	
	Brand	Leverage a brand into new domains.	

The above table suggests that business innovation is not so much about new things as it is about new value. Innovation is relevant only if it creates value for customers and, ultimately, for the SME. The focus on creating new things is not sufficient for business innovation as customers are the ones who determine the value of an innovation by spending their money on it.

Furthermore, business innovation requires meticulous reflection on all aspects of a business. An innovation with a poor marketing strategy or distribution channel could fail in the same way as new technology that lacks a critical technical aspect. The SME will, therefore, have to consider all dimensions of its business system in the innovation process.

In all of this, the development agency can play a significant part in assisting the SME in the innovation process. This assistance may take the form of strategic support by aiding the SME to access support mechanisms that are available via state interventions and policies. Along with this, capacity-building support can be given through skills development to assist the SME to be a competent business person within the innovation sector. In addition, the development agency should also allow for the promotion of business opportunity by helping the SME to identify real business prospects. Finally, the SME should assist the SME with its growth and sustainability by improved revenue and sales.

2.6.1.1 The status of SMEs in South Africa

In order to emphasise the vital role that development agency plays in respect of SMEs in SA, I now present the status of SMEs in SA. SA's finance minister has declared that SMEs are critical to overall employment and job creation. The truth, however, is that the SA economy is shedding jobs and those that are being created are disproportionately in the public sector. The solution lies in entrepreneurship and small business. The efforts to expand the number of small businesses need to be located within an understanding of the nature of businesses that the economy can best support (SBP, 2011).

Olawale and Garwe (2010) concur with SBP (2011) when they report that new SMEs are regarded as vital contributors to SA's economic development issues. The travesty is that SA has one of the world's highest failure rate at 75%, as the majority of SMEs do not grow. They identify the following obstacles to SME success in SA:

- Financial (internal factor)
- Economic (external factor)
- Markets (external factor)
- Management (internal factor)
- Infrastructure (external factor)

The authors state that 56% of private sector employment in SA takes place in the SME sector and that SMEs contribute to 36% of the gross domestic product. They argue that the SME sector is a means of addressing the 24.5% unemployment crisis in SA by leveraging the employment creation potential of small businesses and promoting small business development. Rapid and sustained economic growth is critical to stem the tide of job losses.

SBP (2011) extends this viewpoint by stating that SA's prospects of achieving satisfactory growth are highly dependent on its business entrepreneurs. Without a solid business sector and courageous entrepreneurs, the country's prospects are limited. The disconcerting fact, however, is that despite acknowledgment of SMEs' potential as employment generators, government efforts to support the sector have had minimal success.

2.6.1.2 The challenges facing SMEs

Seeletse and MaseTshaba (2016) state that SMEs are showing a decline in market share to larger corporations in the supply of goods to rural areas and townships. Large corporations are able to meet the contemporary demands of customers requesting value for money through high-quality products at low prices, greater convenience, and a wide range of choices. This has now become a competitive advantage that larger corporations have over SMEs in this sector. Traditional SMEs struggle to compete at large levels of economies of scale and scope and they refuse to spend as they consider spending as waste.

Seeletse and MaseTshaba (2016) suggest the following as the leading causes of failure of South African SMEs:

- Lack of basic skills and establishing an SME for the wrong reasons.
- Lack of adequate market.
- Lack of or inadequate business plan.
- Lack of financial literacy and poor money/financial management.
- Inability to secure funding.

There is a sense in the extant literature that SMEs require more support from larger enterprises, government agencies and financial institutions to make them more competitive (2014). This view is extended by Feinstein (2013) when the author proposes that entrepreneurs need access to specialist skills, knowledge

and financial and non-financial resources to develop and take a product to market.

The following table presents some of the challenges facing SMEs as proposed by Small and Medium Business Development Chamber of India (2014), Feinstein (2013) and Minority Business Development Agency (2014).

Table 2.14: Some challenges facing SMEs

Challenge	Description
Financial Resources	Access to resources to develop and take a product to market
	Access to investors and venture capital funds to grow business
	Access to business support funding for fledgling business
	Assistance with tax and other statutory obligations
Human Resources	Access to specialist skills within the industry
	Access to marketing and brand specialists
	Access to legal and industrial law specialists
	Access to business and economic specialists
Information	Exposure to business support
	Exposure to state development and incentive programmes
	Understanding of how to commercialise innovation
	Exposure to the sourcing of relevant resources
	Exposure to knowledge transmission programmes
Partners	Access to mentors in the industry and business sector
	Assistance to establish and enhance business and trade activities
	Assistance in establishing joint ventures and collaborations
	Access to think tank consisting of complementary but diverse people within the value chain

Building on the synthesis of Table 2.13, and with the understanding of some of the challenges facing SMEs, I propose Figure 2.4 which represents a summary of the typical support that the development agencies render to SMEs.

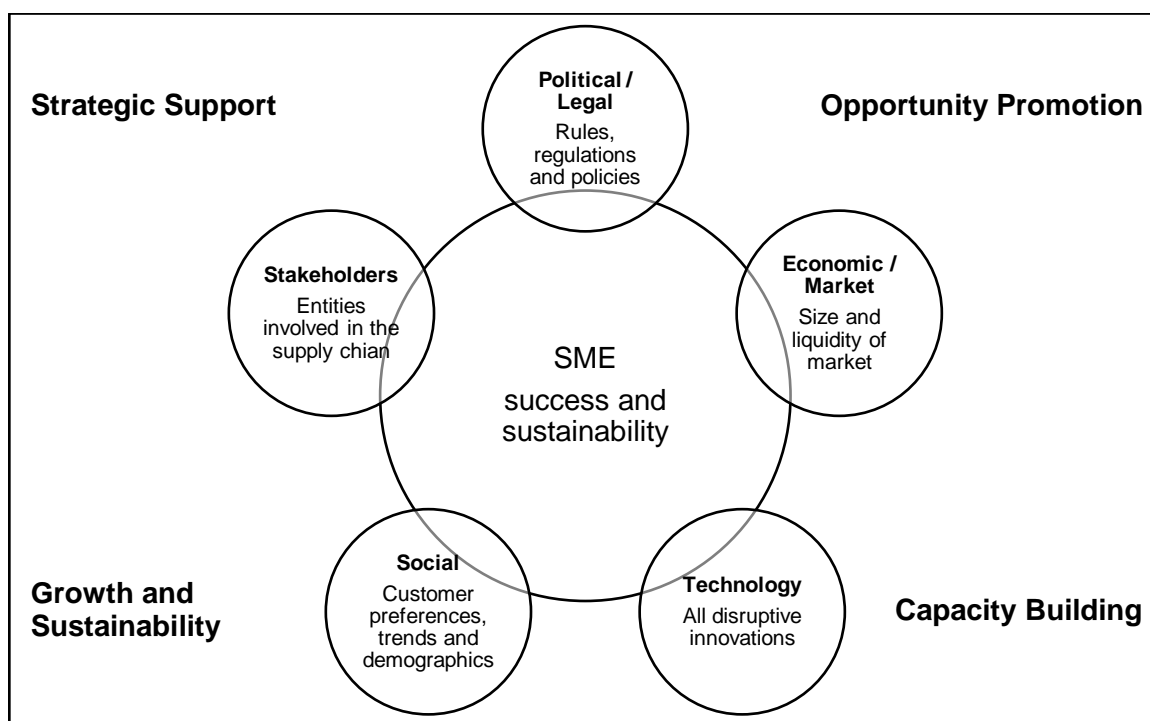


Figure 2.4: Development agency resources and support to SMEs

2.6.2 Evaluation of the knowledge

Table 2.15 extends the aforementioned contributions of knowledge of the potential role of the development agency by evaluating the body of knowledge to determine intertextual coherence.

Table 2.15: The evaluation of knowledge of the potential role of the development agency.

The potential role of development agency	Intertextual coherence	Gap in the literature	Logic
Strategic Support: Involving the identification of long-term and overall aims and interests of the SME and the means of attaining them.	Progressive coherence	Inadequate	Inductive
Promote Opportunity: A set of conditions that makes it possible for the SME to generate revenue.	Progressive coherence	Inadequate	Deductive
Capacity Building: Assistance to SMEs that require development of a certain skill or competence, or performance ability.	Synthesised coherence	Inadequate	Inductive
Growth and Sustainability: Creating enabling environments for SMEs to develop enduring business.	Progressive coherence	Inadequate	Inductive

An evaluation of the body of knowledge reveals that the literature sways toward progressive coherence in the contributions to the existing body of knowledge. There appears to be a relation of literature contributions within three specific focus areas, namely, support, opportunity, and growth of the business that reflect the development of knowledge over time.

Synthesised coherence occurs in the discussion of the capacity-building role that the development agency could play, where there is a relation of literature contributions from seemingly unrelated sources. The respective authors focus on the factors that will assist the business and their contributions have a strong correlation with the potential role of the development agency to provide capacity support.

2.6.3 Gaps and potential for contribution by this study

Table 2.16 finally problematises the literature by identifying the gaps and potential contribution as recommended by Locke and Golden-Biddle (1997) and Golden-Biddle and Locke (2007) that this study could make in establishing the potential role of the development agency.

Table 2.16: The evaluation of knowledge of the potential role of the development agency

The potential role of the development agency	References	Intertextual coherence
Strategic Support: Involving the identification of long-term and overall aims and interests of the SME and the means of attaining them.	Le Roux (2010:2), Davies (2013:1), BSSD, DTI (2016)	Progressive coherence
Promote Opportunity: A set of conditions that makes it possible for the SME to generate revenue.	Mountford (2009:9), Mandel (2012:1), TBP	Progressive coherence
Capacity Building: Assistance to SMEs that require development of a certain skill or competence, or performance ability.	Mountford (2009:9), Le Roux (2010:2), Feinstein (2013:1)	Synthesised coherence
Growth and Sustainability: Creating enabling environments for SMEs to develop enduring business.	Le Roux (2010:2), Davies (2013:1), SEDA	Progressive coherence

Through inductive logic as recommended by Meyer and Lunnay (2013), I suggest that the literature inadequately deals with the fact that the potential role of the development agency is to provide (1) strategic support, (2) capacity building, and (3) mechanisms for growth and sustainability. I draw these inferences from the related specific observations in the literature to establish an argument that the development agency will require a model for enhanced competitiveness of, specifically, the mobile application development SME.

Lastly, I address the fact that the potential role of the development agency is to promote opportunity. Deductive reasoning suggests that the literature in this regard is inadequately dealt with. I draw inferences from established principles that the development agency should provide conditions that make it possible for particularly the mobile application development SME to generate revenue.

2.6.4 A priori framework for development agency linking business model innovation and disruptive innovation based on a critical realist underpinning

Table 2.17 presents an a priori framework for development agency linking business model innovation and disruptive innovation based on a critical realist underpinning.

Table 2.17: A priori framework for development agency

Critical Realism	Business Model Innovation	Disruptive Innovation	Development Agency
Culture	The constant monitoring of new competitors and substitute products	Innovation not only at the technological level but also at the business level	Promote Opportunity: A set of conditions that makes it possible for the SME to generate revenue
	The creation, or reinvention, of a business itself	Innovation that can bring about efficiencies Innovation that has business value	
Structure	The market focus of the business's innovation	Innovation which is socio-technical	Strategic Support: Involving the identification of long-term and overall aims and interests of the SME and the means of attaining them
	The value generation from technological innovation	Innovation that is dynamic	Capacity Building: Assistance to SMEs that require development of a certain skill or competence, or performance ability
Agency	The creation of substantial new value for customers and the business	Innovation that causes major change to the way in which sectors operate	Growth and Sustainability: Creating enabling environments for SMEs to develop enduring business.
	The achievement of commercial viability and a sustainable competitive advantage	Innovation that has enabled users to collaborate, share views, ideas, opinions, and interests on the Internet	
		Innovation that is empowering in nature	
		Innovation that is troublesome and unpredictable	
	Innovation that is engulfing		

2.6.5 A priori framework comparing an existing business to that of a new business for development agency linking business model innovation and disruptive innovation based on a critical realist underpinning

Building on Table 2.17, the following case presents a comparison of an established business operating in the Global Positioning System (GPS) sector with that of a new entrant SME that could be utilising the disruptive innovation in this sector. The technology in this sector utilises a space-based navigation system that provides location information on maps and has been adopted for commercial use in motor vehicles. Traditional key players in this sector are companies like the US-based Garmin International Incorporated and the Dutch company TomTom NV. These companies have been disrupted by mobile app innovation by way of free navigation apps on smartphones. This disruption enables small businesses to compete against the established corporates in this sector. A case in point is a company called Waze, which started as an Israeli start-up company in 2008. Waze created a free mapping app that provided turn-by-turn directions and real-time traffic data to its users. In 2013 Waze was bought by Google for \$1.1 billion (Levav & Luther:2014).³

³ This will be expounded in the presentation of the Praxis Model (Chapter 6).

Table 2.18: A priori framework of an existing business compared with a new business for development agency

Critical Realism	Business Model for established business in this sector	Disruptive Innovation impacting this sector	Business Model Innovation for new business entering this sector	Role of the Development Agency in the new business in this sector
Culture	The accepted business model supports the purchase of a stand-alone, dedicated device that serves a niche market and is aimed at a specific target market. The product is typically highly-priced for high-end customers who have to pay for upgrading of software on a regular basis.	Free smartphone navigation apps that are not only cheaper but are often regarded as being better than the costly stand-alone devices are disrupting this sector. Supported by strong iOS and Android operating systems, these apps are regularly being refined and distributed through the cloud.	This immature yet appealing disruption does not necessarily emanate from industry competitors or those with comparable business models. This disruptive innovation enters at the top of the mature GPS market and is in the process of engulfing the larger customer segments. New businesses in this sector will have to innovate and cater for multi-functionality as opposed to dedicated devices.	New businesses have to be assisted to establish a strategy to benefit from the potential of these disruptions that are unplanned and unintentional.
Structure	The established product is a stand-alone, dedicated device with specialised software. These GPS devices gained popularity as directional aids to motorists in 2007.	Free smartphone navigation apps are able to perform tasks once reserved for specialised hardware like GPS systems. These phones have the capabilities to pair the GPS location signals from satellites with cartographic software, because they have a GPS chip and because they can pinpoint a user's location using cell-phone towers.	Smartphones counter the traditional high barriers to entry in this sector. The new business will have to understand the market focus of this innovation and model itself accordingly, in order to derive the value from this innovation.	New businesses should be assisted to understand that these disruptive innovations do not follow conventional strategic paths or normal patterns of market adoption.
Agency	The technology is typically produced in-house under proprietary software licensing agreements.	The creation of substantial new value for customers by way of free smartphone navigation apps.	This innovation causes major change in this sector due to openness and ease of distribution across the market segments.	New businesses would have to be given assistance to achieve commercial viability and a sustainable competitive advantage within this open development sector.

2.6.6 Summary of the literature study

This study proposes that that a multi-factorial strategy model can be evolved to enable development agency to be an augments in the commercialisation of the mobile applications development SME sector through business model innovation in response to disruptive innovation.

Having constructed opportunities for the contribution of the study, I therefore propose that each instance of problematised intertextual coherence, as previously discussed in the three tenets, can support a contribution. In light of this then, the following leading questions should be the basis of the empirical research phase of this study:

- | | |
|-------------|---|
| Tenet One | What are the key issues to be addressed to ensure SME success?
What are the best practices for business model innovation?
What will it take to bring about the necessary changes that are indicated for business model innovation? |
| Tenet Two | What other technologies could disruptive innovation impact?
What other sectors could disruptive innovation impact?
Why is critical to consider the business benefits of disruptive innovation for mobile application development SMEs? |
| Tenet Three | What are the salient imperatives that inform the role of the development agent with respect to business model innovation and disruptive innovation?
Why are things the way they are with regard to development agency?
What are the critical performance underpinnings of development agency? |

CHAPTER 3: RESEARCH APPROACH AND METHODOLOGY

3.1 Introduction

This chapter delineates the research design as well as methodologies and techniques adopted for this Critical Realist study. The chapter begins with a brief overview of socio-technical research in Section 3.2. The research paradigm is discussed in Section 3.3, followed by an elaboration of the ontological and epistemological perspectives of the study. At this juncture, an outline of the methodologies used in the Critical Realist paradigm is presented followed by the research methodology adopted for this study and the data sources in Section 3.4. Section 3.5 deals with the sampling methods, followed by the sampling process and the criteria for selection of participation samples. The data analysis methods are covered in Section 3.6 and ethical considerations for the study are provided in Section 3.7. Section 3.8 deals with an overview of how the research methodology shaped the outcomes of the research. Finally, Section 3.9 contains the chapter summary.

3.2 Socio-technical research

According to Kling and Lamb (1999), organisational research has revealed that IT systems are better understood when they are viewed as socio-technical systems. These systems often contain social elements of the business in which it is located. These authors state that socio-technical research is an embedded research approach, supported by empirically grounded research across various sectors of society and organisations for decades. In evidence of this, the authors cite research conducted by Kling and Scacchi (1982); Kling (1992), Kling (1999); Kling and Star (1998); and Kling et al. (2000).

Jarrahi and Sawyer (2013) suggest that socio-technical research is grounded in the symbiotic and inseparable relationships among the features of technology and the social norms, protocol and involvement of people. The concept of socio-technical is, therefore, embedded in this mutual constitution of society and technology. The authors suggest that this research explores the phenomena that emerge when society and technology interact.

3.3 Research paradigm

This critical realist study proposes that a multi-factorial strategy model can be evolved to enable development agency to be an augments in the commercialisation of the mobile applications development SME sector through business model innovation in response to disruptive innovation.

The interaction of organisations and how they function as a unit, sustaining and transforming each other, establishes a network in business. Based on this, the approach of Critical Realism was found to be convenient to describe the construct of business model innovation since it reflects the dynamic interactional nature of this construct in terms of ontology (view of the nature of reality), epistemology (view of the nature of knowledge) and methodology (view of the appropriate ways to study knowledge).

Steinmetz (1998) notes that critical realism dates back to the 1970s when Roy Bhaskar advanced a broad philosophy of science designated as transcendental realism, along with a distinct philosophy of the human sciences named critical naturalism. These concepts eventually formed what became known as critical realism, supported by authors such as Margaret Archer and others. Since Bhaskar made the first big steps in popularising the theory of critical realism, it has become a popular philosophy in the social sciences. Archer et al. (2016) state that critical realism regards ontology as paramount. The quest of ontology is to understand and say something about 'the things themselves' and not simply about beliefs, experiences, or current knowledge and an understanding of those things.

According to McFarland (2008), there is much discussion in social science research on causation and how best to study it. Much of the deliberation focuses on establishing causes, but ignores emphasis and analysis of the generative mechanisms explaining that relation. The concept of mechanism implies the generative processes by which a causal relation is established. Critical Realism does not concentrate on finding a relation between constructs but rather on understanding why or how the relation is established. This study is therefore not only concerned with identifying and predicting relations, but also understanding the phenomena.

In practical terms, this socio-technical research study focuses on the types of disruptive innovation and how they are used. The emphasis is on mobile applications as a contemporary manifestation of a disruptive innovation as well as the value of business model innovation, and how these will benefit the development agencies that support mobile application development SMEs. The target population of this study is those development agencies who assist entrepreneurs and/or small businesses aspiring to capitalise on the financial potential of mobile application development. The theoretical contribution of this study is moulded on the recommendations of Whetten (1989) in order to ensure validity.

This study adopts and adapts the Critical Realist Methodology Model proposed by Alexander (2013) as the basis of its research. It supports the principle of theory-to-practice or inductive research approach. Core to the model are the basic principles of Critical Realism, namely that a structured real world exists, knowledge is socially produced, and the pursuit to discern the generative mechanisms that explain empirical experiences.

The key constructs of socio-techno-economic systems are culture, structure, and (human) agency. For this study these key Critical Realist constructs have the following business context:

Giddens (1984) states that structure should not be associated with constraint, but is continuously both constraining and enabling. The author regards structure as rules and resources which exist only as memory traces that agents use to perform social actions. The author regards structure and agency as inseparable in reference to the duality of structure and elucidates the duality of structure in power relations in a particular manner. Giddens (1984) suggests that resources are structured properties of social systems, drawn upon and mimicked by knowledgeable agents in the course of collaboration. Structure is typically assumed by many social analysts to be a modelling of social relations or social phenomena. It does not exist independently of the knowledge that agents have concerning routine activity. Barker (2005) regards structure to be the influence of or limits placed on the choices and opportunities available owing to recurrent patterned arrangements.

Bhaskar (1978, p. 20) argues that if science is to be conceivable, the world has to include “enduring and transfactually active mechanisms”; society has to comprise an “ensemble of powers irreducible to but present only in the intentional actions of men” (Bhaskar, 1978, p. 9); and men must be “causal agents capable of acting self-consciously on the world” (Bhaskar, 1978, p. 9).

Archer (1995) suggests that structure is reproduced through agency, which is simultaneously constrained and enabled by structure. The author argues that structure provides a context of action for future agents. The author provides an alternative view to “duality” of Giddens (1984) and proposes the “dualism” of structure and agency. In consideration of these views then, this study regards structure as business conduits, such as infrastructures, resources, and information systems. The important thing to note is that structure can simultaneously constrain and enable a wide range of business practices. Structure can, on the one hand, shape the lives of

cultural participants by both limiting and creating opportunities for accessing business resources. Structure can, however, also be shaped through the participation of communities, networks, and individuals in processes of change. This study explores the collaboration practices through which small businesses make sense of structures.

Archer (1995, p. 180) suggests that like structure, culture is a human product but it too escapes its makers to act back upon them. In essence, culture is considered to refer to all “intelligibilia”, which is anything that has the “dispositional capacity of being understood by someone”. Hwang (2013) presents a novel way of defining business culture and explains why this mystery exists. Culture is concerned with patterns of behaviour, specifically the implicit social contracts that control our lives. The author postulates that written laws are not nearly as dominant as the implicit rules that shape our daily actions. Social contracts are essentially invisible, but they drive the destiny of countries and businesses. Culture in business is chiefly the conflict between two opposing social contracts.

Culture and society are generated by human activities, suggesting that society is incessantly changing owing to the dynamic nature of human actions. In describing the concept of society, Archer (1995) argues that it is nothing other than the relationship between structure and culture. This study suggests that culture provides the context for business meanings in communities. Yet, at the same time, culture can also be influenced by these business meanings. In other words, culture and business are mutually constitutive. This is why culture is both central to and a vital peripheral component of this study. Culture within the model of this study is about patterns of behaviour of people and businesses alike. It is active and constitutive, recurrently changing and at the same time offering a template for action. Hwang (2013) suggests that the biggest indicator of innovation success is culture. Innovation flourishes in systems based on certain cultural norms, such as “openness to strangers, diversity in talents and insights, empathy with outsiders and collaborative risk-taking”. The author suggests that there should be willingness in business to speak openly about culture as a driver of innovation and about the economic role of culture.

Barker (2005) proposes that agency is the capability of individuals to act independently and to make their own free choices. Bhaskar (1978) posits that agents always reproduce and transform social structures via their actions and that causal effects of the structures are always mediated through agents’ intentional actions. Giddens (1984) proposes that structure and agency must be considered from within a common formulation, since the notions of action and structure presuppose one

another. Agency does not refer to a series of combined discrete acts, but to a continuous flow of conduct. The view of Barker (2005) is that the structure versus agency deliberation may be assumed as an issue of socialisation against autonomy in establishing whether an individual acts as a free agent or in a way determined by social structure. This study therefore regards agency as the capacity of individuals, groups, and communities to participate actively in determining business agendas at the local level and creating solutions for business problems. Agency in sum is at the heart of this study, acknowledging the decision-making capacity and participatory impulse of communities. Because so much of the contemporary business landscape is increasingly controlled by corporates, this emphasis on the community as a locus of decision making is a key component of how the model for small business success is conceptualised.

The Critical Realist Methodology Model features four discrete areas of engagement, namely, the (1) project environment, (2) research methodology, (3) conceptual space, and (4) academic effects.

The analytical association between the project environment and the research methodology is accomplished via two processes, namely, 'morphogenesis' and 'hegemony'. Morphogenesis gives emphasis to the intention of the socio-technical intervention which is to bring about change in the environment. Hegemony signifies one party's dominance over another.

According to Alexander (2013, p. 746), "The examination of culture, structure and agency are conducted within the so-called 'conceptual space'." The analytical linkage between the research methodology and the conceptual space comprises the data-processes that are defined by the information management cycle and the critical analysis applied to the data.

The exercise of science, logical reasoning strategies, and creativity bring about the academic effects. These processes are crucial in order to reveal the generative mechanisms or causal powers that explain empirical experience.

The project environment and the academic effects domain are enriched by design and practice respectively as emanating from the other domain. Figure 3.1 represents the design of a multi-factorial strategy model from a Critical Realist perspective.

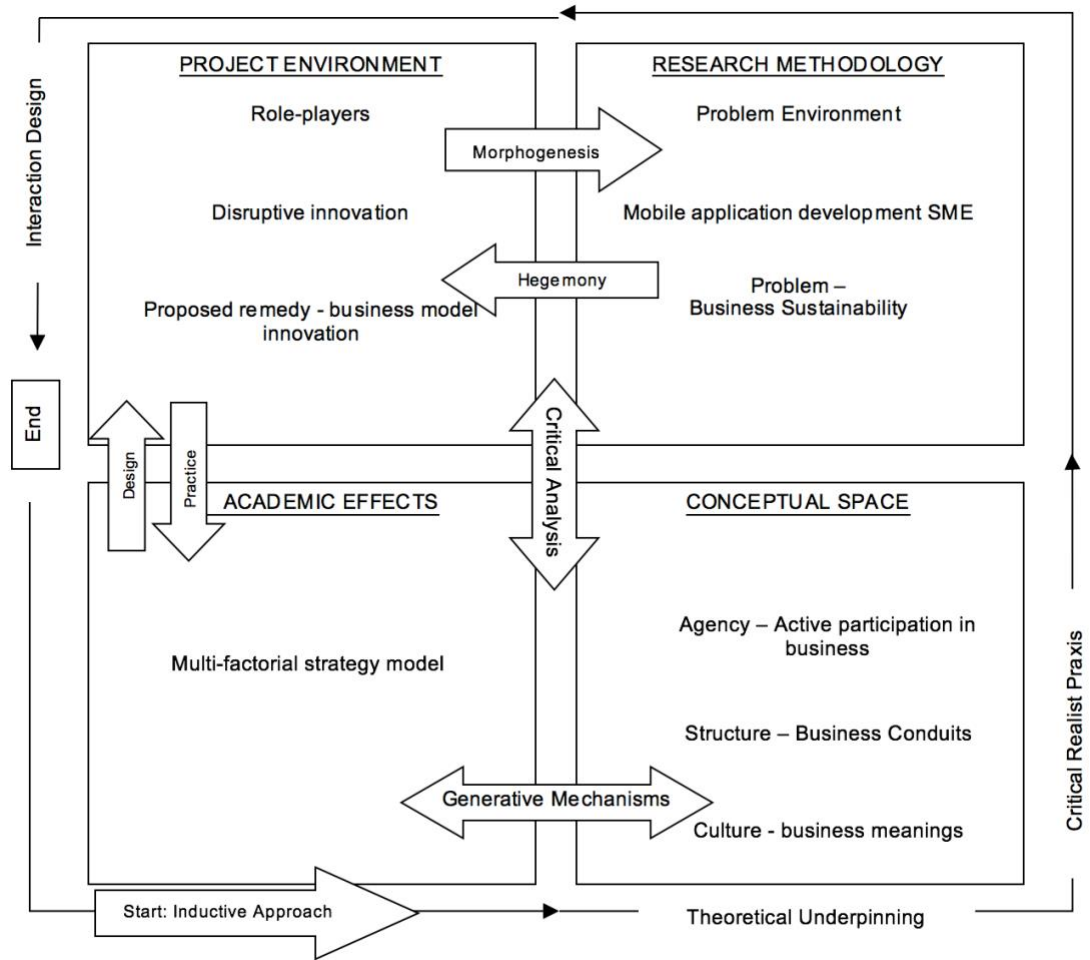


Figure 3.1: The design of a multi-factorial strategy model

3.4 Research methodology

Figure 3.2 represents the design of a multi-factorial information management process from a Critical Realist perspective as shown in Figure 3.1.

This research study made use of an Inductive Approach, which as stated by Thomas (2003), provides a suitable and efficient way of analysing qualitative data for various research studies. According to Kanire (2012), this approach needs to observe data to determine tentative hypotheses, in order to expand or accept a theory related to a phenomenon. In this regard, an a priori knowledge proposition is made as a basis for reasoning, without any assumption of the truth about the landscape of mobile application development in the Western Cape, SA.

Observations on various matters or experiences can then be generated and interpretations made.

The multi-factorial information management process indicates how data extracted from the existing body of knowledge by means of the literature study flows to and

from the problem environment to refine the research problem. Through a process of critical analysis the data was used to critique case studies and conduct focused interviews with relevant stakeholders in the technology, development agency and business sectors. The feedback from these interventions was analysed based on the three principles of Critical Realism, viz. Agency, Structure and Culture. The analysed data was synthesised by moderating it to a selection of theoretical considerations and in this way the data was transformed into information. This information led to the uncovering of the generative mechanisms to bring about the changes through the establishment of a multi-factorial strategy model. These research effects ultimately fed back into the existing body of knowledge as new, socially produced knowledge.

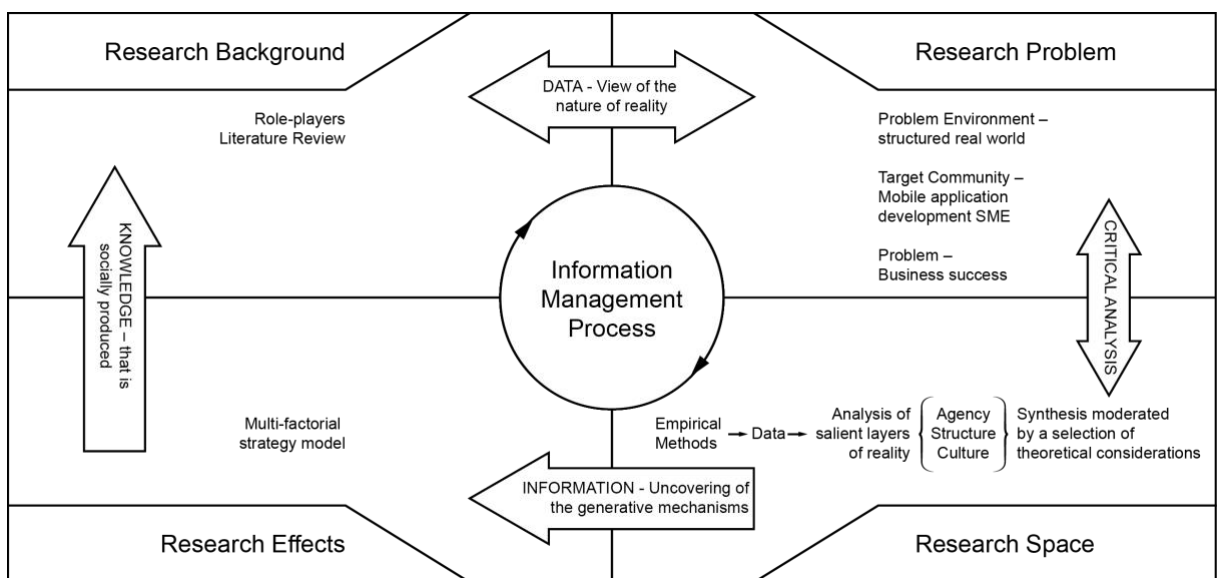
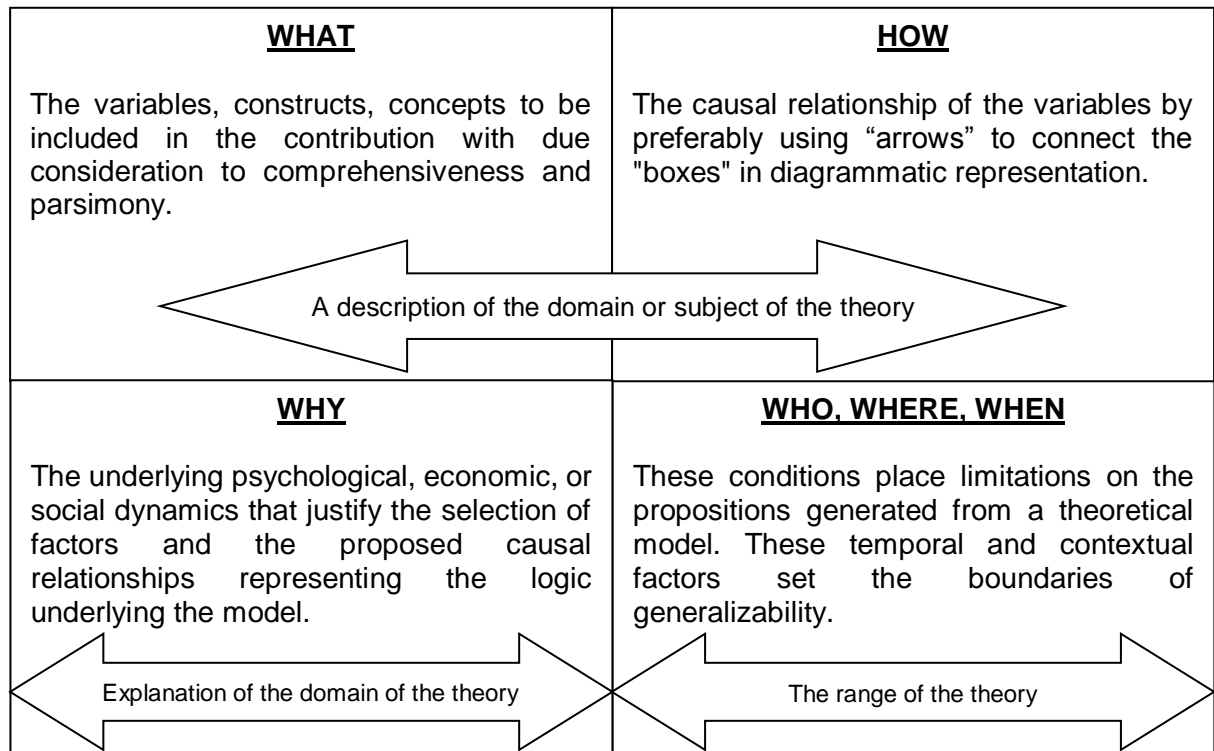


Figure 3.2: Design of a multi-factorial information management process

According to Whetten (1989), a valuable theoretical contribution comprises the four main building blocks of Theory Development. These are best illustrated in Figure 3.3.



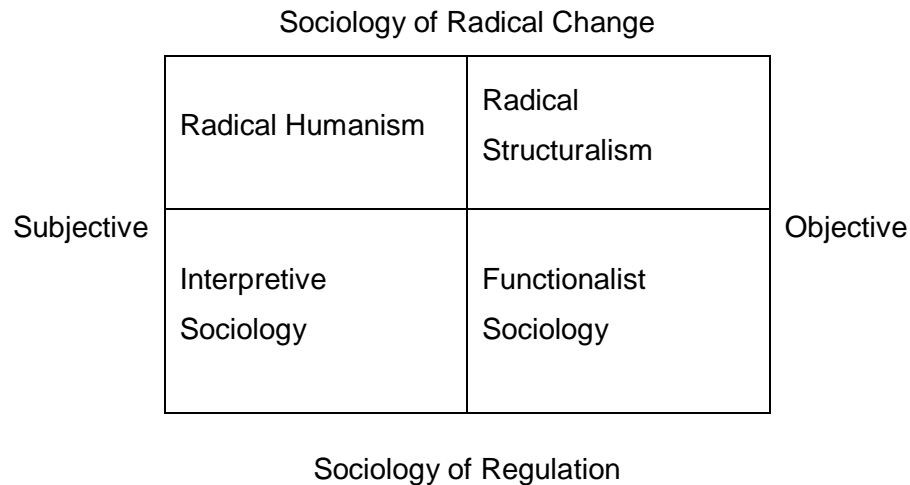
**Figure 3.3: – Four Main Building Blocks of Theory Development
(An adaptation of Whetten, 1989)**

Whetten (1989, p. 492) further recommends:

Although it is important for theorists to be sensitive to context, the Who, Where, and When of a theory are typically discovered through subsequent tests of the initial, rudimentary theoretical statement (What, How, Why). In the process of testing these ideas in various settings, we discover the inherent limiting conditions. In the absence of this breadth of experimental evidence, we must be realistic regarding the extent of a theorist's foreknowledge of all the possible limitations on a theory's applicability.

Burrell and Morgan (1979) present a model to depict the nature of reality as represented in Figure 3.4. This model, Paradigm for Organizational Analysis, presents four main interrogations of reality:

- Is reality given or a product of the mind?
- Must one experience something to understand it?
- Do humans have 'free will', or are they determined by their environment?
- Is understanding best achieved through the scientific method or through direct experience?



**Figure 3.4: Paradigm for Organizational Analysis Model
(Adapted from Burrell and Morgan, 1979)**

The authors suggest that reality is either objective (hard, physical, structural) or subjective (cognitive, individualistic). The regulation and change dimension of the model interrogates the natural state of reality in that it either is stable (towards equilibrium) or radical (towards disequilibrium).

The Paradigm for Organizational Analysis presents four paradigms:

- **Functionalist Paradigm (objective-regulation)**
It assumes rational human action and believes one can understand organisational behaviour through hypothesis testing. This paradigm has been the primary theory for organisational study and suggests that the nature of reality is observable and that the environment congregates in a desirable endpoint or equilibrium.
- **Interpretive Paradigm (subjective-regulation)**
Theorists in this paradigm try to observe on-going processes to better understand individual behaviour and the spiritual nature of the world. This paradigm seeks to explain the stability of behaviour from the individual's viewpoint. This paradigm suggests that the nature of reality is subjective and that the environment converges to an equilibrium state.
- **Radical Humanist Paradigm (subjective-radical change)**
Theorists in this paradigm see the current prevailing ideologies as separating people from their true selves. They are primarily concerned with releasing social constraints that limit human potential as the nature of reality is subjective where the environment is under constant change. Since this

paradigm is principally anti-organisation by nature, they use this paradigm to rationalise a need for revolutionary change.

- Radical Structuralist Paradigm (objective-radical change)

This study adopted this paradigm, where theorists see inherent structural conflicts within society that generate constant change through political and economic crises. This paradigm suggests that the nature of reality is observable and is under constant change.

By adopting the Radical Structuralist Paradigm of Burrell and Morgan (1979), this study proposed that radical change is inherent to the nature of societal structures. In this regard then, the research methodology approach views human action as something which is embedded within and moulded by socio-economic conflicts. Social change is regarded as arising out of the socio-economic class struggle.

3.5 Research methods

Critical discourse analysis remained a major feature of the enquiry in this study.

Tenorio (2011) states:

social theory was urged to critique and change society, by showing how social phenomena are interconnected; to produce knowledge that helps social actors emancipate themselves from domination through self-reflection, and to describe, explain and eradicate delusion, by revealing structures of power and ideologies behind discourse, that is, by making visible causes that are hidden.

In consideration of the views of Tenorio (2011) around critical discourse analysis, in order to increase the credibility and validity of the results, a variation of the Delphi research method was applied. In the first instance, a focused interview took place between representatives of industry and the development agency. The aim of this interview was to investigate, evaluate, and produce suppositions about the innovation and technology industry. The next phase involved an iterative process of collecting and filtering the judgements, firstly of industry experts, by using a series of data-collection and analysis techniques. The data was then analysed and a second series of interviews took place with representatives of development agencies; these were based on the original round of interviews with industry. The combined feedback from industry as well as development agencies then fed into the multi-factorial strategy model.

It was envisaged that this applied research study would specifically present a model to capture the value of a multi-factorial strategy model for enhanced mobile

application development. It postulates that business model innovation can be used for business success to respond to disruptive innovation. The focus of the research is ultimately about small business success and sustainability that ultimately contributes to the development of the SA economy.

The study made use of current international studies but was limited to mobile application development within the Western Cape.

The Critical Realist Enquiry was supported by the following:

- Structured real world...
 - What are the key constructs in understanding the landscape?
 - How does it extend the a priori model?
- Knowledge is socially produced...
 - What in your experience are the salient business/technological/political/social/market etc. imperatives that inform the role of the development agent with respect to business model innovation and disruptive innovation?
- Critical discourse analysis...
 - How can one explain the status quo?
 - What are the successes and failures?
 - What are the best practices?
- Emancipation agenda...
 - What are the key issues to be addressed?
 - What will it take to bring about the necessary changes that are indicated?
- Generative mechanisms...
 - Why are things the way they are?
 - Who/what holds sway?
 - What are the critical performance underpinnings?

3.5.1 The in-depth interview

According to Boyce and Neale (2006), the in-depth interview is a suitable qualitative research technique to obtain responses from a small sample of respondents to explore their perspectives on a particular theme. The technique involves conducting intensive individual interviews with specialists in order to explore particular issues in depth. In-depth interviews are useful instead of focus groups if the participants are uncomfortable in expressing themselves in a group, or when individual as opposed to

group opinions are sought. In-depth interviews reveal more comprehensive information than other data-collection methods such as surveys and they are often used to enhance questions for forthcoming surveys of a particular group.

In the first phase of this study, a series of in-depth interviews was conducted with academics from the four universities in the Western Cape. In a similar manner, Phase 2 involved interviews with mobile application development and software development businesses in and around Cape Town. The specific aim of these two phases was to determine the landscape of the mobile applications development industry in the Western Cape. This was achieved through the use of a structured survey instrument using the dual media of personal and telephone engagement. The constraint on the sample size of the study was these businesses' availability for interviews. In hindsight of the views expressed by Boyce and Neale (2006), another advantage of the in-depth interview over the focus group, is that it is extremely difficult to arrange a group session of business owners. They are busy people and the researcher is at the mercy of their availability. Owing to the relatively small sample size of the respondents, where the validity and reliability of the data could be questioned, the findings were interpreted from a qualitative rather than a quantitative perspective.

Seven mobile application development and software development businesses were surveyed in and around Cape Town. The business representatives interviewed were four managing directors, one founder, one technical adviser and one senior applications developer.

Representatives from all the universities in the Western Cape were interviewed. The four academic institutions surveyed were the Cape Peninsula University of Technology, University of Cape Town, Stellenbosch University and the University of the Western Cape. The respondents were academic members of staff from the respective IT departments in which software development was offered.

3.5.2 The focused interview

Millward (2004) states that the focused interview is also known as the focus group method, which is suitable for interviews of both individuals and groups. The author's viewpoint is corroborated by Merton (1987) and Merton and Kendall (1946). The categorical aim of the focused interview is to investigate, evaluate, and produce suppositions about a particular concrete situation. It wishes to gauge the respondents' collective or salient experience supported by relevant theory and evidence. The process is achieved through facilitation using an interview schedule but also allowing

for unforeseen views to be revealed and investigated. Milward (2004) states that focused interviews are best described as an incongruity between the pursuit for genuine, personal information by way of free-flowing interaction of the participants while at the same time maintaining methodological consistency. In support of the critical realist philosophy, the aim of the focused interview is to transcend summary judgements made by respondents about their experiences and to uncover the generative mechanisms of their responses.

In keeping with the benefits of the focused interview as proposed by Milward (2004), Phase 3 of this study involved a focused interview with representatives from industry and the development agency. The explicit objective was test the findings of the empirical work done in Phase 1 and to triangulate this with the findings that had emanated from the literature study, namely, to interrogate the synergistic relationship between the development agency, disruptive innovation and business model innovation.

The following open-ended questions were posed to the representatives:

- I. What is the nature of disruptive innovation and is this indeed a common term used by industry or the development agency?
- II. What are the dimensions of business model innovation as understood by industry and the development agency?
- III. What is the role of the development agency in this industry?

Based on the responses from the focused interview, a questionnaire was constructed for Phase 4 of this study, which was to interrogate ten other SMEs in the innovation and technology industry. The interviews were recorded and the transcripts were analysed. The results were triangulated with the results of Phase 2. Based on this, a questionnaire was constructed for Phase 5 of this study, which involved the interrogation of 12 development agencies. The interviews were recorded and the transcripts were analysed.

3.6 Sampling method

The empirical work of this qualitative study involved five phases of interviews involving professionals in the business world. I was always mindful that it was going to be a challenge to commit the participants to the process. I was guided by Mason (2010) and Fusch and Ness (2015) who state that various factors can affect sample size in qualitative research. This should, however, be guided by the principle of saturation which has been comprehensively deliberated by many authors but remains

fiercely contested and vaguely understood. The authors suggest that samples for qualitative studies are commonly reduced compared with those employed in quantitative studies. The reason for this lies in what Ritchie et al. (2003, p.83) refer to as “the point of diminishing return” to a qualitative sample. This would suggest that adding more to the sample size does not necessarily result in more information. Fusch and Ness (2015, p. 1409) discuss various views of data saturation, noting that data saturation may be reached by as few as six interviews, depending on the sample size of the population. They suggest that data should rather be considered in terms of “rich and thick” rather than the size of the sample. Mason (2010) acknowledges that qualitative researchers often face real challenges, including time, energy, availability of participants, etc., and that often the researcher has no choice but must settle for a theoretical scheme that is less developed than desired. The authors collectively highlight the following factors particularly pertinent to this study, and which determine sample size: “the heterogeneity of the population” Ritchie et al. (2003, p.84), as well as the skill of the researcher in the selected subject can lower the amount of participants required in a study. Lee et al. (2002) suggest that research that uses various (very in-depth) interviews with the similar member (e.g. longitudinal or panel studies) requires fewer participants in the research study.

In Phase 2 of this study, I attempted to identify how many software development SMEs were registered in the Western Cape of SA. After a lengthy period of numerous email enquiries as indicated in Appendix A, no information was readily available in this regard from national, provincial or local government and their associated agencies, neither by way of website information nor from email enquiries to senior representatives in the respective departments. SBP (2011:4) confirms the reality of the uncertainty of the profile of the SME sector:

Despite acknowledgment of SMEs’ potential as employment generators, they are a poorly understood and inadequately documented sector. Even information on the number of SMEs is unreliable. Moreover, partly due to the lack of robust data, the debate around SMEs and their ability to assist in employment growth has become heavily weighted with ideology assumptions and anecdotes.

Neuman (2006) reports that sampling is the practice of electing a smaller set of cases from a larger pool which is then generalised to the population. Mason (2010) suggests that in phenomenology studies, sample sizes ranging from 5 to 25 are appropriate. The author suggests that a sample size of six interviews is deemed to be adequate to enable the development of significant themes and beneficial elucidations in studies with a great degree of homogeneity among the population. Various methods can be

used for sampling and the method used in this study was the stratified random sampling method. In this case, as represented in Figure 3.5, the population was divided into two strata based on the members' shared attributes or characteristics, namely, the entrepreneurs and the development agencies. A random sample from each stratum was taken in a number proportional to the stratum's size when compared to the population. These subsets of the strata were then pooled to form a random sample. The individuals were then randomly chosen from these two strata. This method was selected to ensure diversity among the respondents and to ensure each one had an equal chance of being selected. The reason why random stratified sampling was chosen is because it captures crucial population physiognomies in the sample that are proportional to the innovation and technology industry. The innovation and technology industry is also representative of a myriad of attributes, which makes stratified random sampling a suitable method.

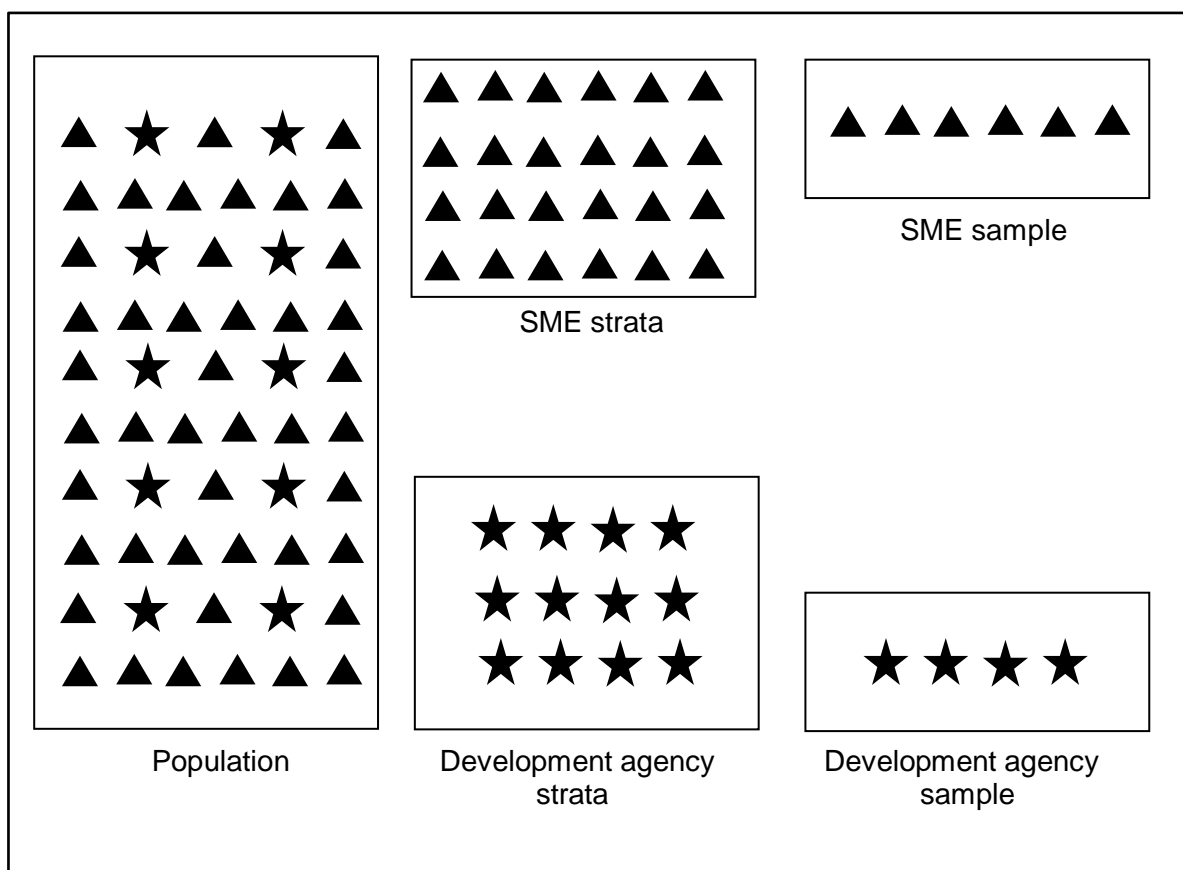


Figure 3.5: Random stratified sampling of SMEs and the development agencies

3.7 Sampling process

The qualitative data received from the interviews was analysed and interpreted by making use of the methodology recommended by Taylor-Powell and Renner (2003), in the following manner:

Step One:

In order to ensure that the data was analysed optimally, the responses were read thoroughly and repeatedly if required. This was done in unison with the digital recordings of the interviews. Inferences were noted at this stage. This was accomplished through a summary on a Microsoft Excel spreadsheet (see Appendix FF).

Step Two:

At this point, the objectives of the study were kept in mind to bring focus to the analysis of the data.

The study implemented a hybrid of the following two methods to analyse the data:

Firstly, the data was ordered by the respective questions to obtain the overview of the various responses for each question. In this way any distinct variances or constancies could be identified (see Appendix FF).

Secondly, the data for each respondent was analysed as a whole to obtain the overview of each respondent. In this way a general representation could be obtained from the respondent. This was accomplished through 'billboards' on an MS Excel spread sheet (see Appendix GG).

Step Three:

At this stage the data was coded in two ways:

Firstly, by identifying themes or patterns in the data. This involved observing phrases, ideas, terms, concepts or ideas shared by the respondents.

Secondly, by organising these into coherent categories in order to summarise and elucidate the data.

The data was categorised in two ways, namely, by predetermined and/or nascent categories. In the case of predetermined categories, they were established from the literature review as well as the focus group interview between the representatives of industry and the development agency.

Nascent categories were themes that had leaped out of the analysis and deemed to be indispensable (see Appendix R).

Step Four:

This phase involved the identification of synergies and associations among the categories. This was established by summarising the information relating to one theme or identifying variances or constancies within the theme. Since the study is from a critical realist perspective, care was taken not to over simplify human behaviour or the data. Instead, the study interrogated the relation between things and what the causal factors might be.

Step Five:

This phase assimilated and interpreted the findings in order to give meaning and significance to the data.

This was accomplished by compiling a table of the major findings through the categorisation and sorting of the data. This exercise required interpretation and reflection by synthesising the data.

3.8 Ethics

This study acknowledges that the ethics of business and research constitutes an area in which the role of values in the research process is a cause for concern. I guaranteed confidentiality in respect of the sample of respondents (the SMEs and development agencies) who were interviewed as well as not divulging details of their respective businesses. The necessary written permission was obtained from them or from a senior member of staff (if and where necessary) in the organisation. I also obtained formal ethics approval to conduct the research from the Faculty of Informatics and Design Research Ethics Committee at the Cape Peninsula University of Technology. All interviews and focus group sessions were scheduled at the convenience of the participants, and prior approval was obtained to record the interviews.

In the light of the above, the following ethical principles were upheld in this study:⁴

⁴ Adapted from Shamoo and Resnick, 2009.

- **Honesty:** Strive for honesty in all communications. Honestly report data, results, methods and procedures, and publication status. Do not fabricate, falsify, or misrepresent data. Do not deceive colleagues, businesses, or the public.
- **Objectivity:** Strive to avoid bias in experimental design, data analysis, data interpretation, peer review, personnel decisions, grant writing, expert testimony, and other aspects of research where objectivity is expected or required. Avoid or minimise bias or self-deception. Disclose personal or financial interests that may affect the research.
- **Integrity:** Keep promises and agreements; act with sincerity; strive for consistency of thought and action.
- **Carefulness:** Avoid careless errors and negligence; carefully and critically examine work and the work of peers. Keep good records of research activities, such as data collection, research design, and correspondence with businesses or other stakeholders.
- **Openness:** Share data, results, ideas, tools, resources. Be open to criticism and new ideas.
- **Respect for Intellectual Property:** Honour patents, copyrights, and other forms of intellectual property. Do not use unpublished data, methods, or results without permission. Give credit where credit is due. Give proper acknowledgement or credit for all contributions to research. Never plagiarise.
- **Confidentiality:** Protect confidential communications, such as papers or work submitted for publication, personnel records, trade secrets, and company details.
- **Responsible Publication:** Publish in order to advance research and scholarship, not to advance one's own career. Avoid wasteful and duplicative publication.
- **Respect for colleagues:** Respect colleagues and treat them fairly.
- **Social Responsibility:** Strive to promote social good and prevent or mitigate social harms through research, public education, and advocacy.
- **Non-Discrimination:** Avoid discrimination against colleagues or students on the basis of sex, race, ethnicity, or other factors that are not related to their scientific competence and integrity.
- **Competence:** Maintain and improve professional competence and expertise through lifelong education and learning; take steps to promote competence in science as a whole.
- **Legality:** Know and obey relevant laws and institutional and governmental policies.
- **Human Subjects' Protection:** When conducting research on human subjects, minimise harms and risks and maximise benefits; respect human dignity, privacy, and

autonomy; take special precautions with vulnerable populations; and strive to distribute the benefits and burdens of research fairly.

3.9 Overview of how the research methodology would shape the outcomes of the research

Table 3.1: How the research methodology would shape the outcomes of the research

Author/s	Research approach	Key considerations	Research outcome
Alexander (2013)	Critical Realist Methodology Model	A structured real world exists, knowledge is socially produced and the importance of the quest to discern the generative mechanisms that explain empirical experiences. Critical analysis based on culture, structure, and (human) agency.	The establishment of a multi-factorial strategy model to assist development agencies in supporting mobile application development SMEs.
Whetten (1989)	Four Main Building Blocks of Theory Development	Answering the What and How provides a description of the domain of the theory. Answering the Why provides an explanation of the domain of the theory. Finally, the range of the theory is arrived at by answering the Who, Where and When.	The establishment of a theoretical contribution by way of the uncovering of: the dimensions of business model innovation; the nature of disruption; the potential role of the development agency.
Burrell and Morgan (1979)	The Paradigm for Organizational Analysis Model	Reality is either objective or subjective. Reality is either stable (towards equilibrium) or radical (towards disequilibrium)	The state of reality of the SMEs is such that they find themselves in a particular quadrant within their sector. This requires a particular response from the development agency.

3.10 Summary

The purpose of this chapter was to describe the research methodology of this critical realist study. It delineated the research design as well as methodologies typically used in socio-technical research. It further discussed the research design, methods and techniques adopted. A number of challenges were encountered during the fieldwork phase of the study. It proved to be difficult to secure interviews with business owners and senior members of the development agencies, and even when

they were confirmed, there were incidences where meetings had to be cancelled at the last minute. A few interviews had to be converted into electronic surveys as schedules could not be synchronised. The critical discourse analysis focus of this study aimed to depict, elucidate and eradicate misunderstanding, by revealing structures of power and ideologies behind the discourse and in so doing elucidating the underlying causes.

The next chapter details all the results of this critical realist study. It essentially provides a limited analysis of the results, but by and large just the unadulterated results are offered, without elucidation, inference or evaluation.

CHAPTER 4: RESULTS

4.1 Introduction

This chapter details all the results of this critical realist study that explored the evolution a multi-factorial strategy model to enable development agency to be an augments in the commercialisation of the mobile applications development SME sector through business model innovation in response to disruptive innovation.

This chapter includes some scant analysis of the results, but by and large just the unadulterated results are offered, without elucidation, inference or evaluation. A more detailed analysis of the results appears in Chapter 5. The results are linked inextricably to the research philosophy, methodology and design of the study. This critical realist, qualitative study meshes the factual and interpretive data rather than representing them as isolated findings without an understanding of the causal factors. The results are stated with reference to the research questions as delineated in Chapter 1 and the theoretical framework from Chapter 2.

The chapter is divided into five distinct sections, namely, results acquired from:

- I. Phase 1 which involved academics from the four higher education institutions in the Western Cape;
- II. Phase 2 which involved an interview with mobile application development SMEs;
- III. Phase 3 which was a focused interview consisting of members of industry and the development agency;
- IV. Phase 4 which involved interviews with entrepreneurs within the innovation and technology sector; and
- V. Phase 5 which involved interviews with development agencies supporting the development of SMEs.

4.2 A summary of the fieldwork

The table overleaf represents an overview of the fieldwork:

Table 4.1: Overview of the fieldwork

Phase	What was done	How it was done	Why it was done	When it was done	Where it was done	With whom it was done	What was achieved
1 & 2	In-depth interviews	In-depth interviews with industry as well as academic institutions. Recordings via journal entries into a diary.	To interrogate the landscape of mobile applications development in the Western Cape, SA.	August 2012	Greater Cape Town UWC UCT CPUT SU	Academics Students Business Owners Entrepreneurs Practitioners	A better understanding of the landscape of mobile applications development in the Western Cape, SA.
3	Focused Interview	Focused interview with members of industry as well as the development agency. Interview was recorded and a text version was compiled by a transcriptionist.	To determine the relationship amongst business model innovation, disruptive innovation and the development agency.	March 2014	CPUT	Industry Development Agency	Confirmation of the fact that a synergistic relationship exists among business model innovation, disruptive innovation and the development agency.
4	In-depth Interviews	A mixture of personal interviews and email surveys with entrepreneurs in the innovation and technology sector. Interview was recorded and a text version was compiled by a transcriptionist.	To determine their understanding of the relationship among business model innovation, disruptive innovation and the development agency.	May 2014	Meetings took place at coffee shops and in my office, as well as at the offices of the respective entrepreneurs.	Entrepreneurs from the innovation and technology sector.	Confirmation of the business significance of the synergistic relationship among business model innovation, disruptive innovation and the development agency.
5	In-depth Interviews	Personal interviews with members of the development agency. Interviews were recorded and a text version was compiled by a transcriptionist.	To determine why SMEs believe that a synergistic relationship among business model innovation, disruptive innovation and the development agency exists. How they could assist SMEs with their businesses.	July–August 2014	Meetings took place at coffee shops, as well as at the offices of the respective development agencies.	Senior members of various development agencies in the Western Cape, SA.	Confirmation of why SMEs believed in the synergistic relationship among business model innovation, disruptive innovation and the development agency. Suggestions as to how development agencies could assist SMEs.

4.3 The demographics of the sample

As recommended by Simon (2006), this section shares data elucidating pertinent information on the demographics of the sample of the population of the study.

Phase 1 of the fieldwork involved interviews with all of the four higher education institutions in the Western Cape. The four academic institutions that were surveyed were the Cape Peninsula University of Technology, the University of Cape Town, Stellenbosch University, and the University of the Western Cape. The respondents were academic members of staff from the respective IT departments in which software development was offered.

The second phase involved interviews with mobile application development SMEs. The sample of the SMEs involved in the pilot study included a total number of seven mobile application development and software development businesses in and around Cape Town. The business representatives interviewed included four managing directors, one founder, one technical adviser, and one senior applications developer.

The third phase of the fieldwork involved an in-depth interview with members of the development agency and the innovation sector.

The fourth phase of the fieldwork involved interviews with SMEs involved in the technology sector. The sample consisted of business owners and all were at managing director level.

The fifth phase of the fieldwork involved interviews with senior members of staff of the development agencies. They were all intricately involved with small business development.

4.4 Phase 1 and Phase 2 of the study

In light of the recent propagation of mobile technologies, a study was conducted to explore the landscape for mobile applications development in the Western Cape, SA.

4.4.1 What are the key constructs of the mobile application development landscape?

Table 4.2 represents a summary of the key constructs of the mobile application development landscape emanating from Phase 1 and Phase 2 of the study:

Table 4.2:A summary of the key constructs of the mobile application development landscape

Phase 1 – Academics Interview	Phase 2 – Industry Interview
<p>The University of the Western Cape (UWC) and the national e-Skills Institute (Department of Communications) has established the Western Cape CoLab. They established the CodeJam 2013 initiative which strives to provide young entrepreneurs with the necessary technical, innovative and entrepreneurial skills to develop mobile apps.</p>	<p>Four of the seven of the businesses had previously been involved with mobile application development projects. Three of these businesses developed their apps specifically for clients and with the intention to generate revenue from them. Two of these businesses were unable to generate income from their apps after having successfully completing them. Commercialisation is a major challenge.</p>
<p>The University of Cape Town (UCT) and Samsung Electronics entered into a partnership to develop innovative mobile phone applications in response to unique needs in Africa. The project is called the UCT Samsung Mobile Innovation Laboratory (SMILe) and aims to increase mobile innovation and skills development. This project extends beyond UCT's Information Systems Department and the Computer Science Department and includes local government agencies like the Cape IT incubator and the Bandwidth Barn.</p>	<p>Their largest budgets ranged between R200 000 and R700 000 and the number of completed mobile application development projects was as low as two, with the highest 22.</p> <p>All of the businesses designed cross-platform apps and believed that it did not make business sense to design platform-specific apps as it restricted the commercial viability if designed specifically for Android, IOS or BlackBerry.</p>
<p>The Computer Science Division at Stellenbosch University (SU) has established a partnership with the South African cell phone company Vodacom. The partnership strives to generate an understanding of mobile application development and to motivate South African students to join the drive in developing applications with South African content for the Vodacom App Store. This is a co-curricular programme and is not part of the formal curriculum of software development at SU.</p>	<p>The majority of their clientele were commercial entities and one business had mobile phone users between 12 and 40 years of age as clients. Commercial entities were prepared to pay between R40 000 and R80 000 for search tool apps, sport apps and travel apps. Productivity apps and calculate/utilities apps are more costly and ranged between R100 000 and R1 000,000, depending on their functionality.</p>
<p>The Kujali Project of Cape Peninsula University of Technology (CPUT) uses mobile technologies as a channel to provide innovation to those in under-resourced communities in rural areas of SA. Its aim is to provide creative and innovative IT-based solutions to facilitate basic educational information and access to quality healthcare services. It has created mobile applications on a wide range of mobile devices. This is a co-curricular programme and is not part of the formal curriculum of software development at CPUT.</p>	<p>Technologies used in app development include: CSS HTML5 Java jQuery Mobile Oracle Apex 4.2 PhoneGap PHP Xamarin™</p> <p>The majority of these businesses outsource one or other function of their mobile applications development project to other entities. Typical outsourced functions include design of the app.</p>

4.4.2 Key themes and questions resulting from Phase 1 and Phase 2 of the study pertaining to the SMEs in the innovation sector:

Key themes and questions relating to the way in which SMEs in this sector conduct their business manifested from Phase 1 and Phase 2 of the study.

The first theme was Business Model. This theme emerges from the fact that two of these businesses were unable to generate income from their apps after having successfully completing them. Emanating from this theme were two questions,

namely, what business model would work best for the SME, and what are the possible benefits of collaboration within established networks for the SME as opposed to individual efforts from the entrepreneur?

The second theme was Business Opportunity. This theme emerges from the fact that three of these businesses developed their apps specifically for clients and with the intention to generate revenue from them. Key to this theme were questions like: How can one explain the status quo of the opportunities in mobile application development? What does the fact that the SME requires the development agency to promote opportunity mean? Why do many entrepreneurs struggle to convert their idea/innovation into tangible profit? Why would one consider mobile application development to be a good opportunity to pursue?

The third theme was Technology Platform. This theme emerges from the fact that all of the businesses designed cross-platform apps and believed that it did not make business sense to design platform-specific apps as it restricted the commercial viability if designed specifically for Android, IOS or BlackBerry. Key to this were questions like: What technology can enable the creation of products and processes to support present or future development? What are the critical performance underpinnings?

The fourth theme was Market Trends. This theme emerges from the fact that two of these businesses were unable to generate income from their apps, suggesting that commercialisation appears to be a major challenge. The following questions emerged: Are there any best practices which can be learned from? What are the key issues to be addressed? How can the mobile application development SME ensure more success and avoid failure? What are the characteristics of people required to catalyse this mobile application development sector?

The fifth theme was Product Expertise. This theme emerges from the fact that The majority of these businesses outsource one or other function of their mobile applications development project to other entities. Typical outsourced functions include design of the app. Key to this were the questions: What technology skills need to be on hand to make the mobile application development business a success? What will it take to bring about the necessary changes indicated?

The final theme was Service Expertise. This theme emerges from the fact that even though the businesses developed their apps, commercialisation appears to be a

major challenge. Relating to this theme were: What particular aspects of capacity building does the mobile application development SME require? SMEs appear to have been established based on the business owners' deep technical understanding of their product and associated technologies.

4.5 Phase 3 of the study

Beyond Phase 1 and Phase 2 of the study, the fieldwork then proceeded to a focused interview consisting of members of industry and the development agency.

The framework of the focused interview was established around the findings of the in-depth interviews of Phase 1 and 2. The following key questions were eventually derived:

- What is the nature of disruptive innovation?
- What are the dimensions of business model innovation?
- What is the potential role of the development agency?
- What are the expected functions of the development agency?

4.5.1 What is the nature of disruptive innovation?

The responses of the focused interview suggest that disruptive innovation is certainly not a common term used in industry.

4.5.2 What are the dimensions of business model innovation?

The responses of the focused interview with regard to the dimensions of business model innovation suggest that South African businesses tend to be conservative and follow international trends in respect of innovation and technologies. These businesses, and particularly small businesses, are generally not big players in innovation. The answer to this philosophy may lie in the cultural, socio-political development, isolation, and consolidation of large monopolies within SA.

4.5.3 What is the potential role of the development agency?

The responses of the focused interview depicting the role of the development agency in the innovation and technology industry suggest that higher education institutions have a role to play. The development agency will also have to deal with the young entrepreneurs' naivety about appropriate research on and business models of their innovations. Corporates tend to dominate the innovation space and this lies in the legacy of South African society, its commerce and industry. Access to finance and the

commercialisation of the opportunity hinders innovation from the SME. Further elaboration on the concept of sustainability as it relates to innovation is needed by highlighting the stages of development of an idea through to commercialisation and how the environment impacts on the ability of the technology entrepreneur to survive and thrive.

4.5.4 What are the expected functions of the development agency?

The following themes were confirmed in the focused interview to be all-inclusive of the functions of the development agency as they address the start-up, environment and on-going concern of the SME, namely:

Table 4.3: Confirmed themes of the functions of the development agency

Strategic Support	Promote Opportunity	Capacity Building	Growth and Sustainability
<p>The SME must be given access to all support mechanisms that are available via state interventions and policies. Advice on, for example, funding support for cooperatives needs to be promoted to the SME.</p>	<p>The development agency must assist the SME to understand what aid is available from government and other private sources.</p>	<p>The rise in BEE scorecard points for enterprise development should help the SME. The danger, however, is for the corporate simply to become compliant without any meaningful enterprise development. The concern is the changes in payment terms as a factor assisting with corporate enterprise development for BEE scorecard points, is going to harm the SME.</p>	<p>There appears to be an over-glamorisation of the entrepreneurial experience based on the role models within the IT sector by way of Steve Jobs, etc. The development agency must sketch the true, gritty reality of entrepreneurship. It is not about a "get quick rich scheme" but more about sustainability.</p>
<p>The aspect of access to these support services could also be further studied – the mechanisms used by all support agencies to provide the support, and the ease of access of support measures.</p>	<p>There is a strong link between the profile of the entrepreneur and the business opportunity being converted into a successful venture. The SME tends to be too product focused and not focused on the application of the solution.</p>	<p>The capacity building should not be a generic, one-size-fits-all approach. It must fit the exact need of the SME. The aim should be to temper the entrepreneur's enthusiasm with appropriate business skills.</p>	<p>The journey of the SME's sustainability is not a "paint by numbers" process that has a clear and well-defined process. SMEs are diverse and so are their needs so there is no simple "input-process-output" model. The life of the SME is far more complex than that. The key is to fit the individual entrepreneur's technical skill with the business skill to ensure success.</p>
<p>Also important is to analyse the effectiveness of support measures using very specific metrics, as opposed to the reporting that public support agencies provide.</p>	<p>The higher education institution could act as a resourceful development agency for the mobile application development SME. It could assist with curriculum, innovation, technology transfer, research and development, marketing, legal assistance, etc. Higher education institutions should prepare entrepreneurs while studying on potential opportunities within the technology sector by way of case studies.</p>	<p>The development agency must provide the soft skills development in transforming the entrepreneur from mobile application developer to competent business person within the innovation space.</p>	
<p>The development agency should play a role but not serve as a crutch that will be to the detriment of the SME. The SME must graduate beyond the</p>	<p>The SME must choose the right business model for the mobile application. The "free" application is very popular as opposed to "paid for" applications. The entrepreneur has to</p>	<p>All said and done, it requires a multi-faceted approach to build this person into a successful entrepreneur to seize the opportunities within this sector.</p>	

development agency's support.	understand that the competitor is international and not only local and regional as in many other SME sectors.		
The challenge is to protect the intellectual property of the SME. The fact that the SME has the technical solution does not matter as much as the fact that payment happens at the execution of the solution. This is where the SME often loses out. The one who eventually executes it, receives the money. The product is vulnerable and the SME needs protection for copyright and patenting of the mobile application.	The SME needs help in getting the "big brothers" to support small business.	The development agency should assist the SME with operational expenses which drain the entrepreneur. State and corporate pay outs take too long for SMEs and many of them have ceased to exist by the time they receive payment and/or funding.	
The SME also needs support from the "big customer" (not competitor) as doing business with corporates can influence the cash flow when payment is delayed or protracted. There is a sense that corporates tend to bully SMES and arrogant. The development agency will have to provide legal assistance for the SME to counter undue pressures from the "big customer".		The benefit of collaboration lies in the fact that the mobile application requires specialised skills, so content specialists are not necessarily good developers or good designers. The complete value chain of mobile application development consists of a variety of specialists.	

4.5.5 Categories resulting from the focused interview representing the SMEs in the innovation sector:

The following categories of the way in which SMEs in this sector conduct their business manifested from the focused interview:

- Business Model
 - The SMEs appear to have a vague understanding of their business functions and value chain and how their businesses expect to generate income.
- Business Opportunity

The SMEs appear to have a need to be assisted with a suitable or constructive opportunity to generate income for the business.

- Technology Platform

The SMEs appear to have adopted a base to create their products and services that supports their existing needs. This technological base delivers their products without their having to establish a new process/technology themselves.

- Market Trends

The SMEs appear to be following the general direction, inclination or preference in which their industry is moving. They therefore lean towards being followers of their industry rather than leaders.

- Product Expertise

The SMEs appear to have been established based on the business owners' deep technical understanding of their product and associated technologies.

- Service Expertise

The SMEs appear to be operating based on the business owners' understanding and experience acquired prior to establishing the business.

4.5.6 Responses to the framework of the focused interview

In attempting to understand this synergistic relationship, it is essential to understand what the nature of disruptive innovation is and whether this is indeed a common term used by industry or development agencies. It appears that disruptive innovation is not a common term used by either industry or development agencies as stakeholders in the business development space.

It is important to understand what the dimensions of business model innovation are as understood by industry and development agencies. It appears that there does not appear to be a huge appetite for innovation within South African businesses. It is agreed that this is not a desirable state and change imperatives need to be unpacked to resolve this condition of technology adoption to technology innovation.

The development agency has an important role to play in assisting with the sustainability of SMEs in this sector. It appears that higher education institutions should also understand their importance as a development agency in the innovation space because a strong focus on research and development is essential for the sustainability of the entrepreneur.

In interrogating the mobile application development application landscape, it is important to understand what the key constructs are. It appears that South African businesses are followers and they benchmark to a minimum standard of global compliance. Consequently, these businesses are not really innovators but implementers of technology. The role players are playing with all technologies that are available. They are not sensitive to national boundaries and are willing to do business at a continental level if required. They are playing first and foremost for money but also for personal needs and interests.

4.6 Phase 4 of the study

Beyond the focused interview, the fieldwork then proceeded to Phase 4, which was to conduct in-depth interviews with members of industry.

The framework of the in-depth interviews built on that of the focused interview of Phase 3 and revolved around the following key questions:

- What is the nature of disruptive innovation and is this indeed a common term used by industry?
- What are the dimensions of business model innovation as understood by industry?
- What is the role of the development agency in this industry?
- Are South African businesses and particularly small businesses big players in innovation?

4.6.1 What is the nature of disruptive innovation?

Table 4.4 represents the responses of the in-depth interview as to whether disruptive innovation is a common term used in industry, and if so, what the nature of it is.

Table 4.4: Responses to disruptive innovation

Industry Survey	
Innovation for thinking outside of the box.	R1
Disruptive innovation is not a common term.	R2
It is a new wave of technology.	R3
Disruptive innovation is not a common term. It is how you disrupt your organisation in terms of different management styles to bring better practices into the business.	R4
Disruptive innovation is not a common term.	R5
Disruptive innovation is not a common term.	R6
Disruptive innovation is not a common term. It is the effect on business processes.	R7
Disruptive innovation is not a common term.	R8
Disruptive innovation is not a common term.	R9
Disruptive innovation is not a common term. When a product or service not generally too popular in a market becomes popular.	R10

4.6.2 What are the dimensions of business model innovation?

Table 4.5 represents the responses of the industry survey, as to what the dimensions of business model innovation are.

Table 4.5: Responses to business model innovation

Industry Survey	
Do we understand what the concept of a business model is? Do those business models apply to the start-ups in the ICT space and then to have the innovation components, well then we can't without having that base understanding.	R1
The dimensions of business model innovation are not clear to me.	R2
It entails a different way of doing things.	R3
It is about looking at innovation as something that we have to do and that we can do and again it also depends where you are at as a business	R4
It is a model that wants to not only sell a product but also create an entrepreneurial spirit among people	R5
It should reflect the innovativeness of your actual business model perhaps and one's business model should show some form of innovation or sustainability or going forward.	R6
It is how one in business would change their business model as innovation takes place.	R7
It is the constant recreation of the way businesses operate, inter alia, sharing ideas and operating in a different manner to the established norms to improve the business.	R8
The dimensions of business model innovation are not clear to me.	R9
It is about reinventing your business model around what your client needs.	R10

4.6.3 What is the role of the development agency in the innovation and technology industry?

Table 4.6 represents the responses of the industry survey, depicting the role of the development agency in the innovation and technology industry.

Table 4.6: Responses to the role of the development agency

Industry Survey	
The broad term I would use would be access and then the sort of sub-sets of that would be access to bandwidth quite literally, because a lot of the time that is an inhibitor, access to physical space a lot of the time is very important and physical space that sort of leads to or encourages collaboration.	R1
The development agency should support SMEs, especially at the start-up phase. We are skilled at what we do but we don't necessarily have business skills, so it would be very helpful if there were agencies that would help us with the business side.	R2
Development agencies should look at how they can be more proactive and to make it easier to navigate those difficult administrative avenues.	R3
Their responsibility should stretch a little further than commercial institutions like banks. They should also assist with financial planning and management.	R4
They should assist those young entrepreneurs in terms of giving them skills from a business point of view and understanding those aspects and functions.	R5
They should focus on the development of the business and inclusive of the business would be the entrepreneur and of course the key role players and the rest of the people complement and skills complement.	R6
They should indicate what the industry trends are, and see if they can facilitate business to get going into that direction, otherwise business could fail.	R7
They should avail resources to improve and sustain innovation.	R8
They should provide funding.	R9
They should assist us to make use of technology to seize business opportunities.	R10

4.6.4 Are South African businesses and particularly small businesses big players in innovation?

The following table is a representation of the responses and analysis of the SMEs in the innovation and technology sector :

Table 4.7: Responses to the state of SMEs in the innovation and technology sector

Comment	Key Words	Themes	Categories
R 1	Well I would say I somewhat disagree. I wouldn't strongly disagree because even though that would be my initial sentiment, I would say somewhat because that is how small businesses survive in this country, is by identifying opportunities, sometimes on the periphery but other times very much at the core of where there is a gap that the big players have created by virtue of how big they have become. It is potentially a blind spot of theirs or something they have not thought of to begin with. Why I somewhat agree as opposed to strongly agree is they are not yet big players, because then we can have the conversation around what is big. I think there is definitely the potential for it to grow if those enablers were put in place with regard to the access and so on, so there is demonstrated potential for it to move that way but I don't think it's huge or as big as they could ...	Survive opportunity gap access	Growth and Sustainability, Promote Opportunity Business Opportunity
R 2	I think that we are not really encouraged to be very open minded and I am speaking generally and I can only speak from my generation of graduates, we don't really ... to think out of the box, people are so afraid to take that step because it hasn't been done before whereas in my case specifically I have always been the opposite of that so I have many times sat in interviews or meetings where people told me, "But no, no, no – you have to either be a designer or you have to be a front-end developer or back-end coder, you cannot be all three" ... and I am saying but it would be crucial to your business to take me on as someone that fits into any role as the project ... (So do you regard yourself as a player in all of those spheres?) Yes.	discouraged, not out of the box	Conservative Practice SLA/Resources/ Infrastructure
R 3	Big players have resources and I think that is key [to] anything; with resources you have stability in your company, you are then able to dabble in these risks. Small businesses tend to stick to what they know, it brings in the income and right now if you look at the growing economy, stability is key, sustainability is key, and very few will venture out into markets that is [sic] not tried and tested, especially the innovation market, it's kind of like an unknown.	resources stability experiment conform	Capacity Building, Growth and Sustainability Business Model, Business Opportunity
R 4	The only reason why I don't say "strongly disagree" [is] because it is always a Mr Mark Shuttleworth sitting there at the back; you know that you can't forget about, so I think there are occasions when the extent of innovation is just like out of this world like Mark Shuttleworth and he is South African and so on that basis I can't say "strongly disagree" but generally speaking, small businesses lack the capital, they lack the infrastructure to really be strong players in the innovation space	lack capital, infrastructure	Scarcity of resources, Capacity Building Technology Platform, Business Opportunity
R 5	I agree with that. Small businesses are not obviously big players of the whole organisation. I think it is because of the domino [effect] or the monopoly that big businesses have, that prevents this in small businesses but also [I'm] saying they do have a huge role to play because small businesses have the flexibility to accommodate certain changes where big businesses are not able to do that.	flexibility, dominance, rigid	Adaptability, Domination Business Model
R 6	Unfortunately that is the case in SA today; there is not enough stimulation for innovation, I think [in] one's business today one looks to play a role in terms of providing similar service to the next specific businesses innovation is all that the business revolves around but I would tend to agree with that statement. Sorry I would like to just qualify my agreement that – I would agree with that statement in a global context that South African businesses and particularly some businesses like to be big players in innovation, possibly globally.	no stimulation for innovation	SLA/Resources/ Infrastructure, Intellectual Property and/or Production/ Procurement Capacity

R 7	There is one reason why I would go neutral on this, because we have Mark Shuttleworth and we have businesses closing down, so I don't think that the smaller businesses generally get the exposure to be on the innovation curve or to be part of that. The larger companies have departments which set up for R&D so if there could be assistance in that sort of area, I am sure and I don't believe that the minds in the smaller businesses, the minds that run those businesses or work in those businesses don't have the capabilities, they don't necessarily get the exposure from what I would see, so for me ... I would say that the one reason I have to be neutral because we got an example, but at the same point and time if we didn't have the right medium to portray that success might not be the Shuttleworth which we understand versus(indistinct)	market development lack of exposure, resources	Scarcity of resources, Capacity Building	Market Trends
R 8	This seems to be related to cost-job creation is many times the key achievements of small businesses as many of them are established by skilled individuals.	starting something, lack of finances	Scarcity of resources, Capacity Building	Business Opportunity
R 9	I don't really have a strong view on this statement.	No comment	No comment	No comment
R 10	I think that companies need to play it safe initially, and not take too many risks until it is [sic] established. I think this makes your company stronger. Once you have proved to be stable, competent, and clients have earned your trust, it is safer to start being innovative.	risk mitigation, stability, competent, trust	Competence, Growth and Sustainability, Promote Opportunity, Capacity Building	Business Opportunity, Technology Platform, Market Trends

4.6.5 Likert analysis of SMEs responses

Table 4.8: Likert analysis of questions posed to the SMEs

	Question 1	Question 2	Question 3	Question 4	Question 5	Question 6	Question 7	Question 8	Question 9	Question 10	Question 11	Question 12	Question 13	Question 14	Question 15	Question 16	Question 17	Question 18
	South African businesses and particularly small businesses, are generally not big players in innovation.	Corporates dominate the innovation space and this lies in the legacy of South African society, its commerce and industry.	Higher education institutions have a role to play as a development agency.	Role models within the technology space could serve as good mentors for entrepreneurs.	The SME can compete on the technological level but not on the commercial level with corporates.	SMEs are generally poor researchers of real business opportunities and do not always clearly know how they should participate.	SMEs participate as isolated entities and there is no real serious evidence of networking and collaboration.	In order for the SME to capitalise on innovation, it requires more of a complete business focus rather than a simple technical focus.	The SME should make use of the innovation to transform itself into a business that can succeed and be sustainable.	Government's policy on enterprise development is effectively implemented.	The mobile application space is a worthwhile space to explore for the SME.	All said and done, the standard commercial practices apply to this industry.	SMEs should ride "on the shoulders of giants" (corporates) by becoming solutions-partners to the opportunities that the corporates have evaluated and created.	There appears to be an over-glamorization of the entrepreneurial experience based on the role models within the IT sector by way of Steve Jobs, etc.	The development agency must provide the soft skills development in transforming the entrepreneur from mobile application developer to competent business person.	The SME needs protection from the "big customer" as doing business with corporates can influence the cash flow when payment is delayed or not received.	State and corporate payouts take too long for the SME and many would cease to exist by the time they receive payment and/or funding.	There is benefit in collaboration in mobile application development.
Respondent 1	2	4	5	3	4	4	4	2	5	3	5	1	4	3	5	2	5	5
Respondent 2	5	4	5	5	5	4	3	5	5	2	5	5	5	3	5	5	3	5
Respondent 3	4	2	5	4	5	5	5	5	5	4	5	5	2	5	5	5	4	5
Respondent 4	2	5	4	4	5	4	4	5	5	1	5	3	5	2	5	4	3	4
Respondent 5	4	5	5	5	2	4	3	5	5	3	5	3	5	5	5	5	5	5
Respondent 6	4	4	5	4	4	3	3	3	5	2	5	5	4	4	4	4	5	4
Respondent 7	3	4	5	4	4	5	4	5	5	3	4	2	4	5	5	5	4	5
Respondent 8	4	5	5	5	4	4	2	5	5	2	3	3	5	2	3	5	5	3
Respondent 9	3	4	5	5	5	5	4	4	5	3	5	2	2	2	5	4	4	5
Respondent 10	5	5	3	5	2	5	5	5	5	4	5	2	4	4	5	5	4	5
Complete responses	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
Blank responses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Number of responses	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
Sum of responses	36	42	47	44	40	43	37	44	50	27	47	31	40	35	47	44	42	46
Response average	3.6	4.2	4.7	4.4	4.0	4.3	3.7	4.4	5.0	2.7	4.7	3.1	4.0	3.5	4.7	4.4	4.2	4.6
Variance	1.2	0.8	0.5	0.5	1.3	0.5	0.9	1.2	0.0	0.9	0.5	2.1	1.3	1.6	0.5	0.9	0.6	0.5
Response Count																		
Strongly Disagree	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0
Somewhat Disagree	2	1	0	0	2	0	1	1	0	3	0	3	2	3	0	1	0	0
Neutral	2	0	1	1	0	1	3	1	0	4	1	3	0	2	1	0	2	1
Somewhat Agree	4	5	1	4	4	5	4	1	0	2	1	0	4	2	1	3	4	2
Strongly Agree	2	4	8	5	4	4	2	7	10	0	8	3	4	3	8	6	4	7
Total	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
Response %																		
Strongly Disagree	0%	0%	0%	0%	0%	0%	0%	0%	0%	10%	0%	10%	0%	0%	0%	0%	0%	0%
Somewhat Disagree	20%	10%	0%	0%	20%	0%	10%	10%	0%	30%	0%	30%	20%	30%	0%	10%	0%	0%
Neutral	20%	0%	10%	10%	0%	10%	30%	10%	0%	40%	10%	30%	0%	20%	10%	0%	20%	10%
Somewhat Agree	40%	50%	10%	40%	40%	50%	40%	10%	0%	20%	10%	0%	40%	20%	10%	30%	40%	20%
Strongly Agree	20%	40%	80%	50%	40%	40%	20%	70%	100%	0%	80%	30%	40%	30%	80%	60%	40%	70%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

4.6.6 Summary questions posed to SMEs based on their respective interviews

Table 4.9: Summary of questions posed to SMEs

	Question	R 1	R 2	R 3	R 4	R 5	R 6	R 7	R 8	R 9	R 10		Yes	No
1	Do you agree that it is crucial for business to be responsive to unpredictable and disruptive market forces?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		100%	0%
2	Do you agree that it is crucial for a business to turn an innovation into a business that can succeed and ensure its long-term sustainability?	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes		90%	10%
3	Do you agree that it is crucial for a business to take a new technological solution from a real or perceived need and to develop this technology into a viable entity by introducing it to the market?	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes		90%	10%
4	Do you agree that it is crucial for a business to have a proactive approach to the marketplace when it believes that market interests in its offering may be low or dwindling?	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		90%	10%
5	Do you agree that it is crucial for a business to pursue the research and development of new products to ensure its sustainability?	Yes	Yes	No	No	Yes	Yes	Yes	Yes	Yes	Yes		80%	20%
6	Do you agree that it is crucial for a business to interrogate the ways in which it conducts its business to enhance its service offering?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		100%	0%
		5	6	5	3	6	6	6	6	6	6			
		1	0	1	3	0	0	0	0	0	0			

4.6.7 A summary of key words, themes and categories to two of the questions posed to the SMEs

Table 4.10: Key words, themes and categories

		There is benefit in collaboration in mobile application development			The development agency must provide the soft skills development in transforming the entrepreneur from mobile application developer to competent business person within the innovation space		
		Key Words	Themes	Categories	Key Words	Themes	Categories
R 1	Collaboration helps to eliminate SMEs deficiencies		Promote Opportunity, Collaboration	Business Model	Soft skills are very important for the SME	Capacity Building	Business Opportunity
R 2	SMEs must see how they can add value to each other		Promote Opportunity, Collaboration	Business Model	Business skills are critical	Capacity Building	Business Opportunity
R 3	SMEs will be forced to do so		Collaboration, Growth and Sustainability	Business Model	Business skills are critical	Capacity Building	Business Opportunity
R 4	Collaboration helps to eliminate SMEs deficiencies		Promote Opportunity, Collaboration	Business Model	Financial skills are very important, understand the value of collaboration, understand the implications of venture partners	Capacity Building	Business Opportunity
R 5	Collaboration helps to eliminate SMEs deficiencies		Promote Opportunity, Collaboration	Business Model	Communication skills are necessary in business	Capacity Building	Business Opportunity
R 6	There must be an appetite for collaboration		Promote Opportunity, Collaboration	Business Model	Communication skills are necessary in business	Capacity Building	Business Opportunity
R 7	Collaboration leads to better solutions		Promote Opportunity, Collaboration	Business Model	The SME must take responsibility for these skills	Capacity Building	Business Opportunity
R 8	No comment		No comment	No comment	No comment	No comment	No comment
R 9	Collaboration is exciting		Promote Opportunity, Collaboration	Business Model	All business functions are important	Capacity Building	Business Opportunity

R 10	Collaboration helps SMEs to grow	Growth and Sustainability, Collaboration	Market Trends	All business functions are important	Capacity Building	Business Opportunity
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4.6.8 Themes resulting from the industry survey representing SMEs in the innovation and technology sector:

The following dominant themes represent the assistance that SMEs in this sector require from the development agency:

- Strategic Support
- Capacity Building
- Promotion of Opportunity
- Growth and Sustainability
- Collaboration (a nascent theme)

4.7 Phase 5 of the study

Beyond the in-depth interviews with members of industry, the fieldwork then proceeded to Phase 5 which comprised in-depth interviews with members of the development agency.

The framework of the in-depth interviews with the development agencies built on that of the in-depth interviews with industry in Phase 4 and revolved around the following key questions:

- Why do think that it is crucial for business to be responsive to unpredictable and disruptive market forces?
 - As a development agency, how would you go about ensuring that a business is responsive to unpredictable and disruptive market forces?
- Why do think that it is crucial for a business to turn an innovation into a business that can succeed and how can one ensure its long-term sustainability?
 - As a development agency, how would you go about ensuring that a business turns an innovation into a business that can succeed and how can one ensure its long-term sustainability?

- Why do you think that it is crucial that a business takes a new technological solution from a real or perceived need and develops this technology into a viable entity by introducing it to the market?
 - As a development agency, how would you go about ensuring that a business takes a new technological solution from a real or perceived need and develops this technology into a viable entity by introducing it to the market?
- Why do you think that it is crucial for a business to have a proactive approach to the marketplace when it believes that market interest in its offering may be low or dwindling?
 - As a development agency, how would you go about ensuring that a business has a proactive approach to the marketplace when it believes that market interest in its offering may be low or dwindling?
- Why do you think that it is crucial for a business to pursue the research and development of new products to ensure its sustainability?
 - As a development agency, how would you go about ensuring that a business pursues the research and development of new products to ensure its sustainability?
- Why do you think that it is crucial for a business to interrogate the ways in which it conducts its business to enhance its service offering?
 - As a development agency, how would you go about ensuring that a business interrogates the ways in which it conducts its business to enhance its service offering?
- What do you believe the function and value of the development agency is for SMEs?

4.7.1 What is the role of the development agency in the innovation and technology industry?

Table 4.11 represents the results of the responses of the development agency survey, depicting their understanding of the role of the development agency in the innovation and technology industry.

Table 4.11: The responses of the development agency survey

Theme	Development Agency	
Growth and Sustainability Capacity Building	My role is then to develop them and help them to develop themselves and to give them confidence. I think you see a lot of entrepreneurs come from poorer areas ... that they're just surviving and for a lot of them it is about survival and it is about creating that mind set where they should actually look past survival and look to growth in their) ... create employment.	R1
Growth and Sustainability Capacity Building	I think it is a critical role because if you look at the three areas that come together that will determine the economy of SA around, it's the area of enterprise development, the area of supplier development and the area of skills development; the agencies like ourselves bring those three things almost together.	R2
Promote Opportunity Capacity Building	I said, "Guys, don't worry about the technology; there is no rocket science to an App – you are not an App developer, you've got your concept and you want to take it to market. Understand the size of your market, you could be spending time and money on a wonderful product that is sitting there and you don't have access to market, so understand how am I taking my technology to market. Do I have the right strategic partners, is my technology known in the market, how quickly will there be market adoption?"	R3
Strategic Support Growth and Sustainability	Our role is not to provide service delivery on the ground level, that is your implementing agents, that is your Special Purpose Vehicles and non-government organisations. Those are the experts, those are the people that manage the funding for us and provide results, but it is our role to make sure that we are supporting the right industries from right way with the funding, mainly the funding, just to unlock a whole lot of other services for the SME sector.	R4
Capacity Building Promote Opportunity	So I think the business agencies have a role to play in doing the things that businesses wouldn't do naturally, for instance, the whole idea of education of entrepreneurs is very important, the idea is probably the last thing in their mind and maybe further support in terms of access to markets – I think that needs to be facilitated and obviously for the industry, so I think they have a role to play to do things that businesses do not have the ability to do entirely.	R5
	No comment.	R6
Strategic Support Promote Opportunity	It is very important because the business itself focuses on selling, focuses on making its name known but in terms of other aspects someone needs to cover those aspects, there is legislation – someone needs to actually advise that the legislation is this now, protect yourself in this and that way, opportunities because it is solely focusing on selling might not be aware of other opportunities – access to information, you can get information on registration on this website or on that website because of the fact that the mind is solely focusing on sales, they might not be aware of that, so an agency then covers those aspects.	R7
Capacity Building Strategic Support Promote Opportunity	Development agencies for me have various mandates, anything from developmental funding which is where specific groups are targeted for development funding be it preferential rates or whatever other criteria that they do set, to offering non-financial support and then also access to markets, so to me they play a vital role although there is not a lot of above-the-line marketing and happenings that happen for these sort of entities and the reason for that is that they have specific target markets, so it is not a free for all and we see that with government agencies and the like of your SEDAs and the idea is with a free for all there are no tangibles – there are no deliverables at the end of the day and this is what everyone gets measured on nowadays.	R8

Capacity Building Strategic Support	In the main the Department of Trade and Industry already provides the business regulation and sets out to develop the policies that will lead to and in line with the government strategic objectives of helping toward transforming the economy of working towards industrialising the economy, so our policy from the DTI side is designed to meet those objectives ... national priority, having said that whilst we create the policies and the regulation we can merely provide an enabling environment for businesses in which businesses can flourish and grow, yes through the various mechanisms, through the various incentives given, we can also provide financial assistance to come alongside and help those SMMEs to expand and grow.	R9
Strategic Support Promote Opportunity	Well SMEs generally require mentorship and I think a development agency in the most part must provide the mentorship and I think that is the key element; secondly the access to market, creating channels for these new entrepreneurs.	R10
Growth and Sustainability Strategic Support	I spoke to an established businessman, a guy who has been around for ages and I told him and he said where? how? and how come I don't know about it so certainly co-ordinated efforts are necessary in order for us to stimulate the SMME sector and assist in creating jobs.	R11
Promote Opportunity Strategic Support	The TIA has identified that its role and functions that they need to play are as a connector because we know that we will not be able to do everything, a facilitator of follow-on-funding because we know we will not be able to fund everything, as a champion basically of funding and providing the risk appetite basically to enable the SMMEs out there and trying to actually make an impact into [the] eco system as well because the eco system is fairly important basically to assist SMMEs' sustainability in future.	R12

4.7.2 Why do you think that it is crucial that a business is responsive to unpredictable and disruptive market forces?

Table 4.12: Why a business needs to be responsive to unpredictable and disruptive market forces

Comment	Key Words	Themes	Categories
R 1 Firstly through mentoring, when one mentors a business owner it's simply because most business owners are good in what they do, they understand the operations of the business but they are not good business managers, it's to mentor them to be effective business managers but then guide them on going on claiming to improve their managing skills and the planning could be in HR, in marketing, financial management, so that they effectively can be a general manager within a business.	Mentorship	Traditional Business Model	Agile Business Model
	Good technical skills	Technology Acquisition	Technology Innovation
	Not so good at business skills	Venture Participation	Venture Creation
R 2 Businesses generally have to be responsive because flexibility and agility is [sic] really what survival of any business is about, how do you adapt to whatever is coming your way and obviously over the last decade business has become more unpredictable and market forces have become more disruptive so it is less predictable to see what is going to happen over the next 10 years because there are just so many different things that impact on it, so they have to be but it is not	Flexible and agile business is critical	Traditional Business Model	Agile Business Model

	necessarily the case that business education is going to get them there because what business education does is it at least broadens their awareness which means once that has happened the ability to respond is there, without the awareness they don't know what to respond to, now that I know I can respond but whether they do respond is something else, so it is much more than that, even if I look at the statement about superior competitiveness – competitiveness is not necessarily the thing that makes people and business more successful, it's more how you respond to the market that would get you there, which in effect might mean competitiveness but I am one of those firm believers who say that once you start speaking price you have lost the war so you can't necessarily say because I am cheaper at this or because I use a better product that this, it is mostly about the combination of factors that get you to be successful rather than just be superior in terms of your competitiveness.	Disruptive market forces more prolific recently	Traditional Business Model	Agile Business Model
		The response to forces ensures competitiveness	Traditional Business Model	Agile Business Model
R 3	A lot of times, and I talk of past experiences, you are dealing with guys, their comfort level is technology, everyone believes they're creating the next Facebook or Google, so I think that there are a few things – that key is to understand the market in terms of the technology. Is your concept first to market or is there an established market? You and I know that there are so many apps that are being developed. The issue really around technology is a few things: one, is the market prepared for it? You can be sitting with the best innovations but you first [need] to market and [if] the market is totally unaware of it, you then need to spend a lot of time and energy educating the market about the benefits, so if you think of the first guys that developed apps, we take it for granted now, if you look at the way the industry was three years ago apps were not an issue, it was unknown but look now, the way every smartphone that you see ... I mean any laptop now they're selling it on a laptop so I think when you look at this statement it is really a case of understanding the market in terms of your technology, how prepared is the market for your technology, it's as simple as that. If you are first to market and it is unknown, a lot of time they need to educate the market about the benefits. If you're bringing technology to market that knows the technology or that is familiar with the technology, it's a done deal. So our app developers now at the moment ... it is relatively easy to commercialise an App because everyone knows what an app is ... the concept	Comfort with technology but not with business	Venture Participation	Venture Creation
		A need to understand the market	Market Access & Penetration	Market Creation
		Access and entry into market	Market Access & Penetration	Market Creation
R 4	In my opinion, businesses in order for them to remain competitive, they have to be responsive all the time. History has shown that businesses that are not responsive clearly fall by the wayside, so that is for [me] the most important thing.	Responsiveness leads to competitiveness	Traditional Business Model	Agile Business Model
		Responsiveness is critical to business success	Traditional Business Model	Agile Business Model
R 5	I think most IT start-ups or I won't say most but some are not necessarily educated, they did not go into the industry because of education so they did not go through the normal process of going to varsity and to some extent it has an influence, someone would know how to do something without necessarily going through traditional education and therefore I think you also get the extent to reach ... so you get 16-year-olds or someone who just happens to know something by nature of association or networks to start up a company so that is one. On the other is I think the education of technology professionals is not ... I mean a degree in computer science has little to do with possessing education although you do find that in the information systems field there is a combined business education; there are very few of that group that tend to go into business they tend to go into consulting. The point I	Entrepreneurs do not necessarily have formal higher education	Venture Participation	Venture Creation
		There is a lack of business education	Venture Participation	Venture Creation
		Entrepreneurs do not necessarily have formal higher education	Venture Participation	Venture Creation

	am making is that there is a lack of business education compared to traditional education .			
R 6	Market forces are just that: forces that affect the value proposition that your business presents. The moment this value is affected by any force, adjustments must be made to minimise the effect on value. In some cases these may be huge forces which could demand significant compensation in the way you do business. By putting your head in the sand and sticking to "business as usual", you are treading on dangerous ground in terms of survival. In addition to the direct effect on your business, you would also have to take into account the effect on your competitor's business as well, since there may be opportunities based on the latter effects. This would also influence decisions in response to the forces in terms of being more competitive than the competition.	Market forces affect your value proposition	Market Access & Penetration	Market Creation
		An assessment of the business model	Traditional Business Model	Agile Business Model
R 7	I think it is simply because if they don't respond to those disruptive forces, definitely we won't be having small business leading as we are quite aware that they are actually leading in each economy, they have got the most employees so they therefore have to be innovative so that they actually respond to these challenges.	SMEs need to respond	Traditional Business Model	Agile Business Model
		They need to be innovative	Product Deployment	Product Innovation
			Service Deployment	Service Innovation
R 8	A small or a multi-national corporate business needs to be responsive for the mere fact of survival, be it any political forces or legal forces or whatever the case might be, the issue to me is how to respond to it because those are forces out of our control. Two years ago in the rural part of SA we had the labour unrest of the minimum wage and the client that I saw had a loss of something like R6million in a space of a weekend. The question is not why do I think that they need to be responsive, yes they do, the question is how do they respond to it, but that rightly as you said comes with education, ideally you don't want to learn from your experiences because that might be losses, it is more about education and what I feel has worked well in the past when in that sphere of consumer education or the access to training or non-financial support rather for businesses is that practical education to me has a greater impact, I did a two-day stint at Theewaterskloof Municipality where they had gotten their supply chain together or their local SMMEs who are in it to tender work for them in the area and the some of the feedback we got from the businesses is the most revolutionary training that we have been on in a while because what we physically did was to physically take application forms, physically take financial statements and practically showed them, stuck it onto an overhead and practically showed them instead of just sitting there and doing and theorising a workshop and them walking out none the wiser, we got them engaged, we got them to physically use live examples and using their own businesses.	Businesses need to respond	Traditional Business Model	Agile Business Model
		It is critical to know how to respond	Traditional Business Model	Agile Business Model
		Business education is very important	Venture Participation	Venture Creation
R 9	I would say education, education, education ... like in marketing its location, location, location. I think one of the main factors why businesses fail is that their nose is too close to the grindstone and they're just focusing on their particular industry forgetting that there is a wider world out there; they forget about the bigger picture scenario and hence whilst they are busy focusing on the operational side of the business and their industry, things that happen in offshore or even in other sectors of the economy may have a detrimental effect incurred on their business and hence I say people must sometimes just make time to step back and look at the broader scenario.	Business education is very important	Venture Participation	Venture Creation
		Business owner has insular perspective	Traditional Business Model	Agile Business Model

R 10	<p>When we talk about responsive to the unpredictable disruptive market, again the issue is that in SA even though we spend a lot of time at the cutting edge of technology, fortunately SA's innovation space is quite good. It is said that there are too few of us, there are a lot of people thinking about changing, I mean SA works on bulk SMS, we worked on technology where you integrate various platforms both open source and Microsoft and or [unclear] or whatever and yet there are a few SMEs that participate in that space, you still find the guy who does not have access to simplicity and activity, he does not have access to it, email he has got to go to an internet cafe, so even though we are at the cutting edges of technology only 5% maybe spend time benefiting from that, if you look at how many people benefit. If you take an area like Khayelitsha, Khayelitsha has 300 schools and only 20 or 30 of them have a technology lab – so that is a reality; if you think about the number of people between the age of 18 and 24 who are unemployed in that space, it's extensive, so they send their CVs every day but it is cold, so I think I am going to this ... it's a cold CV, it's about the education and training and leadership that is non-existent so when you talk about integrating somebody who comes from a different cultural background into the technology space the first element is when you say 'I need to speak to or go for an interview' the interview happens in English, so that is your first challenge, it is not his first language because the interviewer does not speak his first language, he is very rarely offered a translator [*its a cultural bias*] yes so it detracts from his actual value so he is prejudiced.</p>	Innovation is an answer to unpredictable market forces	Technology Acquisition	Technology Innovation
		Not everyone has access to technologies and resources	Technology Acquisition	Technology Innovation
R 11	<p>First of all the 'why' are there are several external market forces that influence all businesses and in particular small businesses are affected more so than big businesses, big businesses are able to bounce back very quickly and smaller businesses unfortunately live from to hand to mouth for the first year to year and a half up to two years and that is why they have to stay relevant, they have to be flexible to be able to mitigate those market forces that would possibly bring them to a state that they just can't operate any more. We've got a typical example at the moment of the Ebola virus, we did not think that it would affect SA but all of a sudden the tourism industry is being affected and therein lies a big challenge in that the smaller tour operators are going to be affected more, the hotels work on a 30% return or a 30% bed occupation but certainly the smaller guesthouses in your rural areas are definitely going to be affected.</p>	SMEs are impacted more by the market forces	Market Access & Penetration	Market Creation
		SMEs have to stay relevant	Traditional Business Model	Agile Business Model
R 12	<p>Why it actually appears in this way is that as far as the education aspect is concerned I think that business education is not transversal in [the] university education system or even before that, in secondary school level and primary school level as well, getting people to think about money and resource management in a certain manner could be quite beneficial is one aspect and the other aspect is that we haven't created space within our universities per se for young potential entrepreneurs, to think entrepreneurially and also try their hand at the experience as well and I think there is a need for experiential learning. When it comes to entrepreneurship, there are successful courses at UCT e.g. they've got a course run by Stephen Stuart Henry for a postgraduate diploma in</p>	Business education is very important	Venture Participation	Venture Creation
		Entrepreneurial skills and mentorship are important	Venture Participation	Venture Creation

	<p>entrepreneurship and business that does very well regarding setting up businesses as well, so I think in the formal education space there is a need, the need is basically around imparting knowledge, coaching, mentoring, enabling others to basically take the next step towards trying their hand at entrepreneurship but in an environment where there are support mechanisms and coaching and that sort of thing in order for them to succeed and that is the reason why business needs to be responsive to unpredictable and disruptive forces is because we are living in a society and world that becomes flatter by the day, globalisation has a significant impact on the diffusion of technology and change and economics as well. In in the greater scheme of things customers or potential markets evolve depending on what their needs are and people's needs are changing because of different drivers and if an entrepreneur is not geared towards meeting those drivers and meeting that change then it actually becomes really challenging for them to basically sustain themselves in that market term, so I would agree that the agile business modelling and agile focus is important; but at the same time I also think that ultimately because entrepreneurship is a human-centred activity, both from the entrepreneur side as well as his or her ability to basically meet market needs, I think the personal development component is also lacking, the leadership focus, the whole personal development focus is also required and I think that education institutions are also needed to focus on that as well in building entrepreneurship.</p>	<p>Understanding change in business</p>	<p>Traditional Business Model</p>	<p>Agile Business Model</p>
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4.7.3 A summary of key words, themes and categories to two of the questions posed to the development agencies

Table 4.13: Key words, themes and categories

Why do you think that it is crucial that a business is responsive to unpredictable and disruptive market forces?				As a development agency, how would you go about ensuring that a business is responsive to unpredictable and disruptive market forces?		
	Key Words	Themes	Categories	Key Words	Themes	Categories
R 1	Mentorship	Traditional Business Model	Agile Business Model	Assist in transforming entrepreneur	Traditional Business Model	Agile Business Model
	Good technical skills	Technology Acquisition	Technology Innovation	From technical to business skills	Venture Participation	Venture Creation
	Not so good at business skills	Venture Participation	Venture Creation			
R 2	Flexible and agile business is critical	Traditional Business Model	Agile Business Model	Business education	Venture Participation	Venture Creation
	Disruptive market forces more prolific recently	Traditional Business Model	Agile Business Model	Mentoring	Venture Participation	Venture Creation
	The response to forces ensures competitiveness	Traditional Business Model	Agile Business Model	Coaching	Venture Participation	Venture Creation
	It is a diverse set of factors that lead to competitiveness	Market Access & Penetration	Market Creation	Adoption of an SME	Venture Participation	Venture Creation
R 3	Comfort with technology but not with business	Venture Participation	Venture Creation	Provide access to markets	Market Access & Penetration	Market Creation

	A need to understand the market Access and entry into market	Market Access & Penetration Market Access & Penetration	Market Creation Market Creation	Alignment with strategic partners Encouraging agility Understanding the full value chain	Traditional Business Model Traditional Business Model Market Access & Penetration	Agile Business Model Agile Business Model Market Creation
R 4	Responsiveness leads to competitiveness Responsiveness is critical to business success	Traditional Business Model Traditional Business Model	Agile Business Model Agile Business Model	Provide clear understanding of the market Help SMEs adapt to market needs Make use of SPVs to provide sector specific support Provide access to funding opportunities	Market Access & Penetration Market Access & Penetration Venture Participation Venture Participation	Market Creation Market Creation Venture Creation Venture Creation
R 5	Entrepreneurs do not necessarily have formal higher education There is a lack of business education	Venture Participation Venture Participation	Venture Creation Venture Creation	Provide relevant, hands-on support	Venture Participation	Venture Creation
R 6	Market forces affect your value proposition An assessment of the business model	Market Access & Penetration Traditional Business Model	Market Creation Agile Business Model	Offer subsidised business services Offer product development Utilise network and consultants to offer support	Service Deployment Product Deployment Venture Participation	Service Innovation Product Innovation Venture Creation
R 7	SMEs need to respond They need to be innovative	Traditional Business Model Product Deployment Service Deployment Technology Acquisition	Agile Business Model Product Innovation Service Innovation Technology Innovation	Provide relevant, hands-on support	Venture Participation	Venture Creation
R 8	Businesses need to respond It is critical to know how to respond Business education is very important	Traditional Business Model Traditional Business Model Venture Participation	Agile Business Model Agile Business Model Venture Creation	Provide relevant, financial and hands-on support	Venture Participation	Venture Creation
R 9	Business education is very important Business owner has insular perspective	Venture Participation Traditional Business Model	Venture Creation Agile Business Model	Encourage SME to become expert in industry	Venture Participation	Venture Creation

R 10	Innovation is an answer to unpredictable market forces Not everyone has access to technologies and resources	Technology Acquisition Technology Acquisition	Technology Innovation Technology Innovation	Value the strength of collaboration Provide meaningful financial support to the SME	Traditional Business Model Venture Participation	Agile Business Model Venture Creation
R 11	SMEs are impacted more by the market forces SMEs have to stay relevant	Market Access & Penetration Traditional Business Model	Market Creation Agile Business Model	Provide relevant, financial and hands-on support Help the SME to stay relevant to the market	Venture Participation Market Access & Penetration	Venture Creation Market Creation
R 12	Business education is very important Entrepreneurial skills and mentorship are important Understanding change in business	Venture Participation Venture Participation Traditional Business Model	Venture Creation Venture Creation Agile Business Model	Provide relevant, financial and hands-on support Assist the SME to understand the market	Venture Participation Market Access & Penetration	Venture Creation Market Creation

4.7.4 Themes resulting from the development agency survey representing SMEs in the innovation and technology sector:

The following themes were identified by the development agencies describing how SMEs in this sector conduct their business:

- **Static Business Model:** The SMEs appear to have a rigid and sequential approach to product and service development and to business in general. Because of this linear approach, it is difficult for businesses to respond quickly to change.
- **Venture Participation:** The SMEs appear to be involved with the undertaking of a course of action which is based on prevailing and standard practices and norms.
- **Technology Acquisition:** The SMEs appear to be involved in adopting new technologies from their industry rather than developing these technologies from within the business.
- **Market Access & Penetration:** The SMEs appear to gain entry to their established customer base and their product or service is recognised and bought by existing customers in a particular market.

- Product Adaptation: The SMEs' different products appear to have evolved from adjustment or slight enhancement to their existing or rival products, and not the development of ground-breaking innovations.
- Service Adaptation: The SMEs appear to have businesses that emulate the offerings to their clients based on industry norms, promulgated by their competitors and suppliers.

4.7.5 Categories resulting from the development agency survey representing assistance required from SMEs in the innovation and technology sector:

The following categories were identified by the development agencies describing the assistance required from SMEs in this sector:

- Agile Business Model
- Venture Creation
- Technology Innovation
- Market Creation
- Product Innovation
- Service Innovation

4.8 Summary

4.9 Summary

The results of this critical realist study identified the structured real world of the landscape of mobile application development in the Western Cape, SA, by identifying its key constructs. The research confirmed that knowledge is socially produced by identifying the salient imperatives that inform the role of the development agent in respect of business model innovation and disruptive innovation. By means of critical discourse analysis of the views expressed by the respondents, the study explored the emancipation agenda of mobile application development in the Western Cape, SA. In doing so it also ultimately uncovered the generative mechanisms in understanding, amongst others, what the critical performance underpinnings are.

The next chapter presents the interpretation of these results from a critical realist perspective. Of particular significance is the interpretation of:

- the categories which represent the assistance that SMEs in this sector require from the development agencies:
 - Business Model; Business Opportunity; Technology Platform; Market Trends; Product Expertise; and Service Expertise.
- the themes identified by the development agencies describing how SMEs in this sector conduct their business:
 - Static Business Model; Venture Participation; Technology Acquisition; Market Access & Penetration; Product Adaptation; and Service Adaptation.
- the categories identified by the development agencies describing the assistance required from SMEs in this sector:
 - Agile Business Model; Venture Creation; Technology Innovation; Market Creation; Product Innovation; and Service Innovation.

CHAPTER 5: ANALYSIS

5.1 Introduction

This chapter details the analysis of results of this critical realist study that explored the landscape for mobile applications development in the Western Cape, SA, and the role of development agency in attempting to promote mobile application development SMEs' success and sustainability, which ultimately contribute to the development of the SA economy. The academic arena of this research study was the focus on mobile applications. Key to this study was the notion of technology transfer and technology commercialisation, where through a multi-factorial approach, development agencies are equipped with a model to assist them in supporting mobile application development SMEs towards enhanced competitiveness. The chapter contains a comprehensive elucidation, analysis and evaluation of the results in relation to the literature study and fieldwork.

The main research question of this study was:

How can a multi-factorial strategy model be evolved to enable development agency to be an augments in the commercialisation of the mobile applications development SME sector through business model innovation in response to disruptive innovation?

The research sub-questions of this study were:

- What is the nature of disruptive innovation?
- What are the dimensions of business model innovation?
- What are the roles of development agencies?
- What is the landscape for mobile applications development in the Western Cape, SA?
- What are the most prominent relationships between business model innovation, disruptive innovation and the development agency?

The objectives of this study were to:

- formulate a set of assertions concerning the nature of disruptive innovation;
- formulate a set of assertions concerning the dimensions of business model innovation;

- formulate a set of assertions concerning development agencies and their functions;
- formulate a set of assertions concerning business model innovation, based on empirical studies relating to disruptive innovation, and development agency; and
- develop a strategy model for development agencies to assist mobile application development SMEs, based on the above-mentioned assertions in their business modelling efforts.

This chapter is formulated with reference to the objectives of this critical realist study as well as the theoretical framework. In this regard then, each objective is addressed by way of a discussion of the results in relation to the literature study and fieldwork. In this way theory is developed by comparing and evaluating, for example, the variances to and constancies of the findings in the literature study and fieldwork. By doing so, the research aim of this study is enveloped in the underpinning theory, literature study, fieldwork and philosophy of the study.

5.2 Findings and interpretations of Phase 1 and 2 of the study

The following key findings relating to the way in which SMEs in this sector conduct their business manifested from the study:

- The majority of the businesses acknowledged the business potential of mobile application development.
- All of the businesses, excepting one, expressed the importance of a model which could provide a strategy for enhanced commercialisation of mobile applications development.
- Those involved with mobile application development require the model to assist them with revenue generation once the app has been completed. The needs of those businesses not involved with mobile application development are far more intense and involve the full spectrum from initiation through to commercialisation of the app. These businesses have expressed the importance of their being unable to take risks without a model that can help them to minimise these risks by providing them with clear guidelines, trends, technologies, skills, marketing, etc., relating to mobile applications.

The above-mentioned findings led to the following interpretations:

- The application development businesses acknowledged the potential in mobile applications but appeared to have difficulty in commercialising these apps. Further research is warranted around the establishment of a model that can provide a strategy for enhanced commercialisation of mobile application development to assist businesses in mobile application development. This model will have to address a number of concerns, depending on the propensity of the business towards mobile application development. Research into what adjustments to the current business models of these businesses is required to enter into mobile application development and is also recommended.

5.3 Findings and interpretations of Phase 3 of the study

The following key findings and interpretations emanated from the focused interview:

- A synergistic relationship appears to exist between development agency, disruptive innovation and business model innovation. In attempting to understand this synergistic relationship, it is essential to understand what the nature of disruptive innovation is and whether this is indeed a common term used by industry or development agencies.
 - Interpretation: It appears that disruptive innovation is not a common term used by either industry or development agencies as stakeholders in the business development space.
 - Reflection: How would the nature of disruptive innovation be made known to the stakeholders?
- It is important to understand what the dimensions of business model innovation are as understood by industry and development agency. South African businesses and particularly small businesses are generally not big players in innovation. The answer to this philosophy might lie in the cultural, socio-political development, isolation and consolidation of large monopolies within SA. South African businesses tend to be conservative and follow international trends with regard to innovation and technologies.
 - Interpretation: It appears that there does not appear to be a huge appetite for innovation within South African businesses. It is agreed that this is not the desirable state and the change imperatives need to be unpacked in

order to resolve this condition of technology adoption to technology innovation.

- Reflection: Does this conservative business practice mean that there are evolutionary rather than revolutionary approaches towards innovation?
- The potential role of development agency was interrogated. Corporates dominate the innovation space and this lies in the legacy of South African society, its commerce and industry. Access to finance and the commercialisation of opportunity hinder innovation from the SME. Further elaboration is required on the concept of sustainability as it relates to innovation by highlighting the stages of development of an idea through to commercialisation and how the environment impacts on the ability of the technology entrepreneur to survive and thrive. The agency will have to deal with young entrepreneurs' naivety about appropriate research on and business models for their innovations. Higher education institutions have a role to play.
 - Interpretation: It appears that higher education institutions should also understand their importance as development agencies in the innovation space because a strong focus on research and development is essential for sustainability of the entrepreneur.
 - Reflection: What role should higher education institutions play in this regard?
- In interrogating the mobile application development application landscape, it is important to understand what the key constructs are. Role models within the application of technology will serve as a good mentoring process for entrepreneurs in this space. SMEs can compete on a technological but not on a commercial level with corporates. Corporates have a very strong monopoly but SMEs engage to a limited extent. SMEs are poor researchers of real business opportunities, whereas corporates tend to be more meticulous and follow global standards. The innovation resorts at the SME, but corporates have the ability to commercialise the innovation. Corporates who participate do so in support of their ambition, and mission and vision. SMEs, on the other hand, do not always clearly know how they should participate and often do so because of social entrepreneurship or simply to dabble in entrepreneurship. They often participate with no real viability study on the application and no real business model in respect of the application. There appears to be the tendency that "if we build it,

they will buy it". They participate as isolated entities and there is no real serious evidence of networking and collaboration. There is a good enabling environment in SA by way of the existing infrastructure partners which is superior to the rest of Africa. This is critical to the rollout of any mobile application. This infrastructure sets the scene for the players in this space. The rest of Africa tends to look at lower-level mobile interaction via SMS as opposed to bandwidth-intensive mobile applications which require more data interchange. There is a low smartphone penetration in the rest of Africa, with a larger functional phone concentration. The younger players (entrepreneurs) use their personal experience and their "pain", "itch", "issue" as a driver for their mobile application development. The more experienced entrepreneurs use the established business models, larger problems, systems, and global issues as their points of departure. Very few entrepreneurs come with well-researched opportunities as their starting point for any business venture, whereas corporate opportunities are driven by their business vision.

- Interpretation: It appears that South African businesses are followers and they benchmark to a minimum standard of global compliance. Consequently, these businesses are not really innovators but implementers of technology. The role players are playing with all technologies that are available. They are not sensitive to national boundaries and are willing to do business at a continental level if required. They are playing first and foremost for money but also for personal needs and interests.
- Reflection: Could this status quo be because SMEs are scared to reveal too much to their competitors and associated role players, and lose out on the opportunity?
- The following themes were confirmed in the focused interview to be all-inclusive of the functions of development agencies as they address the start-up, environment and on-going concerns of the SME, namely:
 - Strategic Support
 - Promotion of Opportunity
 - Capacity Building
 - Growth and Sustainability

- The following categories of the way in which SMEs in this sector conduct their business, have manifested from the focused interview:
 - Business Model: SMEs appear to have a vague understanding of their business functions and value chain and how their businesses expect to generate income.
 - Business Opportunity: SMEs appear to have a need for assistance with a suitable or constructive opportunity to generate income for their businesses.
 - Technology Platform: SMEs appear to have adopted a base to create their products and services that support their existing needs. This technological base delivers their products without their having to establish a new process/technology.
 - Market Trends: SMEs appear to be following the general direction, inclination and preference in which their industry is moving. They therefore lean towards being followers of their industry rather than leaders.
 - Product Expertise: SMEs appear to have been established based on the business owners' deep technical understanding of their product and associated technologies.
 - Service Expertise: SMEs appear to be operating based on the business owners' understanding and experience acquired before establishing the business.

5.4 Findings and interpretations of Phase 4 of the study

The following key findings and interpretations emanated from the in-depth interviews with members of the technology sector:

- Disruptive innovation is not a common term used in industry.
 - The nature of disruptive innovation requires thinking “outside the box” and a change in management style.
- The dimensions of business model innovation are:
 - about looking at innovation as something that has to be done and that can be done depending on where the business is at;
 - a reflection of the innovativeness of the actual business model and one which should show some form of innovation or sustainability for going forward;

- how someone in business can change their business model as innovation takes place;
 - the constant recreation of the way businesses operate, inter alia, sharing ideas and operating in a different manner from the established norms to improve the business; and
 - about reinventing the business model around client needs.
- The role of development agency in the innovation and technology industry is to:
 - provide access (in its broadest sense) for businesses;
 - provide business support at various levels;
 - navigate the difficult administrative avenues for the business;
 - assist with financial planning and management;
 - provide business skills; and
 - indicate industry trends.
- All of the SMEs agreed that it was crucial for a business to be responsive to unpredictable and disruptive market forces.
- Nine of the ten SMEs agreed that it was crucial for a business to turn an innovation into a business that could succeed and so ensure its long-term sustainability.
- Nine of the ten SMEs agreed that it was crucial for a business to take a new technological solution from a real or perceived need and to develop this technology into a viable entity by introducing it to the market.
- Nine of the ten SMEs agreed that it was crucial for a business to have a proactive approach to the marketplace when it believed that market interests in its offering were low or dwindling.
- Eight of the ten SMEs agreed that it was crucial for a business to pursue the research and development of new products to ensure its sustainability.
- All of the SMEs agreed that it was crucial for a business to interrogate the ways in which it conducted its business to enhance its service offering.
- The following dominant themes represent the assistance that SMEs in this sector require from the development agency:
 - Strategic Support
 - Capacity Building
 - Promotion of Opportunity

- Growth and Sustainability

These themes show a direct correlation with the literature study and with those confirmed in the focused interview to be all-inclusive of the functions of development agencies as they address the start-up, environment and on-going concern of the SME.

5.5 Findings and interpretations of Phase 5 of the study

The following key findings and interpretations emanated from the in-depth interviews with development agencies:

- The following themes were identified by development agencies describing how SMEs in this sector conduct their business:
 - Static Business Model
 - Venture Participation
 - Technology Acquisition
 - Market Access & Penetration
 - Product Adaptation
 - Service Adaptation
- The following categories were identified by development agencies describing the assistance required from SMEs in this sector:
 - Agile Business Model: Market conditions are in a state of fluctuation, and clients are candid about their expectations. SMEs should, therefore, adopt an agile approach which is more interested in interactions than processes and in arriving at solutions. It is more collaborative which means that the business can be more responsive to change.
 - Venture Creation: SMEs should embark on the process of transforming a new idea or technology into a business that can succeed and will attract business interest.
 - Technology Innovation: As opposed to the adoption of externally developed technologies, SMEs are urged to develop and use technology in new ways, where the result is a more efficient business and an improved alignment between technology initiatives and business goals.

- **Market Creation:** SMEs are challenged to take a proactive approach to the marketplace when they believe that market interest in their offerings is low, existing competitors too strongly entrenched, or customers too few. They should deliberately develop a new product or service that is more useful, affordable or better than those of existing role players in the market.
- **Product Innovation:** SMEs are challenged to create and subsequently introduce a product or service that is either new or improved. This innovation could include changes in design of established products, or the use of new materials or components in the manufacture of established products.
- **Service Innovation:** SMEs should have the courage to develop a new or significantly improved service concept that benefits themselves as well as their customers. This should improve their competitive edge. It could be a service product or service process that is based on some technology or systematic method.

The themes align with the views of Rogers (2003) as stated in Chapter Two. The author proposes that Diffusion of Innovation implies that the adoption of innovation does not only rely on the innovation's technical capabilities. They should consider how its business model relates to the particular segment of the market to which its innovation is appealing.

5.6 Summary

The findings and interpretations of this critical realist study revealed a structured real world of the landscape of mobile application development in the Western Cape, SA, by identifying its key constructs. It then revealed that knowledge is socially produced by identifying the salient imperatives that inform the role of the development agent in respect of business model innovation and disruptive innovation. By means of critical discourse analysis of the views expressed by the respondents, it revealed the emancipation agenda of mobile application development in the Western Cape, SA. In doing so it also ultimately uncovered the generative mechanisms in understanding, amongst others, what the critical performance underpinnings are.

CHAPTER 6: CONCLUSION

6.1 Introduction

This chapter details all the conclusions, limitations, and recommendations of this critical realist study that explores the landscape for mobile applications development in the Western Cape, SA, and the role of the development agency in attempting to promote mobile application development SMEs' success and sustainability that ultimately contributes to the development of the SA economy. The academic arena of this research study is the focus on mobile applications. Key to this study is the notion of technology transfer and technology commercialisation, where through a multi-factorial approach, development agencies are equipped with a model that will assist them in supporting mobile application development SMEs towards enhanced competitiveness. It contains a comprehensive elucidation, analysis and evaluation of the results in relation to the literature study and fieldwork.

The central thesis of this study is that a multi-factorial strategy model can be evolved to enable development agency to be an augments in the commercialisation of the mobile applications development SME sector through business model innovation in response to disruptive innovation.

The golden thread of this study is the journey to uncover three tenets:

- I. The dimensions of business model innovation.
- II. The nature of disruption.
- III. The potential role of the development agency in supporting SMEs in the technology sector.

This study reveals a synergistic relationship among the three tenets which means that the development agency should understand that there is potential in business model innovation for mobile application development SMEs in responding to disruptive innovation.

6.2 The structured real world of the mobile application landscape in the Western Cape of South Africa

Certain key constructs have manifested in the structured real world of this landscape. Role models within the technology sector can assist entrepreneurs as mentors. The SME can compete on a technological level but not on the commercial level with

corporates. There is very strong monopoly activity by corporates but the SME engages to a limited extent. This fact gives credence to the views of Bhaskar (1978), who argues that agents always reproduce and transform social structures via their actions and that causal effects of the structures are always mediated through agents' intentional actions. The SMEs are poor researchers of real business opportunities, whereas the corporates tend to be more meticulous and follow global standards. The innovation sits at the SME but the corporates have the ability to commercialise the innovation.

Corporates that participate do so in support of their ambition and mission and vision. The SME on the other hand, does not always clearly know how it should participate and often does so because of social entrepreneurship or simply to dabble in entrepreneurship. The SME often participates with no real viability study on the application and no real business model for the application. There appears to be the tendency that "if we build it they will buy it". SMEs participate as isolated entities and there is no real serious evidence of networking and collaboration.

There is a good enabling environment in SA by way of the existing infrastructure partners which is superior to the rest of Africa. This is critical to the rollout of any mobile application. This infrastructure sets the scene for the players in this space. The rest of Africa tends to look at lower-level mobile interaction via SMS as opposed to bandwidth-intensive mobile applications which require more data interchange. There is a low smartphone penetration in the rest of Africa with a larger functional phone concentration.

6.3 Knowledge of the mobile application landscape in the Western Cape of South Africa

The study reveals salient socially produced knowledge of this landscape in that the nature of disruptive innovation requires thinking "outside the box" and a change in management style. Furthermore, the dimensions of business model innovation are about looking at innovation as something that has to be done and that depends on where the business finds itself and the clients it serves. The business should also show a reflection of the innovativeness of the actual business model – one which should show some form of innovation and sustainability in going forward. These

aspects are supported by Archer (1995), who states that structure is reproduced through agency which is simultaneously constrained and enabled by structure. The author argues that structure provides a context of action for future agents. With this in mind then, the business model should also change as innovation takes place. Businesses have to show a constant recreation of the way they operate, inter alia, sharing ideas and operating in a different manner to the established norms to improve the business.

The role of development agency in the technology sector is to provide access (in its broadest sense) for businesses. It should also provide business support at various levels and help SMEs to navigate the difficult administrative avenues. SMEs also require assistance with business skills, financial planning, management, and industry trends.

In order to ensure success and sustainability, SMEs in this sector need assistance in how to establish a suitable business model. Key to their success is the identification of a business opportunity and the ability to operate on a common technology platform. The entrepreneur brings along inherent product expertise but lacks critical business skills.

6.4 Critical discourse analysis of the mobile application landscape in the Western Cape of South Africa

The status quo of the landscape suggests that development agencies identified that SMEs in this sector conduct their businesses with static business models and they are limited in their venture participation. They struggle with market access and penetration because they are limited to product and service adaptation, rather than creating new products and services.

The key critical success factors suggest that SMEs need to be responsive to unpredictable and disruptive market forces. They also need to turn an innovation into a business that can succeed and ensure its long-term sustainability. This can be achieved by taking a new technological solution from a real or perceived need and developing this technology into a viable entity by introducing it to the market. They should also have a proactive approach to the marketplace when they believe that

market interests in their offering may be low or dwindling. To ensure sustainability, they need to pursue the research and development of new products and interrogate the ways in which they conduct business to enhance their service offerings.

6.5 Interrogating the emancipation agenda and power imbalance of the critical realist study

The key issues to be addressed by development agencies are to provide strategic support to SMEs by helping them to identify long-term business objectives and interests and the means of achieving them. This will involve assistance with opportunity promotion through the identification of and prospects to generate new business. The agencies will also have to assist with capacity building by helping SMEs to identify the obstacles that impede them from realising their business objectives while augmenting their abilities to allow them to attain sustainable results. Ultimately, this should assist SMEs to grow and become sustainable. These factors are indicative of the views of Barker (2005), who proposes that agency is the capability of individuals to act independently and to make their own free choices.

The SMEs, in turn, will have to bring about certain changes in their business by adopting an agile business model in order to be able to respond adequately to changes. They should also focus their efforts on venture creation through technology innovation. This should lead to more effective market penetration or the creation of entirely new markets. This would, however, mean concerted efforts on product and service innovation within the business.

6.6 Exploring the generative mechanisms that constitute the actual conditions and activities of the mobile application development sector

This study suggests that the mobile application development sector consists of mechanisms, not events. These mechanisms syndicate to cause the flux of occurrences. The younger entrepreneurs use their personal experience and their “pain”, “itch”, “issue” as drivers for their mobile application development. On the other hand, the more experienced entrepreneurs use the established business models, larger problems, systems, and global issues as their points of departure. Very few entrepreneurs come with well-researched opportunities as their starting point for any business venture, whereas corporate opportunities are driven by their business vision.

This could be interpreted that South African businesses are followers and they benchmark to a minimum standard of global compliance. Consequently, these businesses are not really innovators but implementers of technology. The role players are playing with all available technologies. They are not sensitive to national boundaries and are willing to do business at a continental level if required. They are playing first and foremost for money but also for personal needs and interests.

On reflection, the status quo could exist because SMEs are scared to reveal too much to their competitors and associated role players, and lose out on business opportunities.

6.7 Unravelling of the three tenets

The unravelling of the three tenets would be undertaken with due consideration to the view of Giddens (1984) that resources are structured properties of social systems, drawn upon and mimicked by knowledgeable agents in the course of collaboration. It is clear that disruptive innovation, business model innovation, and development agency have independent identities. The unravelling of these three, however, aims to depict that the effect of the three tenets can produce an outcome better than the sum of their individual effects.

This study indicates that businesses have unearthed means to synergise innovations in their business models through processes and their customer experience to their disruptive advantage. When businesses are unable to respond via true disruptive innovation, they can still revolutionise their customer experience, which could lead to improved customer satisfaction. Restructuring of business processes can also enable them to fast track the time to market for their innovation which could result in a potentially disruptive advantage in its sector.

SMEs have unfailingly been considered in various studies as being too fleeting and adopters of innovation rather than actually generating disruptive innovation. This study also proposes that development agencies can assist businesses with their research and development into innovation, their business processes, customer focus, and overall strategy. Development agencies need to consider that disruption in a

sector is often based on competition around the cost of the business offering. This study calls on development agencies to foster a culture of disruptive business model innovation within SMEs. SMEs have to transition from being the adopters of innovation to disrupters through innovation of their business models.

In this way this study proposes the value of the synergistic relationship among disruptive innovation, business model innovation and development agency. While they have their individual identities, this study advises that they generate greater value for the SME when combined than they could operating independently.

6.8 Disruptive Innovation State Response Model

Key to this study is the notion of technology transfer and technology commercialisation. The study suggested that a multi-factorial strategy model could be evolved to enable development agency to be an augments in the commercialisation of the mobile applications development SME sector through business model innovation in response to disruptive innovation. Based on the approbation of the value of models from Dumanski and Pieri (1995), Gauthier and Lardic (2003), Linster (2003), Shoemaker et al. (2004), and Sidora-Arcoleo et al. (2012), a particular multi-factorial strategy model was developed for this study.

By uncovering the generative mechanisms of this critical realist study, the findings in Chapter 4 indicated that it is important to understand what the dimensions of business model innovation are as understood by industry and development agencies. By interrogating why the situation is the way it is, it appears that there does not appear to be a huge appetite for innovation within South African businesses. It is agreed that this is not a desirable state and change imperatives need to be unpacked to resolve this condition of technology adoption to technology innovation. The responses of the focused interview depicting the role of the development agency in the innovation and technology industry suggest that the development agency will also have to deal with the young entrepreneurs' naivety about appropriate research on and business models of their innovations. In determining who holds sway, it appears that the corporates tend to dominate the innovation space and this lies in the legacy of South African

society, its commerce and industry. Access to finance and the commercialisation of the opportunity hinders innovation from the SME. Further elaboration on the concept of sustainability as it relates to innovation is needed by highlighting the stages of development of an idea through to commercialisation and how the environment impacts on the ability of the technology entrepreneur to survive and thrive.

In developing the multi-factorial strategy model, this study investigated the impact of disruptive innovation on the mobile app development SME at three distinct layers, viz. the condition it finds itself in; the culture within which it operates; and the provision that is required to respond. This study considered the “duality” versus “dualism” debate of Giddens and Archer respectively. The empirical research revealed that, in general, SMEs operated in survivalist and reactive mode and in this way, Giddens’ “duality” of structure and agency was of no consequence to them. They simply adapt their actions to make their activities possible.

On the other hand, and from Archers “dualism” perspective, larger corporations had the ability and resources to accommodate the impact of the disruptive innovation in their industry. From the mobile app development SME’s perspective; structure, as suggested by Archer (1995), can simultaneously constrain and enable a wide range of business practices. For this reason, the development agency would have to play a significant role in assisting the mobile app development SME to counter the threat of disruptive innovation and benefit from the opportunities that might manifest instead.

In consideration of these facts and the rest of the results depicted in Chapter 4, this multi-factorial strategy model has ultimately manifested in the form of the Disruptive Innovation State Response Model as depicted in Figure 6.1.

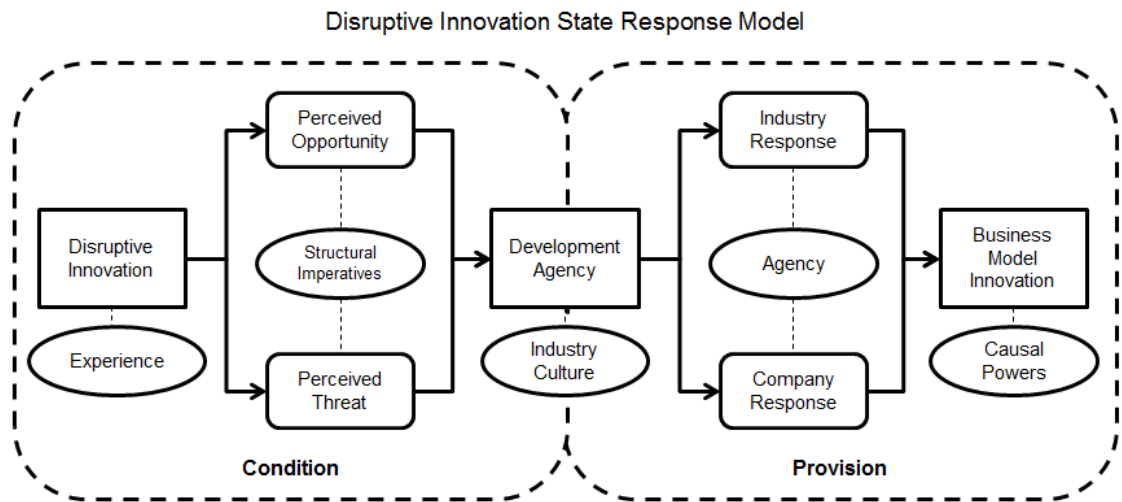


Figure 6.1: The Disruptive Innovation State Response Model

In its simplest form, the Disruptive Innovation State Response Model proposes two states, namely the condition of the company and the provision which is required to respond to the disruptive innovation. It can also be known as a Condition–Provision Model, which at its core proposes that development agency is the link between these two states. Essentially, the model proposes that a disruptive innovation presents the company with a particular condition, to which the provision of the company should be the process of business model innovation.

The great tension is disruptive innovation which the company experiences whether by default or by design. There are two aspects of the condition, namely, a perceived opportunity or a perceived threat. This is determined by the structural imperatives within the company. If the company lacks certain structural imperatives, then the disruptive innovation will present a threat. If the company has sound structural imperatives in place, then the disruptive innovation could present itself as an opportunity.

In understanding its role, development agency has to resolve the industry culture and dynamics in order to offer a template for action for the company. It is the industry culture, after all, that provides the context for business meanings while at the same time also being influenced by these business meanings.

Similarly to the condition, there are two aspects of the provision, namely a company response or an industry response. The appropriate response is determined by agency which refers to the capacity of the company to act independently and to make its own free choices in creating solutions for business problems (or not). The company response may simply be the need to address an internal operation or system in order to respond to the disruptive innovation. On the other hand, the company may be required to pursue assistance outside of the organisation in order to respond to the disruptive innovation.

As an industry response, agency recognises that disruptive innovation challenges, for instance, a company's configuration in the way that the business is able to respond to the disruptive innovation. If there is reform that is required, the configuration of the business needs to be investigated, but the provision will lie in the network of the business. This network could constitute collaboration with competitors. This can mean that a small business may have to partner with a medium-sized business. In this way the business can maintain its status quo and not lose out to competitors.

Alternatively, the company might find itself in a state where all its competitors are fighting and are in a general restructuring state. This calls for a radical shift in which the business has to do extraordinary things. The condition that is called for is agility, and the provision is innovation. In this way the business could achieve market penetration in the industry.

Ultimately, the Disruptive Innovation State Response Model proposes that the company experiences disruptive innovation at different intensities due to different causal powers. It recognises that causes essentially generate effects and that generative relations are a set of causal roles that are involved in the generation of effects. In so doing, the model proposes that the antidote to disruption (technical) must be progressive management by way of business model innovation (social). So the antidote to disruptive innovation is a management response; however this must be understood across the industry in which the study is undertaken. What is required from management is that it needs to bring about a paradigm shift in the way that the whole notion of a business is remodelled.

6.9 Disruptive Innovation Praxis Model

The Disruptive Innovation Praxis Model is a simplified and more practical representation of the relationship between the state of the disruptive innovation and the response of the business model innovation within the real business ecosystem as presented in the Disruptive Innovation State Response Model.

Disruptive innovation tends to develop in low-end or new-market tractions that allow a smaller company with fewer resources to successfully challenge traditional incumbent businesses. It can also impact businesses at various levels, namely, the organisational level, technology level or industry level. Irrespective of the nature of the disruptive innovation, the business finds itself in a particular state within the market and the response to the disruptive innovation should be appropriate to the state in which the business finds itself.

The praxis model consists of two axes. One is the disruptive innovation condition. This consists of feature, function, product/service, and technology platform. Although these concepts exist in their own right, they have never been formed in this disruptive innovation condition paradigm. They are a thematic definition of the disruptive innovation condition based on abductive reasoning of the data interviews literature. These were not only the thematic conditions, but they presented themselves in a particular hierarchical order, namely, feature, function, product/service, and technology platform as represented in Figure 6.2.

In a similar fashion, the business model innovation response has to relate to the disruptive innovation condition by way of response, adopt, adapt and innovation. These are not necessarily new concepts, but have been revealed through retroductive reasoning. The linear hierarchy of the business model innovation response, adopt, adapt and innovate is arrived at by way of abductive reasoning.

Company reform, company restructure, industry reform, and industry restructure present the performance paradigm. Purely inductive, it is suggestive and not conclusive. If, for example, function brings about adoption, it requires company restructuring as represented in Figure 6.2.

Disruptive Innovation Praxis Model

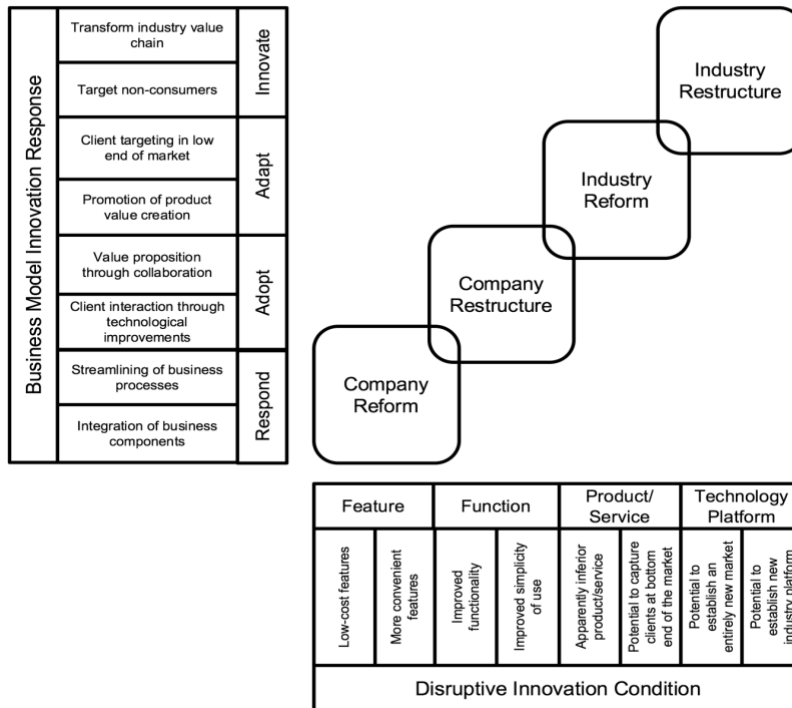


Figure 6.2: The Disruptive Innovation Praxis Model

The Disruptive Innovation Praxis Model proposes that:⁵

As part of its company reformation strategy, when the disruptive innovation condition presents lower-cost features than those of the incumbent, the business could respond through innovation of its business model by integrating business components.

Reduction in the costs of the existing features could mean that all the internal management practices can be combined into one system and not exist as separate components. In this way systems can become an integral part of the company's management system through seamless integration of business processes.

As part of its company reformation strategy, when the disruptive innovation condition presents more convenient features than those of the incumbent, the business could respond by innovating its model by streamlining business processes.

⁵ This is the elaboration of Figure 2.17 in Chapter 2.

More appropriate and useful features create opportunities to reduce complex and irrelevant business processes that may involve multiple hand-offs and re-entering of data. By streamlining these business processes, cycle time could be improved and human error reduced.

As part of its company restructuring strategy, when the disruptive innovation condition presents more improved functionality than the incumbent one, the business could respond by innovating its model by adopting client interaction to benefit from improvements.

Improved functionality could result in not only enhanced workflows with employees but also with customers. This could result in additional innovative products and services, effective marketing, increased access to clients and ultimately a lower cost of doing business.

As part of its company restructuring strategy, when the disruptive innovation condition presents more improved simplicity of use in its function than that of the incumbent, the business could respond by innovating its model by adopting collaborative practices to extend its value proposition.

Improved simplicity of use in the technologies could lead to collaboration within the network of the business with the aim of creating new and unique value propositions based on a unified approach to value creation. This could take place via collaborative networks such as supply chains, extended or virtual businesses and clusters, all of which strive to increase customer satisfaction and business value.

As part of its industry reformation strategy, when the disruptive innovation condition presents an apparently inferior product/service than does the incumbent, the business could seize the opportunity and respond by innovating its model to adapt industry fundamentals to promote product value creation.

In many instances disruptive innovations will not at the outset meet customer expectations when compared with incumbent technologies, as they could then lack certain features or capabilities. Given that they are often less expensive, they would

appeal to new or less-demanding customers. In so doing, a business can take the opportunity to seize market share from established competitors while creating value to the product.

As part of its industry reformation strategy, when the disruptive innovation condition presents the potential to capture clients at the bottom end of the market, the business could seize the opportunity and respond by innovating its model to adapt marketing initiatives to target clients at the low end of an established market.

In instances where the disruptive innovations are inferior in performance to begin with but are cheaper, they become attractive to customers in the lower segments of the market. A disruptive innovation could often take longer to develop and the risk associated with it is higher than with the entrenched innovation, but once it is deployed in the market, it often achieves a prompt penetration and higher degree of impact on the established markets. This creates an opportunity for a business to seize the market share at the low end of the market while improving its product value and gaining more market share, and in so doing, disrupt the industry.

As part of its industry restructuring strategy, when the disruptive innovation condition presents the potential to establish an entirely new market, the business could seize the opportunity and respond by innovating its model to innovate its product or service by increasing value proposition to target non-consumers.

As and when a disruptive innovation presents itself with an opportunity to deliver on a promise of new and added value to customers, the business has the potential to create a new market and value network by introducing new customers to the industry. This is because market leaders tend to avoid the disruption at first, since it is generally not profitable enough and because the new development can shift resources away from entrenched and sustaining innovations.

As part of its industry restructuring strategy, when the disruptive innovation condition presents the potential to establish an entirely new industry technology platform, the business could seize the opportunity and respond by innovating its model to innovate and transform the industry value chain.

The unpredictable and dynamic nature of disruptive innovation means that it could change the dynamics of value delivery in a production or service industry. A change in industry technologies can enable businesses to simplify whole stages of the value chain, resulting in significant reduction of capital and infrastructure costs. In so doing a business could restructure the value chain to offer substantial benefits to the customer by removing or shifting stages in traditionally long and complex value chains.

There is a risk that this Disruptive Innovation Praxis Model could be overly linear and simplistic in its presentation. It does consider that in reality, stages of the business strategy may overlap or never happen. The model acknowledges the myriad of factors that could affect the strategic process as well as each of its components, and the intricacy this involves.

It is not the intention of the Disruptive Innovation Praxis Model to be prescriptive by serving as an evaluation ladder for development agents deciding to grant support to SMEs. Instead it has an interpretive, organisational character in that SMEs can be supported in their understanding and evaluation of the business model innovation required to respond to an opportunity which arises from the state of the disruptive innovation. Development agents can in this way also be directed in promoting the appropriate support to the SMEs.

6.10 Limitations and future research

The scope of this critical realist study has revealed several limitations, but at the same time offered opportunities for future research. These limitations can be related to either the scope or the nature of empirical studies.

The specific nature of empirical research methods could result in potential limitations to the generalisability of the results. This should be considered before generalising the results beyond the precise categories of SMEs that have participated in the study. The SMEs were essentially black and male business owners, drawn from the formal economy and located within the Cape Metropole, which could give rise to a potential sample bias. A potential non-response bias might, therefore, exist since responses

from SMEs from the extended Western Cape and rural surrounds could be different from those of the current respondents.

To demonstrate the generalisability of the results of this study, future studies should, therefore, have a larger and more geographically spread sample as well as a more even distribution of male and female as well as white and black SMEs. Future studies could also involve the application of the Condition–Provision Model, which is integral to the Disruptive Innovation State Response Model, to other sectors beyond the realm of the technology sector.

6.11 Conclusion

The value of this socio-technical study lies in the answer to its main research question which is, “How can a multi-factorial strategy model be evolved to enable development agency to be an augments in the commercialisation of the mobile applications development SME sector through business model innovation in response to disruptive innovation?”

As a doctoral study it sets out to make sense of the structure, culture and agency of the world of the SME in this sector through analyses and explanation, and not merely by describing it. The answer to the main research question lies in the uncovering of the synergistic relationship of its three tenets. The antidote to disruption must be progressive management by way of business model innovation. So the antidote to disruptive innovation is a management response, but this must be understood across the sector in which the study is undertaken. What is required from management is that it needs to bring about a paradigm shift in the way that the whole notion of a business is remodelled. This view is confirmed by the understanding that disruptive innovation is likely more about best principles than best practices, and requires a disruptive approach to management itself (Kaplan, 2012).

The study specifically proposes that for development agencies to better serve SMEs to respond to disruptive innovation, they could make use of a specific multi-factorial strategy model, called the Disruptive Innovation State Response Model. At a more pragmatic level, the Disruptive Innovation Praxis Model is a streamlined

representation of the relationship between the state of the disruptive innovation and the response of the business model innovation within the real business. The development of these models was guided by the views and recommendations of Dumanski and Pieri (1995), Gauthier and Lardic (2003), Linster (2003); Shoemaker et al. (2004), and Sidora-Arcoleo et al. (2012).

These models are based on the theoretical proposition of the Four Quadrant Paradigm Model of Burrell and Morgan (1979). The significance of this doctoral study ultimately lies in its contribution to the discourse on SME success, which in turn contributes to the SA economy. This discourse was guided by the views of Locke and Golden-Biddle (1997, p.1027) and Golden-Biddle and Locke (2007) regarding intertextual coherences. In addition to this, the tools of Meyer and Lunnay (2013) of logic and argument were used to "construct opportunities for contribution". The study ultimately proposes that the value proposition of the research is that a development agency, business person, technologist, venture capitalist, etc. could utilise the Disruptive Innovation State Response Model and the Disruptive Innovation Praxis Model to determine what paradigm the business finds itself in and through its application, make the appropriate response.

Conclusively, this doctoral thesis is original work which makes a significant knowledge contribution by way of a unique discovery of how development agencies should operate in this technology sector, a theoretical contribution through the rendering of the synergistic relationship between the tenets, and finally, a praxis contribution of how this industry might operate in responding to disruptive innovation.

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APPENDICES

APPENDIX A:

Attempts to establish the size and shape of the mobile application development sector in Cape Town/ Western Cape.

From: Errol Francke [<mailto:franckee@cput.ac.za>]

Sent: 08 August 2013 08:18 AM

To: Mayor

Subject: IT companies in the Western Cape

Importance: High

** High Priority **

Dear Madame Mayor

I am a researcher at Cape Peninsula University of Technology and I am trying to establish the size and shape of the mobile application development sector in Cape Town/ Western Cape.

I assume that this information should be obtained from the Economic and Human Development department but there is no obvious contact to be found.

Are you able to give me information regarding the number of IT companies in the Western Cape. Of that, I am trying to determine how many Software Development Companies are in Cape Town/Western Cape.

Your assistance would truly be of great importance to my Doctoral thesis.

Regards

Errol
Francke

The screenshot shows an Outlook email interface. The title bar reads "RE: IT companies in the Western Cape - Message (Plain Text)". The ribbon includes "File", "Message", and "Adobe PDF". The ribbon contains various icons for actions like Ignore, Delete, Reply, Forward, Meeting, Move to, To Manager, Rules, OneNote, Mark Unread, Categorize, Follow Up, Translate, Find, Related, and Select. Below the ribbon, a message header indicates "This message was sent with High importance." and lists the sender as Mayor Mayor@capetown.gov.za, recipients Andre Stelzer and Thembinkosi Siganda, and the subject "RE: IT companies in the Western Cape".

Dear Sirs

Please find subjoined mail and kindly assist Mr Francke or point him in the right direction.

Dear Mr Francke

Kindly note that you email is hereby forwarded to the Directors: Economic and Human Development and Information Systems & Technologu for further assistance.

Yours faithfully,

Marjorie Madubela
Specialist Clerk
Office of the Executive Mayor
City of Cape Town
12 Hertzog Boulevard
6th Floor I Podium Block
Civic Centre I Cape Town
Tel: 021 400 1328

Dear Mr Francke

Your query regarding the number of IT companies in the Western Cape was forwarded to my IT and our Economic Development department.

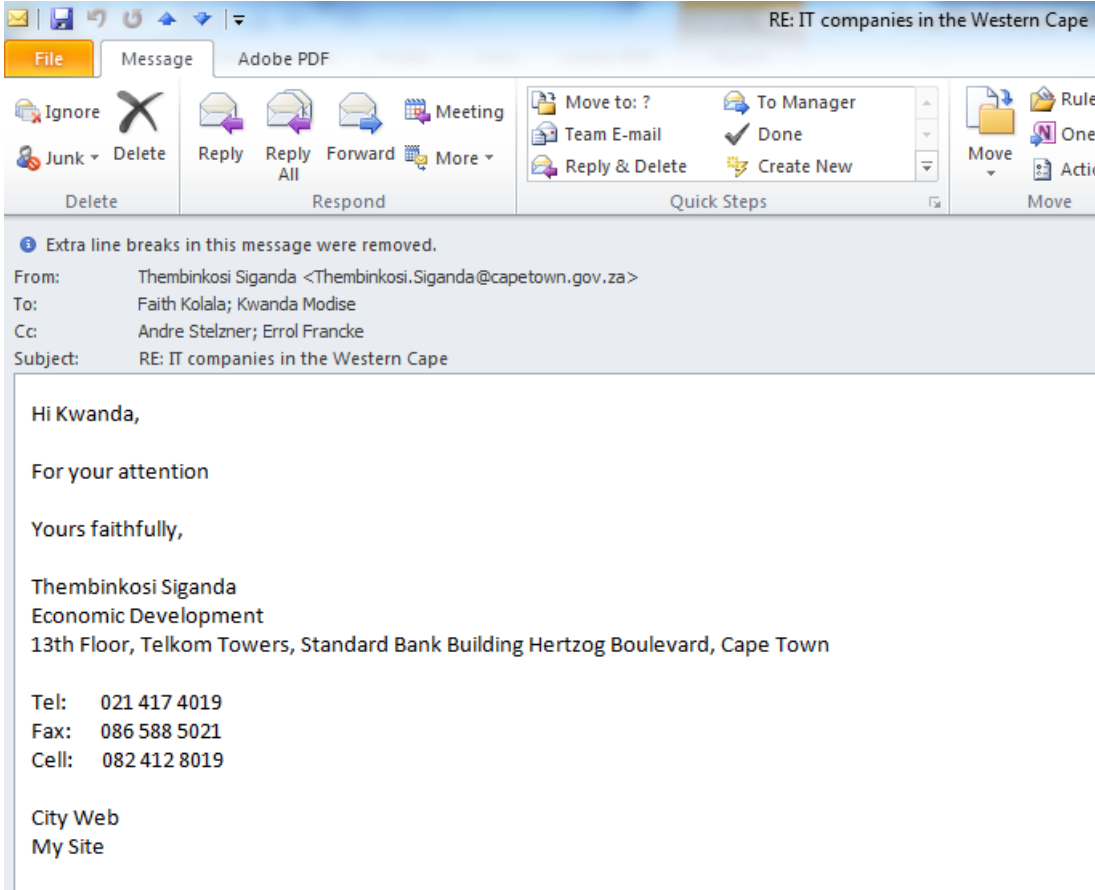
Unfortunately from the IT side I am unable to be of assistance as we have no record of such information and trust that my colleagues from Economic Development will be able to assist.

Kind regards

Andre Stelzner

Director: Information Systems & Tech
4th Floor Podium Block, Civic Centre
2 Hertzog Boulevard, Cape Town

Tel: 021 400 1250
Fax: 086 576 0463



The screenshot shows an Outlook email window with the subject "RE: IT companies in the Western Cape". The interface includes a ribbon with "File" and "Message" tabs, and a "Message" pane with an "Adobe PDF" attachment. The ribbon contains various action buttons such as "Ignore", "Delete", "Reply", "Reply All", "Forward", "Meeting", "More", "Move to?", "Team E-mail", "Reply & Delete", "To Manager", "Done", "Create New", "Rule", "One", and "Acti". Below the ribbon, a message header is displayed with the following details:

Extra line breaks in this message were removed.
From: Thembinkosi Siganda <Thembinkosi.Siganda@capetown.gov.za>
To: Faith Kolala; Kwanda Modise
Cc: Andre Stelzner; Errol Francke
Subject: RE: IT companies in the Western Cape

The main body of the email contains the following text:

Hi Kwanda,

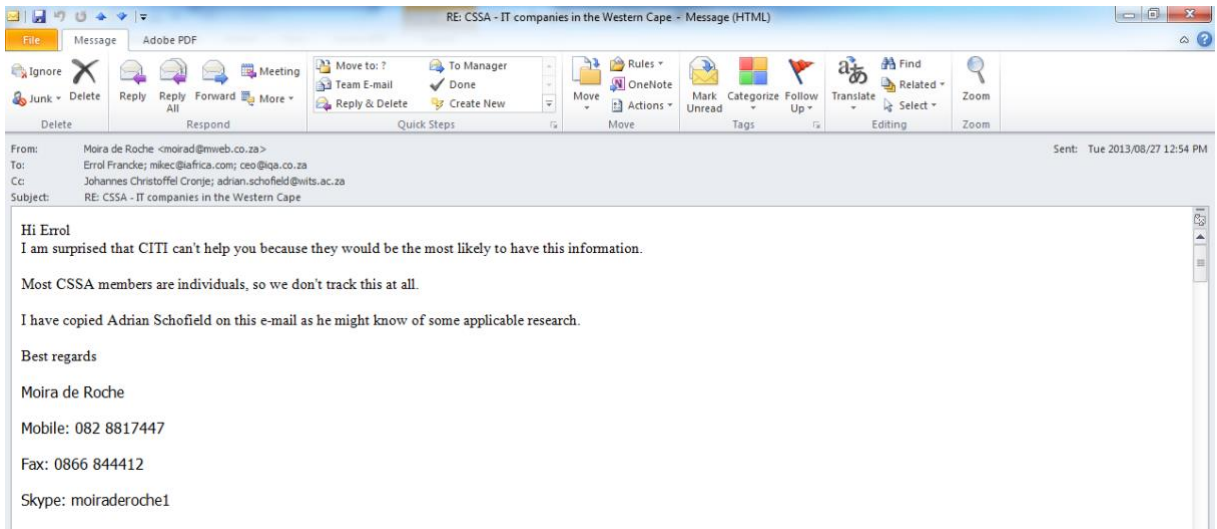
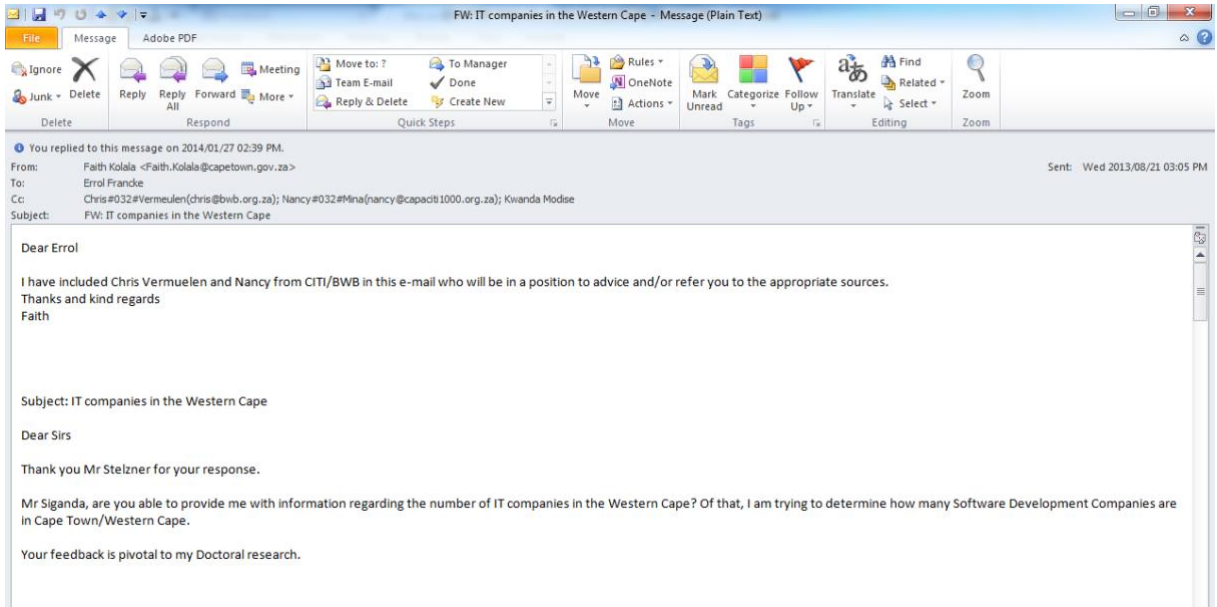
For your attention

Yours faithfully,

Thembinkosi Siganda
Economic Development
13th Floor, Telkom Towers, Standard Bank Building Hertzog Boulevard, Cape Town

Tel: 021 417 4019
Fax: 086 588 5021
Cell: 082 412 8019

City Web
My Site



APPENDIX B:

What are the key constructs of the mobile application development landscape?

Literature Study	Academics Interview	Industry Interview
Innovation in the world of mobile apps is increasing dramatically with an expected market of \$38 billion by 2015. Despite the thousands of apps already having been developed, business opportunities associated with apps are just at infancy stage. The overall market and number of use-cases are escalating exponentially.	The University of the Western Cape and the national e-Skills Institute (Department of Communications) has established the Western Cape CoLab. They established the CodeJam 2013 initiative which strives to provide young entrepreneurs with the necessary technical, innovative and entrepreneurial skills to develop mobile apps.	Four of the seven of the businesses had already been involved with mobile application development projects before. Three of these businesses developed their apps specifically for clients and with the intention to generate revenue from them. Two of these businesses were unable to generate income from their apps after having successfully completing them. Commercialisation is a major challenge.
Businesses will employ mobile apps as they span a host of business functions and processes. A simple mobile app can potentially cover aspects like marketing, sales, and brand building.	The University of Cape Town (UCT) and Samsung Electronics entered into a partnership to develop innovative mobile phone applications in response to unique needs in Africa. The project is called the UCT Samsung Mobile Innovation Laboratory (SMILe) and aims to increase mobile innovation and skills development. This project extends beyond UCT's Information Systems Department and the Computer Science Department and includes local government agencies like the Cape IT incubator and the Bandwidth Barn.	Their largest budgets ranged between R200,000 and R700,000 and their number of completed mobile application development projects were as low as 2 and the highest been 22. All of the businesses designed cross-platform apps and believed that it did not make business sense to design platform specific apps as it restricted the commercial viability if it were designed specifically for Android, IOS or Blackberry.
These phases are conceptually the same for the classical application development life cycle of a traditional information system. Low barriers to entry into mobile development, have attracted hundreds and thousands of developers to what has become known as the app economy. By 2018 less than 0.01 % of consumer mobile apps will be considered a financial success by their developers.	The Computer Science Division at Stellenbosch University (SU) has established a partnership with the South African cell phone company Vodacom. The partnership strives to generate an understanding of mobile application development and to motivate South African students to join the drive in developing applications with South African content for the Vodacom App Store. This is a co-curricular programme and is not part of the formal curriculum of software development at SU.	The majority of their clientele were commercial entities and one business had mobile phone users between 12 and 40 years of age as clients. Commercial entities were prepared to pay between R40,000 and R80,000 for Search Tool Apps, Sport Apps and Travel Apps. Productivity Apps and Calculate/Utilities Apps are more costly and ranged between R100,000 and R1,000,000 depending on their functionality.
if mobile application developers wish to commoditize their apps, a paradigm shift from the traditional business models of "Free vs. Paid" apps or whether to charge \$0.99 or \$1.99 at the App Store and	The Kujali Project of Cape Peninsula University of Technology (CPUT) uses mobile technologies as a channel to provide innovation to those in under-resourced communities in rural areas of South Africa. Their aim is to provide creative and innovative IT-	Technologies used in app development include: CSS HTML5 Java Jquery Mobile Oracle Apex 4.2 Phonogap

<p>other app marketplaces, is required.</p>	<p>based solutions to facilitate basic educational information and access to quality healthcare services. They have created mobile applications on a wide range of mobile devices. This is a co-curricular programme and is not part of the formal curriculum of software development at CPUT.</p>	<p>PHP Xamarin</p> <p>The majority of these businesses outsource one or other function of their Mobile Applications Development project to other entities. Typical outsourced functions include design of the app.</p>
<p>The App Economy has created roughly 466,000 jobs from zero when the iPhone was introduced in 2007.</p> <p>The level of innovation in locally developed smartphone apps shall be increasing, particularly in the area of accessibility and mobile security.</p>		<p>Less scarce skills include: CSS Design HTML5 Javascript Jquery PHP Cake Framework Web Services General mobile application development</p> <p>More scarce skills include: Database Language - Oracle Apex Jquery Mobile Phonegap</p>
<p>A major concern though is the shortage of mobile development skills in SA.</p>		<p>Trends in mobile application development include:</p> <ul style="list-style-type: none"> • Perfect synchronisation between desktop and mobile • More cloud services via mobile phones • Increase in Productivity Apps
<p>The skills shortage has worsened which cause a delay in mobile app development projects, an increase in salaries and the cost of mobile app development.</p>		<p>All but one of the businesses believed that a model which could provide a strategy for enhanced commercialization of mobile applications development would assist them. The model should assist them with the commercialisation of the app once it had been completed.</p> <ul style="list-style-type: none"> • “Give us guidelines as to how to approach this mobile application opportunity.” • “Tell us where to start.” • “It should tell us what skills and technologies are needed.” • “Tell us what the trends are.” • “What phases are involved in the mobile applications development?” • “What architecture should be used?” • “Describe the security considerations since this involves cloud computing.” • “Tell us about design concerns.” • “Inform us about the user interface and user experience.”

		<ul style="list-style-type: none"> • “Help us to plug the gap between the end product and revenue generation.” •
		<p>All of the businesses collaborate with at least one other company when developing mobile applications for at least one of the following purposes:</p> <ul style="list-style-type: none"> • For mobile payment gateways • Mobile marketing • Design of the User Interface and User Experience • Technical skills when they cannot meet the technical requirements of the app.
		<p>Reasons why some were not involved in mobile application development:</p> <ul style="list-style-type: none"> • “It has not been the company focus up to now” • “We don’t have the necessary skills” • “We would need assistance to get us started.” • “We are an SMME. We don’t have the necessary skill and staff to do so.” • “We believe that there are already many players in the space and it is problematic generating an income from the app.”
		<p>Reasons why they wanted to be involved:</p> <ul style="list-style-type: none"> • “Our customers are asking for it.” • “We believe that a mobile device without a mobile app is useless.” • “We believe in fostering a mobile application development culture to tap into the business potential of it.” • “We believe that the future is mobile. It is a niche area.” • “Our clients typically want a .mobi site as well as a mobile app for their present business.” • “We believe that there is money to be made.” • “There seems to be opportunity in mobile application development”

APPENDIX C:

What do you believe the function and value of the development agency is for SMEs?

	Comment	Key Words	Themes	Categories
R 1	As you are saying, it is a business development service so what are you doing is you helping businesses develop themselves, so the idea is actually to provide skills and knowledge and networks and relationships to small businesses, small business owners so that they can be in a positions where they can continuously improve themselves but it is about also empowering the small business to think for himself, to be proactive, the idea is that they must be proactive, possibly reliant because what has happened since 1994 up to now is that there has been a focus on creating more and more small businesses, you will see amongst white entrepreneurs they have grown into being an entrepreneur simply because for generations they have seen their parents and their grandparents running business so there is a culture, so they talk about it in their homes all the time but with black entrepreneurs in the past 20 years of democracy its about evolving, it is going to take a while so one needs to fast track it as well and I see the best way of fast tracking it is creating much more youth entrepreneurs, so you have the entrepreneurs ... the fathers who are the entrepreneurs and a lot of them are going to develop themselves, so my role is then to develop them and help them to develop themselves and to give them confidence, as far as youth are concerned ... they have their confidence already, it is about developing their youth (so you starting a generation and the culture will then be established) exactly and develop the community so uplift the community, I think you see a lot of entrepreneurs come from poorer areas ... that they just surviving and for a lot of them it is about survival and it is about creating that mindset where they should actually look past survival and look to growth in their business (I heard a nice business cycle speak about the survivalist to the subsistence to lets call it the minor economic involvement and then the major economic involvement, where they learn in the minor economic involvement other than supporting myself and the family as a subsistence level, I can now start selling a bit of what I do and then understanding the success of that and then I can start extending that sales to a larger market for instance but it is an evolutionary process that the SMME's go through from just being able to pay the bills in a survivalist to a subsistence where I can now pay my relative's bills to the) ... create employment.	provide a full spectrum of services	Venture Participation	Venture Creation
		support smes	Market Access & Penetration	Market Creation
		evolve sme from survival to sustainable	Traditional Business Model	Agile Business Model
R 2	I think it is a critical role because if you look at the 3 areas that come together that will determine the economy of SA around, its the area of enterprise development, the area of supplier development and the area of skills development, the agencies like ourselves bring those 3 things almost together, where as out there a supply chain manager is trying to do something on his own and is finding all sorts of excuses of not bringing in a new supplier and especially a new black supplier because my existing supplier chain works so why would I change something that does not work ... we work with them, we bring them in here, the same with enterprise development, we go knock on those to let us be your enterprise development support out there, and then the skills development, the training – those kind of things. It is a nice niche area to develop pockets of excellence and if we can turn in our case, we are aiming to be able to incubate 50 businesses in an incubator like this, so if we can do it 50 businesses at a time, you establish at least a firm foundation for these businesses to come through your door to turn into successful businesses, I mean our aim is literally is to get 50% of these guys to become sustainable businesses and although 50% might sound low, the world average is 38%, so if the world average is 38% and	foster stronger relationships between sme and corporates	Market Access & Penetration	Market Creation
		grow businesses	Venture Participation	Venture Creation

	we doing 50% we are doing much better than world average ... we say it is a slow pace there is no hearsay, there is a need for numbers to do it but that is why we got 8 of them, so 8 x 50 that is what we can manage, our current infrastructure than anything else but we think that is the way to go.			
R 3	We have a lot of innovative guys and ideas coming through and its maybe if I can backtrack my view on the broader development space, there is a lot of development going and the issue is really for people to become sustainable businesses that is the only way we are going to grow, its vital for our economy, if we can grow sustainable SME businesses theory says they could at least employ 5 people but it is about getting serious and pushing our SME's to be in that mindset to say 'look at viable businesses'. Coming to the tech side of things, I keep on saying I started a workshop last week with the ?Velocity? program – all just on ideas, we had a class of about 8 and out of that 8, 4 are looking at Apps, the feedback of session 1 was to say 'are we running a practical App development 'I said guys don't worry about the technology there is no rocket science to an App you are not an App developer, you got your concept you want to take it to market, understand the size of your market, you could be spending time and money on a wonderful product that is sitting there and you dont have access to market, so understand how am I taking my technology to market, do I have the right strategic partners, is my technology known in the market, how quickly will there be market adoption. I must tell that our of our interesting incubators at the barn has a company called "Thomson" it is 2 doctors that looked at the whole triage system within emergency units, they then developed an App because what happens if you look at your typical emergency unit, everyone comes in and everyone is critical. The guys, very smart, they developed an App and they were able to run a pilot at Khayelitsha hospital, they reduced fatalities by a massive percentage, so they sitting with scientific data in terms of the value of their system now critical for them is that they are now looking how do you take it to market (because they are medical doctors so they understand the business) they understand the operations side of things but they now need to say 'how do I take it to market" and that is the space that we are playing. Again unfortunately, maybe in closing, if I have to say, there is a lot of innovative ideas there the one is very much dealing with the entrepreneur on a kind of personal level making him understand that it is not a baby, they need to let go, it is managing the personal development and the softer side of things because you are dealing with young 22 year olds that potentially has a product he can potentially be a millionaire in 6 months time and is understanding his emotional wellbeing, his maturity level and actually coaching him to that (why would they not let go, what is it?) there is within the broader text side of things everyone is thinking they creating the next Google, it again comes down to maturity level because he is now thinking I am going to share with this guy, I could be the next millionaire and that is always at the back of their minds (so he stands to lose) so he stands to lose and that is why I am saying maturity level.	grow sustainable businesses	Venture Participation	Venture Creation
		develop understanding of the market	Market Access & Penetration	Market Creation
		develop the business owner	Traditional Business Model	Agile Business Model
R 4	We need to from our point of view, we need to identify what is required to make our province and I am talking from a provincial perspective – what is required to make our province an effective and efficient or competitive in terms of the rest of the country's businesses and globally. We are not only looking at SA the Western Cape has always provided better service delivery than of the other provinces, its now not about only looking at the rest of the country but it is about how we can become competitive in the African continent and what has globally and it is government's role then to identify what is required and then make these available to businesses, that in my opinion is our role, Our role is not to provide service delivery on the ground level, that is your implementing agents,	provide strategic support to SME	Traditional Business Model	Agile Business Model

	that is your Special Purpose Vehicles and non government organisations, there is a number of names given to them, those are the experts, those are the people that manage the funding for us and provide results but it is our role to make sure that we are supporting the right industries from right way with the funding, mainly the funding, just to unlock a whole lot of other services for the SME centre			
R 5	I think the institution can do a lot to everything and they don't worry about the bottom line, you know the (unclear) or making the product better, so I think the business agencies have a role to play in doing the things that businesses wouldn't do naturally, for instance the whole idea of education of entrepreneurs are very important, the idea is probably the last thing in their mind and maybe further support in terms of access to markets I think that need to be facilitated (unclear) and obviously for the industry, so I think they have a role to play to do things that businesses does not have the ability to do entirely.	providing business and functional support	Venture Participation	Venture Creation
		increase market access	Market Access & Penetration	Market Creation
R 6	no comment	no comment	no comment	no comment
R 7	It is very very important because the business itself focuses on selling, focuses on making its name known but in terms of other aspects someone needs to cover those aspects, there is legislation someone needs to actually advise it that the legislation is this now, protect yourself in this and that way, opportunities because it is solely focussing on selling might not be aware of other opportunities – access to information, you can get information on registration on this website or on that website because of the fact that the mind is solely focussing on sales they might not be aware of that, so an agency then covers those aspects.	provide legal support	Venture Participation	Venture Creation
		provide access to information	Market Access & Penetration	Market Creation
R 8	Development agencies for me have various mandates, anything from developmental funding which is where specific groups are targeted for development funding be it preferential rates or whatever other criteria that they do set to offering non financial support and then also access to markets, so to me they play a vital role although there is not a lot of above the line marketing and happenings that happens for these sort of entities and the reason for that is that they have specific target markets, so it is not a free for all and we see that with government agencies and the like of your SEDA's and the idea is with a free for all there is no tangibles there is no deliverables at the end of the day and this is what everyone gets measured on nowadays, what has been the impact ... you have had 1000 entrepreneurs walking in your door but how many jobs has it created, you can record on how many entrepreneurs had sat through a training intervention but what was the real impact, how many jobs were created and those sort of things. So to me, Development Agencies has become very specific who they target and hence the lack of marketing, so it seems to be hush hush but it needs to be very selective but from governments perspective and I feel strongly about this is that government should be putting out the message in terms of this is what we offer to potential entrepreneurs, existing entrepreneurs and be it non financial support or grants or whatever the case may be, and they tend to do that only via road shows, so only a certain number of entrepreneurs would get to have access and who experience it but once again to take you back to my earlier point, if you are an entrepreneur in the true sense you will be looking for it, even before that road show you will be in the office of a government official trying to solicit funding or training or whatever the case may be.	provide financial and no-financial support	Venture Participation	Venture Creation

R 9	<p>In the main the Department of Trade and Industry already provides the business regulation and set out to develop the policies that will lead to and in line with the government strategic objectives of helping toward transforming the economy of working towards industrialising the economy, so our policy from the DTI side are designed to meet those objectives ...national priority, having said that whilst we create the policies and the regulation we can merely provide an enabling environment for businesses in which businesses can flourish and grow, yes through the various mechanisms through the various incentives given we can also provide financial assistance to come alongside and help those SMME's to expand and grow, we therefore clear in this office, unfortunately we do not help start-up businesses, you need to have at least overcome that 12 month hurdle and then you say but I am confirming now that my business is in an upward phase and I need to expand, how can you assist me and that is when we come alongside but it does not mean that I am going to send you away empty handed, I will refer you to the appropriate and I think it is important for Development Agencies that they build up a network or have access to a network where any SMME can come to for information, for education and for assistance be it non financial or financial support, that is how I see my role, otherwise I can go out and become an entrepreneur myself but this is where I find myself now.</p>	provide strategic support to SME	Traditional Business Model	Agile Business Model
		assist in expanding business potential	Market Access & Penetration	Market Creation
R 10	<p>(*Brent in summary, this notion of a Development Agency ... how do you summarise in closing this discussion around it, what is the inherent value and function of the Development Agency in the SMME sustainability*) Well SME's generally require mentorship and I think a Development Agency in a most part must provide the mentorship and I think that is the key element, secondly the access to market creating channels for these new entrepreneurs, SA has how many new businesses but none of them make it beyond 3 years, the ones that do are bought by bigger businesses and that in itself takes away or negates the development, firstly the Development Agencies must create access to the market and there must be mentorship and underpinned by funding, that is the key, you can have a mentorship program and you can have all of things and put them through varsity but if the guy cannot sustain himself then we are wasting our time.</p>	provide mentorship	Venture Participation	Venture Creation
		increase market access	Market Access & Penetration	Market Creation
R 11	<p>When I started myself in business 25 years ago I remember going to the SBDC in Mowbray ... oh gosh! I was so intimidated and the only people who really helped me was Nedbank, they helped me with the banking account with tax clearance and they did everything, the value add that we can add as Development Agencies is again to co-ordinate our efforts, there is so much duplication in the sector that we are confusing business, on the one hand we confusing them and on the other hand we got businesses that are so clever that are taking advantage of all of the assistance that are available. Now when we opened up you said that you realised that this was a close centre we all know each other, yes we do and often we would have a networking forum where we would talk about our challenges and more often than not we would talk about this client that we doing something great with and somebody else would say 'but hey I also supported that client for exactly the same thing' so there are business... and I experienced this throughout my years in the development section who would take advantage, we call them 'tyre kickers' so they will kick against every single tyre and get what they want out of it and that in itself lends itself to entitlement, then on the other hand there are people that just don't know how to access. I spoke to an established businessman, a guy who has been around for ages and I told him and he said where? how? and how come I don't know about it so certainly co-</p>	provide coordinated support to smes	Venture Participation	Venture Creation

	ordinated efforts are necessary in order for us to stimulate the SMME sector and assist in creating jobs.			
R 12	<p>The TIA has identified that its role and functions that they need to play is as a connector because we know that we will not be able to do everything, a facilitator of follow on funding because we know we will not be able to fund everything, as a champion basically of funding and providing the risk appetite basically to enable the SMME's out there and trying to actually make an impact into eco system as well because the eco system is fairly important basically to assist SMME's sustainability in future.</p> <p>(*I will definitely interrogate this notion around the eco system because I can see it has become something that is important to you*)</p>	act as facilitator and champion	Venture Participation	Venture Creation

APPENDIX D:

As a development agency, how would you go about ensuring that a business interrogates the ways in which it conducts its business to enhance its service offering?

Comment	Key Words	Themes	Categories
R 1	(so there is many ways of attaching onto the 'how' obviously, you believing the 'how' is about the education and preparing) I agree with you.	business education is very important	Venture Participation Venture Creation
R 2	(so even that ... now how do you challenge a convention ... as it is a 40+ year old business owner and has that stereo typically that conservative business, so how would you change that or address this) its again about that interrogation, its really about the interrogation ... so I would typically ask that person some simple questions and I would start with some of the most obvious ones to make them uncomfortable... for instance you will see you have been in that orientation session now and some of the questions we ask 'so what was your turnover last month' and 'what was your turnover last year' and the conservative nature of a South African will be 'why do I share that with you' and our response normally is if you cant share that with anyone you don't know ... it is as simple as that, I want to do business with someone who knows their business inside out ... I can tell you last month I have made R15000.00 that is my turnover or whatever the case may be, why must it be a secret? what do you think is going to happen to you or with your business if someone knows exactly what your turnover is? ... now really, so the conservatism is tested by interrogating you and on some of the basic stuff about their business. Who is your target market? .. we ask simple question like that and most often the answer that comes through is ... so why are you here then if it is everyone because if it is everyone you must be making enough money and people are queuing up for your service or your product, so that 'how' is again by interrogation and showing the conservative business owner that their conservative thinking is actually holding back their business, so its literally by showing and telling, often people even if they got a sign up ... if you meet them some time later they would say 'you opened up my eyes to something that we have not thought of' and it is not as if it is rocket science ... I mean one of the biggest examples I can mention is –how often these businesses that come in here – how often they running their business account as a joint account for personal matters and there is no clear separation of that is business and this is personal so why cant I buy Kentucky from my business account and play with it as an entertainment allowance, we say just the fact that you are thinking like that is already a problem, so we encourage them to – it doesn't matter whether you transfer R10000.00 out of your business account into your personal account, just do your personal stuff separate because if you transfer R5000 into your personal account you can run it up part of your salary and there is an entry there that makes people look at your books or if you apply for a loan and they get the financials, it isn't in a mess, and it is about encouraging that kind of thing, so again all of it comes back to showing them really what is happening in their business by interrogating and asking questions	understanding the business in its entirety	Traditional Business Model Agile Business Model
		conservatism holds the business back	Venture Participation Venture Creation

R 3	<p>I must relate to you something that is fascinating and something that I need to watch now is the SA Breweries sponsored Carling Black Label match between Kaizer Chiefs and Pirates ?view? the coach, its going to be the 3rd time it is running and I think it is in the next 2 weeks. Year 1 you have a million sms's, year 2 – 22 million sms's, so I am keen what is the number now, so understand that market of 22 million sms over 1 game. If you look at the way that campaign is run, its very much sms the understanding the LSM groups – its not going to be an App. So lets look at FNB in terms of technology, again innovation and being text savvy is the way they go to market but that is where the buck stops, I can talk about it because I am an ex banker (are you suggesting that the LSM Group for FNB is not Capitec) no its not, remember they are transactional based, they are not a lending bank, never been in the market, we push technology we want to be the bank of choice in terms of ease of transaction –full stop. We are not saying we are going to give you a loan for your business or we are going to fund your house – no. These are technology, we have also then been creative in terms of our loyalty, ebucks is the oldest and first loyalty program, technology and innovation (so they understand their markets that is what they saying in both those cases, FNB and the Carling Black Label example)</p>	understanding the market is critical	Market Access & Penetration	Market Creation
		understanding the customer profile is important	Service Deployment	Service Innovation
R 4	<p>(so how do you address that as a development agent, I guess it is going to link to other statements you made already but how would you address this idea now of approaching businesses to improve their service offerings, what would you typically do as a development agency?) I think a lot of the Special Purpose Vehicles are also out there trying to inform (unclear) certain people about the changes in technology and how it is affecting doing business, but that is all they can do, they cant change attitudes, yes there are those that get left behind are those that are stuck with the same attitude and same approach to things, unfortunately in a competitive environment it is also what is required, it sifts the weak from the strong and there is always going to be that wave coming through to kill off the weak and it is necessary because you have then a growth of strong business and industries and sectors just become stronger but while they have the weaker ones they going to get dragged down, there is a perception they not be efficient effective but sometimes it is just those that refuse to change. Its like a depression, its a bad thing, people lose their lives they lose their livelihood and all kinds of bad things happen but the results that come out of that stronger more effective more efficient businesses, governments etc etc and this is probably one of those things that we need to accept, it is generally people that have had made lots of money out their businesses that are older and it is not a bad thing that they step aside and simply just take retirement.</p>	important to improve the service offering	Service Deployment	Service Innovation
		A change of attitude and approach to business is needed	Traditional Business Model	Agile Business Model
R 5	<p>How you would resolve that is to ... what you would find is that there is a (unclear) of strategy ?thinkers? within businesses that their strategy of a business is not there, as you saying businesses are just run (from day to day and there is probably justification for that, (I mean you are sole proprietor involved in the business with his whole body in the trench probably day to day) exactly and you don't think about the next 50 years (or 3 years down the line) and that could cover the example that if there was a lot of thinking about the future maybe they could have saved themselves so I think it is that lacking in SMME's apparently there is no strategic (so you suggest that you could add the strategic support as a Development Agency) from a point of view of assisting them with understanding the environment they operating ahead of time.</p>	a clear and effective business strategy is needed	Market Access & Penetration	Market Creation
		SME needs to understand the business environment	Traditional Business Model	Agile Business Model

R 6	Act as an objective assessor of the company and its gaps as well as its business model i.e. financial and technical as well as where it is in the market. We would use Productivity SA for such studies since we are in itself not experts in all fields.	interrogate the business and its model	Traditional Business Model	Agile Business Model
		conduct market analysis	Market Access & Penetration	Market Creation
R 7	Through our training programs we do have training such as secretarial offering the do's and don'ts, customer services training, HR and how to understand the clientele behaviour, so those training in any way they then assist in terms of ensuring that business owners are actually aware of their offerings and how to conduct themselves in terms of those particular offerings. (so it is around the customer service management assistance that you can support them with)	improve business functions	Service Deployment	Service Innovation
R 8	(*so how do you think as a Development Agency you could assist, people like us, we are not born frees, we think and having looked at us recently, how do we change that business mindset?*) to me it talks to operating in that circles, operating within that network and it does not need to be in the form of a partnership or a (unclear) as we said earlier on but it could be just in terms of networking, in terms of like minded people and I just read a quote now the other day 'interact with people who is not your age, people who don't have the same interest as you because that is the only way you learn' and this is exactly the same so I have been operating a business for decades and my like minded friends and colleagues and business partners operate on the exact same platform so how do I change that and it does not need to be restricted to a sector, so I am in the consumer goods environment so that is the only people I interact with ... you got people up and down the supply chain, it does not necessarily have to be your particular business industry or sector and once again look at ... I don't think we have any borders anymore within Africa or even the world and it is so easy to interact via skype or whatever and I mean social media plays a huge role and to me those are things that could be utilised and capitalised on in order to change your own individual business service offering.	smes need to exploit their networks	Traditional Business Model	Agile Business Model
		explore alternative methods	Traditional Business Model	Agile Business Model
R 9	now in support of that notion I want to pose the following and in the new amended codes we talk about merging enterprise development and preferential procurement into one code and it become Enterprise Supply Development, my thinking and why I am so keen on pursuing that is that you have a big brother corporate Telkom, Old Mutual, and they will take their suppliers or potential suppliers and put them through a dedicated program in which they will develop and assist and nurture and if it is done right you will have a stream of well developed and supported SMME's, so that for me would be ... then it is almost like 6 of the one and half dozen of the other, you are not saying that the big corporates go off and die but help to bring about the development and support the development of SMME's and that is how it could come about (*and obviously that process would have to be monitored and controlled in terms of compliance and all of that*) but that is for me what the intention of this amended codes would be and companies may see that as something new that they need to comply with but if they look beyond that it is merely the compliance part and then they can actually see that you are strengthening your value chain ... and that was what Raymond Ackerman, if I can use him as an example, Raymond Ackerman when he started out Pick n Pay he realised soon that he cannot be held ransom by suppliers so he took control of his value chain from the farm where the stuff is planted to where it lands in the shop where the consumer comes to purchase it, he had to have control over that entire value chain	utilise corporate to grow smes	Venture Participation	Venture Creation
		understand the entire value chain	Market Access & Penetration	Market Creation
		understand your product offering	Product Deployment	Product Innovation

	<p>and that for me is the intention here (*I think Bidvest as a company is a prime example, they actually do vertical integration, they just buy everything and have super control over that *) but you dont want to also create ... and this is what I told guys yesterday at the institute for the blind, we had a meeting there, a question came up 'what is your long term strategy because opportunities are now coming left right and centre and sometimes you are so overwhelmed by all of it that you want to jump on every band wagon but forgetting what is your key focus, what is your reason for being and whatever comes your way does it support or add value to what your strategic objective is and one should not lose sight of that because otherwise you become so quickly side tracked by wanting to be and some companies plainly tell you that we are in the business for mass production so we do not customise, we do not customise because these are our product ranges and therefore that is what ... and other companies would say 'we small enough we can customise we can specialise and one has to find a happy medium.</p>			
R 10	<p>(*you touched on this, speak to me about your views around this conservatism in South African business*) SA is a very sensitive market, I think it is sliced in 3, I will give you a typical example ... if you look at the amount of what the average South African earns I mean there are challenges today, the likes of the CEO and what he earns versus the average per capital income for a family, if you look at 2005 when I worked on the (unclear)reports specifically around the average of capital income of a family and what that would mean to create one additional job, so if you say that it is average per capital income for a family and in SA today a family constitute of one or two things, there are more of those than there are moms and dads, it is still under R4000.00 per month at today's standards, so when you speak specifically around the conservative nature of South African business the development programs and the SETA's and all of those guys that create training, they feel their role is to train but their role would be training and the alignment between skills that are needed in the workplace versus the training, so they never asked the question about adaption of a module, they just trained because this is the module I have been given but you will find that the training of (noise) so by the time I am done with my years internship I still cant get a job but government can wash their hands and say but I put you on a program (*trained for unemployment*) that is why you talk about the EPWP, a lot of kids are working on that program, when the guy has maybe spent 1 year at SAA learning to be a pilot he drops out ... I think the other challenge in SA is that you got university and my big concern is that I have looked at the acceptance criteria for various universities ... your challenge is that 33% is real, 35% is ok for some areas and sectors of society but my child has to have a 50% or 60% pass rate, they have the same entrance and I dont know as that I feel is completely out of prejudice because what is happening that kids that are now applying to go to varsity and I go back to my first statement, English is our business language but it is not his first language, when a child cant even spell his mother's name or their address for acceptance on the registration documents, how do you think they are going to get through 3 years... so that is the first element and secondly you almost creating a failure environment a culture of failure because the child is going because everybody else is going to varsity but he cant cut it and I think our biggest challenge in society today is the migration of (noise) from the historically rural environment in Cape Town. We are now saying that from the Eastern Cape to the Western Cape people come to varsity and tertiary institutions here, the problem is that they dont cope, they graduate here but they want to stay in the city because they are not going to have a job when they go back, so they start doing other things which means that we have got</p>	understanding the market is critical	Market Access & Penetration	Market Creation
		understanding the customer profile is important	Service Deployment	Service Innovation
		encourage collaboration	Traditional Business Model	Agile Business Model

	<p>this massive brain drain and then the kind of pressure of the recess is local, so when you talk about South African business, you looking at investment into entrepreneurship to the focus around, do I create these 5 people in a class to create a business ... don't create jobs create a business because a business creates new jobs and I think that in a way as society today we need to create jobs but we need to create businesses to create jobs. Yesterday Robert Mugabe did something interesting and said exactly what I have been advocating for many years 'Africa must move away from the need to rely on aid' because we have everything we need here but because we get aid we dont have to work on it, so there is between the African business environment when I go to university and I am a black graduate, there is almost an expectation that I need to be accepted without having to perform, you almost have an obligation to me and I am saying let us take society in general, one element that creates the entrepreneurial ground, the other element create a technical aspect, the other one creating the market aspect and create those pods on the campuses, so if I take from each faculty 1 person and create a pod (multidisciplinary) I learn about the technical things I dont learn about, I learn about the marketing and then we say right when I leave I created this pod of people that my study group is now universal, now we create a business because we trust each other as we have been 4 years together (*so we all dont think alike because next to me is sitting graphic designer etc with a common objective*) so now we develop that and it takes away the reliance of job creation but it creates the innovation, remember it is how we go to market and think now if you took 5 or 7 pods like that, the chances of all 5 of them succeeding far outweighs them as individuals succeeding, but in SA generally we dont think like that because it is too conservative, so the conventional thinking is to go out the window (*because it is obviously not working ..*)</p>			
R 11	<p>so how are we going to assist ... peoples cultures and customs... that is something you dare not interfere in and I think communities normally work out those challenges themselves and no government agency or other support networks can influence that.</p>	<p>understanding the customer profile is important</p>	<p>Service Deployment</p>	<p>Service Innovation</p>
R 12	<p>So I think that there is a role for business mentorship and coaching which is quite important and I think for where the TIA is at this point in time, in our management of applications for funding our very experienced staff kind of hold the hand and co develop that application form, it kind of meet our needs as well as our assisting the applicant to think about more than just the product, think about the business model in its entirety as a whole, think about freedom to operate and that kind of thing, so the service component is important as well and I think funders have to think about their positioning around service component and whether on the route to market once their product has reached the market is 'how' it service and how people engage with their customers and how that is sustained.</p>	<p>mentorship and coaching</p>	<p>Traditional Business Model</p>	<p>Agile Business Model</p>
		<p>understanding the service offering is important</p>	<p>Service Deployment</p>	<p>Service Innovation</p>

APPENDIX E:

Why do you think that it is crucial that a business interrogates the ways in which it conducts its business to enhance its service offering?

Comment	Key Words	Themes	Categories
R 1	interrogate the health of the business	Traditional Business Model	Agile Business Model
	understand market challenges	Market Access & Penetration	Market Creation
	understand obstacles to growth of the business	Venture Participation	Venture Creation

	<p>must educate yourself, it does not matter if you got standard 8 or whatever but then go for training and educate yourself and I see that ... yesterday I facilitated a workshop in Philippi where there were about 15 small businesses and they are all people who came there because they have no financial management or accounting but they are educating themselves and they are succeeding but they just breaking even, but if they are equipped to understand how business operate and what they should be looking at then they would probably not be conservative because then they would go out and take risks simply because they know it is a calculated risk and they understand what is going to happen.</p>			
R 2	<p>This is probably of the questions the one that I agree with most because interrogation is an integral part of innovation, I live personally by it and in my philosophy it says 'challenge conventional thinking' because that is true nature of innovation, its like asking my staff to consistently ask the question 'why are we doing certain things in the way that we are doing it' answer that question for yourself and as soon as you have answered it the next question should be 'why am I not doing it differently' because if I can consistently ask myself that question, I will continually improve my offering, business have to do exactly the same thing ... improvement. So it is interrogating the way that you do with the 'not' consistently because by doing that you will improve it and the statement is correct that the intention is that there is this conservatism, the conservatism comes from ... lets call it the collective DNA of what SA is and where we come from, so there is this pluralism, there is this polarity within SA of us and them, it has always been like that, the black and white, there are always these polars you know black people black communities have a particular view and it is almost always and necessarily a conservative view ... and there is pockets of people that are seen to be outrageous and those are the people that are thinking outside the box, those are the people that are merely truly innovative and coming up with wonderful ideas and that is why if you look at the number really innovative things that have come out of SA, there haven't been that many, not that there haven't been really good ones, there have been really good ones as well, but it is because of the conservative nature of the South African DNA and I think you will see over the next decade that would prove significantly as people or as we come out of this ... we are now a 20 year old democracy so we becoming a young adult now but with a very bad past and that past has caused us to be like this and it has an impact on all spheres of society including business (so you reckon the youth will crack that) I think the youth are already cracking it, the youngsters are coming up with innovative ideas ... I met a couple of months back I met 2 young girls who is running an internet business, a fashion business on the internet and they still at school... so already the young people are beginning to think of ways of doing things, that is perceived by others as how do you that ... and it is simple, just like the Nike thing says 'just got to do it'</p>	interrogate the business model	Traditional Business Model	Agile Business Model
		conservatism stunts innovation	Technology Acquisition	Technology Innovation
R 3	<p>If you look at the South African market in a large degree, lets look at the mobile space where the population of 50 million people there are only 6 million Smartphones, so we have to understand it is a numbers game at the end of the day, any corporate would look at the following and say 'fine show me the size of the market' so I would say and if you look at the conservative approach of SA businesses understanding that the actual market is relatively small, so let say Smartphones out of 50 million were sitting on 20 million then it is a different game, your reach with your client is easier so it comes down to simple numbers on that side of things so lets not view it in terms of a conservative approach, I think the way SA business looks at it is simply from the numbers point of view.</p>	understand the market	Market Access & Penetration	Market Creation
		understand how to service the client	Service Deployment	Service Innovation

R 4	<p>Maybe it is a generation thing. Basically business owners are still from an old generation that have become use to dealing in traditional ways in doing business. There are a lot of people because of technology has changed so fast and has left so many people behind, not only in the use but just the understanding of technology has left a lot of people way behind and instead of them adopting the new way of communicating, marketing and selling, they have not done so, so I think it is a generation thing in my opinion, it is just people that cannot change and in effect has not been able to keep pace, I mean if you look at the way things are sold nowadays, so many products and services are sold on the internet in various platforms, it is amazing and many businesses are becoming completely obsolete, redundant business models, because it simply is not the way to do business anymore but the person running that business is the old traditional business person who believes in face to face interaction with the client etc, and that is not a bad thing, many businesses still require that but there are some that don't at all because the new generation, the new market, the new purchasing power out there do the (unclear) thing differently, its a lifestyle change, they don't have time to go the shops because they working for 8 9 or 10 hours a day, they do their shopping at 10 o'clock at night online, any business selling whatever they need needs to consider that, gone are the days when you are spending 25 30 40 thousand rands on rental, that money is put into a platform that is online, now you ask someone that is 65 years old and running a business for the last 50 years to start adopting this new way, that person would be best to shut that business down rather because they are not there to adopt the new of doing things, technology has changed extremely fast and left even people of middle age, not older people, completely in the dark because it evolved so fast, I don't think I am answering the question but in my opinion that is one of the things why businesses appear to be conservative, its not beneficial to them in my opinion, they are failing to change with the times .</p>	conservatism stunts innovation	Technology Acquisition	Technology Innovation
		review the business model	Traditional Business Model	Agile Business Model
R 5	<p>I think it goes back to the understand of business that a product should never define the business that it ... so I think that they tend to think that because you developed or created the product that it should be just that and also the lack of education is a huge problem and diversifying is something that is not understood and how do you utilise your current product or service corporation in different markets, I think that is the 'why'</p>	a product should not define a business	Product Deployment	Product Innovation
		understand market needs	Market Access & Penetration	Market Creation
R 6	<p>Constant reflection is important to ensure that you stay relevant. Reflection also allows room for making changes to the business model or product/service range. Reflection should be of two types: in-house as well as facilitated by an external, objective party.</p>	constant reflection of business model	Traditional Business Model	Agile Business Model
R 7	<p>A business has to be aware in terms of the behavioural patterns of its clientele, it cannot just sell as usual, there needs to be an understanding of the perceptions where this clientele is coming from and how to ensure that it offers excellent customer services, so it definitely means to have that because if it doesn't, there is competition outside, so they might end up losing in terms of business, they there to treat the customer as if he is the last and that particular customer will tell others, hence now you will see that there are businesses who have got (unclear) to six month satisfaction guarantee etc, because they want to satisfy the customers inasmuch as possible because the markets are very very tight, so whoever then gets</p>	understand client perceptions	Product Deployment	Product Innovation
		understand the service offering	Service Deployment	Service Innovation
		understand market needs	Market Access & Penetration	Market Creation

	the particular market needs to ensure that I don't lose this market.			
R 8	I think our country's history definitely has an impact there and especially on customer service more than anything else because that ultimately leads to service offering as a whole so yes definitely very conservative although to me I have seen that the younger generation *born frees* they tend to have a different outlook on life and especially when it comes to business and how they interact, so again it is probably the older businesses or the longer serving entrepreneurs that are stuck in their ways.	understand customer service	Service Deployment	Service Innovation
R 9	I think that as society evolves... from a business perspective we need to either keep track of the developments so that you dont fall behind and that is why it is necessary, the 'how' I may not have the full answer, however I am also of two minds whether the DTI and government has this policy of SMME development, small medium micro enterprises is what is going kick start the economy, however I recently sat in a economic policy dialogue where a professor from Brazil is currently with a London School of Economics actually gave a very convincing reason why it is not SMME's that is going to drive and kick start (*wow that goes contrary to many ...) and he support that and he said 'what does happen is that larger businesses also evolve, they make changes, look at IBM had to change from main frame to micro computers but IBM is still in business' and he used that example that it is the large corporates that has the opportunity or potential to actually drive SMME development.	foster collaboration between SME and corporate	Venture Participation	Venture Creation
R 10	The first word that comes to mind is compliance. I think SME's by its very nature tend to feel that we will get there and when I get a client then I will be compliant and the risk that they take is a catch 22 for them because you cant get the client because he is going to ask you for the compliance documents upfront. Also forming a joint venture with a bigger brother is quite (unclear) because most corporates force compliance, if you are left to your own devices, compliance is not an element that you are concerned about, paying taxes they dont worry about because they will tell you that they dont take salaries but you need to set up from a company and certain company's are very strict, you know SA is getting quite strict and SARS is very good but you know if you think about SA there is 650000 registered businesses in SA and probably less than 10% of them trade and a lot of that reside with the SME's, it is to have a good idea and buy a shelf business and after 2 years or 3 years it cools off because you are not paying your registration so those elements are real, when you talk about the business model and the service of it ... understand your clients needs not your needs, try not beat up everything to everybody because there is a certain level of thinking the guys say 'customise' a nice IT word and the concern is that by the time you develop a whole new product for your customer, he doesn't want it anymore because now it is something he could have bought off the shelf, so also think about things like that, especially the client who thinks about total costs of (unclear) especially when it comes to licensing and ownership and maintenance, the minute a client buys a product you already at phase 2 or phase 3 in terms of your R&D on the upgrade of that product because how you keeping pace for the changes, the SME dont have the funds to do that so client and people steer away from buying stand alone items or products that stand alone that is not customised or customised at all because once its life span is gone in 9 months, what then (*so they want longevity of the product*) exactly so when you talk about the business model, nothing really in SA today works beyond 3 years, the technology guys ... there is no more contracts for 5 years, they can do it for 3 years because in 3 years the world could have changed in the technology space,	promote compliance	Venture Participation	Venture Creation
		foster collaboration between SME and corporate	Venture Participation	Venture Creation
		understand the product life-cycle	Product Deployment	Product Innovation

	so there is this big awareness by just seeing how SME's you can develop if you can retain them for 3 years from where they start, because innovation is so fast – from point 1 to 3 years- the guy is impatient, he learns more in that 3 years in a work space that he would being at varsity for 5 years so also his exposure to people, innovation hubs are designed so that information can pass from one to the other, the transferring of information is on a need to know basis .			
R 11	I must agree with that tension there is conservative in South African businesses. We are not willing to share and there sociability influence definitely, it does have a great influence on that statement, you even got into townships and businesses who seem to be prospering rather move out of the area, they dont want to stay in the area because they will be targeted not only by crime but by family members and friends who sees that there is a little bit of money there now so there is success and I can go and borrow I can go and get and I dont have to work because somebody else is being successful so dependencies and entitlement are being perpetuated all the time,.	lack of collaboration stunts growth	Venture Participation	Venture Creation
R 12	I think it has come about because of our legacy in SA ... our culture, but that they could even be microcosm cultures depending on sector upbringing, level of understanding, knowledge, courage ... there is a degree of heart smart guts and luck that comes into it as well because ... and this is why TIA believes that it is really is important for the development of the knowledge economy away from maybe a resource based economy in SA, the knowledge economy depends on services as well and the ability for entrepreneurs and businesses to provide particular services in collaboration in connection with the products and innovation that they are also offering, a company that is doing that very successfully is Kapa Biosystems, they selling locally developed product and innovation to international research markets, beautiful products, innovative products and there is a local service centre ... so why it has come about is because of culture development but also I think there is quite a degree of and especially in the SMME market there is a change around the entrepreneurs ability to basically focus on the service aspect of their value proposition because their focus generally is about making a product to fit the need of their markets but not think about how they are going to deliver that or support that delivery as well	development of knowledge economy	Service Deployment	Service Innovation
		promote collaboration for innovation	Technology Acquisition	Technology Innovation

APPENDIX F:

As a development agency, how would you go about ensuring that a business pursues the research and development of new products to ensure its sustainability?

Comment	Key Words	Themes	Categories	
R 1	I think ... assuming I have a client who wants to create a new product will come up with a new innovation, I could introduce him to a competitor who is also a client of mine but maybe because i introduced the two of them there could be some trust, there could be a trust relationship because it comes by referral and they trust me and my credibility and they would want to talk to each other, but it is just about bringing them together and the important thing is that they must be convinced that they are not going to lose business and I think that is key, if you are going to lose business to your competitor why do you want to talk to your competitor, but if it going to benefit both of you ... if the innovation is going to benefit both of you then it is worth talking to each other and to work together, you could even work together in a joint venture because you might have 2 small entrepreneurs but if they pool their skill ... it could be the same product, the 1 is the innovator and the other the manufacture capability and he has the staff and networks etc then you could pool your resources and form a joint venture.	promote collaboration to foster innovation	Technology Acquisition	Technology Innovation
R 2	What we do here is we have actually established a collaboration forum for SMME's and in that forum we encourage them to share, so what are your troubles you are currently having in your business, what are the sort of things that your customers are saying ... share those kind of things and collectively discussed it and we find solutions for it instead of trying to sit there all on your own and trying to figure things out on your own and you might just come to some solutions but collectively you will come with more solutions and I always say that if you sit with any problem, think of more than one solution, by the time you get to the third one you will find the perfect solution and if you do it in a group, its even better, because I think about something differently than you do because my frame of reference is different, my education levels are different, my experiences are different, so therefore no two people look at something and will respond in exactly the same way, the more we open it up for them the more options you are given	promote collaboration to foster innovation	Technology Acquisition	Technology Innovation
R 3	(so how do you bridge that gap?) its again very much concept , I go back to our previous point with the technology it is no longer the competitiveness ... if I have the concept and I have potentially a client in mind that I am going to pitch, is keen to understand who is my development partners first, you having some innovative engineers, you having IT companies that focus on technology, they have a department so it becomes some trade off, these guys are then filling the space or lack of space or the lack of roles of the VC's and they kind of playing 'you know what we will develop your alpha prototype, its fine, we will catch the R&D we will catch the development but you know what we take equity but it is again about testing the commercial viability of that concept. I must tell you what happens in our space. We e sit in competitions and you can almost see that guys are looking at concepts that may be working in Europe and the States but it hasn't come here to SA yet, so we are not innovating we are imitating and we are localising it and there is nothing wrong with that as well. (I hear you, China has made a success of it) exactly there is nothing wrong with it. Understand the concept works in the States, it is easier from me then to go to a development partner and say 'you know that market is there in the States" I	promote collaboration to foster innovation	Technology Acquisition	Technology Innovation
		understand product life-cycle	Product Deployment	Product Innovation

	must tell you quickly and it is a side track. One of the most fascinating appliance that the ?The Barn? one of the tenants there is Uber (and has created worldwide controversy) I can tell you now the guys dominated the Cape Town market by easily 70+, probably 70% of the taxi operators in Cape Town are on Uber (yes I used 2 in Europe with my previous trip – wonderful service) so again and that is within a space of 12 months so understand that we are talking about your earlier point of business modelling disruptive forces, look how quickly that has taken off (absolutely and you had an entrenched meter taxi industry that has been doing it for years)			
R 4	We as the department provide funding to Special Purpose Vehicles but these are experts that are driving the agendas for specific sectors. The food technology unit for instance, once again I go back to them because they are a classic example they are being funded by the provincial government, they get provided with funding through our sectors unit and in that way they are capacitated to assist businesses, they assist businesses with research, with literally the same kind of assistance that the new project, the Design Seed Innovation Fund will be doing at CCDI where they providing businesses with funding and all the different types of assistance required to take their businesses from an idea to research and through to commercialisation, they have assisted a number of businesses needing testing they looking at new products, launching of new products, commercialising them, getting onto themselves at your retailers, this appears to be gateway not only for Western Cape business, I understand there are a number of businesses coming from across the country to this unit because they are so successful and effective.	provide full spectrum of financial and non-financial support	Technology Acquisition	Technology Innovation
R 5	(so invariably you have already discussed 'how')	promote innovation rather than adoption	Technology Acquisition	Technology Innovation
R 6	That's the stuff we are made of. We have the physical facilities, some staff and a plethora of highly qualified academics in the food and related sectors. This enables us to conduct serious R&D both as free-standing projects but also as Master and Doctoral studies, sometimes bringing down the costs of such R&D.	encourage and support R&D of new products	Product Deployment	Product Innovation
R 7	Because of the fact that we are in the process of having stronger ties with institutions of higher learning because we believe that as the Chamber we can not be running in isolation, we need those stronger ties and we have already spoken to UWC, they have come and made a presentation about some joint initiatives with someone sitting in our portfolio, I have had some interactions with Stellenbosch University and CPUT, so it is very important that the recession development is supported but of course as the Chamber we cannot do on our own, we have to make use of specialist in that field which is in this instance institutions of higher learning, there are companies that specialises on that, so them being members of the Chamber they need to ensure that we are able to fulfil that role. (so again it is a facilitation role that you are playing in that regard. I am sure that you can acknowledge also that the corporates have access to all of this, they've got the educating units that do research and development and that does not appear to exist for SMME's but you are quite willing to play that kind of role for them.) Because of the fact that we are in the process of having stronger ties with institutions of higher learning because we believe that as the Chamber we can not be running in	foster collaboration between all stakeholders	Venture Participation	Venture Creation

	isolation, we need those stronger ties and we have already spoken to UWC, they have come and made a presentation about some joint initiatives with someone sitting in our portfolio, I have had some interactions with Stellenbosch University and CPUT, so it is very important that the recession development is supported but of course as the Chamber we cannot do on our own, we have to make use of specialist in that field which is in this instance institutions of higher learning, there are companies that specialises on that, so them being members of the Chamber they need to ensure that we are able to fulfil that role. (so again it is a facilitation role that you are playing in that regard. I am sure that you can acknowledge also that the corporates have access to all of this, they've got the educating units that do research and development and that does not appear to exist for SMME's but you are quite willing to play that kind of role for them.)			
R 8	Encourage the entrepreneur to be well read and well versed in business in general. I would encourage from SMME's point of view, joint ventures and partnerships. I am not talking joint ventures and partnerships only with other SMME's but even with corporates but once again the onus rests on the entrepreneur in how they present that to the potential partner be it another SMME or a corporate is how they present it, the fear to collaborate and I think that fear is born out of ignorance because if I have a new process or a new product or developed or streamlined something, I mean that is the tendency today is to reengineer or reverse engineer technology and come up with something new, its that the entrepreneur him or herself needs to take that onus on themselves and look at you know how do I position this product or offering or new process within the allotted time constraints especially with new products developed, somebody else is also thinking of it somewhere around the world so how do I position it within the time constraints and who do I position it to, it needs to be feasible, it needs to be profitable and it needs to make sense to the next strategic partner, so that is one way in which that fear can be minimised but again I don't think because there is a lack of ... I think the lack is the lack of entrepreneurship because a true entrepreneur would not and this would not even be a stumbling block .	foster collaboration between all stakeholders	Venture Participation	Venture Creation
R 9	I think maybe a greater emphasis must be placed in getting that getting that collective knowledge into a common space and make it known that besides being ... because UCT is linked to Bandwidth Barn ... but what about the lighter industry, the informal sector, so one must almost create a repository of information and then you need to go and market that particular skills into your communities and that is for me how we would bridge that problem and the DTI would be more than willing to co-partner with such entities in setting up incubator support and that is how the Telkom Bandwidth Barn incubator came about through the incubator support program, we have co-funded with Telkom in hosting that 20 SMME's of them in the Bandwidth Barn as an incubator but the outcome is that you would have through that training and development of that SMME's you would have SMMEs that once they graduate out of that incubator they would be ready, able and have the capacity to become preferred suppliers to Telkom and that is the intention.	foster collaboration between all stakeholders	Venture Participation	Venture Creation
R 10	I use the same term "network is net worth" we spend too much time speaking to guys who cannot make decisions, SME's are so prone to say 'can you help me' that is not a bad but are you the decision maker and I think that is where they go wrong, they speak to the rep and the rep got to speak to somebody in operations but he spends all his time focussing on the wrong levels within his business (*so dont you think that is where the development agent can	promote innovation in the complete supply chain	Technology Acquisition	Technology Innovation

	<p>play a role to align those things*) again we talk about how I take a SME and a multi national and say we want to again allocate a percentage of our budget of the development of people, so the development of technology and innovation within our space and these guys actually be here for a certain period of time and we cannot have 6 months or 3 month things, it does not develop the guy at all, in fact what it does is takes him out of the market for 3 months, he is focussed on this one thing for 3 months and then when he goes back his mate has extended his growth, he has found a new client so we need to say 'how do I take what the suggestion worth is ... can I take Microsoft it meets the entire supply chain of our service offering then they must identify one element or one SME in every single element, put them together and say now you find guys developing the product because then you develop 5 people they know that Microsoft is funding it, they know that Microsoft is going to support it and probably ultimately buy the product, so as oppose to developing just the product or my line item with no end result, I got no sale ...I mean if you look at some of the patent guys they own tons of patents for people who haven't paid them, the IP resides with them because they will tell you it cost them R300000.00 to patent this, I dont have the money so I hold your patent as collateral, so you forfeit your own development and the same with your growth.</p>			
R 11	<p>(*lets look ahead and say 'how could we assist them' just in terms of your point that you make*) All of the products and services that are being delivered via the Department of Trade and Industry and even through our agency is not advertised enough, we don't have a big enough advertising and marketing budget to be able to do that, if I don't go out and speak to people and if our business advisors dont go out to communities and speak to them about what is available people will never know what is available to them, for years and years ... the Department of Trade and Industry was not established 5 years ago they have been around forever, those funds have always been available and who has been taking advantage of it ... the big corporates. I sat at the airport one day and a company like Exxaro said to me 'oh no we just received R15 million from DTI' why? ... you have all the money in the world, all your profits you are able to do that, why isn't that money being channelled down to smaller business, so certainly I think it needs to be advertised more and there also need to be more flexibility in terms of being able to access the funds.</p>	channel financial and no-financial support appropriately	Venture Participation	Venture Creation
R 12	<p>I think from a TIA prospective we know that eco system is pretty important and if there tons of research in the literature regarding eco system development and support and the benefit really of eco system support and network support is that when there is trust and focus on the common good then there is a real opportunity for people to basically leverage each other's resources and create new opportunities and collaborations towards new product and customer and market development, so we facilitated that effectively via our programs initiatives, again I will refer to the global clean tech innovation program, eco system development is pinned on value system and value chain development as well and in a sort of classic porters model and the deal around that is that we need so TIA's response is around program development like the GCIP which has actually ignited the clean tech innovation environment in the Western Cape</p>	Develop ecosystem support for the SME	Market Access & Penetration	Market Creation
		Collaboration for customer and product development	Product Deployment	Product Innovation

APPENDIX G:

Why do you think that it is crucial that a business pursues the research and development of new products to ensure its sustainability?

Comment	Key Words	Themes	Categories	
R 1	So you talking about new products specifically. Again I think it comes back to the fact that you are creating a new product and you need to make sure that there is a need for it in the market, so what we spoke about earlier ... market research, to identify that there is a need and it could be that you are already in business and you have a range of products and then you identify new products that you want to introduce ... then again why does the entrepreneur want to introduce a new product, you must have identified a need for it in the market place so it is about convincing your client base because you might have an existing client base already and it could be that this product might attract a new client base, so again its part of the research and development to see if there is a need for the new product is 1 and 2 is maybe this new product can compliment existing products because there is always that issue about if you are to use a new product its simply because it is linked to existing product but again these are the research of the products identified, that there is a need for the product then he needs to get support to get the product out to the market place and that support again is about going out to your potential customers or using marketing tools to assess the response to a new product in your market place (do you think that network support exist for an SMME?) I think that is an interesting point because it is found in bigger companies would network with each other and collaborate with each other sometimes to the extent that they actually committing fraud, collusion ... if you look at the construction industry all the big companies are colluded price wise etc and the Competition Commission I think found that out and then they were all fined billions of rands ... but it wont be about collusion but it is about maybe talking to the competition, small businesses don't talk to the competition they keep everything close to their chest (why do you think that exist though? Why would a SMME not speak to another ?) I think it is clear fear that they might lose business to their competitor so again it is probably where there maybe form a strategic alliance with somebody ... and also competitors, you can work with competitors where you are not direct competition with each other for specific products or where you could benefit each other, you might be able to supply a product that they need but they don't have the technology or they don't have the intellectual capacity to ?produce? the product, they could be buying from you if you work closely with your competitors but again it is about creating trust .	Understand the market need	Market Access & Penetration	Market Creation
	Understand how the product relates to other products	Product Deployment	Product Innovation	
	Pursue collaboration opportunities for product development	Traditional Business Model	Agile Business Model	
R 2	Again I am sort of against the statement, I don't think that it need to be a new product, they need to ensure that whatever they currently have is the best that they can offer the market because if it isn't and here is not uptake in it, why are you investing time and energy into developing new products, so its first ... is my service and my current priority the best that it can be and have I invested enough time to make it the best that it can for the market ... so if it isn't then by all means develop new ones to improve the existing ones and make sure that your current service ... because that provides focus, if you going to try and develop new ones then your focus is somewhere else, that development must be based on something, based on the actual need of my customer, if it is that then I want to agree that there is a lack of network support but that lack is simply because SMME's have this idea that they got to do something on their own and there is no	Determine whether a new product is necessary	Product Deployment	Product Innovation
	Measure the service level	Service Deployment	Service Innovation	
	Pursue collaboration opportunities for product development	Traditional Business Model	Agile Business Model	

	collaboration, there is no sharing of ideas because people think that other people will steal their ideas and what they don't realise is that if someone steals an idea that is all that they steal is stealing an idea, they don't steal the 'how' they don't steal the nuts and bolts of the idea, someone is going to take the idea but if they don't know what to do with it, its means nothing and by sharing ideas you will soon see people add to it to make it better, people ask questions which will point to possible weaknesses in the product and service which ultimately will lead to an improvement of it, so the more you share the more your network will actually grow and it will be established and therefore you will get that support that you need, but because there is this lack of sharing there is no support, its the old adage of an open hand ready to receive than a closed hand .			
R 3	The R&D side of things ... what has been lacking as we standing from the government's point of view, ?Tier? does not look at funding R&D, most of your funders will not look at funding R&D which is sad, we don't have a centre that would be funding research and development (because I think that is the competitive advantage corporates have over the SMME's, they have R&D departments) I was also going to tell you that a lot of times academia is playing that role on R&D side of things but there is the gap in the market to say if government should have a kind of R&D innovation centre, they come in, call it maybe a crash course 6 weeks program to test the viability if your product has commercial viability, we then fund you and we say fine we will throw Rx amount behind and in 3 to 6 months lets take this product to market, so from an SME point of view I can understand the frustration because there is no support for R&D.	Lack of capacity limits SMEs ability	Venture Participation	Venture Creation
		Test the viability of the product .	Product Deployment	Product Innovation
R 4	My answer is similar to the first one, where it is just a lack of capacity, both capacity from the entrepreneur side or from the businesses owner and there is also a lack of funding to do this type of thing, to do research cost a lot of money and few businesses small business have that, they don't have capacity to do it, unlike the corporates who got a Research and Development unit, but once again I will use the food initiative under Larry Dollie at CPUT as an example, it is a classic example of how when businesses and tertiary institutions collaborate what can happen and I really encourage you to got into it and look at some of the results they have achieved, because if you ask small business owners to do research they would not know where to start, less than 50% of them would know where to start to do research, the methodology used, where to find information, how to digest that information and come up with strategy is not something that they would do on a daily basis, it is about making money today this week or this month but it is not about 3 – 5 years, as I said to you I have been working with small business now for about 20 years and I have rarely found people that could provide me with a 3 – 5 year plan of their businesses, they could not tell me that they are strategizing every six months or every year, it is something that is just a theory to them but they don't practice it in their business (why do you think that is though, is it just that they are so busy or they don't have the foresight ?) I think it is a combination of things, they are extremely busy I would imagine because small business are constantly trying to cut costs and that eventually what they do is they do it where staff is concerned, they have 2 people doing 1 job, the owner would be a 'jack of all trades' they don't have the time, they don't have the time and in many cases it is low down on the priority list of finding money is not spent there and there is this big profits in the business and then that is they would rather then spend it on possibly looking after the staff as oppose to them doing some R&D rewarding the staff for their hard work, R&D is way down at the bottom and it is also just a lack of foresight	Lack of capacity limits SMEs ability	Venture Participation	Venture Creation
		Pursue collaboration opportunities for product development	Traditional Business Model	Agile Business Model
		Owners are too busy to focus on development	Product Deployment	Product Innovation

	and lack of vision when it comes to utilising this to the benefit of their cause			
R 5	The reason why is the nature of businesses that exist, the survival approach ... in approach to (unclear) development is seen as something that is reserved for established entities (and the corporates for instance, why would that be ...) I think it goes back to the whole that you will find that the stuff that people are putting out there is series of products already ready made, so its really reselling what is already there (so are you suggesting perhaps, and this is not uncommon, I have picked this up already that potentially South African businesses are not true innovators but modifiers) yes exactly that is a point and I think that is an area that we need to work very hard in terms of being the ones who create products as oppose to tinkers ... so I suppose that is why there is a lack of R&D. An interesting observation though with Research Development Agencies that are driven by government that are beginning to be closer to the market, for instance what they do now is that they would make the solution available to the market to entrepreneurs in any field, so they would say this research has come up with this solution, so maybe there is an entrepreneur who can make use of that solution to resolve the problem so I think a marriage of researchers with entrepreneurs because the gap between the guys doing hard core research and the entrepreneur is very wide and the interesting thing is that researchers are not in most cases going to become entrepreneurs, so I think a marriage between the two ... I mean institutions like the Research Foundation and (unclear) I think is champions in this, I think there is a lot of something of that nature that is to happen where academic institutions I think they need to open up ... going to the market to see how do you support, how do you bring hard core (unclear) to SMME's, to make it to the market with those products because you find in some instances that when SMME's are resolving an issue that is out there, they need a specific technology and that is why we tend to go to what is already done and yet there may have been a turn to resolve ... so I think it is a combination of things but ...	Owners are too busy to focus on development	Product Deployment	Product Innovation
		Understand the needs and demands of the market	Market Access & Penetration	Market Creation
R 6	Either do R&D or always use other people's learnings well after they have exploited their outputs from R&D. It's just another way of staying ahead of the pack.	Learn from other people	Product Deployment	Product Innovation
R 7	It is very important because if there is no research on that product there wont be sure that there would be a market for it, so they therefore have to see to it that there is a market and if that products is actually placed on market it would be sold, so it is only research that actually gives a way for that development in the sense of ensuring that that particular product meets their needs, because there should be ongoing development in terms of changing some functionalities, if you look in terms of cell phones, cell phones did not have the advance to cover us before etc but now they are adding those because they see the aspect of development.	Understand the needs and demands of the market	Market Access & Penetration	Market Creation
R 8	Once again if an entrepreneur is not well read and well versed in business in general then they would tend to miss opportunities and in this case in particular I would see and especially from SMME's point of view, joint ventures and partnerships could be crucial especially for SMME's and I am not talking joint ventures and partnerships only with other SMME's but even with corporates but once again the onus rests on the entrepreneur in how they present that to the potential partner be it another SMME or a corporate is how they present it, the fear to collaborate and I think that fear is	Pursue collaboration opportunities for product development	Traditional Business Model	Agile Business Model
		Understand the needs and demands of the market	Market Access & Penetration	Market Creation

	<p>born out of ignorance because if I have a new process or a new product or developed or streamlined something, I mean that is the tendency today is to reengineer or reverse engineer technology and come up with something new, its that the entrepreneur him or herself needs to take that onus on themselves and look at you know how do I position this product or offering or new process within the allotted time constraints especially with new products developed, somebody else is also thinking of it somewhere around the world so how do I position it within the time constraints and who do I position it to, it needs to be feasible, it needs to be profitable and it needs to make sense to the next strategic partner, so that is one way in which that fear can be minimised but again I don't think because there is a lack of ... I think the lack is the lack of entrepreneurship because a true entrepreneur would not and this would not even be a stumbling block</p> <p>(*so you drawing a distinction between owning a business and being a true entrepreneur in terms of this fight that this entrepreneur will have*)</p> <p>anyone can run a business</p> <p>(yes but to be an entrepreneur in another business is something different is what you are saying)</p> <p>yes even as a plumber, being an entrepreneur within that same plumbing business is looking at new and better ways and new and better products and with technology it is so easy and not everybody is as innovative as the next but if you are in sync with the your industry and you have been there for quite a number of years, you can out of frustration pick up innovation but once again as much as the innovation is there, do I take it to market, do I think the market needs it, a real entrepreneur would even if they fail at it.</p>			
R 9	<p>There is a wealth of information available but it is unconnected, I think there need to be some catalyst and yes I think maybe that is what Bandwidth Barn is trying to achieve but how do they address... because as it is the location is maybe in good place but they not getting out to that entrepreneur who is sitting out in a township and does not know about the product and service, unless they start a satellite of a Bandwidth Barn out in a Khayelitsha or where you will also find your black entrepreneurs, at the moment R&D is confined to a small largely untransformed and therefore it is still seen as elitist ... and how do they cater for the guy who maybe has no funding, he has just an idea and how then do he develop and evolve, yes there is Shanduka Black Umbrellas but my understanding of Shanduka as oppose to Bandwidth Barn is that Shanduka will be multicentral (*that is correct, as oppose to IT*) do they even have an IT specialist that can come alongside the entrepreneur and do that mentoring ... and I am now contrasting the 2 institutions and what is the solution, I believe every university has and we got Stellenbosch, we got UWC, UCT and CPUT, as well as your FET colleges and I think all of them offer IT, if not as a subject but they offer IT in some degree.</p>	Pursue collaboration opportunities for product development	Traditional Business Model	Agile Business Model
R 10	<p>One of the big issues is that when you work in a group like in a Bandwidth Barn or in an element like that you say 'I am prepared to risk my IP being in the hands of the public domain because unfortunately I have to share this to grow it and I need the inputs of other people, but what does that mean for me, how much risk am I exposing myself to because the SME he does not agree about the resources, but South Africans are notoriously selfish, amongst the black community we dont trust each other and you dont like to see your brother grow, so what we looking at is how do I take that risk away and participate and create an inclusive environment and say collectively we better, lets go to market as a collective because remember I might own 100% of nothing, I have an idea so I own 100% of nothing, my enabler can take the product and pay 2 or 3 of my</p>	Pursue collaboration opportunities for product development	Traditional Business Model	Agile Business Model

	<p>developers to market, at least we creating a revenue stream now but what does that mean for 2 (50 % share) of something whether you need to establish that ... I am not going to give up 50% of my business if it was my idea but that is where most ideas develop or you still sitting with 100% of nothing so we need to establish that the engagement process from a more inclusive environment need that, even if I own 20% its 20% of a tangible thing, so that is the problem and again.</p>			
R 11	<p>Certainly, to stay relevant you have to do continuous research and development of your products, I mean we are being flooded by the Chinese market of products that are not even new it is more than likely European or American innovations that have been tweaked to a degree and it is being flooded in on the African market, not SA only but I think the whole of Africa is being flooded with the Chinese market. There isn't a lack of support, there certainly is enough support, however SMME's don't know how to access that support and that is the challenge, the DTI have special funds available there is the SPY fund, the RND fund ... the Department of Trade and Industry has 32 departments to look after small businesses, you didn't know that, and within each component somewhere there is money and support available for research and development, it is not easy to access those funds because your idea has to blow somebody totally out of the water in order for them to sit up and take notice and say 'fine we will invest in that' but there is no lack of support, it is there, the challenge is how to access that support.</p>	<p>Help SMEs access financial and non-financial support</p>	<p>Venture Participation</p>	<p>Venture Creation</p>
R 12	<p>Your question basically is about R&D and the creation of new innovation and new products, it is not necessarily tied with the network support system, for me the link is there but it is not apparent as yet because the network support basically comes down to eco system and eco system is about clear collaborative objectives and collective buying into a common cold, whether it need to be or support system to the business or whatever the case may be whereas R&D is an intrinsic initiative to the business, yes it can be done but R&D and new product development can be done internally which is kind of where I would surmise or assume that a lot of our businesses are currently focussed and I will qualify that later and secondly to that it can actually be business to business as well because there you hoping that there are going to be more convergence events between two companies to come up with new technologies and innovations and products, so it is quite important that network support happens but it is not as important at the moment because companies dont understand the value proposition of it, they dont understand the value proposition of eco system to actually drive new product development , so there is a model that the Green Cape SPV have actually run, the industry Waste Industry Symbiosis Program called WISP and WISP basically intends for the waste of one organisation to be the input to a different organisation but basically setting up industry symbiosis and that in itself is actually driving new product development and innovation (*I know an example of the breweries where a guy was running his business on the waste on the hobs, the waste he would then use for fertiliser*) so the R&D aspect of it ... so research and development can be costly depending on what your sector is and what your market is and what your challenges are and how far back and how much you basically need to do to develop new innovative programs to meet customer need so a lot of it deals with information management and lot a of it deals with market need understanding as well, so there are incentives to R&D and I am not to sure what the update of that has been for companies but and whether they have realised benefit from the R&D incentive program as well</p>	<p>Pursue collaboration opportunities for product development</p>	<p>Traditional Business Model</p>	<p>Agile Business Model</p>
		<p>Convergence of businesses to promote innovation</p>	<p>Technology Acquisition</p>	<p>Technology Innovation</p>
		<p>Understand the market need</p>	<p>Market Access & Penetration</p>	<p>Market Creation</p>

APPENDIX H:

As a development agency, how would you go about ensuring that a business has a proactive approach to the marketplace when it believes that market interests in its offering may be low or dwindling?

Comment	Key Words	Themes	Categories	
R 1	Mentoring a client, helping them with strategy, helping them with financial management where they could analyse information from the accounting system and make sense of it because it is amazing the different types of reports you can do on an account system but firstly they need to make sure that they have monthly management meetings within their business where they are able to analyse their sales and discussions within the sales team and within the entire organisation on how they could sustain sales and improve their sales, using information from their systems. So I can help them with financial management and guiding them to analyse information, it could also be that they selling products but they selling products at a higher price than their competitors and are they losing market share because their prices are too high, they need to be able to identify what is the cause of losing sales or it could be poor customer services but it could also be your pricing strategy, it is about helping them to do that.	Provide strategic support	Venture Participation	Venture Creation
		Improve service delivery for the SME	Service Deployment	Service Innovation
R 2	(so again ... you do this type of awareness through your trading and mentorship with your SMME's) it has got to be a hands on it cant be hands off ... it is one thing telling someone something but taking them through so when that happens it will come back there is a feed back and then we interrogate it again, sometimes it takes a while longer because people ... it is all about personalities and flexibility of thinking ... it has got a lot to do with perceptions and world view and that kind of thing ... for someone you might say 'have you considered this' and then they want to run with that idea instead of saying 'what is the impact or what is the impact on my business' instead of saying geewiz it comes from Raymond Ackerman so it must be good or it must be valuable, it is not necessarily or it might not work for you.	Provide relevant, hands-on support	Venture Participation	Venture Creation
R 3	(so again that is your 'how' by making those links). So what happens is ... maybe just to elaborate a little bit on our programs. Bertram Richards, my business partner and I, we took a decision about 2 years ago in order for us to remain valuable and ahead of the market we measure the success of our programs in the following ideas, (i) in terms of the number of sales and then also increase in jobs, so typically what happens in our programs is we have varied stakeholders within the broader ICT space or we will have guys that are just technically focused, we have businesses that are very much sales focused and the idea there is to collaborate, so you could have someone that is very much sales focused come into a force and can actually then get access to their service providers, so what happens is the sales person has got a concept, sitting next to him or her is the technical expertise so we encourage collaboration so typically it could happen that client will remember what happens because our success measure is sales and deals so the deal flow will be between one another, so the sales person will go to the corporate client but because we creating a value chain now, Mr techi on that side is becoming part of the value chain (of course, so he operates in his space of comfort the saleslady ...but you made the connections) because again like I say technology is no longer the competitive edge its about access to market, purchase orders that outgrows sustainable businesses.	Provide financial and non-financial support	Venture Participation	Venture Creation
		Promote the concept of collaboration	Traditional Business Model	Agile Business Model
		Access to market is key	Market Access & Penetration	Market Creation

R 4	(again you have touched on the 'how' its about this alliance between higher education the SPV and the businesses itself)	Promote the concept of collaboration	Traditional Business Model	Agile Business Model
R 5	I think to some extent its a matter of how I think people appreciate examples of those that actually have manage to get results by taking this approach, the example is that one does intelligence ?does? for your business, I suppose showcasing more of these examples (are you suggesting role modelling, mentoring ... in that line) I think showcasing more of the success stories that are actually (unclear)	Provide mentorship to the SME	Venture Participation	Venture Creation
R 6	Our extensive contact base and "reputation" assists us in sign-posting and stimulating networking. The latter allows quicker learning of the opportunities and threats in specific sectors and product lines. Insider information in a sense. Also networking allows for facing threats, such as dwindling demand, together by collaborating.	Establish a network for market access	Market Access & Penetration	Market Creation
R 7	Definitely to me its ongoing research and development, we talk again about capacity building if they are not into that it is going to be a challenge, of course we also need to take into cognisance that some of these entrepreneurs never went to school so we therefore also need to be proactive and innovative in our own way to say the training perhaps should be in a way that this person will understand because it should not be for only those that have gone to school, we should also cater for those that are traditional run business so that the understanding can	Provide relevant, hands-on support	Venture Participation	Venture Creation
R 8	(*why do you think the SMME would fall foul to this, what is it that makes it almost difficult to impossible for this SMME to be having all these wonderful things you talking about now, what are the reasons?*) what I have come to figure out of late is that SMME today are all about getting rich quick, so it is not about the long hours and the networking and the minimum wage, so to me they lose sight of the basics and simple things of how to keep business afloat and it is all about chasing the million, all about chasing the big deal and when one loses sight of fundamentals albeit financial management, be it of your product, be it of the sector that you are operating, if one loses focus on that fundamentals and even just one of it could have a huge negative impact on your business.	Encourage the SME to focus on the basics of business	Venture Participation	Venture Creation
R 9	I actually need to sit both of them down using this model and explain to both of them that we need to find out what is the objective of you starting with a strategy and why is that the two of you want to go in business and get your objectives sorted out, common ground, and even if you disagree with each other first get this thing sorted out otherwise without this there is no point in even going into business together and hence that is what I need to do asap.	Provide strategic support	Venture Participation	Venture Creation

R 10	<p>you need to add value to government's strategic plan, so when you start asking questions like 'how do business do business with government' and it should not be about what your product is, each government department has their own top 3 elements, what SME's do wrong is that they trying and take their developments from their product and try to sell it to every single government department but it does not fit, so lets address if I am going to target economic development, I must understand what the 3 or 4 agenda items are for them (*strategic objectives*) yes the same would apply to health care and so on, so you cannot say that something works in economic development it then works in health care, so SME's make their own space, they dont do that no more, they dont establish whether their product is compatible through the environment they selling it in,. Government will buy products from you because it meets their objectives (*so must speak to the NDP and the NGP ...*) exactly but dont try and sell that product that is a stand alone, if I made a suggestion what you tend to do is you first go to them and say 'where are your biggest challenges' I cant get generic products to market and I got a problem with primary health care in the Eastern Cape, now how does innovation enable that and I think that is the key word is 'what are we doing to enable delivery of goods and services' especially an SME's that can establish that, then they can do better, so that is my view on it, taking a proactive approach.</p>	Understand the market	Market Access & Penetration	Market Creation
		Improve service delivery fo the SME	Service Deployment	Service Innovation
R 11	<p>How we able to assist is that we do diagnostic assessments on all our businesses on an ongoing basis and it also depends on how the business interacts with us, if we feel that there is something lacking in the business we do a diagnostic assessment, they for instance will say 'I dont have money to operate this business' the diagnostic assessment and the outcome of that could show something completely different, that they necessarily need more marketing or more market access or they need to manage their finances better, so through us keeping him up to date of what is lacking in their business they are able to plug those holes and remain relevant in the market.</p>	Provide financial and non financial support	Venture Participation	Venture Creation
R 12	<p>TIA as an organisation, one of the significant things about the Provincial Seed Fund is that it actually enables the Provincial Agency to engage and coach the applicant or the potential recipient of the funding ins such a manner that they could basically identify with the applicant where the potential problems are and market opportunities are and then assist in the coaching aspect of it, assist in the handholding aspect of it as well,(*is it because they are coming in so early into the project*) yes which is the high risk part and that way you basically try and mitigate risk, you try and mitigate the future risk to the business so that they end up on their success point which is basically a well informed opportunity business model and business plan that sets them up for follow up funding, either to TIA or to other funders as well as to set them up to basically build that relationship with their market, so part of this comes down to the kind of person that basically drives this kind of opportunity, the kind of person that say 'how close am I to my market' not necessarily the end market but my customers, there is a difference between the two, a user is the user of your technology but that is not necessarily the people that are going to pay you to access the technology or innovation, your customer does that and I think people need to be coached in devising and understanding what the difference is and also understanding what the value chain is in their route to market strategy, their positioning around route to market as well as the activities and resource they need, not only for themselves but for their customers basically to achieve route to market as well.</p>	Provide relevant, hands-on support	Venture Participation	Venture Creation
		Help SME to understand their market	Market Access & Penetration	Market Creation

APPENDIX I:

Why do you think that it is crucial that a business has a proactive approach to the marketplace when it believes that market interests in its offering may be low or dwindling?

Comment	Key Words	Themes	Categories
R 1	SME has to service the client	Service Deployment	Service Innovation
	SME needs to understand the demands of the market	Market Access & Penetration	Market Creation
R 2	SME has to service the client	Service Deployment	Service Innovation
	Innovation is trying to solve a problem	Technology Acquisition	Technology Innovation

	<p>be a pain for me, so you ask me and you listen to what it is that I am saying as I am giving you the feedback and then you say so what if I can present you with an application that can reduce that pain, that can solve that, would you be interested, the man has already told you what his pain is, if you present him with a possible solution what do you think he is going to say no ... he is going to say show me, so it opens that door for you, for me it is about that – be set with your customer and your customer's needs and your customer's pain because what are you offering, you are offering a solution ... if you cant offer a solution you are dead in the water otherwise you are trying to flog a product or you are trying to flog a service and it is not necessarily going to work, it might work for someone or might grow it into a big business .</p>			
R 3	<p>A lack of understanding of where they fit in the value chain is important and if we go back on that it is understanding courses ?unclear? again like I said App market everyone can do an App, there is no barriers to entering, nowadays nobody is paying for a web design, you go on the net and there is Google Youtube and you can do your own web, so it is understanding the barriers to entry, the technology is no longer that competitive advantage, look at your competitions- now its a 15 year old school kid ... it is that open. So I think if you looking at this, it is more than looking at the business side of things and looking at business fundamentals and being aware of your market space, where you put in your supply chain and the more strategic partners, so if you telling me I am just a developer guy my key then is to get into clients that are coming up with new concepts, I partner in terms of the development and that is how I remain valuable in the market.</p>	<p>SME needs to understand the value chain</p>	<p>Traditional Business Model</p>	<p>Agile Business Model</p>
R 4	<p>In the SMME space I think a lot of that does happen, intuition is used and I think the healthy thing is to use intuition and a bit of business science. SMME owners however they lack capacity in their own business and a lot of them don't have sufficient networks to help them to deal with that, dealing with an overload of information to try and make a decision is a daunting task and generally just tossed aside because you too busy making money today...now. I find in my engagement with businesses that far too few people are planning, I cannot get a 3 year plan out of business that has been running for 10 years, its insane, you almost setting yourself up for failure, you becoming less competitive without knowing so before you know you got your competitors passing you by that is taking advantage of it. I think where business people should be looking at for assistance is not only through government but should be looking at tertiary institutions, you've got students who are doing like yourself who are doing various projects that can assist, that are spending their days researching and there has got to be a partnership formed between businesses in a particular sector or within a particular area or province whatever it may be and a tertiary institutions, so tertiary institutions to make themselves more available and I think that they are, UCT, UWC, Stellenbosch, CPUT, they have all been of late being expressing their desire to get more involved in businesses so they either have projects at the campuses where ??? training or they send their students out and I think this needs to be formalised in some way or the other, I don't have the solution to it now, it is not something that I have thought about extensively but I think that is the possible solution, you have got businesses with a lack of capacity or really out there without any radar whatsoever are fighting one wave after another and then you got tertiary institutions who need to get their students involved to do business and if we could marry this up, to some degree we are succeeding with our Special Purpose Vehicles because they become the port of call but it needs to be done in such a way so that we actually start seeing the effects thereof, this is now an idea and it has been tested by certain people in the industry that</p>	<p>SME needs to exploit the business network</p>	<p>Traditional Business Model</p>	<p>Agile Business Model</p>
		<p>Innovation should have an international focus</p>	<p>Technology Acquisition</p>	<p>Technology Innovation</p>

	<p>have an influence but I think we need to get to a point now where if you in a particular industry, lets say you are in engineering, you must have at your disposal a port of call at CPUT for instance, what I like about the food industry is that CPUT at Bellville under a gentleman by the name of Larry Dollie, a fantastic person, there anybody from the food industry could call on Larry Dollie and his team and get an extensive range of services for your business if you are in the food industry, so that is the Western Cape Fine Food initiative, that is a Special Purpose Vehicle that has been working closely with Larry Dollie but Larry Dollie and the Food Technology Unit at CPUT Bellville I think is an outstanding example of how tertiary institutions can work with industry and add a massive amount of value both sides (so similarly around mobile Apps they should be knocking on our door to assist with the development and technical side of things) and they should be driven with Bandwidth Barn they should be driven there (like a tripartite alliance) If you ever have an opportunity to speak to him, you will get an idea of what I am speaking about because the food technology at Bellville has done a heck of a lot, what they also managed to do is that they also managed to attract a lot of foreign expertise which has now been channelled through the tertiary institution and ends up with our businesses here in the Western Cape and as a result our business, the guys in food industry sector, they are becoming more and more competitive not only in SA but globally and that is fantastic because one of these days we are looking at an increase in exports in the food industry to the rest of the world, if you getting expertise coming in your products then are going to be able to match with the best in the world (Larry Dollie's unit has commercialised some kind of omega 6 tablet that they are promoting in the US I believe, I have spoken to my DVC yesterday about the innovation) speak to him it would really help as part of this to really look at how that could work where this question is concerned and you will get a far better insight then.</p>			
R 5	<p>You get (unclear) entrepreneurs, the approach to is not necessarily to establish an institution but to get entrepreneurs that are out there to survive, so I think the approach to business is that we do this to alleviate (like a subsistence) so my understanding of the reason why there is lack of such scientific approach I think has a lot to do with that, and it always depends which business you are in, we find that a lot of businesses that are in our region tends to be sort of resellers of technologies that exist, an improvement of what already exist (as oppose to innovators) yes, so half scientific (unclear) so we just replicating something that is not necessary, so I think that is a 'why', so how do you get to resolve something of that nature,</p>	SME must not only adopt but also innovate	Technology Acquisition	Technology Innovation
R 6	<p>Proactive means being a step ahead of that the game is at any one time. As much as being at the cutting edge or a step ahead of it is critical to competitiveness, you can also sometimes get sliced (bad judgment). However, risks need to be taken and managed accordingly to be ahead.</p>	SME must not only adopt but also innovate	Technology Acquisition	Technology Innovation
R 7	<p>In terms of being proactive to the market place when that offering might be low, it become very important as well as I would take it first from the point of the service provider who is the business in this instance, that research becomes important, because if that particular market is low forever then is there any need to enter into that particular market so those aspects I think it also goes to the first question of training and development because if they capacitated they would then have an eye to see that no this market has already been taken away, for example if you look at the containers, the traditional containers like Vodacom services, you know when they first</p>	SME must research the market	Market Access & Penetration	Market Creation
		SME must not be bogged down and blinkered	Traditional Business Model	Agile Business Model

	<p>started in 1996 that was a huge market but then Vodacom came with your cheaper R12 airtime now its R5 and R2 airtime, that market is gone so there wont be any need for someone to tap into that unless there is a specific area where there are no cell phones, it forces someone to call using that particular container, so it becomes important for someone to have that visibility</p> <p>(why do you think the SMME's often fall into this trap that they dont have the scientific view of things, I mean what is it that is preventing them from looking forward and forecasting all of these things, what are the factors towards that?)</p> <p>You talking here of a market that really is not keen to study, is not keen to go into further training and development, if one concentrate on making R1 per day ... so long as I am getting R1, if I am going to training I am losing the R1, forgetting that if that particular person is capacitated he might be making another R2, so that is the main challenge, they are unable to get out of their selves, so I think that is the main challenge (so are you suggesting that there is this survivalist mentality that I must do this today never mind tomorrow)</p> <p>Yes we are battling as the Chamber to actually bring them into our programs because they would say today I am expecting X clients and that becomes a challenge, they don't have that eye to be proactive and say 'ok I might have another staff member because I got that particular networking opportunity out of this'.</p>			
R 8	<p>I think the 'why' component of all these questions are similar in nature in terms of the type of answer I will give because if the 'why' is not in place it is going to lead to loss of profitability and or worse things. In terms of the proactive approach ... you are right to say one cannot be complacent and especially if the interest in your offering is low or dwindling, it is scanning that environment on a continual basis and I mean that is not a scientific approach, its tried and tested approaches that has been in place for decades now, so to me yes it is a scientific approach would probably speed up that process but to me its sticking to the basics, it is scanning the environment from various aspects be it legal, competition, political or whatever the case may be, it is being well read operating in the right circles and then formulating your approach based on that and which direction your business goes, being in sync with what is happening and nowadays no longer just locally but globally because I mean one rip off in the ocean in the far east have a huge either positive or negative impact on your business, so to me as much as there is a lack of scientific approach to the market place, to me firstly its basics, sticking to the basics, doing your scanning on a continual basis, I think that is probably the issue more than anything else, it is how often it gets done, we become complacent , with technology nowadays things happen overnight, where things become obsolete tomorrow</p>	SME must not be bogged down and blinkered	Traditional Business Model	Agile Business Model
		SME must research the market	Market Access & Penetration	Market Creation
R 9	<p>Unless you understand your customers needs and how you are going to fulfil that need you are going to be missing the point continuously and you are going to ask yourself 'I am working so hard but why am I not getting the required results' just last night I had to advise a father and son where the father is now retired and he has a wealth of experience and he can offer his services but you know what his son told me 'uncle Lionel my dad he is use to working for a boss and he does not have an inch of entrepreneurship in him' whereas I again look at the business side and now the two of them are clashing because the son is focussed on applying business principles whereas the father wants to do a favour and help a brother along and that cannot be (*so how would you assist in this regard*)</p>	SME must research the market	Market Access & Penetration	Market Creation
		SME has to service the client	Service Deployment	Service Innovation

R 10	<p>You must remember the competitive edge means there are 2 kinds of people, we are either early adopters and ahead of the curve and we look at that and say we have seen the opportunity about bulk SMS to distribute information on a large scale platform and the retailers use it and cellular networks use it and the insurance companies use it but having said that, there is only such a small market because firstly you must have access to client and a client wants something that is attractive because he is not going to expose his client to his new market, so when you selling something especially SME's have the habit of trying to sell to government, they claim that is the biggest market (*and the safer option perhaps*) but its the longest sales site but you wrong because government never buys, the people can argue with me on this and I say government buy not even the tender part,</p>	SME must not only adopt but also innovate	Technology Acquisition	Technology Innovation
		SME must research the market	Market Access & Penetration	Market Creation
R 11	<p>Because of the influences in the market certainly it moves back to the first question ... flexibility? and being relevant to the market, making sure that you are up to speed with customer needs, those are the key things, businesses have to have a proactive approach to remain relevant in the market place.</p>	SME has to service the client	Service Deployment	Service Innovation
		SME must be relevant in the market	Market Access & Penetration	Market Creation
R 12	<p>Why do I think it appears in this way ... I think fundamentally it comes down to whether you can train an SMME to be agile enough to engage with the market depending on changing needs and that really comes down to the entrepreneurial ability of the business or the person and I do believe that that can be hard coded so you can grow up and it depends on your upbringing and your environment of development, your ability to basically be resourceful to basically meet a particular need or solve a particular problem, I think that plays a large role in it but I think it also possible for programs to create the environment for people to develop that skill of competence so that is one thing, the issue around a scientific approach ... I suppose that is what I mean when it comes to the ability for programs that people to devise and set up an approach to teach people how to basically adapt and be proactive to meet market needs depending on what the changing environment is, so I think very important to this is access to knowledge and information and that you basically have to teach people to deal with tacit knowledge and information and you have to teach them how to respond to that and formal knowledge and information as well, I think as South African entrepreneurs and this is a general statement ... we are really bad at managing information ourselves and we don't actually necessarily know how to use that information to our own benefit. Proactively depends on motivation so motivation around approach depends on how bad the situation is and I think culture also plays a significant role there, typically in the Western Cape and in an entrepreneurial sense in certain sectors you say 'you know what there is this thing about Cape Town where 'more is nog n dag' there is no drive but there is hustle in Joburg and KZN where people will take opportunities and turn it around, again that is culture and culture can be changed if given the right platform, if given the right designed environment and network.</p>	SME must be agile	Traditional Business Model	Agile Business Model
		SME must be keen and energetic	Venture Participation	Venture Creation

APPENDIX J:

As a development agency, how would you go about ensuring that a business takes a new technological solution from a real or perceived need and to develop this technology into a viable entity by introducing it to the market?

Comment	Key Words	Themes	Categories
R 1	<p>Firstly I could assist the client by coming up with a marketing strategy, secondly I could introduce the client to a development agency who will help him with his marketing tools e.g SEDA and DTI whatever marketing tools are required, I think those are (so you suggesting then based on the tension that appears to be there that you could address that tension, you could create this platform for this technology to transfer to take place – in other words it is not insurmountable, it is something that can be addressed) yes it can be addressed, I think that the owner or the entrepreneur needs to get outside assistance, simply because he might not have the capacity and the knowledge and then requires outside assistance but there are lots of agencies or enablers who could assist in that area.</p>	<p>Connect SME with business partners</p>	<p>Market Access & Penetration Market Creation</p>
R 2	<p>I mean as recent as last year, somebody invented a box opener ... now for how many years have been people been struggling to open boxes, what is your first reaction when looking for something – you looking for something sharp and it normally something closest and its either your key or pen or scissor but it is not necessarily the perfect tool to open the box, so there is a perceived need and then you say 'how do I get this out there' and the platform is first test the goods with basic market research, so if I asked you the same question about what do you use to open the boxes, you will immediately say I use anything that I can find – that would be your response, so if I give you something that is your tool to open the box, would you use it, the simple answer would be yes because it will be searched for, it does not matter you just bought a TV and I need to open this box, so I need something sharp so platform for me is less important than taking this and transferring technology into something that the market would need ... that prototype that you were speaking about earlier on, you got something out for people to use and test and feel because as soon as they do that ... so the platform for testing for me is to get it out of the customer's hand as quickly as possible, its like all the Apps that you have now, don't wait until its there, I had one guy here who designed an App for hospitals to use for instance ... he went to Groote Schuur and he gave it to them on a tablet and said here ... and what do you think happened – now they cant do without it, so next thing is ok but it is mine and you cant continue to use it ... so you create a demand for the product by getting it into somebody's hands who will say that I need this, I want this ... all I am saying is that you got to get it out there and get it out there in whatever form you can just to get it tested. (so the leading to 'how' is how you would assist is through that advice)</p>	<p>Assist SME to address market need</p>	<p>Market Access & Penetration Market Creation</p>
R 3	<p>(of course, and again this then leads to the 'how' you make those connections possible) so it is identifying the potential client or potential partners to take the technology to market</p>	<p>Connect SME with business partners</p>	<p>Market Access & Penetration Market Creation</p>

R 4	(so you do acknowledge by the 'why?' there is a need for this coherent platform to be present so to say ... so you 'how' is through this new initiative you are attempting to address ...) yes there is not only funding there is expertise all coming to the table and then there is the softer issues, mentorship, businesses training, IP, management development etc and the whole commercialisation and once you on that platform, you then start attracting the interest of retailers or just anybody else in the space, they are not looking for new ideas but it is about getting onto the platform and then taking it from there, this is brand spanking new and it is being launched on the 14 August and I am very excited to see how this whole thing unfolds because as a pilot I get the impression that if we are successful here that you are probably going find this being rolled out in other sectors, it could be in agricultural or it could be aquaculture sector or something very similar, it is also a platform to be creative in creating a platform to make things so much easier (exactly because innovation takes place in all sectors, you know we tend to think innovation is new technology ...IT's, but the hammer was technology at one stage too, mankind wanted to nail something and they came up with this wonderful thing to hit, so absolutely very encouraging).	Connect SME with business partners	Market Access & Penetration	Market Creation
R 5	I think obviously transforming the policies of the country in IP could make a great difference, I think that is one level, but also have more support for something of this nature, so you would find a lot of what is available and support to make transfer happen is very much far from ordinary people, it is something reserved for corporates who have resources and so in terms of credibility having access to an alternative and you find that businesses support organisations they don't really offer that type of support but they tend to offer maybe premises or admin support but that is just one of those things if you had an IP lawyer for instance it means that process would end in organisations that would make a huge difference	Assist SME with technology innovation opportunities	Technology Acquisition	Technology Innovation
R 6	We are in effect a technology/industry platform in our sector. Our diverse array of equipment and services in what is really a world-class and very unique facility enables us to do exactly that.	Assist SME with technology innovation opportunities	Technology Acquisition	Technology Innovation
R 7	(what do you think the typical barriers to entry would be?) for example if we talk about a market ... I would like to make mention of a larger retailer like Pick n Pay in terms taking their stock from point A to point B might be using a service provider whose larger business already but maybe there is an innovative one who is able to save the costs of Pick n Pay, Pick n Pay might be reluctant because of this existing relationship with that service provider, then in that regard this particular one then needs to be accompanied or to get the referrals that says ok we believe in this particular product that can assist eg there is a cooperative that is formed in Mitchell's Plain and this cooperative is made of technicians and plumbers etc and Pick n Pay they got their own existing supplier data base which has got experience and now we actually in a process of saying to them can they give these young amateur entrepreneurs a chance because these entrepreneurs are in Mitchell's Plain for them to begin to get those references, so that is a mandate, so it is difficult to enter that particular market unless there is someone who plays that role (and that is your role as the Chamber of Commerce where	Connect SME with business partners	Market Access & Penetration	Market Creation

	you play the facilitation role which means big business and small supplier).			
R 8	(*again I think you already touching on the how but you again putting the ball in the SMME's court by saying its not so much that it doesn't, its about how you acquaint yourself and connect yourself to those, do you not believe though that SMME's lets call it in the informal sector is immediately disadvantaged in this whole sphere*)	Assist SME to progress from innovator to business owner	Venture Participation	Venture Creation
	well it depends on which stage of application that individual SMME is in, if it is a start-up, an idea phase and I have an idea and where do I go to do xyz then probably yes but getting that access to information, but I mean even an entrepreneur in the true sense would be resilient enough and resourceful enough so regardless if you are in the informal sector or sitting on a farm wherever far removed if you are an entrepreneur in the true sense, that persistence never say die attitude would put you in the right circles and in touch with the relevant stakeholders			
R 9	Having said that we do have programs SEDA STP technology programs those are programs also in a case of women owned businesses, we got TWIB Technology for Women in Business where we have programs designed to assist women entrepreneurs where they can actually participate in that program if it is technology that will actually help them in their business, so you got TWIB and THRIP and STP program and then there is the Technology Innovation Agency that also support (*is TIA a SPV for the DTI*) it is actually under the Department of Science and Technology but there is overlapping, in fact I believe now that the new ministry for Small Business Development Services have taken some of our incentives over to the new ministry and therefore the SPY program that is currently with TIA will be coming over to DTI now.	Assist SME to progress from innovator to business owner	Venture Participation	Venture Creation
R 10	(so 'how' do we than as a development agency protect all of this?)	Assist SME to progress from innovator to business owner	Venture Participation	Venture Creation
	Firstly, you go and look at the companies like Adams and Adams and (unclear) in terms of how they patent the technology. but technology is different as we dont have the funding to patent, so your technology especially when you develop it on a open space platform you allow that entire open space platform to use and develop on by the people, so who owns the IP, unless you can claim and have muscle, you cant claim or have access to any of it, so it almost restricts the growth of non traditional IT players, you find that today there are a lot kids who go to varsity and get a degree but is working in another space, why? because he wasn't good enough or he got a BSc but he is working in a call centre but his counterpart who sat next to him in the classroom performed worse than him got the financial backing, so those are real elements we need to look at how that works and it is a concern for me.			
R 11	Our mandate is to assist small businesses with the programs that we have available and keep on developing, however when it comes to technology transfer the municipalities have been big on giving free wi-fi access to communities and so on but it is still going to take a long time, there is a national project called Project Ikhwezi and it has been spread throughout the country and so far they managed to hit 15 cities across the country and they trying to expand it to 100 cities (*is that Bandwidth provision*) that is free Bandwidth provision, however technology transfer is not just about Bandwidth provision, it is about a whole lot more than that, the Kellogg's Foundation is providing computers to children in rural schools and that is also via wi-fi with solar panelled batteries and so on, there are pockets of it happening but	Create meaningful network to support SME	Technology Acquisition	Technology Innovation

	there is no coherent platform and that is where we fail, we are failing our communities through the agencies and municipalities not talking to each other, everybody wanting their own piece of power, if we work together it will happen quicker and it will spread quicker as well, so I think that there is a huge need for us to work together as agencies in order for technology transfer to take place.			
R 12	So the TIA role there is also in providing education human capacity development that the tech transfer platforms at universities have tapped into as well as providing seed capital for the universities to prototype and commercialise their opportunities and reach the proof of concept phase that informs that need, so there is a need out there for that also to exist in the non university space and that is also how I refer back to the reason why we set up and designed the Provincial Seed Fund in collaboration with Agencies, in the Western Cape we partners Cape Craft and Design Institute off the back of their role in putting together the design strategy for the Western Cape which really tries to develop competitiveness in the Western Cape through design and innovation and in effect that the funding mechanism is creating a platform for the CCDI and TIA in an effective partnership to meet the needs of entrepreneurs and innovators out there to assist with the technology transfer.	Provide human capacity development	Venture Participation	Venture Creation
		Provide relevant, financial and no financial support	Venture Participation	Venture Creation

APPENDIX K:

Why do you think that it is crucial that a business takes a new technological solution from a real or perceived need and to develop this technology into a viable entity by introducing it to the market?

Comment	Key Words	Themes	Categories	
R 1	I get what you saying now ... the entrepreneur is an innovator and he develops the product, he could develop a product based on what he is seeing in the market, he might have seen something eg lets take a toothbrush for example and he is seeing that is a bit cumbersome can we not innovate by coming up with something that is easier or more mechanised so already there is a perceived need in the market from his perspective, so he comes up with an idea, and how does he get it across to the market and how does he convince the market that they need this product ... firstly the entrepreneur should ensure that he does market research before he even develop the product to see whether there is a need for that product or not and once he has done the market research and he identifies that there is a need for the product, then it is about taking the product across to the market place, and to get the product across to the market place I would assume that you would then need to establish networks, do research and identify the specific statements in the market, working on the product that he requires and then go and advertise the product, use different means to get into those specific statements to advertise, e.g maybe use marketing tools like pamphlets or brochures and also maybe face to face meetings if the product need to be sold to maybe companies or wholesalers or retailers and it is about meeting the key people of procurement offices in those institutions or if it is a product that needs to be sold to the public in general then they would obviously use website and use other marketing tools like social media, radio and how to get his product across.	Assist SME to match innovation with the market	Market Access & Penetration	Market Creation
	Apply business principles to commercialise the innovation	Traditional Business Model	Agile Business Model	
R 2	I think if it does not happen – what are you solving. I agree with the fact that it has got to be a real or a perceived need because if it isn't, there is not going to be a real market need out there in any case. If I think about the platform and how you going to introduce it ... for me it is always about do some simple market research, it does not cost you much to do that and once you have that ... it easier to say that this solves a real life problem and I always say that is what makes entrepreneurial thinking so different and I think there is a bigger need for people to develop entrepreneurial thinking because people don't necessarily know what that is ... entrepreneurial thinking is about finding solutions, its about making life easier (indistinct) it is about making things work better, so instead of trying to find new things to invent you could look at old and existing things and with technology say 'how can I improve it' ... what are the things people generally struggle with?	Apply business principles to commercialise the innovation	Traditional Business Model	Agile Business Model
R 3	If you looking at the tech side of things ... government really does not really have a department that focuses on tech so a lot of SME'S have to look at corporate so let me go back to the government side of things ... we have what we call the technology innovation ?Tier? they have been disappointing to a large degree because they should be playing that role from a tech point of view so there is a clear focus from government in terms of supporting tech and allowing that platform, its an issue we talk about being innovative and we technologically advances there isn't support from government so again you going to corporate. So let me give you and idea of what happens at the (unclear) and a few of the success stories ... you can have a guy that comes up with a concept, he builds	Assist SME with technology innovation opportunities	Technology Acquisition	Technology Innovation

	the concept and he goes to a few pitching competitions and the concept is seen, you will then have companies like Media24 who is tech advanced or your FNB, again because technology is very much a cornerstone of their competitiveness and that is a way to then get to market .			
R 4	I have no doubt that what we are seeing now at Cape Craft Design Institute with the collaboration between the department providing funding and TIA providing funding and expertise, we are looking at creating a platform where people can come with innovative ideas with new technology and with the assistance from this fund they can have 80% of the cost of the entire business or the costs of the project paid for through this fund but we are looking at a maximum of R500000.00 (five hundred thousand) because there is not an endless unlimited amount, but it has R½ million available to someone that has in the past not has almost anything available, everything had to paid, because the risk associated very few people are interested in funding a new innovation	Establish links between SME and funders	Venture Participation	Venture Creation
R 5	It has something to do with a policy around particular transfer, I am in the country (unclear) very relevant, we studying the IP policy and how it impacts on students at that level who may develop stuff, the way the IP policy is constructed is such that I think it discourages those who are really developing stuff because essentially what we have there is the institution has a claim to it and one wonders to what extent does that impact on people or taking their idea into (unclear).I believe it does, I have seen examples of it in (unclear) IT challenges etc, so I also think that there is also a level of awareness about what it takes to move from a point of an idea to a point of something becoming a market relevant product, so for instance patent is involved, where given the processes involved is also discouraging and the fact that you have to pay so much to patent the product, so there is all those things ...	Assist SME with technology innovation opportunities	Technology Acquisition	Technology Innovation
R 6	For all the aforementioned reasons/discussion. Grow your services/product offering by innovating for a very real demand OR be the entrepreneur/venture capitalist and do it for what you perceive to be a demand just over the horizon. There is almost an imperative that people should do this where the demand is real and/or perceived in terms of public duty.	Assist SME with technology innovation opportunities	Technology Acquisition	Technology Innovation
R 7	Because of the fact that there will always be entrepreneurs, so in that regard definitely someone needs to play that login role in terms of saying we think that this product or this idea might work based on this status so I think that becomes important in that regard.	Apply business principles to commercialise the innovation	Traditional Business Model	Agile Business Model
R 8	This is one that is sort of outside my current scope, I immediately think of the guys at the Bandwidth Barn and I don't want to thumb suck anything but I know they have created those sort of platforms, the last interaction I had with them in conjunction with the University of the Western Cape and their entrepreneurship department was forced to created a digital village out in the Bellville area and this would be the perfect platform for the tech transfer in particular, where we have guys like 88 miles per hour, the google guys based in Cape Town, I mean we are considered to be a silicone valley of SA, if I am not mistaken I think Bandwidth Barn is launching in Khayelitsha as well at the Lookout Hill and to me those sort of platforms are being developed and are in place in some instances, again I think it is that bridge between the entrepreneur and the service provider of this sort of platforms, I think it is getting to bridge that gap and to me nowadays as an entrepreneur you cant wait to be spoon fed this sort of information, as an entrepreneur you should know what is	Apply business principles to commercialise the innovation	Traditional Business Model	Agile Business Model

	happening out in the market, especially if it is related to your sector so I mean any above the line marketing then those sort of things to me should be obsolete particularly in the text base, so the entrepreneur should know about it even before it hits market,			
R 9	I think sometimes we all walk around with concepts or what we say perceived solutions to certain problems but it is the mechanism for us to develop that concept into a model and to test that, so the benchmarking part is sometimes lacking and then I think I actually want to throw the ball back into your court in that I think that is where institutions and yes currently we do have incubators and we do have the Bandwidth Barn in terms of IT but I think a greater role could actually be played also by your tertiary institutions in supporting and benchmarking providing that function where people can actually who have developed their concept or they have a concept and can be developed and be benchmarked (*that is similar to the role that MIT plays for instance *) so I would say I know a few years ago they talked about this Capricorn Park but I know in Stellenbosch you got your Stellenbosch hub but that is where development and with support of the university, Technopark in Stellenbosch, but I think more can be done by tertiary institutions in supporting that 'why'.	Establish links between SME and business partners	Venture Participation	Venture Creation
R 10	The Bandwidth Barn ... I think it was formed 2004/5 and it originally had ... the concept was fabulous because it had 40 business under one roof and the businesses that were there all had a common interest, they were all technology based, so what the idea was that they were suppose to feed off each other, the problem I found at the time was that there was too few black representatives in that innovation, so you got a young white guy who is saying that my dad is giving me R200000.00 to start my little business, I have a trust fund and I have an idea to develop a platform for cell phones, so what he does is he goes to the Barn and he then is supported by –can I use the Jewish environment, they buy his product they support him but you and I we dont get the same support (*we dont come with that network*) and I am going to make a comment and it is one of my slogans I use and you will see I use it quite often 'your network is your nett worth" because that really underpins how far you can go, because we as in the new SA we got the (unclear) and we got the black umbrellas ... but there is also a limit to the amount of funds that they allocate so who is going to support an SME when there are 1000 other SME's. The problem with SME's and you will find within the Bandwidth space is they start working together but there is no proprietary software, they use common platforms, they work off the common network and even though you an individual the problem you got is that you go next door and you say to your mate 'help me with the development of this thing' the minute you want to take it to market he claims ownership because actually you cant do anything without that little component that he developed or he waits for you to fall over then he goes to market (*which is a strong likelihood*) so that element is key so the problem you got is that we, out the IT space maybe 2 or 3 black businesses, the rest (noise) businesses and they are closed because with respect to the technology space, before the (noise) technology was almost exclusive domain of the white businesses, again we talk about that there is no coherent platform for technology transfer, the point is that it is not about the transfer of information its access to that information, if don't have access to the information you cannot transfer it, you will not have the right of access to transfer to the next guy.	Establish links between SME and business partners	Venture Participation	Venture Creation
		Assist SME with technology innovation opportunities	Technology Acquisition	Technology Innovation
R 11	Bandwidth Barn ... as I said there is nothing else, I mean if I come from a township like Embakweni and I need to learn to use a computer where do I go to, there is one company that I know of ?Solulu? Technologies who have opened up internet	Establish links between SME and business partners	Venture Participation	Venture Creation

	<p>cafes around all of the townships and they making a huge impact by teaching not only youngsters to use computers but they teaching teachers to actually use a computer, because teachers have no idea of how to switch on a computer either and it is quite correct in saying that there is no platform for meaningful technology transfer, if you in the city you have access to everything but once you step out of the Cape metropole that is where the challenges are, even if you go to Stellenbosch for instance the little town of Stellenbosch ... in the City they got free access to wi-fi and outside of that town there is nothing, now where is it necessary, who needs access to that information, people outside don't know how to access information so I must agree that it is quite true that there is no platform</p>	<p>Assist SME with technology innovation opportunities</p>	<p>Technology Acquisition</p>	<p>Technology Innovation</p>
<p>R 12</p>	<p>I do believe that it is critically important, so businesses have and it really comes down to push and pull innovation drivers, now in the push and pull innovation sort of like model development, businesses have to understand the assumptions that informed first of all the product or innovation design as well as the market need and more importantly they need to quantify the market need in such a manner that it can inform their business plan or business model to say whether that market need is profitable for them to basically achieve, tech transfer platforms and assistance is required in the university space, the department of science and technology through Knitmill and through the TIA have supported the university based tech transfer platforms to assist university based entrepreneurs and innovators to help them address the market need... that is the one thing,</p>	<p>Apply business principles to commercialise the innovation</p>	<p>Traditional Business Model</p>	<p>Agile Business Model</p>
		<p>SME must build innovation into business model</p>	<p>Traditional Business Model</p>	<p>Agile Business Model</p>

APPENDIX L:

As a development agency, how would you go about ensuring that a business can turn an innovation into a business that can succeed and ensure its long-term sustainability?

Comment	Key Words	Themes	Categories	
<p>R 1</p> <p>How can I assist somebody who has got a product and that product is sustainable, there is venture capital and then again the venture capitalist will look at payback period, will the business be able to payback whatever funding is required and what period, how long will it take, are they comfortable with the product, are they comfortable with management of the business, is this person who comes up with an innovation... is he capable of running a business, its one thing to be somebody who is an innovator and he comes up with an innovation and it is another thing to be able to run a business once you have sufficient orders to be able to run that business (so Solly the venture capital-do you think it exist, is it accessible to the SMME?) There are venture capitalist around but there are not that many around and again if venture capitalist would give you money but they also want a share in the business, if they feel that this business is going to be successful then they would provide funding on condition that they become shareholders or benefit in some way or other, there is always a catch to it, but there are ... there is Angel Investors there are other venture capitalist but also one can look at government funding, there is the Department of Trade and Industry for example has what they call an Innovation Fund and that Innovation Fund is precisely for innovators who come up with brilliant ideas and they would fund a ?RND? and they would provide ground funding and loan funding (in your experience do you think SMME's are aware of these funding, particular the government funding or is it something that ..) I don't think many SMME's are aware but there is government funding for innovation (so could we agree that work could be done in terms of making the awareness thereof more accessible to the SMME) I agree absolutely. Look there are other government agencies who could make SMME's aware that there are these funds available e.g SEDA we are aware of SEDA and the DTI and the National Youth Development Agency ... these are all agencies who are there to help a business to grow, to provide services and to assist a business to develop and grow but in terms of funding for equipment and innovation, SEDA is aware of it and maybe they should inform the market, I think it's not marketing properly ...it's almost like a SETA unless you go and find out they won't let you know about it.</p>	<p>Assist SME to understand intricacies of venture capital</p>	<p>Venture Participation</p>	<p>Venture Creation</p>	
	<p>Assist SME to progress from innovator to business owner</p>	<p>Venture Participation</p>	<p>Venture Creation</p>	
<p>R 2</p> <p>Again, we are not specifically work in an innovation space but we do have businesses that are in that space, so again for us it is about asking the right questions so that they can at least begin to get the relevant answers and our model is specifically around that, we buy into the idea that questions solve problems not answers, so the more you ask the question the more you get think about it ... if there is a CSI model out there - why do you want to take that what the world has already doing to take that to a client, why can't you bring something different to the client, which means you got to think differently so you can come up with something different for the client, so for us that is the 'how' and it does not happen necessarily in the workshop but it happens on a daily basis and how do we just think and question ... (yes it is contemplation)</p>	<p>SME must address needs of the client</p>	<p>Service Deployment</p>	<p>Service Innovation</p>	

R 3	(so I guess in many ways you have already alluded to the 'how' question. So your 'how' response would be making those connections ...)	Establish links between SME and funders	Venture Participation	Venture Creation
R 4	<p>There is a lot of funding available, there is a lot funding available, I got a list as a matter of fact I got 3 pages of funding institutions just in the Western Cape which I can give you later on, you can see who you have engaged with already, who you have not and you can actually contact them to add to your list so you get perspective of not only people like ourselves who sit here and provide funding to organisations who then role out to the SME sector but you get to speak to people who are sitting and having to make decisions about funding itself and do we fund this business what do we look at etc, and when we looking at innovation we are looking at new things, when looking at new things the risk level is 10 times more than a business who is coming with a track record and who has already proven themselves, it is a completely different ball game and there things are a little bit easier, we looking at a track record, you looking at an entrepreneur that already proved themselves that has made all the mistakes that they succeeded lifting themselves up so it is different, there is funding, we have a program here where we run a partnership with another company called Life Capital where we run a workshop for interested parties and we pay for the entire workshop, also the other partners is the graduate school of business, it is legitimate, it is a highly rated course on dealing with Venture Capitalist, not an easy one because Venture Capitalist can give you an answer within 24 hours (unclear) given 2 minutes, however how do you structure the agreement, how do you structure to deal with them, what of your business do you give to them, what is their expectations, how do you manage those expectations and what is your expectation of them, do you expect them to come in with the expertise or if they dont, so there are so many things to consider literally at the drop of a penny and once again here you have a young person that lack experience and you got to make this decision so we take them through a process where they taught how to deal with every aspect of dealing with Venture Capital. I see you use the word 'Venture Capital' but it is one form of funding there are tons of other funding, you got Anglo American that has now come with the Zimele Fund and Old Mutual and the Masisizane Fund, these are 5 institutions that have taken some of their own funding as part of either their corporate social investment or some sort of program within the company and combined it with government funding to ?Jobs Fund?, they made it available to no cost funding (is that graded as angel funding?) no that is not angel funding, angel funding is different that is your Venture Capitalist, this is loan funding and it is developmental funding, developmental funding means it is funding that would consider a lot of other things that banks would not consider, banks are focused on risk mainly and the developmental funding would look at the entrepreneur, the ability of the entrepreneur, the potential of the idea, it may not start as a good idea but if you start to develop that idea or shift to the left or shift it to the right whatever it may be, that is the developmental finance, it is genuinely finance that comes with lower interest, it normally comes with a mentorship program to assist that entrepreneur,</p>	Assist SME to progress from innovator to business owner	Venture Participation	Venture Creation
		Assist SME to understand intricacies of venture capital	Venture Participation	Venture Creation

	<p>it may come with ... where you only pay interest or you only pay the capital for a certain period to assist with cash flow because it is not focused on profit, its focused on developing sustainable businesses as opposed to banks that will try and charge you the maximum and try to get their money back as soon as possible as the longer you leave it out there the riskier it becomes, so yes innovation and innovation being new businesses or new business ideas carries a very high risk for anybody applying for that kind of finance need to understand the situation from a funders point of view unless they put together a very strong argument it is going to be a difficult process but to assist them you got the Design Innovation Seed Fund, you got your implementing agents your SPV your Special Purpose Vehicle that would help people in those particular sectors to develop, as you know speaking to Bertram they at the Bandwidth Barn they put together something to assist someone like you and I that cannot be the experts, they put together something that allows ... if I have a very good idea the collaboration between the experts within Bandwidth Barn and someone from the outside to develop and there is a relationship then formed between the two except it becomes a business and I think that is a fantastic idea because this new one now with the Design Innovation Seed Fund, if I look at how long we have been within the industry been talking about this type of thing, it is exactly what is needed now because you can well imagine coming up with an idea and that daunting task of taking it from an idea to commercialisation for someone that has never run a business it is impossible.</p>			
R 5	<p>(so are you suggesting then that the 'how; you could assist them would be to bring these venture capitalist together on some kind of common platform then) Yes, so it is one of the solutions that we have been working on with other organisations its an online platform that works on the same principles as social network where you have different groups or support organisations, the one is marketing the one is design the other finance so the idea is that within the finance group wants to be the player or the entity within the social network, gets to the level of finance by the time they get to that point they will have access to venture capital and these guys will have, even though they would be there as a group they will have the ability to view or to see the activity of those start-ups, so this is mainly about being aware of who or which start-ups are of interest to them, but essentially all of that is about organisations it is all about creating a structure for Venture Capitalists (so you do believe that Venture Capitalists are out there it is just a matter of mapping and matching them accordingly) They are. You know what happens is that we have cultural celebrities in this space so you find it circulating in the same group of people or there tends to preference in a matter of networks and I think in that process people miss opportunities of creating solutions because of the fact that people are unaware, so for instance if you know as part of this incubator you might be missed and you might be sitting in Khayelitsha and someone would be aware of what is going on, so a platform that brings the two together ... start-ups and venture capitalists, its actually very good thinking, kind of getting married to each other.</p>	<p>Establish links between SME and funders</p>	<p>Venture Participation</p>	<p>Venture Creation</p>
R 6	<p>Again, for reasons mentioned before, we are viewed as a non-competitive entity with social and technological development tools. Furthermore, we are seen as not being in this game or a quick buck but rather for the access to businesses to support their innovative efforts. Our mandate from our funder (DST) spells this out for us and our business model is geared to this. This is what we do on a daily basis. So yes, venture or other capital is required but we reduce this barrier because of the nature of ATS.</p>	<p>Establish links between SME and funders</p>	<p>Venture Participation</p>	<p>Venture Creation</p>

R 7	<p>On our side we are the ambassadors of business owners because if there is no one representing them to your financial institutions, financial institutions would in the long term not have policies that support SMME's, so therefore as a Chamber we then say to financial institutions that these are the challenges that are facing businesses, then because of the credibility the financial institutions are forced to plan and respond in a policy way in terms of the financial support (so your role would be an ambassadorial role) yes lobbying</p>	Establish links between SME and funders	Venture Participation	Venture Creation
R 8	<p>I think I will look at the how and that speaks to more about quantifying business in terms of rand value because as a lender that is what I want to see, I want to see it as a possible business venture, as much as the innovation is cut throat innovation and leading edge, it boils down to profitability, affordability and that speaks to a few components, off takes for access to markets, who is willing to buy your product and your service, do you have those off take agreements, I need to quantify it, it needs to be in writing, give me projections in terms of income statement and balance sheet, lets physically do a due diligence and see if the market is ready for it, so to me it is not a question about how do you turn that innovation, it is are you able to sell the innovation and I mean it has been evident now with the Dragon Dens of the world and those sort of things, there is a wealth of processes and new ways of doing things, its pitching that idea and I mean Dragons Den has a perfect example of what I do on a daily basis is ultimately that, its actually leading my own reality show, its I have a client here and you need to as an entrepreneur and more so not just as where your innovation is concerned with the idea but you as the jockey as the entrepreneur, do you understand because you are the expert in your field be it a new App or be it whatever the case may be, are you a business person, there is a distinct difference between the two, you can have the best product and access to the market but if your financial management of your business is lacking and that is picked up right up front but there are ways to remedy that as well, and especially from a non financial support perspective, staying close to the entrepreneur, looking at getting monthly governance from bank statements and management accounts, quarterly visits to the business, assigning a mentor or a coach and trying to at least counteract or pre-empt any disaster that might happen</p> <p>(*in saying those things do you then acknowledge then that the SMME has a distinct disadvantage compared to the corporate for instance, where they just by way of their structure and major they able to have all of those departments*)</p> <p>no not in today's world. In today's world there are so many ED support programs being run by corporates as far of ED spend and that information is freely available, if you type enterprise development program into google and everything probably from Telkom to government will pop up, so it is accessing that information and putting yourself out there and getting involved, I mean anything from a 2 to 3 day program to an entire year program, I mean at Absa we had sponsored the small business academy with the Stellenbosch Graduate School of Business, there were struggled to get SME's to register for it and I mean that comes at a cost that the entire year course comes and it is accredited, it comes at a cost of close to R50000.00 of which the stipend or contribution paid by the SME is less than a 10th of that, so it is readily available it is just a question of putting yourself out there and doing the proper research</p> <p>(*so there could be a challenge in terms of that then*)</p> <p>well from a SME side but definitely not from a corporate perspective, corporates are willing and able at this stage.</p>	Assist SME to convert innovation into monetary value	Product Deployment	Product Innovation
		Assist SME to progress from innovator to business owner	Venture Participation	Venture Creation
		Establish links between SME and funders	Venture Participation	Venture Creation

R 9	<p>(*so the how is around the advice that you will then give the SMME in that regard*) How do we assist? In this instance there is a number of either it would be through forum that exist but also the DTI has an arm called the Small Enterprise Development Agency SEDA that can actually help you to research either the solution or where you can get further help in providing that ...(*so the non financial assistance*)</p>	Provide financial and no financial support	Venture Participation	Venture Creation
R 10	<p>You can talk about long term sustainability and growth, you say growth you talking about sustainability and sustainability and growth cost money, so the first element of growth means that access to money, access to development funding or angel funding and especially where we talking about innovation where the technology spreads, it is a non existent thing in SA where most angel funding in SA is based on the fact that you have to give away 50% of your business to get the funding, so why must I develop something when the guy is giving you R100000.00 (one hundred thousand) and it is also the element of development funding is that the monies that are being made are being used to pay salaries, that is not the intention, the money should go directly into the development of product and R&D as opposed to paying salaries (*that is right as the one is sustainable and the other one is not*) once your R100000.00 is up the consumer is gone so we need to look at the ideas that the guys have and the alignment between similar ideas and what I have always talked about is trying to partner with global business as an SME so that they take you under their wing and they (noise) of the development and innovation for the R&D (*yes its about your multinationals now like your Microsoft ...*) but not only, we focus so much and this talk about the global village and technology is a global village and innovation is definitely a global thing, we as SME focus so much about I need to get into Microsoft or I need to get the SAP but nobody has asked SAP in the UK nobody asked SAP in Canada, why am I not asking SAP in Germany to bank on it because to them just the currency conversion says I get 10000 Euros from them and its R120000.00 its much more than where you go here and you say 'can you give me R100000.00 ... I am not giving you R100000.00. 10000 Euros means nothing, what they should do is say we want to develop 200 new SAP consultants globally, where are those innovation so that we can develop them, lets draw on those, you've done the basics and you got the qualification, you done all that ...ok now come to Germany for 3 weeks or a month every quarter or we will send somebody from SAP to you so that they can function in your real world and add the value and that is the conversion I am talking about, innovation needs to be global, innovation needs to be using the global village to focusing on the South African market so that makes a big difference in terms of (unclear). I see under intentions you talk about Venture Capitalist and I have addressed that.</p>	Establish links between SME and funders	Venture Participation	Venture Creation
		Assist SME to globalize the innovation	Technology Acquisition	Technology Innovation
R 11	<p>How we could assist businesses ... venture capital is not something that is readily available in the country, at the moment we got the reality show The Dragons Den and those are the kind of things that we need more and more of, not on a big scale but on a smaller scale and certainly to go into townships and maybe corporates who in the Enterprise Development Fund can use that fund to actually go out to townships and say 'we need to look at 10 of the best ideas in this township and help them to develop' people are not being given ... they are being allowed to struggle along and knock on doors and so many doors get shut in their faces that is why they give up so quickly on innovation, I have been involved</p>	Assist SME to progress from innovator to business owner	Venture Participation	Venture Creation
		Establish links between SME and funders	Venture Participation	Venture Creation

	<p>with the Raymond Ackerman academy as well, those young people have so many brilliant ideas but there just isn't enough people who are prepared to take a chance on them and that is what we need, I have said that fail is not a word, fail is an acronym for the first attempt in learning, you have to fail in business in order to learn to do it better the next time and the only way we going to do that is if we have a pool of venture capital available for young people ... not only young people but anybody to test their ideas and move on from there</p> <p>(*so this interesting concept of the Dragons Den as you say is very popular now, so do you suggest that perhaps as a development agency that could be an avenue where you not only have funding made available but also the critique of these venture capitalist and then of course as we know that the nature of that program is 'I don't only give you money I also come on board' *)</p> <p>Absolutely, our business advisors most of them are not experienced business people, they done all the theory but the practical has not been done and maybe that is also we are falling short, entrepreneurs today need to be influenced by experience, you cannot and I learnt this many years ago 'you cannot learn anything unless you do it' it is like a child, if you give a child something to do they will be able to learn from it, you can't tell a child how to do it that child is not going to listen to you, it is the same concept, that is how humans learn they learn by doing.</p>			
R 12	<p>So I will give you an example of how we have actually been effective in doing that, we are currently running a global clean tech innovation program, we are the local implementation agents with Unido and that program in itself comprises a series of webinars and workshops that the participants have really benefitted from in order to inform themselves regarding their business model design, the strategic positioning because a lot of those guys have IP that they are currently managing or that they intend to manage protect and exploit and the information coaching and mentorship that comes with the GCIP has been really beneficial, has assisted them in making the right pivots so that they are closer aligned to market, so they don't necessarily have to turn to innovation of their product or service, sometimes they have to turn to innovation of their business model and the assumptions that underlie their business model so that they are positioned correctly to take advantage of the sustainable opportunity.</p>	Assist SME to progress from innovator to business owner	Venture Participation	Venture Creation
		SME must build innovation into business model	Traditional Business Model	Agile Business Model

APPENDIX M:

Why do you think that it is crucial that a business turns an innovation into a business that can succeed and ensure its long-term sustainability?

Comment	Key Words	Themes	Categories	
R 1	It does not matter what type of innovation the entrepreneur comes up with. Firstly the entrepreneur has to test that innovation in the market place, secondly he has to test the product itself in terms of research and development to see whether the product can withstand or for example whatever product he comes up with that the product hasn't already been developed so he obviously need to make sure that he register the product, I am not too sure who to do it with ...for example intellectual property you need to make sure its patented or whatever so he is to make sure that if he comes up with idea to test the product, to see that the product is that unique product, its not copied or whatever and then patent the product so again see if there is a market and a need for that product in the market place and then get assistance... I am probably going to mix up 'how' and 'why' ... so again why does he need to make sure he is sustainable, its because if he can get the product registered and there is a market need for it, he then has to make sure that the business itself is sustainable so he should price his product properly, cost his product, identify how to manufacture the product and once he understand all of that –in other words, again it could be part of a business plan where you saying this is my product, do the research, is there a need for it , what is the layout of my manufacturing operations and in that way he can see that he can get the product to the market and there is a market, there is a niche for it in the market, that would ensure the sustainability of the product, so that is the 'why' and the 'how' as well, part of that could be part of the how	Sme should test the product in market	Market Access & Penetration	Market Creation
	Understand the product life-cycle	Product Deployment	Product Innovation	
R 2	Again, if I look at the statement I don't necessarily agree with that tension statement there because innovation for me does not necessarily mean that I need capital in order to make it succeed. What I do need is, I need to have created a market, so there is no sense in this coming up with a brilliant innovation that you think the market needs but once you got this brilliant thing out there, there is no uptake in the market, so your capital investment that you would have stuck into it might be wasted without having done that first, so it is about that, in the past you had lots of time to play around with ideas ... in the 21st century what you got to do is you got to test it and get it out there as quickly as possible, whether it is perfect or not is not the point, the point is to get the market feed back – as soon as you have market feedback a venture capitalist will now ...you got something you can show the market interest, so get it out there, test it, don't worry with the money. I had a guy here who came to me and he said there is a lot of paper work that we got to complete, here is an innovation that I came up with to reduce that and I said 'ok give me an example' now there is nothing, there is no prototype but people now say I need money for a prototype and I say no get something working with the least of money that you have available just so that you can begin to test it, so I said to him 'there is my receptionist, get something done and take your own tablet that you working with and give it to her to test for 2 to 3 days and suddenly you have an example of a real life test, so it is about that. I used the example of ...some call it the world wide web and I do it specifically with 3w next to each other but what 3w next to each other mean is quick testing, get it out go back refine and get it out and the process must just go in and out so that you can refine it quicker but you got to find something to work with, if you listen to the great	Match innovation to market needs	Technology Acquisition	Technology Innovation
	Analyse market feedback	Market Access & Penetration	Market Creation	
	Perhaps innovation does not equate to sustainability	Product Deployment	Product Innovation	

	<p>entrepreneurs and their stories ... I don't want to read this where it says I read about how they got it right as time and time again that is what it is about, how do I create it, the Richard Branson of the world did exactly the same, they toyed with their idea he had money that he could access but he didn't access it, he said I must make this work he signed up and made us his own fake bands in order to sign to his label because he was saying if I cant get this right then how am I going to find the real bands to sign up to my label ... exactly the same concept, you got to try and test it and find the real life mechanism to make it work before you go to the venture capitalist because the venture capitalist ... 'how am I going to get my money back' and is there a demand for it, you got to create for demand, a successful business could mean could mean what, I mean why does it have to be long term sustainable if ... how long did our guy Mark Shuttleworth ... not very long (he made it and sold it) exactly, so it depends what you want to do with it, so long term sustainability might not be what you want but innovation is about how quickly can I get it out and once it is ready ...maybe I can move onto something else, like him, and just sell it and off I go onto my next venture.</p>			
R 3	<p>Let me backtrack and say that there is a lot of money in the market, there is a lot of VC's operating in the market, the issue at the end of the day is that everyone is looking for the next Shuttleworth or the next Facebook or your next big thing, your VC's in my mind are impatient they wanting and expecting high returns on their investment so again it is a case of saying 'fine I got the technology, how quickly can I take this to market, is this a high growth innovation, what is the anticipated returns' those are the factors that a VC would look at before they would come in and consider an investment, having said that tho I do believe the VC's have an important role to play, the problem is and I am saying there is a lot of money in the market but everyone is looking at R5 million investment into a business then there is European money, there is ?units? money coming in but everyone is looking at ½ million to 1 million dollars euros investment. Your young 22 year old that is sitting on a piece of potentially ground breaking technology he is not emotionally nor equipped, he is not matured enough to look at a R5 million investment, so it has been my personal bug when I am saying that VC's have the role to play but understand that if you look at giving a guy R250000.00 the growth trajectory of his business be accelerated, so that is why I am saying that the VC's in the South African context is not like the US market where technology just been turned out and it is a massive market, the South African VC's in my mind need to be realistic, they need to be mindful of our market in terms of expectations returns and also investments. (Do you think the SMME's are aware that there is a lot of money in the market, are they generally aware of this?) what happens really in my space is what you having now is kind of circumventing and kind of cutting out the VC's, you have lot of the guys having great concepts are either looking at the following way to access funding, one by competitions, there is a lot of competitions around, guys would access competitions and they would win R50000 to R500000 to R1 million and that is the one way of looking at it. I see a lot of the guys that have got a technology that is more geared up at social enhancement and you call it your social entrepreneurs, they are able to access funding by way of corporates and they call it enterprise development CSI supply development, so this is a way of circumventing VC's, again in a South African context.</p>	SME needs to understand the intricacies of venture capital	Venture Participation	Venture Creation
R 4	<p>It is a very difficult process and you definitely find people that are looking and finding themselves in the space of lack of entrepreneurial ability, they new in business, they have come up with an idea and an idea is not a business and all of a</p>	Assist SME to progress from innovator to business owner	Venture Participation	Venture Creation

	<p>sudden they are faced with a challenges of a business – so I have created a new light switch and does that make me a business owner or does it make me a business manager, it does not give me that knowledge and I think entrepreneurs that find themselves in that space need to accept that they got a lot more to learn than development of that light switch. From provincial government side as I have mentioned earlier is they recognise these challenges and the fact that we are losing out as a province, as a country we losing out on very good ideas and as a result you now have the Design Innovation Seed Fund that has been available but even there, people with good ideas, entrepreneurs businesses with good ideas have to compete for this fund, there will never be enough funding for everybody, they got to compete and they got to be prepared to do their research and put forward a very good business case, we unfortunately in many cases find that those that are making claims to the fact that there is not sufficient funding are generally people that have taken this process for granted and are expecting it to be an easy one, it is not an easy one, whether it is grant or loan funding you are asking someone to put money into your business and whether you like it or not you have got to put forward a competent case, it does not matter whether it comes from traditional funders or whether it comes from government, government expectation is that you succeed and you create opportunities for others it is not a matter of creating opportunities for yourself and enriching yourself, so if you have a very good business idea but you lack the ability to manage the funds its very high risk and visa versa, your business idea is not sustainable you a good business person it is exactly the same effect, so there has got to be a balance and you can well imagine someone coming out of ... and it is generally young people who are coming out of tertiary institutions who have not done a lot of business trading who had that perception that it is difficult, yes it is difficult because otherwise we will not be running around as business owners, it is something that they have got to be professional about it – to put it in that way.</p>			
R 5	<p>It is interesting. I will tell you what is happening in our environment, I am doing an event in September around the same topic referring to Angel Funding and the point there is that you do find that there are people who do have money but they are not aware of solutions or start-ups that exist so that you find people who are wealthy sitting in (unclear) and there is a network for venture capitalist as a group that is sort of organised in the same way as maybe you will have the business supportive solutions, I think it is a culture of Ventura Capitalist in the region or lack thereof because I think at some point you do need have a way of helping them to be aware of who are the most promising start-ups emerging.</p>	<p>SME needs to understand the intricacies of venture capital</p>	<p>Venture Participation</p>	<p>Venture Creation</p>
R 6	<p>If you don't someone else will. Also, an existing line of business is not necessarily a sure-fire thing that will be flavour of the day forever. So, refining and launching new innovations or innovative products/services are needed to ensure your "survivability. Technology is changing so fast that businesses have to adjust their model and plan constantly to ensure they are riding the wave rather than waiting for the next wave.</p>	<p>Innovation is key to SME survival</p>	<p>Product Deployment</p>	<p>Product Innovation</p>
		<p>SME business model must adjust to ensure innovation</p>	<p>Traditional Business Model</p>	<p>Agile Business Model</p>
R 7	<p>When there is a lack of venture capital it becomes very difficult for someone to move forward, I am of the opinion that definitely there needs to be a model that would support financing, taking care of various that exist because someone who is starting a business or someone who is already in business might have at some task before but this will be assisting that is innovative to support so long as they see that there is sustainability onto the program</p>	<p>SME needs to understand the intricacies of venture capital</p>	<p>Venture Participation</p>	<p>Venture Creation</p>

R 8	From a funding perspective its actually quite simple and I am dealing with one such application right now where a client has innovated a billing system to club billing application for a particular centre and the question talks to why do you think a business has to turn an innovation into ...	SME needs to understand the intricacies of venture capital	Venture Participation	Venture Creation
R 9	Unless you come up with...in marketing they talk about a unique selling proposition. Unless you come up with something that is going to stand up even in IT they talk about search engine optimisation in order to bring you top of people searching for a product or your website so I am saying that your innovation must address a need ... people design something that they don't even know whether there is a market for it and now they want to know 'can this thing be produced' and I say 'but who is going to be your client or who is going to be prepared to buy it from you' so they need to take that innovation and make it known or else the other part is to go out there and look for where the challenges are so that you can design and develop a solution to what is currently a problem and bring it to the market because if the person can see that this is the need in my particular business and you bringing the solution to that there is bigger or quicker buy in into that.	Innovation must address a need in the market	Market Access & Penetration	Market Creation
		Innovation must provide a solution	Technology Acquisition	Technology Innovation
R 10	We need to understand 2 things, we need to understand where we are as a business. Am I business, am I an individual is there 3 of us, what constitutes our business, understanding where you are, understanding where you want to be and then building the interventions, building interventions is a tool because the under feelings of development is money and development funding is non-existent for SME's, it is very hard to come by so the interventions that I talk about is 'how do I take those next 3 or 4 or 5 steps when the doors are almost impossible to access from a funding perspective,	Assist SME to progress from innovator to business owner	Venture Participation	Venture Creation
R 11	Certainly turning that business innovation into a business that can succeed and stay sustainable goes back to the first statement, flexibility is the key.	Assist SME to progress from innovator to business owner	Venture Participation	Venture Creation
R 12	I don't agree with how you constructed this ... the link between the actuality and the tension and this statement, because says a business has to turn an innovation into a business that can succeed and ensure its long terms sustainability, so from my perspective when it comes to business sustainability, long terms sustainability there is a myriad of components and variables that they have to consider in order to achieve that, intellectual property management is about managing long term competitive sustainability yes and there is a financial imperative as well as far as VC and Seed is concerned, my contention is that those are not the only ones, I think as a society we have ... they are important and I agree with the fact that it is important but in longer term sustainability it basically comes down to business model design and effective robust business model design and the innovation in itself will be around that business model design and the agility that they require in order to meet market needs, the ability for them to pivot and inform and validate the assumptions basically in their business model, the tools of intellectual property management is quite important because first of all IP is very expensive to maintain depending on what route to market strategy you choose, the business model design informs the route to market strategy, lack of VC ... I don't agree that we necessarily have a shortage of money within the South African eco system, especially in the ICT space I think that there are Angel	Assist SME to progress from innovator to business owner	Venture Participation	Venture Creation
		SME must design its business model carefully	Traditional Business Model	Agile Business Model

	<p>Funders available and public funds available who could seed entrepreneurs with that kind of funding, I think the tension in this question is actually about entrepreneur education and their ability to focus and the support mechanisms that is required in order for them to achieve long terms sustainability ... you see we have been a society that is focussed on IP and sort of silver bullet mechanisms in order to achieve long terms sustainability, we know from experience that that is not the case and so much is actually dependent on the people themselves and their ability to sustain themselves as they are implementing.</p>			
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APPENDIX N:

As a development agency, how would you go about ensuring that a business is responsive to unpredictable and disruptive market forces?

Comment	Key Words	Themes	Categories	
R 1	So do you have a sense then, that is very interesting what you are saying that typically SMME's start out with a technical ability and that somehow evolves into some kind of business but the person has to transform him or herself to the technical person to the general manager in order to run the business successfully. That is extremely interesting.)	Assist in transforming entrepreneur	Traditional Business Model	Agile Business Model
	so do you have a sense then, that is very interesting what you are saying that typically SMME's start out with a technical ability and that somehow evolves into some kind of business but the person has to transform him or herself to the technical person to the general manager in order to run the business successfully. That is extremely interesting.)	From technical to business skills	Venture Participation	Venture Creation
R 2	I think how we do it is that we do it with the combination of business education, mentoring from the outside so we got an external mentor attached to these business, mentoring and coaching from the inside – from us- and it is almost a handholding process as they are busy experiencing their business they come back and immediately with our systems or with the mentor's assistance they can bounce certain things back and then assist to respond whereas if you are on your own in your business –how do you act to those kind of things- you come back and you say 'goodness me I have now ...I thought I had this deal in the bag and now I got there and the guy says 'sorry' whereas when it happens here we can say 'how are you going to respond to this now' (so it is almost an opportunity for reflection) absolutely and that is brilliant because in mentioning the example and that is actually taken from a real example where one of the client's came back and it was a small deal of about R2000.00 but his view was I need to find the next one and I said 'why do you want to go onto the next one if you dont know what went wrong here, so you got to figure this out and how are you going to know is by going back to your customer, so go back to your customer and say 'thank you for the opportunity I know I did not get it and I am not here to question that, all I want to know is why did I not get it so that I can learn and not make the same mistakes and so that I can offer the rest of my clients a better service' and the valuable information that he got from that actually meant that when the next time the client had something similar they actually approached him to come to the job just because of the way that he did that, so that 'how' is really how we get them to respond to the market.	Business education	Venture Participation	Venture Creation
		Mentoring	Venture Participation	Venture Creation
		Coaching	Venture Participation	Venture Creation
R 3	When we looking at the commercialisation of ideas, its understanding and you will hear me probably saying this over a course and it is one thing selling the technology, if you do not have the access to market the right partners become difficult, also what happens is in this space is that guys are holding onto it as if it is a baby, you can be sitting with the technology and your timing is out, you cant ...so key is understanding how to take this technology to market, have I identified the proper strategic partners, am I attractive enough for a VC to come in, a Venture Capitalist to invest in my product ... so there is a number of practice available. So ideally what we are looking at is say 'fine who is your partners and how do you take it to market', we talking about being agile and like I said technology is one aspect to it, you have to look through the value chain and how do you get it to market.	Provide access to markets	Market Access & Penetration	Market Creation
		Alignment with strategic partners	Traditional Business Model	Agile Business Model

		Encouraging agility	Traditional Business Model	Agile Business Model
		Understanding the full value chain	Market Access & Penetration	Market Creation
R 4	<p>In terms of the development of the products that is provided by provincial government, provincial government has to the best of their ability taken cognisance of what is happening in the market and not created or provided products and services that suit their own operation but generally put in quite a bit of effort into the research that goes into developing products, the challenge with that is that it is time consuming it takes a considerable amount of time, it is not a process that involves 1 or 2 approvals and the approval process to unlock a project that services the SME Centre takes a long time, it could take up to a year and that is part of the problem of service delivery from government is the amount of time it takes, it is a very lethargic process. However, I must say that a considerable amount of research goes into developing the right products that services the needs of businesses, however having said that, we also have to recognise the fact that markets change continuously and businesses continuously have to adapt and the problem is that the programs provided by government does not always keep pace so it is always a few steps behind and that is a problem that needs to be overcome. What government tries to do to speed up the process is to hand the reins to what they call 'implementing agents / service delivery agents and another term that is used Special Purpose Vehicles, these are smaller organisations that are far more agile and can respond to the needs of the SME Centre far quicker, they dont have to go through the same sort of approval processes, they are given a task to service the business sector and it is then up to them to find the relative products and services with which to do so, they can do so far far quicker and in that way still help government to achieve its targets of providing service delivery (what would be a typical example of those SPV's) you looking at Bandwidth Barn in the IT section, you looking at the Western Cape Furniture Initiative, furniture industry obviously and then you have another very good example is the Cape Craft Design Institute and I will talk a little bit more about that as it is a project of interest that you may want to take special note of and it has got to do with design innovation that has just been launched in August 14, I will get the details through to you so that you can get first hand information of what changes are taking place – once again government has recognised the importance of design in stimulating innovation and the whole purpose is to give businesses within the Western Cape an opportunity to become more competitive globally, the CCDI has just been appointed as the custodians and the champions of what is called the Design Innovation Seed Fund its a fund that has been put together in partnership between the Department of Travel and Tourism and TIA Technology Innovation Agency, CCDI are the custodians and implementing agent and the purpose thereof is to make funding available to businesses and to individuals that have come up with very good ideas and we need to explore those ideas and we talking about taking something from an idea through the whole research and development to a product and then possible commercialising it, it is a considerable amount of money it is a fund that can provide up to R500000.00 to a business assisting them through this process, business modelling, looking at feasibility, the whole entrepreneur ..(so it is not only the technical</p>	Provide clear understanding of the market	Market Access & Penetration	Market Creation
		Help SMEs adapt to market needs	Market Access & Penetration	Market Creation
		Make use of SPVs to provide sector specific support	Venture Participation	Venture Creation
		Provide access to funding opportunities	Venture Participation	Venture Creation

	<p>development ?) no it is everything (unclear) taking it to market, IP and addressing the IP issues, addressing business models, developing the entrepreneur, it is a whole host of things and we will obviously do this in partnership with TIA, they are the main drivers being the experts in the field of technology innovation and a number of other organisations that can play a role that provide softer services, it is a whole partnership being driven obviously funded through ?Delat? and TIA and driven by Cape Craft Design Institute. So like you have Bandwidth Barn channelling the IT sector you now have CCDI that would play a major role in the design space specifically focusing on crafts and arts and crafts in the past and now shifting out towards technology and design, it could be special design and it could be processes etc, and you are looking at your traditional design of what they could be after architectural design or designer products so there is a whole host design areas (did the design capital issue – did it impact on this initiative in any way?) I would well imagine that it encouraged it yes but design is as research as shown that encouraging design really encourages also innovation, innovation is what makes your business or your industry competitive and what we want is for Western Cape businesses to be competitive not only locally but globally, this is what we have been battling with – after 1994 when we became part of the global markets we battled because we were not innovative enough, we did not as a country have to be innovative, our markets accepted what we put on the table when there was no other competition and we needed to change and it has taken a long time and I think the realisation now is that this is the way to go, we have not put in massive amounts of money, this is a pilot project and the results are going to give us an indication whether we should go forward or not but this is obviously something we need to watch over a period of time, we will fund in the first year and certain projects might take some time and others quicker but it is a start of something I believe that is going to really give us the edge over other provinces, possibly many other industries also or other businesses particularly.</p>			
R 5	<p>Yesterday I was discussing the same issue with one of the development agency's around the concept of using e-learning, focusing more and not just studying for the sake of the qualifications but studying is part of life long learning process, so I think business operations have to make use of the e-learning platforms, create policies particularly around business areas in finance and make them a label, for instance if you look at the space, if you had an environment where someone could just go and listen to lecture about marketing or design and it does not have to be a prolonged thing that go on for a year it can be a week exercise that definitely helps with the insight, I think that is one intervention (so this space you referring to – is it the special purpose vehicle ...) like the incubators and to some extent even Business Development Support Agencies have the premises that tends to (unclear) for a space for networking and maybe an education element can /assist?</p>	Provide relevant, hands-on support	Venture Participation	Venture Creation
R 6	<p>In my case, I can offer subsidized services that may be needed to adjust to market forces e.g. the Labelling & Advertising Regulations recently promulgated have forced companies to re-look at their labels and re-analyze in many cases in order to comply. Analysis is an expensive line item. That's just one aspect of assistance to get them to their most competitive and being compliant. In a similar fashion, product development is another field where such assistance can be rendered. Our extensive database and consultant contacts in the field also add to our ability to assist. Finally, since we are based in a university, we are seen as non-competitive and not commercial, making us a lot easier to work with and divulge company secrets.</p>	Offer subsidized business services	Service Deployment	Service Innovation
		Offer product development	Product Deployment	Product Innovation
		Utilize network and consultants to offer support	Venture Participation	Venture Creation

R 7	Definitely, for example what the Chamber does is we provide ongoing training and development to business owners so that they are able to see the current and future activities of businesses and model it and one way or another they then prepare themselves so the Chamber therefore is in a much much better position to assist on that, for example we are looking at a position paper developing the position paper for small businesses, so that position paper will then be able to tell as to how should business function because as you said earlier things evolve, so as things evolve then we have to be proactive,	Provide relevant, hands-on support	Venture Participation	Venture Creation
R 8	(so in many ways you touching on the 'how' – so it is a practical specific relevant kind of non financial support that you could render) yes because everybody nowadays anybody with a suitcase is a service provider or a briefcase rather or an ipad but the question is what is the practical knowledge of that entrepreneur and this is what entrepreneurs need and that is the way their mindsets or their psyche operates, show me how it can work and I will be able to replicate it or improve on it or whatever the case may be, so don't theorise it because everyone can google anything nowadays and find it on Wikipedia and it does not mean you could implement it correctly	Provide relevant, financial and no financial support	Venture Participation	Venture Creation
R 9	That is a tough one because for my ?sense? we have developed incentives particular to an industry but the onus is still on the business owner to familiarise himself with the kind of assistance that government offers, that business chambers and forums offer because unless they link with other supporting mechanisms as you cant to it alone any longer, so my response to that would be is that through strategic planning the business owner in my opinion should go and find support mechanisms which government and private sector in the mein would support and they need to also familiarise themselves to become and expert in the industry that they are serving otherwise you almost like a person steering down the road with blinkers on (*so you saying lift your head from the grindstone and there is help it is just a matter of sharpening your axe and finding it*)	Encourage SME to become expert in industry	Venture Participation	Venture Creation
R 10	so if you talk about how do you go for an interview not for a job but maybe to present a proposal, there is a bias to it because he does not speak English or his English is not as good, the need for the business education element ... we must understand something again, businesses need to educate initially and the partnership – people talk about BEE and transformation, the partnerships must be around how do I integrate the value proposition into my existing world and how do I value to the guy I am bringing, as appose to saying that you are an entity and I am an entity, the integration does not exist so you almost exclude the guy from entering your market, so the social guys as you put it, is your biggest challenge. If you look in SA most of the innovation guys are about 23 24 or 25 years, so the guy has been to varsity and he is a software developer but now he is individual, so unless he has picked up by one of the major guys he is going to try and consult but he does not add value because those guys have 10 of what he has offered, what they should say is 'alright we are going to outsource this element of our business to you then you take your pod' and when I talk about a pod most of those elements and the entire supply chain of events should be regarded as 1 2 3 4 5, that pod must be able to deliver the entire value proposition, when they present they present in one value proposition as a collective as oppose to one guy presenting one element of the value properties, so you will challenge this (*because the corporate can that but the SME cant*) exactly, so now his value proposition is diminished, so when we talk about the disruptive market, he is not included in	Value the strength of collaboration	Traditional Business Model	Agile Business Model
		Provide meaningful financial support to the SME	Venture Participation	Venture Creation

	<p>the main stream from the beginning, then we talk about the responsibility of that corporate taking it into their space, for that again a mentorship, you cannot do a once off transcription, you need to say to the guy that 3 years we will work with you... I made a proposal in the past at an international investment conference when we proposed to the City of Cape Town and their argument was that they had an increased the number of SME service providers from 3000 to 3500, so I said that is great but you missed the point and I spoke directly to the mayor when I said because the 3500 now still have to share the same budget of the 3000 so you are not benefitting anybody, what you need to do is tell me that you allocated a specific percentage of the budget just to that element and obviously does not exist, you cannot say how 3500 SME's- R100 million will be allocated to them, then you cant change anything because in the current model I am still competing and there is no preferential development , so I am competing and my competitive edge is negated by the fact that I actually don't compete the entire supply chain, so that is an element.</p>			
R 11	<p>we need to be as a Development Agency need to be on hand to assist, to make sure that there are other opportunities internally in SA that are going to be able to sustain those viruses, assist them with things like access to markets but local markets, in the programs that we have we do access to markets for a lot of our small businesses and I certainly see an opportunity there, furthermore in order for this to be a ceaseless journey we have to stay relevant to what is happening in the market, no small business can be rigid in what they do, they have to be able to be flexible and meet the market needs at that time.</p>	Provide relevant, financial and no financial support	Venture Participation	Venture Creation
		Help the SME to stay relevant to the market	Market Access & Penetration	Market Creation
R 12	<p>Technology Innovation Agency is a funder first, we fund the technology development component of innovative opportunities that entrepreneurs want to take advantage of and as such our very recent positioning has been earlier stage in the funding value chain and the sort of risk ... risk appetite value chain when it comes to funding, so we do provide funding and we also are centred around human capacity development , we got programs that are designed to educate and inform entrepreneurs around human capacity development , implementation and that sort of thing, so we do try to take a comprehensive approach to addressing the challenges and the needs of entrepreneurs, having said that ... we cant demonstrate yet effectiveness because it has been a very recent change for us and as such funding ... intentionally designed funding instruments such as the Provincial Seed Fund that we partnered with CCDI is suppose to provide that sort of funding to take entrepreneurs closer to their prototype development so that they can inform their business model and their market place validation and that sort of thing.</p>	Provide relevant, financial and no financial support	Venture Participation	Venture Creation
		Assist the SME to understand the market	Market Access & Penetration	Market Creation

APPENDIX O:

The SME needs protection from the “big customer” as doing business with corporates can influence the cash flow when payment is delayed or protracted.

Comment	Key Words	Themes	Categories
R 1 I disagree. I somewhat disagree, it would be 2 and I will tell you why, I think sometimes we find ourselves buying into the thinking that a SME needs to have a number of small contracts as oppose to the smaller number big contracts. Does that expose you to risk? absolutely but that links me back to the enablers and at an enabling environment where access to finance and support of an SME that has secured a big contract would ensure that they would not have a cash flow challenge, that would be bank rolled because there would be guarantees in place relative to that, so the fact that there is a disconnect is strange to me if you have signed a R30 million deal with FNB and you having a cash flow issue, there is a disconnect there, where are your big brothers that are saying to you 'listen here is R250000 guaranteed I know they are going to pay you on 90 days but you could keep your doors open' (and who do you suggest would give you that R250000, a development agency, development bank or what is it) I think again it links back to our enterprise development discussion where I think that that needs to be working there, so we have preferential payment periods within the enterprise development and so I think we need to look at that, and I mean to leverage that more effectively so that small businesses are not exposed to that risk because they needn't be exposed to the risk, if in that example FNB were to give a small business a R30 million contract, there is no good reason why they could not be paid on a 15 day schedule, given many considerations obviously but they would not have to be subject to a 90 day payment, and that could be a win win for them as well as a corporate would be able to claim those points.	SMES do not always need protection, they must meet the challenge themselves	Strategic Support, Growth and Sustainability	Business Model
R 2 Strongly agree. I do feel that the corporate (unclear) they definitely take advantage of the SME's, they would most likely pay out to another corporate giant more likely than they would to a SME because they assume we lack the structure that corporate does so they are more likely to stall our payments than to Telkom or	Corporates do take advantage of SMEs	Growth and Sustainability	Business Opportunity
R 3 I have heard and I have seen, not through my own company, companies that have stalled payments, one of the biggest company is Public Works, they stall payments and these poor guys they go through hell and high water to get the job done based on maybe they were under capacity but they got the job done anyway, and so protection against that in terms of payment which I believe they getting better but then you have the other companies, I wont mention the big 5 but certainly there are instances and I am saying it very general, there may be circumstances around those things but yes I believe that should always be the case because one man's business is teetering on bankruptcy and the other guy he can afford delay in payments. Protection is to be looked at across the board.	SMEs do take strain under delayed payments	Growth and Sustainability	Business Opportunity
R 4 Not all corporates are that bad, but there a lot of them that milk the supplier, if I can put it that way, by i mean 90 day payments then the payments are still late, and the sad thing is that sometimes the people doing it are people who should actually know better, because they should all know that cash flow is absolutely vital for a SME, a SME by definition has not been in business long enough to have built up cash reserves, I mean we going since 2005 and i will be honest with you, we not sitting on cash reserves, everything is working capital, so you cant wait for your money, you got obligations you got rent to pay and all of	Corporates do take advantage of SMEs	Growth and Sustainability	Business Opportunity

	<p>these kind of things, there is also too much of a disconnect in corporates between the decision making layer and the execution layer, the guy at an operational level he does not give a shit about enterprise development or SME's he just looks at it and say agh I can do that tomorrow, I can sign off the purchase order tomorrow no big deal, so he's got no affinity towards what you going through as a SME, he doesn't care, that is the execution, now if corporates are not putting on controls in place to make sure that their investments in enterprise development are being looked after, it is just going to go down the drain, then they going to turn around and say oh the SME is coloured because he now bought himself a fancy car with the money that I gave him but it is not that, how a person chooses to enjoy the fruits of his hard labour, shouldn't become the criteria to measure him, so if I like to drive a nice car, you got to assume that I got the money that I can afford and that I worked that hard for it, not of case of like oh no they just ... and that is a copout, that is a copout for corporates to point fingers in that direction as oppose to saying we should be doing our jobs better and we should be doing better business process</p>			
R 5	<p>Yes the SME need to be protected from the big customer in any type of business especially small business ... cash flow is one of the major concerns in terms of business surviving or not so yes I totally agree with that, the SME should be protected from the big customers doing business with them.</p>	<p>Corporates do take advantage of SMEs</p>	<p>Growth and Sustainability</p>	<p>Business Opportunity</p>
R 6	<p>It is not so much protection ...it is again, and this is where the development terms of the SME needs to be held congruent and the focus should be on ...that congruency is sort of linked to the support of the innovative ideas of the SME against the backdrop of the developmental or capability of that very SME, be it itself or linked with Development Agencies and/or other companies and I would suspect that SME is sensitive to the cruel business environment where if one is to capitalise on a business environment so it shouldn't seek necessary protection from the very big customer that it supports but rather it needs to protect itself by virtue of looking after its own congruency in terms of its developmental and growth curve</p>	<p>SMES do not always need protection, they must meet the challenge themselves</p>	<p>Strategic Support, Growth and Sustainability</p>	<p>Business Model</p>
R 7	<p>SME's don't necessarily have the resources or infrastructure to handle these sort of delayed payments etc, and I don't think there is adequate solutions provided or assistance provided where SME's can return to their scenarios, if you suddenly as a SME has the opportunity to get a contract which requires an investment that will amount to millions of rands or a reasonable number, you will find that the current assistance program that do exist, the criteria is either so stringent that you cant imply it, the SME is not going to have collateral for R100 million, so it then takes me back to all these government development plans etc that took place and the vast amounts of money that we approve of but you wont be able to secure even just collateral for that, it comes down to the entrepreneurs own asset based abilities which is limited and cannot grow, that is why we would stay in that cycle (precisely and that impacts on the ability to innovate again because you stay operational)</p>	<p>SMEs do not have the resources to deal with delayed payments</p>	<p>Growth and Sustainability</p>	<p>Business Opportunity</p>
R 8	<p>This is another area where the development agency can help-protect the cash flow of the SME</p>	<p>SMEs need protection from Development Agency</p>	<p>Strategic Support, Growth and Sustainability</p>	<p>Business Opportunity</p>
R 9	<p>Resources, like cash and staff or always erratic for an SME getting established and big cash flow gaps like the described could be very disruptive</p>	<p>SMEs do not have the resources to deal with delayed payments</p>	<p>Growth and Sustainability</p>	<p>Business Opportunity</p>

R 10	Many new business owners do not know how to deal with this problem and need guidance.	SMEs need guidance on how to deal with this	Strategic Support, Growth and Sustainability	Business Opportunity
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APPENDIX P:

State and corporate payouts take too long for the SME and many would cease to exist by the time they receive payment and/or funding.

Comment	Key Words	Themes	Categories	
R 1	I think it relates to the basket of services, it relates to the fact that often we have one line of products or our offering is pretty insular and so we have not diverse, we have not entered the point we diversified so all our eggs are then in one sort of proverbial basket and then mean ... because if you waiting for one payment its worse than waiting for four because there can be like a staggered kind of trickle almost of money all the time and so yeah I think that is the course of it alone.	Diversification of products is key	Capacity Building	Business Model
R 2	I cant speak for State because I never actually tendered myself, but corporate I can definitely speak for that and I would have to say that I am neutral because I think that in my experience as long as you are firm about the terms of payments and you both are ethically bound by those terms, I haven't really had a problem with having corporates pay my funds that were due timeously as well.	Ethics is important	Strategic Support	Business Opportunity
R 3	I somewhat agree because there are companies who are probably very diligent in doing that.	This often happens	Growth and Sustainability	Business Opportunity
R 4	When we started out in business we took a conscious decision not to take on government work, and we only started doing government work literally about 2 years ago because it has gotten a lot better, so I think its a case of you need to – you cant accept work because no government agency and no corporate, it only tells you after the event that you will only get paid in so many days, so if you cant organise yourself accordingly and if you cant survive for 90 days before you get that money, you cant blame them, you need to negotiate better terms for yourself before you commit to a contract, not wait till you in it and sit and complain to everybody, it is not going to get your money, you signed a contract that says 90 days, before you sign the contract –oh so that is another thing that need to go onto that list – they need to get legal help in the business (no 15) legal assistance is paramount because where most of them get killed is that they sign contracts that they should never ever be signing and this is one of those, I mean we do business now with local government and City of Cape Town and I cant complain about the payouts, the difference now is its not like 30 days but if they said its 60 days they are paying us on 60 days, so I organise myself accordingly, there is commitment and the same with corporates, I cant point a finger at corporates and say generally- look there are times when they say are late but there is normally valid reason for it and I mean this is business and things happen but in principle they try to stick to what they have committed, so yes it is not ideal for SME to only get paid after even 30 days, 7 days would be great, and that is also the advantage that we got –when we started out with Woolworths we got paid after 7 days and that is part of the help we get, your cash flow is not impacted.	The SME must prepare for these events	Growth and Sustainability	Business Opportunity
R 5	Yes corporates are able to absorb when there is a delay payment, as SME's we obviously depend on those payments and I think there should be some sort of ... especially with SME and with government there should be some sort of leniency towards supporting small businesses knowing that there cash flow is major concern of any failure and assist them in terms of making payments in a shorter period of time, it might not be on a cash basis but at least give them a shorter than the 30 day term of getting	Government must support SMEs in this regard	strategic Support, Growth and Sustainability	Business Opportunity

	their payments so that it does not put them in a vulnerable position in terms of cash flow			
R 6	Again, as we talk about the business environment and innovative environment and supportive environment viz-a-viz the tertiary educational institutions and related ... the same has to be said that the State and corporate space is not necessarily developing in the right direction fast enough to be able to embrace the risk which is nationally carried by the SME and so it will somewhat play a smothering role so it takes too long because it is at its own risk, it doesn't embrace the fact there could be risk but there could be returns, so what it does is it look after its own risk profile and it makes the State and corporates make decisions based on their risk profile ... necessary understanding or paying attention to the risk profile that comes with the SME but the returns in terms of societal benefit and commercial benefit, it does not necessarily put the analysis of the SME first, it puts its own analysis, unfortunately it leads to this delays that cause havoc	Government must support SMEs in this regard	strategic Support, Growth and Sustainability	Business Opportunity
R 7	This would go to something we discussed earlier on, the soft skills or business understanding, SME's I think often we hear the value and we very eager to sign, we didn't read the contract, we didn't come with our own contract and I would say that you either get the State contract awarded on your capability or corporates can contract you based on your capability, so I am sure to a certain degree they possibly will bend, if you say well my term for 30 days and not by terms of whatever that might be, there is nobody or organisation or council that I can go to as a SME and say well look – this is what I potentially can get, is there a contract that you approve, is there some sort of mediation that can be done so that we remain in a win win situation and therein I find room for that, so I think that a bit of up skilling and understanding of the true business side of things will help with that.	The SME must prepare for these events	Growth and Sustainability	Business Opportunity
R 8	SME's cannot afford to carry costs for long periods	SMEs cannot sustain this	Growth and Sustainability	Business Opportunity
R 9	A 3 month cash flow is a luxury for most SMEs	SMEs cannot sustain this	Growth and Sustainability	Business Opportunity
R 10	small companies need the money as soon as possible	SMEs cannot sustain this	Growth and Sustainability	Business Opportunity

APPENDIX Q:

There is benefit in collaboration in mobile application development.

Comment	Key Words	Themes	Categories	
R 1	<p>I strongly agree given the scarcity of resources, that is one, so I am talking about physical resources and again relating to bandwidth in particular but I also think that collaboration is critical, we need to broaden a pool of ideas, we need to broaden the pool of thinking and we need to be disruptive and we need to rattle and have our models tested and thrown up against sort of other people who think differently to how we do, and if that could happen more and more often I think that could only benefit SME's and their development. (Thanks for that. What makes an App a good App in your view?) quite simply, functionality ... functionality number one and I think what make a good App from a commercial perspective is conversion, so it is about being able to take somebody from one place to another, sometimes quite literally ... let me say this, I was at a conference a couple of weeks ago and they said something very interesting, they said that mobile web leads discovery but the mobile app environment leads experience and that is a very important distinction because from a brand point of view, I think that it needs to be noted is that from a mobile web perspective you need to be out there to be found, where mobile apps are, they at the forefront of the experience of your brand and they deepen the experience and so that for me is what there needs to be a deeper appreciation in terms of and I think if that informs more of the design thinking, then I think it is a rabbit hole we can never get too deep down (do you think this whole mobile app thing, is it a fad or is it something ... is it a genuine thing in your mind, is this something ... not that it is going to be here forever but do people take these things seriously) our apps ... maybe I am unique in this view but I believe that our Apps are an extension of our personalities so just to qualify that, if I were to ask you what Apps you have downloaded I would very quickly be able to get a sense of your personality so that is from one perspective, I think from another perspective just to go down the road from experience again ... it is an extension, so it is an extension of me, it allows me to pool more information towards myself, it enriches my experience of the environment I am in, if I choose to do that then it has the potential rather to deepen my experience of where we are sitting right now, of what I am looking at and so I think Apps feed our curiosity and that is a basic drive within people and so it doesn't have legs by virtue of that App, I am really excited to see where it is going to go, I don't think it is going to peter out any time soon (in closing, I really mean this now in closing. What is your most indispensable App that you got on your phone) I have a number but I really enjoy Instagram, I really enjoy Twitter but increasingly I find myself communicating in more visual way and so what would have been a sort of textual reference on Twitter now becomes more visual, it becomes more textured, it becomes richer, and again that links to experience, so I am able to communicate or articulate more clearly what it is that I am experiencing to people in my circle that I was able to do before, and to be able to communicate so richly is something I enjoy so I think Instagram would be number 1.</p>	<p>Collaboration helps to eliminate SMEs deficiencies</p>	<p>Promote Opportunity, Collaboration</p>	<p>Business Model</p>
R 2	<p>Strongly agree. Because the majority of us have smartphones and I think that there are so much technology out there that we could make use of, and it could benefit our businesses, so we definitely should be doing more research and find out how we could add value to the services that we offer, but I do think that we are all going in that direction.</p>	<p>SMEs must see how they can add value to each other</p>	<p>Promote Opportunity, Collaboration</p>	<p>Business Model</p>

R 3	In my humble opinion there is no doubt in my mind, that these will not happen, it will be unavoidable to operate a business eventually without having these things in place, once again communication ... there is a huge benefit and when i worked for a development company, we had a walkie talkie network of 140 walkie talkies and basically that was a huge costs to run but at all times we knew what was happening on site because we could hear the communication going through and that was definite value added to the business so now we have things like Skype, we have things like WhatsApp, we other forms of communication where we can also communicate and at a cheaper rate, although the walkie talkies were great, it came at a phenomenal rate which can only be afforded by a corporation having their own external network (so technology makes it more affordable accessible) absolutely, so it takes a simple WhatsApp it takes a picture with your phone, you send it to the engineer and he sends you a resolution or a fix or an idea to overcome a certain issue or problem so it is going to be unavoidable except for a guy in the container doing his civil business leading up to another container down the road and keeping an eye on your business from a remote kind of perspective	SMEs will be forced to do so	Collaboration, Growth and Sustainability	Business Model
R 4	I am a strong believer in collaboration, so i would always give a positive answer to anything to do with collaboration, but specifically in mobile application development I think the collaboration is more where people can provide you access to markets, so a lot of people can do the development work, it is just based on the natural abilities and experience that they have but they don't have access to markets, so I think there collaboration with people that can give them access to market, people that can open up new markets and there collaboration absolutely is key because like I say a lot of them know how to – they can build a app, they can build a app as what is grown up on, he can build you the app but don't ask him what to do with it after that and that is where they need the assistance	Collaboration helps to eliminate SMEs deficiencies	Promote Opportunity, Collaboration	Business Model
R 5	There would be benefit if there is collaboration because you talking about two different industries two different skills from a business aspects and from a mobile and the collaboration helps in many ways in terms of how to do things a lot more faster a lot more effectively more efficiently and with the advantage of technology especially mobile technology has made our lives a lot more easier and if business can obviously adapt that type of or understand how this mobile application can play a role in their type of business, I think it will surely make their business a lot more effective and more efficient so I think there would be benefit in collaboration.	Collaboration helps to eliminate SMEs deficiencies	Promote Opportunity, Collaboration	Business Model
R 6	Collaboration in multiple environments is always beneficial but again there has to be an appetite for such collaboration, it certainly.. there are of course other arenas.	There must be an appetite for collaboration	Promote Opportunity, Collaboration	Business Model
R 7	I strongly agree because it goes to the networking part of things, where obviously as a collaboration you would come up with a better solution, not necessarily a better solution maybe an improved solution which answers more than one question, so therein I would find the benefit of collaboration yes but we don't have not labour on about it, we should have been a body which could bring these collaborations to the table so that we don't have someone who speaks the loudest and that just ends up in (indistinct)	Collaboration leads to better solutions	Promote Opportunity, Collaboration	Business Model
R 8	I don't have much experience in this space	No comment	No comment	No comment
R 9	It's an exciting new sphere with a lot of potential as an industry, any collaboration around it would be beneficial.	Collaboration is exciting	Promote Opportunity, Collaboration	Business Model

R 10	Yes there is as this helps to grow your business. This way your business is always accessible, it's a promotional tool showcasing you product or service,	Collaboration helps SMEs to grow	Growth and Sustainability, Collaboration	Market Trends
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APPENDIX R:

SMEs should ride “on the shoulders of giants” (corporates) by becoming solutions-partners to the opportunities that the corporates have explored and created.

Comment	Key Words	Themes	Categories
<p>R 1 Absolutely. I would rate that as a 4 or actually maybe bringing it back from a 5 and say that there really ... you have to ride some of the time to be commercially viable and successful you have to ride pretty close to the wind and a lot of the time that wind is generated by the corporate and again a lot of the time the corporates creates more problems than solutions, and if you are in the solutions game then you should be close to where the problems are, so for me the one sort of goes along with the other if we could compound that reality by having the corporates creating and enabling environments, I think we would be sitting with something pretty sweet if we could have the corporate along with ... on a legislation rate and enterprise development, for example coming together and hit that sweet spot where we would identify the sector and the resources are directed at those notes, I think we would be on to something (and we do see evidence of that, we think of things like the Telkom programs that is run at the bandwidth ... so there is evidence of that) absolutely.</p>	<p>Corporates are business enablers for SMEs</p>	<p>Promote Opportunity, Growth and Sustainability</p>	<p>Business Opportunity, Market Trends</p>
<p>R 2 A partnership would then entail a SME partnering in a solid existing business, they already would be succeeding in their own businesses, they got the knowledge, they got technology, they got whatever kind of support it entails.</p>	<p>Corporates have access to the things SMEs require</p>	<p>Capacity Building</p>	<p>Business Opportunity, Market Trends</p>
<p>R 3 I would say maybe in an economy like a real established let's say first world country for example, that would be a perfect scenario. In our economy being SA there is still scepticism and if you have a great idea yes surely I would love the Oregon and the Murray and Roberts to say hey you got light steel frame we would like to incorporate we want to take your business bring all your technology in here and at the same time we can build you up and together we can take this innovation to a whole new level, I have no offers so far (laugh) and although the pictures have been made, the risk of all this is that they see what you do, they have the resources and now they copy what you do and I believe that that is going to be the next revelation in innovation, so once again SME's are vulnerable again, there is no kind of like trade mark on what they do intellectually and things like that</p>	<p>SMEs should be weary of this</p>	<p>Strategic Support</p>	<p>Business Opportunity, Market Trends</p>
<p>R 4 Based on our own experience I would strongly agree. When you have a corporate that kind of adopts you, this business that I am in now was created in 2005 by myself but I as at Woolworths, I didn't start this business but helped to start it out of Woolworths and at that stage I was responsible for the BEE strategy for IT and one of the things that I came up with was to say lets adopt an SMME every year, give them a line of business and hold their hand for 12 months to make them sustainable, so this business was born out of that principle and what it does for you as a start-up to have a big corporate a big sponsor you and supporting you takes the risk factor out of the business, not just for you from an income point of view but in terms of -what is the biggest thing with SME's - when you approach a big company to say give me work, the first thing they look at is the risk factor, to say how long are these guys going to be in business, ok so I now Fareed is a nice guy and so on but what does he know about business, can we really take a chance at this point in time and start, so people are hesitant because it is a risk factor but if you come there and you say that I got a 3 year contract from Woolworths then all of a sudden that whole risk scenario disappears and that is the biggest thing being</p>	<p>Corporates should adopt SMEs</p>	<p>Strategic Support</p>	<p>Business Opportunity, Market Trends</p>

	linked to a corporate does for an SME (it reduces or minimises the risk) absolutely, but the risk on two facets, your own risk in terms of cash flow because you got a fixed fund, they giving you money and they are going to support and for other companies			
R 5	I strongly agree. I think SME's should ride on the shoulders, it should be they working partners and not be in competition with each other ... there it comes back to SME's are pretty more flexible in terms of accommodating certain changes whereas corporates are unable to do that, so yes that is where the partnership can come in where they can provide that tailor-made sort of solutions to certain things which can be a bit constrained for corporates to get into and that type of thing, it creates that niche market	They could have tailor-made solutions	Promote Opportunity, Growth and Sustainability	Business Opportunity, Market Trends
R 6	I would somewhat agree and leave a caveat for the very innovation that emanates from an SME that in fact would change the way corporates around it operates, so one has to leave that caveat because otherwise you would be smothering that opportunity to truly change the landscape ... of the SME ... so I would suspect that it should certainly ride on the shoulders of giants by becoming solutions partners but at the same time one has to leave the gap for ground breaking ?free? changing ... enough innovative ideas	Yes, but leave a gap for innovation	Collaboration, Growth and Sustainability	Technology Platform
R 7	The problem I find with that is, is the corporate going to do the latter part of that, are they going to allow that, the big businesses become so cutthroat where everybody is too afraid to give any business out, in the IP in the knowledge (indistinct) so what they do is they retain and they will rather open up a department to do that but yes because the SME's are not necessarily at the forefront of what is being innovation or what opportunities are being explored, if a forum or platform was created where this exist ... it would have been great, because that would allow small businesses like myself or whoever to get involved, maybe at developing and solution or understanding that we want to move the needs etc, but the problem I have with that is that I don't necessarily know unless corporates open themselves to that	A forum needs to be created for this	Strategic Support	Market Trends
R 8	If this is possible, such down streaming will bolster industry and create more job opportunities	This would bolster industry and jobs	Promote Opportunity, Growth and Sustainability	Business Opportunity, Market Trends
R 9	I think that would deter innovation, if SMEs depend on the corporates for opportunities even if they are well researched and great, SMEs would possibly miss out on innovating and identifying other opportunities	This would deter innovation	Strategic Support	Technology Platform
R 10	I think SME's should not try to "reinvent the wheel" while growing their businesses, there is lots to be learnt from the way these giants do things...	Learn from the corporates	Collaboration, Growth and Sustainability	Technology Platform

APPENDIX S:

The development agency must provide the soft skills development in transforming the entrepreneur from mobile application developer to competent business person within the innovation space.

Comment	Key Words	Themes	Categories	
R 1	<p>Absolutely! I would strongly agree. (what are these soft skills that you believe to be important?) how do you quantify this, I don't know, but resilience I think is critical and tenacity, now what that translates into from a soft skills perspective I think would be the conversation that we need to have but it is really for example understanding the industry and the previous example I used was Apps that sort of come to the end of their life cycle, understanding that is not personal that that is how the industry works and being resilient relative to that, to day ok so I need to understand the creativeness but I need to recreate it relative to these cycles and so having that understanding, and then tenacity where things they often don't work but that's ok, and I think also maybe one that is also maybe very critical is effective communication and I think increasingly it is becoming a space for pictures, it is becoming a space for succinctly being able to communicate concepts and so that for me would be core and it would be one of the first things that I would look at, being able to articulate your ideas.</p>	<p>Soft skills are very important for the SME</p>	<p>Capacity Building</p>	<p>Business Opportunity</p>
R 2	<p>I agree 5. (what do you think the soft skills have been, you also mentioned some of it earlier on) I mentioned the actual business side, like formal proposals formal applications, how to write a formal business plan. I was very fortunate that it was part of my course at CPUT in our third year that we learnt all these things, but you know a graphic designer they didn't have a business module in their course, so if that graphic designer want to start a business he would be lacking those skills so it would be much more difficult for him than it would have been for me.</p>	<p>Business skills are critical</p>	<p>Capacity Building</p>	<p>Business Opportunity</p>
R 3	<p>I think in the normal schooling curriculum you already applying these soft skills, the mouse the Microsoft but still there is a huge disparity in those skills in probably across the board, however that is something that sorely I think we (unclear) technology and can definite play huge factor where all your training can be done through the cog in terms of first impression and then maybe an institution where you can take the next step, where you register your company and then apply that skills to take that forward and then maybe you know applying that to your product and where you live, the community you in, so I think there is quite a lot of soft skills communications of the most important, the most important I believe in soft skills, other things you can learn very quickly overnight, communication, it almost start and finishes something that might have been a great thing if you get it wrong, so communication ...</p>	<p>Business skills are critical</p>	<p>Capacity Building</p>	<p>Business Opportunity</p>
R 4	<p>I think the soft skills are - again my technical background coming out - if you follow a logical sequence there are 2 things, people must first understand and they need to understand financial aspects of a business so what's balance sheet what is income what is expenditure how profit derive, then they need to understand what are the kind of business process that I require in the line of business I have chosen, you cant give someone who is starting out, a SME, generic answers, you got to give him specific answers, to say if you trying to this, these are the business processes you actually cant live without and that needs to be spelled out to them, then they need to be taught about markets, let me give an example of what I</p>	<p>Financial skills are very important, understand the value of collaboration, understand the implications of venture partners</p>	<p>Capacity Building</p>	<p>Business Opportunity</p>

	<p>mean by markets – in my space when I bid for an open government bid I am probably competing with 4000 other companies, someone that does data base management is probably competing with 4 companies, so you have to know if you going into business and you want to be a desktop business, you are competing with the whole world, so you competing with established companies and you competing with inspirational companies ... that is your market, so there needs to be the benefit of in-depth market research for where they want to play in, that needs to given to them, don't let them go and do it, because they are not equipped to do market research but those are the kind of things that development agencies must have readily available and I think even for themselves, because development agencies also need to start doing their homework a little bit in terms of ok this guy is asking me for money but he wants to go into this sector, so lets say he wants to - choose an obscure kind of sector- he wants to do like underwater something or whatever (or a skiing business in the Western Cape) yes that is not run of the mill kind of thing, what exactly is that market, they need to go and do that as well before they ok it, (so if a guys says I want to open up a skiing business for the 2 weeks of snow on the Cedarburg mountains, you should be raising questions as a Development Agency) yes. and once they have shown them the markets then teach them other things like what is the value of things like collaboration and what does collaboration actually entail, then its the case of teach them about the concept of diverse education, if you are not getting business in your space –what do you have in your cupboard that you can go an sell, don't sit feeling sorry for yourself, you got to learn that diverse education is a real strategy business and I think ...you know that is just off the top of my head but I think that if I had start out in business and I was given help in terms of those kind of things and I had better knowledge, my chances of becoming a sustainable business would probably have increased tenfold, I mean all of these things that I am telling you, no one told me, I had to learn the hard way, my business had to come close to folding for me to learn these things and that is also when you learn and you go and knock on all the doors, Business Partners, banks and stuff like that and often you can get the money but the price that you have to pay is to owner risk and I don't mean the price in what you have to pay back, I mean the price in terms of some cases where some people want to push you towards venture capital money, you end up having less and less control of your business, you know got the money but you got less control of your business, because every time they give you an advance they get another seat on your board, so before you know it you sit with oh I don't agree with it and lets take a vote and oh sh*t I shouldn't have said that there is more of them than us around the table (but I enjoyed the money and it came in) you see and there is also a danger of taking money from Development Agencies, sometimes it is so easy that you just keep taking and you forget about what the price is you have to pay.</p>			
R 5	<p>The soft skills should be involved around ... especially if take an IT person he obviously lacks at times communication skills and those type of things obviously needs to be brought to the forefront ... communications skills understanding the economy merely understanding the business aspect of it, so the type of skills I would say is probably financial skills or accounting skills or communication skills that should be introduced into this type of businesses</p>	<p>Communication skills are necessary in business</p>	<p>Capacity Building</p>	<p>Business Opportunity</p>

R 6	<p>The soft skills would be like how to present oneself...ones ideas, how to present oneself in the business environment through the potential buyer, how conceptualise, how to come across to the public and/or to the potential buyer as a sort of bona fide entrepreneur, some entrepreneurs simply don't focus on their personal skills...or how they are perceived personally, they don't focus on it they focus on their products and they don't necessary focus ... and that can be damning in the modern society, so it certainly an absolutely must provide the soft skills ... these are the basic skills in terms of interfacing with at presentational level with potential sponsors and buyers and public interfacing skills, in general upliftment skills maybe IT maybe general business practice understanding financials, understanding what one is talking about because you can quickly ruin if you are not presenting properly and it can quickly ruin your opportunities (so what makes you reserved not go strongly agree, are you suggesting that there is an onus upon the entrepreneur him or herself?) The reason for that is because some entrepreneurs actually should just remain where they are because in fact even Steve Jobs was problematic in a business sense on board level and some entrepreneurs you could just maybe enjoy that space because they possibly born to be in that space and enjoy that space because that is where innovation can be stymied and some of them in my opinion need to actually be cushioned in that space (so they must remain a rough diamond they mustn't be polished because the value lies ...) they don't belong in that next level</p>	Communication skills are necessary in business	Capacity Building	Business Opportunity
R 7	<p>I would strongly agree with the statement but I don't believe that it is the Development Agency's (indistinct) the onus is on ?debt? only, as I said before that the entrepreneur's who want to step up their 10 years of experience ... that is the ceiling, the Development Agencies often get to that where they would try to propose something that this individual A might not have been exposed to and they sort of fall off the wagon then, in my opinion (so what do you believe the skills ...) what the soft skills should be ... if were to take as a competent developer, the developer in my opinion is no good without the idea or he does not understand what it needs to exist, so without that or what the end product or what the users requirements (indistinct) without that the developer he cant start nor can he constitute his application as being complete as he doesn't know what people want, so I would say probably assistance in understanding what opportunities exist and what the people needs are within various areas or sectors and the developer can then take his skills and develop and try to address that by virtue of an application</p>	The SME must take responsibility for these skills	Capacity Building	Business Opportunity
R 8	I don't have much experience in this space	No comment	No comment	No comment
R 9	Business communication, marketing, sales, management	All business functions are important	Capacity Building	Business Opportunity
R 10	Communication, teamwork and collaboration, time management, problem solver	All business functions are important	Capacity Building	Business Opportunity

APPENDIX T:

There appears to be an over-glamorization of the entrepreneurial experience based on the role models within the IT sector by way of Steve Jobs, etc.

Comment	Key Words	Themes	Categories
R 1 I am going to be a bit maybe intellectual with this answer now and say I don't really agree with that because I think there is an over glamorisation across sectors (ok so it is not specific) it is not specific, I think in terms from a sports point of view you will have the Dale Steyn's of the world who drive their R8's and there is an over glamorisation of his success and what it means and there are so may would be Dale Steyn's on our primary school fields every day who never ever make it, and so if we reflect on the sadness of that relative the to sadness of SME's not making it, I would from an intellectual perspective, I would say that you would be able to relate it to each other, so over glamorisation from IT, there is over glamorisation absolutely but it is no specific to the IT sector, does it hurt it, maybe it does but yeah. I would say that I am neutral on that, which is a strange answer	There is over glamorisation in all sectors	Capacity Building	Business Opportunity
R 2 Yes and No. Steve Jobs and all his (unclear) they are successful but we must also look at what the market was like when they were in it, based on technology in their time, it is still possible to achieve the same amount of success as it depends on how good you are with your business. I don't believe that we should say 'ok the market is already... they already made a name for themselves in that market, Apple already is the giant, you know there is always a place for innovation (so what you saying is they haven't saturated innovation, there are obviously things to do still) so I am a bit neutral there because in a sense yes they do over glamorise those particular cases but I still think it is very good that we have that to aspire to and to motivate us.	It is good to aspire and serves as motivation	Promote Opportunity	Technology Platform
R 3 When I have conversation with people and always encourage my son as well, There is three things that are helpful to me, is that great minds we talk about ideas, average minds we talk about events the things that have happened and small minds we just talk about people around us, so in that ... ideas is something that takes civilisation forward you are always going to have those people coming up with new ideas, innovative idea even if it does not make economic sense they live out the ideals of their lives, but some of them when they do get it right it creates the impression 'wow it is amazing I can also do that' which also raises that hey we want people to think and it does not always translate into the thing we all want and that is commercial value	It is good to aspire and serves as motivation	Promote Opportunity	Technology Platform
R 4 I think that the reality is that there are people that have taken entrepreneurship to another level, the Steve Jobs Mark Shuttleworths even Bill Gates they are perfect examples, these are real life examples of people that are entrepreneurs that have taken an idea and turned into a conglomerate, so I don't think it is an over glamorisation, I think it is reality.	This is reality	Promote Opportunity	Technology Platform
R 5 I agree. We tend to use Steve Jobs as a mere ... what IT has and others can obviously achieve those type of things but obviously it goes back to the whole entrepreneurial form of business, its tough out there, you need to work hard and perseverance is key in any type of business whether it is IT or non IT, so yes I do agree with that, it is over glamorised to a large extent but I mean we should use the likes of the successful like Bill Gates and Steve Jobs as mere what they have created in IT and what we sort of regard as opportunities	Learn from their successes	Promote Opportunity	Technology Platform

R 6	I would stop short of agreeing in full because I would then argue if we didn't glamorise some of these entrepreneurs then we would be doing something wrong, if one look at Steve's journey –it was a hard journey. It is great to celebrate success and I think we have to do that because you never know there is similar people in any corner of the globe, so I wouldn't complain that there is over glamorisation completely, glamorisation indeed perhaps it just need to be spread some more	Learn from their successes	Promote Opportunity	Technology Platform
R 7	Some people assume the boss has the biggest car ... biggest house, so entrepreneurial I would say that there definitely is and even people who are aiming to open their own SME has that sort of vision and they get into it and then find out if you don't put 10 years of very hard work into it, it will more than likely will fail.	It gives SMEs vision	Promote Opportunity	Business Opportunity
R 8	We've seen the explosion in this sector since Steve Jobs	They are inspiring	Promote Opportunity	Business Opportunity
R 9	I think it's a perception issue, when viewed as celebrities or social icons there is glamorization but their entrepreneurial profiles and reputations are firm and not over glamorized	There is something to be learnt from them	Promote Opportunity	Business Opportunity
R 10	I don't think it's an over-glamorization, I see it as hard work that pays off.	They are inspiring	Promote Opportunity	Business Opportunity

APPENDIX U:

All said and done, the standard commercial practices apply to this industry.

Comment	Key Words	Themes	Categories
R 1	I strongly disagree, which is where the opportunities lie. The same rules of commerce do not apply, the positional scales, the positional thinking with regard to the source markets that those barriers have virtually disappeared, so no, I don't think the same rules apply.	Mobile apps have different rules	Promote opportunity Business Model
R 2	Business is business and I am sure you might need to alter a business model somewhat to make it apply to different businesses but at the end of the day you can understand the fundamentals of running a successful business, you can succeed in any type of business.	Business has established fundamentals	Growth and Sustainability Business Model
R 3	We have to comply to all standards, norms, if te one that we talking about the light steel frame, we conform to all building industry regulations, it has however taken lots of resources of which there is not yet a return on the investment in terms of time, there has not been a return on investment in that yet but all banks and the City and Agrimarts will be processed and we hoping that will still come through but being innovation you know that is the route to take and resources play a huge role of that and a lot of maybe some idealism	Resources play an important role	Capacity Building Business Opportunity
R 4	The reason I am kind of neutral on it is because the answer if you want a strong answer, its linked to industries, so if you look at the IT industry their commercial practices has to be linked towards innovation and stuff like that because that is where the competitive advantage comes from, if you look at other business practices maybe not as strong, so even if you look at manufacturing, the business practice are not that strong, business practice is more about churning out numbers ...goods I need 500 of this in an hour, that is where the focus is, so the number of industries where the commercial practices are closer aligned is very narrow and that is why I am kind of saying I can't give a strong answer on that (so it depends on the industry in which it is found) that's correct.	This is industry specific	Growth and Sustainability Business Opportunity
R 5	I am neutral on it. I don't have the information.	No comment	No comment No comment
R 6	It most certainly does. It applies and in fact it is the root cause of a multitude of the problems experienced by innovative in SME's, there is not enough space or latitude, the very nature of the SME is dependent on this innovation and sometimes standard commercial practices don't necessary embrace the reality of the potential returns of innovative ideas, so it is possibly standard commercial practices are to rudimentary for the very innovation and standard commercial practices are not necessarily innovative, so there is a mismatch, unfortunately that is the reality of the	Standards often stifle innovation	Promote opportunity Technology Platform
R 7	It is a very regulated environment, if you look at Android innovation that has happened, Android has come up a while after (indistinct) Apple where I think Apple is really regulated still has to go through a process of vetting and all of that whereas Android does not have that, so I am not aware of any government legislation that prohibits you from making an application, there is short courses ... 3 weeks 4 weeks that you can go on, so I cant say that and I have to somewhat disagree.	Mobile apps environment is regulated	Capacity Building Technology Platform
R 8	I don't have much experience in this space	No comment	No comment No comment

R 9	The barriers to entry are not as high for one.	Low barriers to entry	Promote opportunity	Technology Platform
R 10	This industry is constantly evolving, what applied last year doesn't not necessary apply this year.	Rapidly changing environment	Promote opportunity	Technology Platform

APPENDIX V:

The mobile application space is a worthwhile space to explore for the SME.

Comment	Key Words	Themes	Categories
R 1	I think it is, I would strongly agree with that and the reasons for that is, there are relatively low barriers to entry so that is really good. In terms of research and development, that is a potential sort of limitation but a mobile App and it should have (unclear) into that space is easily scalable, if it is well put together from the start and also it is almost designed taper off, so it is designed to be something that is very functional and something that is used but then what would happen is, there would be a new innovation which is sort of either kick that particular product into its next phase or be replaced by something else, and so I think that something SME's are faced with a lot of the time is that anxiety of the venture failing, the mobile App space is almost designed to have a shelf life and then to fail if you will by some standards, but then have to reinvent itself, so it feeds off itself in a sense, so I think that works for SME.	Low barriers of entry, good opportunity for SME	Promote opportunity, Growth and Sustainability Technology Platform
R 2	I strongly agree, mainly because my type of business is ... I do work in technology and so any kind of project will include a lot of mobile interaction and also that is the way forward, almost everything these days, if you want a successful campaign for example, it would include mobile applications, it would include your online applications like facebook twitter so it would include a lot of networking and a lot of promotion online	Mobile technologies are business imperatives	Promote opportunity, Growth and Sustainability Technology Platform
R 3	If you look at the development of houses now writes these Apps, you will find that ... and I am saying that to record it, when I was in IT so I am still in connection I am still in contact and the trend is that the corporates, there is a flurry of corporates approaching these development houses to develop stuff for them, they don't even know what the developer to say here is my business develop something for me, to be part of the image not necessarily getting to the real value of that but also maybe a layer down it will have those coming in for the real value really ... so for the small guy once again ... who is going to write the App for us when there is so many right now there is a competition in price wise, so the disparity is not even worth the App in terms of what is the value I want to get back for developing the App, unless if I can make an extra R3000 per month maybe I can fork out R150000 for an App	Mobile apps are business trends	Promote opportunity, Growth and Sustainability Technology Platform
R 4	I think the reason for my answer is that there are so many opportunities in the mobile application space, and so many different ways to make money in the mobile application space that it creates a simple point of entry from SME's and that is why I say a simple thing like selling airtime, put it this way - if you got access if you got a smartphone or you a PC that got access to the internet, you can be that space, the technology today makes the point of entry fairly simple, not necessarily always cheap but simple, so if you are willing to put a little bit of money into it you can be in that space	Strong business opportunities in mobile apps	Promote opportunity, Growth and Sustainability Technology Platform
R 5	It is a great platform, mobile obviously give you that convenience 24/7 accessibility and it is a great space and mobile is obviously ... it's a person's extended arm so to speak, it's a personalised application a person has so yeah	Mobile brings convenience	Promote opportunity, Growth and Sustainability Technology Platform
R 6	Mobile Apps are in itself innovative and to a large extent, for want of a better word, things become easier with these Apps and again one does not have to invent every tool that one needs or a SME does not need to develop every tool and by virtue of using Apps it certainly is a worthwhile space to explore for a SME.	Mobile apps are worthwhile exploring	Promote opportunity, Growth and Sustainability Technology Platform

R 7	<p>If we look at the mobile application innovation that is happening in 10 years, its dramatic, you don't have to look for a torch anymore if I my phone, the cord does not have to reach till where I am standing, I just pick up the phone, it has a calculator and all, I actually don't need a piece of paper because if I walk around with a tablet its got the full office on, people can email me anything and I can read it, obviously from a South African SME point of view I am not too sure how far or where we stand in the development of those, I mean often we understand that 99% come from (indistinct) and 1% from America, the Americans made them do 90% of those, so I would imagine we talking SME from a South African point of view, I would then say that yes we should be involved, I would imagine it would be government or these Agencies would have to create a forum or platform where we can, because how must our application ... our application is always going to be lesser seen as a lesser bet (as a inferior product) as a inferior product to the Chinese one or the American one and we all have that view of ourselves, I am speaking of myself here, if I look for an application I don't look for the one made in SA, I look for the one and think oh I am sure this guy is better developer than this you know there will be less bugs or they implant a recorder in there or something that is transferring your information with you social security ... we think of all of these things and then we normally go with what we think is better, but I don't think it has been marketed or put out there, first of all to let SME's develop and then market it so that people can feel comfortable, I think all our mobile banking applications are made by overseas companies</p>	Mobile technologies are business imperatives	Promote opportunity, Growth and Sustainability	Technology Platform
R 8	I don't have much experience in this space	No comment	No comment	No comment
R 9	Growth trends point to more and more mobile device usage and day to day task handling via these devices, the potential of this sphere is vast	Vast potential in mobile apps	Promote opportunity, Growth and Sustainability	Technology Platform
R 10	This allows business to engage with customers, offer their service and promote their business.	Mobile apps lead to better engagement	Promote opportunity, Growth and Sustainability	Technology Platform

**APPENDIX W:
Government's policy on enterprise development is effectively implemented.**

Comment	Key Words	Themes	Categories
<p>R 1 I am neutral there and I will tell you why I am neutral is because there again there very good examples and there are very bad examples. I don't think figured out where our focus should lie from a sectoral prospective, I think we a notion that ICT is a growing sector, we have a notion that tourism sector, we have a notion that mining is a growing sector but then we sort of stop ourselves short on the mining side for example, I think we stop ourselves short there because it is so loaded and so I think it would be very effective once we pin down our sectoral focus and we know which channels we driving through and why.</p>	<p>effective once sectoral focus is established</p>	<p>Strategic Support, Growth and Sustainability</p>	<p>Business Opportunity</p>
<p>R 2 It is based on the first few questions. I don't know, I am sure half of what the government does but I am saying somewhat disagree because I know that there are Development Agencies, I just don't think that they effectively communicate that across to developing businesses.</p>	<p>Support is there but ineffectively implemented</p>	<p>Strategic Support, Growth and Sustainability</p>	<p>Business Opportunity</p>
<p>R 3 If I was government I would say yes, if I was the minister of trade and industries I would definitely say yes and to a large degree on the macro side of it the answer is yes, and then there is the small guy and we have to play within the macro thinking and the thinking is not always geared for the small guy (am I right in thinking that you are suggesting that at the corporate level it could be working but not necessarily for the SME) correct if they can bring the small business they can easy then take away so many of the corporate structure within developing the business now than ?come? like a thin client as oppose to a full on enterprise to get him to a place, he is not going directly from SME to corporate, to get into a place based on his risk, based on the markets and that assessment and definitely then we could say equally yes I would agree fine with that but at the moment I would somewhat agree ...</p>	<p>Support is there but ineffectively implemented</p>	<p>Strategic Support, Growth and Sustainability</p>	<p>Business Opportunity</p>
<p>R 4 I think we mustn't be fooled by big enterprise development deals being splashed across the newspapers and stuff like that because enterprise development and even something like BEE, its about taking people that have not been part of main stream economy in the country and making them part of main stream, so from that point of view I will challenge government to show me, you show me where you have taken, how many people you have taken or companies you've taken that haven't been players in the economy and made them sustainable business entities, not the big guys like the consortium that come out of the trade unions (sekenjalo) Sekanjalo ...not by the time BEE was gazetted was an established business that had been running for donkey's years, so don't talk to me about Sekanjalo talk to me about the guy that is an informal trader, how many of them have you forced big corporates to take on, so what I am saying is why would a corporate do this, now part of the problem is government want interventions like enterprise development to work but they not prepared to police it properly, so if you look at enterprise development, what is the risk of it for a business, there is a very real risk for big businesses that if they take the wrong enterprise partner they are going to be pumping money into the river, so what about you force that to say -take the best person for the job- but force them to take a partner and that is the enterprise part, so let's say that you are going out to tender – in your tender you say the work will go to the successful bidder but that successful bidder has to take on board an SME, that they will make part of the workforce that they will give training to and whose hand they will hold for the duration of this contract, to the extent that when the</p>	<p>Support is there but ineffectively implemented</p>	<p>Strategic Support, Growth and Sustainability</p>	<p>Business Opportunity</p>

	<p>contract ends that SME should be able to compete with that company for the next bid, that is then doing something, then government can say to me meaningful their policy is effective, now the policy is not effective because they leaving it up to corporates to do the right thing, corporates are not governed by the right thing, corporates are governed by rands and cents, if they pump money into enterprise development and it does work, their shareholders are not going to say 'oh no we forgive you because you try to do the right thing' a shareholder is a clinical person 'I invested R5 why aren't you giving R5 plus' so you bored bye bye' so government is naive if they think people are just going to do the right thing, people got to be compelled to do the right thing, just as a lot of other things have been regulated in the country, the government needs to become more commercial minded themselves to understand what are commercial imperatives for business, I mean we do what we can, but I can't just willy nilly go and take on people and create jobs and stuff like that, it comes out of my pocket and as a medium sized business, you can't erode your profit, its your lifeline, because profit and people have the misconception that when you say I am making profit they translate that as going into pocket, all our profit goes back into our business, I rather take a salary out of my business so that I can live but the profit goes back into the business, it's the only way, because we got nobody else we can depend on to give us the money, that i going to help us to grow, and we want to grow we are inspirational, so we have to take our own money it's our profit.</p>			
R 5	<p>There are a lot of policies that government has made available to help SME's from resources as well as from gaining certain skills and access to finance, but I think its not being sort of wildly advertised in sense it needs to be more of a huge focus in a sense of making it a lot more aware amongst people, starting from schools levels and what support is available etc. so that people are aware of this at a secondary school level point of view</p>	<p>Support is there but ineffectively implemented</p>	<p>Strategic Support, Growth and Sustainability</p>	<p>Business Opportunity</p>
R 6	<p>In SA government got multiple policies, its got multiples Acts in place, it's got NDP in place, the IPAP2 was in place, it's probably focused on a macro environment in this point in time, a macro change typical governmental type overview, don't believe that the government necessarily understands that the environment clearly has to be conducive but it cannot be made conducive merely by virtue of government policy, the government needs to stimulate something that stimulates innovation and it needs to stimulate, they possibly have manufactured environment so as to generate innovation because of that manufacturing environment, innovation won't survive, so its policy is macro and its understanding in my opinion is very limited or micro and it needs to ... there is much more developmental type agency and support required at this point in time.</p>	<p>Support is there but ineffectively implemented</p>	<p>Strategic Support, Growth and Sustainability</p>	<p>Business Opportunity</p>
R 7	<p>We have all these policies and processes and funds and all of these things in place but often to not having been involved in a few of these processes already, I find that the criteria for getting or being a part of it or what the policy stand for is not necessarily the backbone of how you can get benefit out of these processes, so what it stand for and what you need to be able to deliver at the end of the day is not necessarily the same thing</p>	<p>Support is there but ineffectively implemented</p>	<p>Strategic Support, Growth and Sustainability</p>	<p>Business Opportunity</p>
R 8	<p>Too many times businesses are granted funding but thereafter many fail</p>	<p>Funding is available</p>	<p>Growth and Sustainability</p>	<p>Business Opportunity</p>

R 9	Because I don't know the policy	Unaware of policies	Strategic Support, Growth and Sustainability	Business Opportunity
R 10	I have seen many of my peers being help through governments help	Evidence of support	Strategic Support, Growth and Sustainability	Business Opportunity

APPENDIX X:

The SME should make use of the innovation to transform itself into a business that can succeed and be sustainable.

Comment	Key Words	Themes	Categories
<p>R 1</p> <p>When you refer to the innovation, would that then be the (unclear) product or service ... so they should make use of that to transform them into the ... Absolutely! I mean I think I would strongly agree with that. It's the life blood of any business, it is the capital that they are sort ... or the currency rather they are trading in, and so without that you don't really have anything (ok and you noticed that particular question and you answered it like that, it wasn't simply why but how could we ensure that this takes place? in other words how do we make this innovation become / make the business successful) I think it links back to question no 8 where if I can be placed in an environment where the legalities and compliance to an extent are seen to on my behalf, I can focus more directly on the technical aspects of my business and on growing that currency and on perfecting that and not have to sort of apportioned (energies into that) absolutely.</p>	<p>innovation lifeblood of business, it's the currency of the business</p>	<p>Capacity Building, Strategic Support</p>	<p>Technology Platform</p>
<p>R 2</p> <p>I think that we just need to educate them, the SME's, and also encourage independent not so much independent learning but just educate them and let them know what should be done, because I think it is more ignorance than anything else and they are not deliberate ignorance, they really don't know.</p>	<p>educate smes to do so</p>	<p>Capacity Building</p>	<p>Business Opportunity</p>
<p>R 3</p> <p>I think innovation ... if one goes back to the light bulb and how innovation has taken place from that point onwards, we find that right now it is almost exponential, we can't give up this innovation so we have to basically stick to what we know and like I said the particular business that we in and not many people might know about, all the institutions the banks and it might not have filtered through all the infrastructure of the norm gone before so we should be making use of the innovation to transform our business and I think in the application thereof as I build they will see that builds my sustainability and that determines my markets (so the products and service you render will then give the sustainability ...) correct it is a gradual build</p>	<p>innovation must lead to business sustainability</p>	<p>Growth and Sustainability</p>	<p>Market Trends</p>
<p>R 4</p> <p>I agree with the statement, that is where the Development Agencies come in, that is where the education agencies come in, there should be guidelines for people and there should be vehicles for them to tap into, vehicles being financial vehicles, consultants that are going to help them and stuff like that, so it must be readily available for them, because everybody talks about the informal market, being the future growth of especially the SA economy but what are people doing to aid the informal market to be more viable, so everybody is happy for people to go to a flea market and put up a table and sell their products and stuff like but how sustainable is that, so if I can just get a little bit personal in terms of what we are doing in our business- I am busy collaborating with a company in India to develop a point of sale for a cellphone for a smartphone and my target market is</p>	<p>educate smes and provide mechanisms for them to transform the idea into true business value</p>	<p>Collaboration, Promote Opportunity, Capacity Building</p>	<p>Market Trends</p>

	every informal trader in SA, so if you think about that, with that technology they can cover pilferage which is a big thing because you know they don't often have a handle on their stock and stuff like that and it just gives them better control to a simply application and everybody has a smartphone these days, it doesn't matter it is not driven by poverty levels if people have a phone, in most cases a smartphone, so to put an app like that on people's phones is a simple ... you give them the app for free, you make your money somewhere else in terms of traffic and stuff like that but that is the kind of stuff we need to do in that space.			
R 5	I think with the support of government agencies where they have mentors especially from the technology point of view to assist and make available where there is a type of technology available to small businesses so that they can access those types of information or technology relevant to their type of business	mentorship from agencies to help change the technology into good business	Capacity Building, Strategic Support, Promote Opportunity	Technology Platform
R 6	I would suspect that the SME needs to continuously lead the process and be in control of its own destiny by engaging in a multitude of development type of agencies and or other companies or assistants in whatever form but never to capitulate and rather be in control and see its innovation to its maximum potential because no other company will do it for that SME, it needs to understand that its got a business drive to it and it needs to move maybe a little bit ... once it has proven its innovation the SME needs to embrace (indistinct) in business and understand that there is clearly a business focus to make innovation pay as it turns, that's expected.	the sme must convert the innovation to business value but not lose control over it	Collaboration, Growth and Sustainability, Promote Opportunity	Technology Platform
R 7	Definitely we live in that time now, so there is no way that we can stagnate and assume that what we did 50 years ago is going to bring good income, therein is obviously the problem and we often hear of all these grand plans of we can go to this department or that department but I think that definitely up- skilling yourself is important, I don't think and we can't also sit here and assume that we must be called into a meeting somewhere and someone is going to give us the answer (indistinct) I think that it is very important that SME the owners, the entrepreneurs, the key staff should keep abreast of what the changes are and also they need to up-skill themselves to maybe understand how that can be inculcated in their business, because often we look at innovation or something that is changed and we assume – oh that means we out now completely – but it might not be but if we stay abreast of how we could inculcate these changes into what we do or adapt to things we do now, it is apparently different.	reassess innovation constantly to ensure growth	Growth and Sustainability, Strategic Support, Collaboration, Capacity Building	Technology Platform
R 8	Development agencies are needed to guide the SME to the next level.	smes need strategic assistance from agencies	Growth and Sustainability, Strategic Support	Market Trends
R 9	Fund Local innovation	smes need funding	Capacity Building	Technology Platform
R 10	make the innovation pay off for the business	the innovation must result in financial return	Growth and Sustainability	Technology Platform

APPENDIX Y:

In order for the SME to capitalize on innovation, it requires more of a complete business focus rather than a simple technical focus.

Comment	Key Words	Themes	Categories
R 1 I would somewhat disagree with that in that I think ironically that is what holds, it's a double edged sword, but I think that is what holds SME's back, a lot of the time is the legalities and compliances that are associated with operating a business sometimes holds us back from that pure sort of technology focus or the technical focus to perfect ... that will lead to the mastery of the craft, and so we get bogged down a little bit by that, but it is a double edged sword because we do need it, you cannot do one without the other.	business focus must not hinder innovation	Strategic Support	Technology Platform
R 2 It is not just about understanding your technology requirements, it also at the end of the day you need to understand the business, you need to understand how a business functions what makes it a success so the technology is just one side of it.	more than technology, its about business	Capacity Building	Business Opportunity
R 3 A lot of business I believe ... who do you turn to, you on the front and let's say use innovation you a front runner you kind of on the front line nobody has gone before you, so who can give you advice other than you selling your idea and the benefits of your idea and based on that you going to determine your markets, so it is either going to be a private market private sector, depending also on other external factors of how much input has come through media, television, exposing general public to the innovation	its about the business idea and what to do with it	Collaboration, Growth and Sustainability	Market Trends
R 4 I think it is really quite simple, no innovation in itself, whether it is a product or a service- let's not go beyond that - means anything if you can't use it in a business, if it does not have a commercial value and often people, especially SME's, they know what to do in terms of the innovation but they don't know, I had guys here and these experienced guys that wanted to come and see me and what they said was 'we found out about an opportunity in China for this thing –its like a cover for your cellphone and it charges the phone through the cover- they said we got the rights to this but we don't know how to go to market with it, that is exactly the point I am trying to make, they sitting on innovation for a South African market, I think it is blasé overseas but here it is an innovation but they didn't know what to do with it.	technology without the business is futile	Collaboration, Promote Opportunity, Capacity Building	Market Trends
R 5 I totally agree. From a SME point of view you need to obviously be savvy in terms of the technology industry, what is apparently happening there, how that can play a role or can be a support to what you are currently doing as a small business, for sure in terms of they need to have a complete business focus, from skill point of view some other aspects of a business including technology marketing human resources etc.	while technology is important, the business is critical to its success	Strategic Support, Promote Opportunity	Technology Platform
R 6 One has to understand one's capacity or one's business capacity and know that it will take more to market something after development and understand why that is the case and understand that it might need to work with other companies in clusters in some form or other, that is the new trend that has to be embraced, many companies have come with fantastic ideas and it has gone absolutely nowhere, because they did not want to share a piece of their pie and now it so close to innovation and I would say that it actually doesn't ... not initially, its need to understand the life cycle of its product and understand that there is time	marketing of technology is critical	Collaboration, Growth and Sustainability, Promote Opportunity	Technology Platform

	to go to market and there is time to repeal the product from the market and there is a window and that window will not extend, it is a couple of years maybe and an SME needs to capitalise on its innovation and bring in partners as quickly as possible so as to capitalise further on its returns and therefore lean on a cluster or a partner, or a Development Agency and link quickly and move faster, the market don't wait for them.			
R 7	I think that this is going to back to the person who started the SME generally, therein being that that person's limitation is normally the ?scene? for a business, that is why ... and generally I think the bulk of our SME's are technical, they are in a technical space and that is why the business cannot really... they understand how to do it ... for example they can make ?back? stuff but the business if you really broke it down that is one part, you have to understand and especially if you want to from a tender point of view, use a tender for example ... I am sure that 90% of the people sitting at that side if you can make them part, but maybe 5% of them get the document right and therein is the problem, simple ... people can't get tax clearance certificates, people can't balance their books etc., people have financial problems etc., and I think a lot of that is linked to the fact that the business has many legs that hold it down and the technical side is one aspect	technical knowledge means nothing without business sense	Strategic Support, Collaboration, Capacity Building	Business Opportunity
R 8	Many SME owners have the technical ability to do business but lack the commercial/business management skills	technical ability, less business skills	Strategic Support	Business Opportunity
R 9	I think that's the environmental generally, normally people want to know where your idea makes money and how it plugs into the business world as they generally know it. So most pitch decks have to have a comprehensive business focus to pass the bar.	important to plug the idea into the business	Capacity Building	Business Model
R 10	It must somehow transform into monetary value for the business	change from technology to real business value	Growth and Sustainability	Market Trends

APPENDIX Z:

SMEs participate as isolated entities and there is no real serious evidence of networking and collaboration.

Comment	Key Words	Themes	Categories
R 1 I would somewhat agree with that. I think an example, Silicon Cape for example is a very romantic notion and I think there is limited participation, I don't think that particular grouping is particularly representative and so yes again I think by definition SME are entities that do not collaborate for fear of ... because for example, you would not have access to the resources to protect our IP, we tend towards not sharing ... (so you believe that is the possibility that people are scared of losing their IP, their ideas, their innovation?) I think that is one component and the second component is, I think that within the Western Cape there is a lot of cronyism as far as those initiatives and resources associated with this initiatives are concerned, so it is maybe a little bit of a jaded view, but it is the view I would have.	lack of collaboration despite opportunities to do so, broader participation required	Collaboration, Strategic Support	Technology Platform
R 2 I over the years tried to start up or participate in quite a number of networking ventures and I think people are more keen, people are realising now that they would be more solid as a business entity if they were to be partner, even if it is just giving the support of another SME, because it is definitely tough to start a business and I think people are realising now that because we don't work in an office and always have the support in-house, it is better to just 'hash' out ideas and I know of quite a lot of regular networking opportunities for SME's as well	increased awareness and willingness to collaborate	Collaboration, Capacity Building	Business Model
R 3 I think it is a cultural thing and this is my humble opinion, also my experience, where a certain sector of the culture, they don't work with each other, they don't network, it is not kind of in the working culture to network, purely of distrust maybe whereas certain areas the distrust is always there but they see the economic viability of working together and they have learnt how to do that, so at least most of them on the outside of those networks they can't participate in those networks, so there is no serious evidence of networking in relation which also leads to the kind of slow growth in their business.	general reluctance to collaborate, distrust, economic viability	Collaboration, Growth and Sustainability	Business Opportunity
R 4 I think there is a degree of networking but there is very low levels of collaboration because if people have been - look you have to make some assumptions here, if someone goes into business for themselves it is safe to say that they probably have been working for about 10 years or more, because generally speaking you must be a big chancer to go into business any time before that but some people do because maybe they come from privileged backgrounds where parents have got money and are prepared to fund but generally speaking I would say, someone who has worked for like 10 years or more so in those 10 years they would have built up a network whether it is a business network, a social network there should be some sort of network and the easiest place to get business is from you own network that you know, but like I said that kind of dries up, that is then the time when you got 2 choices, you either try and establish new networks or you collaborate and there is a lot of bodies around and you can chose them, there is the black IT forum, there is the black management forum, there are all sorts of forums out around but surprisingly there is no real hard push and almost forcing more members to collaborate and I think that is were small business fall down, they need to learn that collaboration for small business is absolutely vital, so you take the black IT forum, when there is a tender that goes out and let's say it is in a 'desktop' space, if you got 40 members in the	low levels of collaboration, need to progress beyond personal networks	Collaboration, Promote Opportunity	Business Model

	desktop space you will get 40 responses to the bid as opposed to saying why don't we put our heads together and say who has got the best experience to drive this bid and who are the company's best position to work with them on the bid, then you going in with something that is really solid and has substance, you go in on your own and you in business for 6 months and seriously expect to wipe out HP or (name) and these guys have been going for donkey's years in a space is ludicrous, so I think its again part of the preschool stuff that needs to happen, I mean when the economic pressure and heat in 2007/2008 all of a sudden business just dried up so that was the time when we took the decision in our business to say well now let's talk to other people, and find people that compliment what we do, so if we specialising in the infrastructure like hardware and they doing software, we put them in a position where they can offer more to their client and they put us in a position where we can offer more to our client, so let's join forces and that is what we did and that is how we were able to grow our businesses even through the depression because of collaboration but again you can't really blame people for not knowing that because there is no one there or there is no thing that says if you are going to go out on your own these are kind of the 10 things about business that you need to know and you need to know the real world to survive,			
R 5	I agree with that ... to be honest, 10 years ago I would totally agree with that, I tend to be a lot more neutral because of the introduction of networking, social networking that has made it a lot more easier for people to start networking with people from other fields where they have similar issues, so I think it ease the burden of SME's	definite need and social networking makes this possible	Collaboration, Promote Opportunity	Technology Platform
R 6	The reason for is that we are seeing behavioural changes. In an environment in SA today where things are not as restrictive in terms of exposure and SA's experience is societal development and so that is playing a big role in terms of people networking more naturally, I suspect that between (indistinct) I suppose but that there is directional change as far as SME's are participating and with new technologies and social networking it is playing a huge role, so I think that there is a change indeed in the last 3 years	increased networking due to changes in SA like technology and social	Collaboration, Promote Opportunity	Technology Platform
R 7	As I said previously, it is normally the drivers of that business who is receiving and I think they sort of then move in the same circles, if we were to use an example – if you and myself maybe were together at some place one point in time and we both have SME's at a later stage in life if I come up with something that I deem you should be able to do, I think you are not necessarily going to look at who else to do it better or anything and therein lies the (indistinct) that we don't grow in network, we stay the same ... you find a SME very seldom trustthe boundaries (indistinct) you can only really do that once you migrate or to understand where your speciality or product is required elsewhere or who else you can be supplying it to or service ...	low levels of collaboration, need to progress beyond personal networks	Collaboration, Capacity Building	Market Trends
R 8	For SME's to survive they must network and collaborate	collaboration essential for survival	Collaboration, Growth and Sustainability	Business Model
R 9	That has been my experience thus far	smes are just too isolated	Collaboration, Capacity Building	Business Model

R 10	Smaller companies feel they need to prove themselves and struggle on their own. This is how I felt before hearing about companies like SEDA. Although this is the only one I know about I am sure there are many more companies like these who can help SME's grow.	sense that smes have to prove their worth by doing things on their own. Strategic support available	Collaboration, Strategic Support	Market Trends
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APPENDIX AA:

SMEs are generally poor researchers of real business opportunities and do not always clearly know how they should participate.

Comment	Key Words	Themes	Categories
R 1 I would somewhat agree with that. I think a requirement for being a SME or being an entrepreneur or business person is some level of delusion and so I think that to an extent is healthy but it has a downside, and that downside is pretty well articulated.	lack of true understanding of entrepreneurship	Strategic Support	Business Model
R 2 We simply don't have the experience to do the research firstly, and then secondly to do research into 'do we qualify or what should we do in order to participate'	lack of experience to do research and skills	Capacity Building	Technology Platform
R 3 I think SME's are basic idealist, that is with lots of ideas they expect to find the right avenue, they have the energy, they have the drive and then they just need the right avenue, so they are poor researchers I think to large extent they are poor researches because whatever makes money sense ... that is the way to go, now money is a driving factor but idealist in the sense that I can do it and the (indistinct) and all that goes with it ...	idealistic, energetic, drive, poor researchers	Capacity Building	Business Opportunity
R 4 Again, if you look at the typical career progression of a technical person and again you can apply this to any industry really not talking technology specifically, they advance through the ranks because their technical expertise, then they get to a point where they know and the company knows that we have to do more for this person, what do they do they become technical specialist, so now you specialise in let's say mobile technology as an example, that's fine but now mobile technology is expensive technology from a development point of view and from a usage point of view because it is governed by traffic and the business model generally for mobile applications is low margins high volumes, so these guys are not really positioned to really understand that, they don't have access to everything to do proper research but it is not in their psychic in terms of what they have grown up to understand these things, and that is where I say there needs to be - when the guys steps out of the one door as a technical specialist and into another one as a SME, there is already some learning that should have happened, it almost needs to be an entrepreneurial pre-school, so before people make that step let them do it in an informed fashion, too much of it is not informed and that is part of the problem.	progression of skills, need to research to understand business need	Expertise, Capacity Building	IP/Production/Procurement
R 5 I agree with that, They are obviously poor researchers in the sense that a lot of them start businesses only knowing how good they are in their skills, for example a carpenter will only know about carpentry and not be exposed to other avenues of other opportunities so yes so that is somehow a disadvantage	need to research to get overview of business	Expertise, Capacity Building , Promote Opportunity	Business Model

R 6	It is very difficult to generalise with SME's, some are profoundly innovative, some are profoundly menial	vast range of sme competencies	Expertise, Capacity Building	IP/Production/Procurement
R 7	SME's almost get stuck into ... generally my opinion is that they are started or opened up by someone who worked in a certain industry and that person then wants to operate in that same industry but he doesn't want to work for his boss, but the business then is limited to that individual's experience, I can't say that entrepreneurs or SME's are very keen on up skilling themselves, they very often keen to up skill their staff but themselves and there is the driver or the visionary for the business I believe that there is a lot of room there, whether it is for these Development Agencies to assist in that area ...I think that as the SME's entrepreneurs expand in his understanding, so too the business can, its often they are against change in what they deem the best.	progression of skills, need to research to understand trends	Expertise, Capacity Building	Market Trends
R 8	Many SME owners have the technical ability to do business but lack the commercial/business management skills	technical skills but not business skills	Expertise, Capacity Building	Market Trends
R 9	Resources are normally a very limiting factor, time and staffing for example.	limited resources	Capacity Building	Business Opportunity
R 10	Again, I feel it's up to business owners to seek out the opportunities, as there are many government institutions who want to help grow small businesses.	sme needs to find opportunity, help is available	Promote Opportunity	Market Trends

APPENDIX BB:

The SME can compete on the technological level but not on the commercial level with corporates.

Comment	Key Words	Themes	Categories	
R 1	I would agree with that. I would be a 4 for me, I would somewhat agree with that, I think a lot of the time the challenge in SME is that they are a little sheltered in terms of the trends, they would have access to a fair amount of it, but I think without really being out there without almost international fact finding missions and being exposed and immersed in that landscape, being immersed in it, I think only then will we see what our potential really is, but as long as we are sitting in Cape Town, even in a hub even in a really creative conducive space, the pool that we have access to is still limited and so I think the corporates have access, the corporates can send their executives all over the world to experience and to expose to whatever it is that we are meant to.	sheltered from trends, lack of exposure, limited resources	Promote opportunity Capacity building Financial support	Business Opportunity
R 2	I strongly agree. We simply don't have the same finances	lack of resources	Financial support	Business Opportunity
R 3	I think there is a lot of guys out there who probably in the age of around 40 to 50 they find that need a new lease on life and a lot of them had ventured out, professionals ventured out into some sort of technology some sort of maybe value added service that they contribute and so definitely I agree with that.	accumulated knowledge of the entrepreneur	Promote opportunity	Business Opportunity
R 4	I think the reality is that most - what it hinges on is that most SME's go into business because they are forced to by circumstances, they get retrenched or something like that or they have the entrepreneurial spirit without having any business acumen and I think that at some stage or another it is always going to catch up with you.	forced situation, entrepreneurial spirit, lack of business skill	Capacity building	Business Opportunity. Market Trends
R 5	I don't necessary agree. I think they can compete on all levels provided that they are given the opportunity number one and given the resources from a point of getting the support from government and also from the tertiary education giving them the skills to become more savvy in terms of their entrepreneurial skills, so yes the only thing that will be to their disadvantage is obviously lack of experience	capable if given opportunity, resources, support, skills, experience	Promote opportunity, Capacity building	Technology Platform
R 6	That is certainly the case, There is a reason for that in terms of my opinion and that is today's market and competitive environment and society compared to years ago when motor cars use to take 7 years before the model would change and there was one model and then the next one comes out 7 years later, as an example the competitiveness in the motor industry for example is so high that to remain in that space that fast track space, the entire business seem to be in that space and the only way it can be there is if it is a well-	competitive environment, specialised, fast-paced, established, supportive role	Capacity building	Market Trends, IP/Production/Procurement

	established sort of corporate, the SME plays a role somewhat to support that activity largely but it does not necessarily exist to compete in that space, its a fast space high level environment			
R 7	I have found from a commercial or at least from the background often you find SME's, the owners who are entrepreneurs are reasonable well educated, so I can't say that is not necessarily true but from a commercial level it comes down to resources I would imagine, it plays an important role (I notice resources ... I mean it keeps on coming in motivation)	adequate skills, lack of resources	Capacity building	Business Opportunity
R 8	Many SME owners have the technical ability to do business but lack the commercial/business management skills	technical skills, lack business skills	Capacity building	IP/Production/Procurement
R 9	We don't have the same budget as the corporate	lack of resources	Financial support	Business Opportunity
R 10	I feel that with the right amount of mentoring the SME can grow quite rapidly. It's up to business owners to research and seek out help and opportunities for growth.	mentorship, research and development, opportunities	Promote opportunity	IP/Production/Procurement

APPENDIX CC:

Role models within the technology space could serve as good mentors for entrepreneurs.

Comment	Key Words	Themes	Categories
R 1 I am neutral as far as that is concerned, there are some very good examples of that, Mark Shuttleworth is one, there are some very bad examples which I would rather not name but yeah I think we make that mistake sometimes that we think that good cricketers will make a good coach and that is not necessarily the case, so I don't have an opinion as far as that is concerned, it would be case by case.	good and bad role models, contextual	Contextuality, Strategic Support	Business Opportunity
R 2 Any mentorship program works very well because you are gaining experience who have done it who broken though, they made a success in whatever field you chosen and for them to pass the skills to pass that experience on to new business owners, that would be fantastic ...	mentorship, past experiences	Mentorship, Strategic Support	Business Opportunity, Market Trends
R 3 My mind immediately goes to the government, they should be our role models. The whole process of tender entrepreneurship and things like that I think therein lies something that business people can take maybe governments with public works can kind of facilitate tenders in a way where you can take out all this things that go around, the corruption and all those things you know uhm definitely that could be a place to play in so we can model ourselves on ... this is the way the government wants it, its proper and its credible so that we can participate in there ... now we know that all the talk is going around tenders and things like that, people with ethics are very ... they know to participate in that, they rather seek other avenues than help governments in procurement and all those things so there can be kind of soothing of the processes and things like that	government should be role model, tenders, procurement	Strategic Support	Business Opportunity, Market Trends
R 4 What is going to be very specific with role models, if you take myself, I came up through the technical ranks but I decided fairly in my career that I wanted to work more with people and now it comes as oppose to with technology so I made a career change, as a role model or as a kind of mentor I can straddle the two, the problem is that there are not a lot of people that have or are fortunate enough to get that kind of experience, so you get a lot of people they are excellently technically brilliant and they kind of outgrow the places where they employed at and so the next they decided is I have to go on to myself, so the role models should serve as good mentors but you got to be very careful how and who you match them up, so you cant take a role model or a mentor and just say ok you	Exposure to all aspects of business, suitable match	Suitability, Strategic Support	Business Opportunity, Market Trends

	mentor that person, because if your background and experience does not match that person's career aspirations, then when he ask you a question that is outside of your area of experience what are going to do, you are also going to look for the answer from somebody else, so there is need to be tighter match making between the two.			
R 5	I strongly agree. They play a huge role especially from a technology point of view its a language that's on its own... and there is a lot of terms and terminologies that you use there and how important technology is used in any type of business in almost any type of business I think.	Important role, Technology, Business	Growth and Sustainability, Promote Opportunity	Technology Platform
R 6	I think that role models are always assumed to be good mentors but in reality one needs to understand the environment in which a role model might find him or herself, the environment might not be conducive to even support ... to mentor entrepreneurs in a sense of innovation maybe the benefits of becoming innovative but they could, I would agree that they could and I would say that I somewhat agree and I would say that I believe that they could but I also believe that they should but I believe also that the environment is (indistinct) and that is why you get the odd entrepreneur that is role model in society, the odd one, the environment is not necessarily yet conducive to that transition.	environment, conducive, supportive	Promote opportunity, Suitability, Situational	Business Opportunity, Market Trends
R 7	At a lot of times especially in smaller business you try and let the entrepreneur believe that he is the bees knees in what they do, and they not necessarily going to take kindly to someone else and maybe in the reverse as well, that the role model deems that that is the only way to do things, collaboration yes in form of mentorship point of view, yes I do believe we can draw from peoples knowledge.	confidence, collaboration, mentorship	Collaboration, Capacity Building,	
R 8	Society needs role models in any case.	Strategic Support	Business Opportunity, Market Trends	
R 9	Most entrepreneurs need mentors and who better than a fellow entrepreneurs	Importance to society	Value	Business Opportunity
R 10	Companies such as SEDA help set up small business owners with other companies that could help, I think this is a good way of encouraging and mentoring small businesses.	mentorship	Value	Business Opportunity

APPENDIX DD:

Higher education institutions have a role to play as a development agency.

Comment		Key Words	Themes	Categories
R 1	I could not agree more. Is there more than 5. I would strongly agree, there is absolutely no doubt about that. I think and this is a very short answer, I think that the very definition of what it is that they are meant to do or their brief, is to cultivate, incubate and accelerate the potential of ... the latent potential that is there and to be those enablers too because that is a space where we should be given access to those factors I have mentioned earlier.	cultivate, incubate, accelerate, develop potential	Growth and Sustainability, Promote Opportunity	Market Creation, IP/Production/ Procurement, SLA/Resources/ Infrastructure
R 2	Because if you think that you get those graduates at that point where they have just graduated, they haven't really entered their industry of choice yet, with CPUT for example, a part of our course is to get practical experience, so we already have somewhat ... a bit of experience and we have our qualification, I think if you grant the graduates at that point and help them to develop a business idea there would be a higher rising onto entrepreneurial activities	gain experience, business idea	Growth and Sustainability, Promote Opportunity	Business Opportunity
R 3	It all comes down to education in inverted commas, you know education under that awareness, exposure and things like that, and I am sure you guys deal with people coming in and out here who deal with corporates, exposing their products ... I think in architecture they would be exposed to actually products use in homes, what they do, how it is constructed, how they are made and things like that, how green they are ... so education I think from a younger age the exposures to let's say show them other than a brick from a young age so they can expand their minds to 'oh I can also use that', it can be a very simple context.	awareness, product exposure	Promote Opportunity	Intellectual Property and/or Production/Procurement Capacity
R 4	I think the role that they have to play, I referred to it in my previous answer about Development Agencies, its the education bit, you see their role is really to make sure that they need ... there need to be a far closer link between the theory of what to do in business and the practice of business, because I mean I have to employ people with masters degree in technology and BSc and stuff already in my previous life in Woolworths and the reality of it is ... in the real world it is not a case where you sit and you say okay so we have this kind of thing or we want to do this so what is the kind of classical way that we going to it, its not as pure as that, so you are thrown into situations where you must be able to fall back on practical guidelines in terms of this is how I apply what I know, so yes this theory I have learnt from whatever but now how do i apply and I think the practical application of knowledge is where a lot of people with tertiary qualifications fall down - you know, if you had to ask me in my business would i take someone with a BSc honours in technology vs	link theory to practice, application of knowledge	Strategic Support	Technology Platform

	someone with 5 years of practical experience, I go for the practical experience and I think that would sum up my answer			
R 5	I agree. They do have a role to play from a point of education, giving the necessary skills from an entrepreneurial point of view to various people about running their business from all aspects, I mean to run a business you need to understand all roles from marketing to advertising to financial skills and now also with innovating coming in to play a big role in the whole space, I mean that highly (indistinct) should act as a synergy in terms of ensuring that all those components are a little bit	Knowledge of running a business	Strategic Support	Business Opportunity
R 6	The first thing I would think of there with that developmental aspect of the institution, would it permeate the curricula and in so doing permeate the skills acquisition of the student or would ask that question in the sense of – does it knowingly play a role as far as being a Development Agency and if it does then to who is a player in the role, so I would suspect that I would have to answer the question in the context of the students who pass with those higher education institutions and I think they ... we witnessing institutions like CPUT playing such a role with quite a few innovations and I suspect the more we realise that South African society needs to elevate itself as far as becoming innovative, I suspect that higher education institutions would probably carry the brunt of that load in terms of realising that new direction.	link curricula to skill requirements, new direction	Promote Opportunity	Business Opportunity, Technology Platform
R 7	I believe that you will go to university and by and large you get your diploma or degree but that is really where it ends, it is you as the student or individual the onus is on you to go into industry and find out how you can or where you can go and practice these skills, so I think from a development point of view it is a twofold thing, obviously every year syllabus change or every 5 years, I can't say how often they do but is that necessarily cascaded down to the industry who works in that profession, I often wonder and a simple example ... a doctor who qualified in 1965 – is he good to practice now and is he compelled by virtue of his body to up-skill, I mean my kids are at school now and what they doing in grade 4 is not what I did, so does it make my matric as good as theirs ... you know that sort of thing, that is in the lower education, your question is posed at the higher education so I think they do have a role to play in sort of making sure that the general understanding of where... the syllabus mustn't grow faster than the industries grow	adaptive curricula, link to industry	Adaptability	Business Model
R 8	It should be here where the ethical standards industry and society requires is firmly entrenched.	entrenchment of ethics, link to society	Ethics, Society	SLA/Resources/Infrastructure
R 9	Because they are equipped to educate and facilitate	their nature	Strategic Support	Business Opportunity

R 10	Higher education institutions can guide many SME's.	guidance	Strategic Support	Business Opportunity
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APPENDIX EE:

Corporates dominate the innovation space and this lies in the legacy of South African society, its commerce and industry.

Comment	Key Words	Themes	Categories
R 1	Strangely enough this might be completely opposite but I would somewhat agree because I think a lot of the time the moves towards innovation and the creation of that space is led by corporates, I think FNB is a very good example of that where FNB to an extent, to my mind, has given the digital natives permission to be disruptive, almost, which is an interesting move, they have corporatized innovation almost and they have shown that it can comfortably fit into a big corporate culture, it can become part of everyday business and I think why that helped is not just the notion of it but the fact that being adopted by everyday people, which broadens the market for small businesses and to sell their services into, and so from that perspective I would somewhat agree then that they do dominate the innovation space and it is a result of the legacy because they have that access that the small businesses don't have, which we spoke about earlier.	domination, access, new territories	Growth and Sustainability Promote Opportunity, Domination Market Trends
R 2	In the Western Cape alone that is only partly true because yes corporate do dominate, if that is the question then yes that is true, however there is the minority that they are thinking outside the box and being innovative and making businesses out of that, so there is that minority, I can't say that I strongly agree	out of the box, new business	Conservative Practice, Growth and Sustainability Business Model
R 3	That is quite wide, depending on the products and the directions of these corporates, I would think almost if you had a look at small industrial parks and you see what these guys are doing, they are importing a container of this and a container of that and of various things and products and it is so varied that if you look at the corporates in that, they would just do something on a huge scale and have many investors involved and its on a kind of macro level, I don't think they dominate the space in terms of the ability to but I think because of the resources they can, I don't know if that answers your question, there is a huge potential of they can do it without the resources and then it is just kind of like a normal thing for corporates say ok we can do this and we can do that if we want to. I somewhat disagree because the leaning here for me is or from my perspective is SME's I believe that given the right funding and stuff like that they can definitely, the sheer volume of SME's, they can definitely start to corporates which has maybe ... I don't know what the ratio is maybe 100 to 1, I think it is Thailand where most of the economy is geared on SME's, so there is a huge lesson to be had there	adaptable, resources, capability, responsive	Growth and Sustainability, Promote Opportunity, Capacity Building, Strategic Support Business Model, Intellectual Property and/or Production/Procurement Capacity
R 4	The reality of the corporate world is that unless you can govern and your business practices and your business behaviour is governed by a charter of some sorts, that regulates what you can or can't do, so if you take like retail, retail is not governed even by the BEE charter, so they can basically do what they want to, so if they want to invest and spend money on certain technologies whatever they can, they don't have to fill in a score card and say ok, I have done this or I have done that, so they got the legal framework in a way to do what they want to, that's what it comes down to	governance, business model, resources	Legal, Promote Opportunity, Capacity Building, Strategic Support Business Model, SLA/Resources/Infrastructure

R 5	I strongly agree with that. I think probably with the same reasoning to the first one in sense that they obviously created the perception that they are more reliable in the sense that ... and they obviously have a lot more resources so they able to create a lot more reliability as oppose to small businesses.	reliability, resources	Perception, Strategic Support	Business Opportunity
R 6	The reason why I say so is that I would suspect that corporate simply have to innovate to retain their position on a corporate level, its slightly different with small business.	need to innovate, market share	Competitive Advantage, Growth and Sustainability	Business Model, Market Trends
R 7	It is probably linked to what I said earlier on and because of their ... abilities or capabilities or resources they are able to put people aside in a loop somewhere to innovate ... to look at something which is working and say well can we make it better cheaper faster etc., where the smaller companies are sort of stuck in the day to day let's make that thing again and again, not necessary afforded the time nor often the pricing doesn't allow it to go into those ...	resources, capabilities, produce new and different	Growth and Sustainability, Promote Opportunity, Capacity Building, Strategic Support	Market Trends, Product Innovation, SLA/Resources/ Infrastructure
R 8	Corporates can afford to pay for the research involved in establishing new markets, from surveys to advertising	resources, new markets	Adequate resources, Growth and Sustainability, Promote Opportunity	Market Trends
R 9	I think the majority of the populace is left out of this space, leaving a lot of potential ideas, and opportunities falling on the way side	exclusion, potential for new ideas	Exclusion, Growth and Sustainability, Promote Opportunity	Business Opportunity, Intellectual Property and/or Production/Procurement Capacity
R 10	As previously mentioned, these companies are more stable and well established. This enabled trust,	stability, established, trust	Adequate resources, Growth and Sustainability, Promote Opportunity	Market Trends, Business Opportunity

APPENDIX FF: SME Respondent One

As a practitioner in the Innovation and Technology Industry please complete the survey by firstly answering the following questions:

a. Is disruptive innovation a common term used in industry, and if so, what is the nature of it?

To my mind disruptive innovation would be innovation for thinking outside of the box. It is about sort of those left field notions and concepts that sort of would find a place in this new sort of digital landscape that we find ourselves in, so new opportunities that are born out of that landscape and sort of the innovation and the thinking that needs to almost catch up with that (yes can you think of an example?) well it is almost anticipating needs that we didnt know we had, and I think a fair example of that is ... there is actually an App that won an award now at the U-Start Conference in Milan called Over and what they do is, with the rise of Instagram for example ... Clicker etc etc and mobile photograph, what they've done is, they provide an App platform for you to overlay texts and images or texts and little iphoneography over your images that you photograph so it is beyond ... it is manipulation beyond manipulation if you know what I mean, which is strange, so Instagram already allow you to filter and so to get a particular effect ... so a lot of the time I think we would stop at the manipulation, these guys are pushing even further and saying well manipulate the manipulation and that would be an interesting example of (and what is the name of that App?) it is called OVER, an interesting model there, maybe we will that later but it is a premium model, a lot of the functionalities are offered free, then they offer you teasers as you go along so you can also like this set of icons, you can buy it for 99US cents, you can also like 'wouldnt this be great do to XYZ' and they sort of (ok so they reel you in initially and its premium ok some kind of subscription or pay as you go)

b. What are the dimensions of business model innovation as understood by industry?

Difficult question because I think within the context of the Western Cape or in the South African Context we may have a particular understanding of what it is to be a start up, that does not necessarily translate into the digital and ICT space because I think the nature of the needs of a start up in the ICT space are slightly different, so what I am really doing is looking at ... do we understand what the concept of a business model is? do those business models apply to the start ups in the ICT space and then to have the innovation components, well then we cant without having that base understanding, so I am answering it in a very cryptic kind of way but that would be my response.

c. What is the potential role of the Development Agency in this space?

Broadly speaking, the broad term I would use would be access and then the sort of sub sets of that would be access to bandwidth quite literally, because a lot of the time that is an inhibitor, access to physical space a lot of the time is very important and physical space that sort of leads to or encourages collaboration, I think that is important (right so the space there is the physical office space and working space) and so yes I would say that but also almost hum space and where businesses that are playing this in a similar kind of arena are literally located in the same place (within a hub of sorts) absolutely! and there can be that because a lot of the time sitting on your own, if you talking about innovative disruption it is

also about, it is all disruptive innovation rather, it is about somebody's idea which might be completely unrelated but you hear it in the passages or working on a project and it spark something completely different. So I think access to bandwidth is critical because that is an inhibitor but then also the creation through Broadly speaking, the broad term I would use would be access and then the sort of sub sets of that would be access to bandwidth quite literally, because a lot of the time that is an inhibitor, access to physical space a lot of the time is very important and physical space that sort of leads to or encourages collaboration, I think that is important (right so the space there is the physical office space and working space) and so yes I would say that but also almost hum space and where businesses that are playing this in a similar kind of arena are literally located in the same place (within a hub of sorts) absolutely! and there can be that because a lot of the time sitting on your own, if you talking about innovative disruption it is also about, it is all disruptive innovation rather, it is about somebody's idea which might be completely unrelated but you hear it in the passages or working on a project and it spark something completely different. So I think access to bandwidth is critical because that is an inhibitor but then also the creation through physical space or collaboration physical space or collaboration

		Strongly Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Strongly Agree
1	South African businesses and particularly small businesses, are generally not big players in innovation.	1	2	3	4	5
1.1	Why do you say so?	Well I would say I somewhat disagree. I wouldn't strongly disagree because even though that would be my initial sentiment, I would say somewhat because that is how small business survive in this country, is by identifying opportunities, sometimes on the periphery but other times very much at the core of where there is a gap that the big players have created by virtue of how big they have become, it is potentially a blind spot of theirs or something they have not thought of to begin with. why I somewhat agree as oppose to strongly agree is they are not yet big players, because then we can have the conversation around what is big, I think there is definitely the potential for it to grow if those enablers were put in place with regard to the access and so on, so there is demonstrated potential for it to move that way but I dont think its huge or as big as they could ... (so just to clarify are you saying somewhat disagree)				
2	Corporates dominate the innovation space and this lies in the legacy of South African society, its commerce and industry.	1	2	3	4	5
2.1	Why do you say so?	Strangely enough this might be completely opposite but I would somewhat agree because I think a lot of the time the moves towards innovation and the creation of that space is led by corporates, I think FNB is a very good example of that where FNB to an extent, to my mind, has given the digital natives permission to be disruptive, almost, which is an interesting move, they have corporatised innovation almost and they have shown that it can comfortably fit into a big corporate culture, it can become part of every day business and I think why that helped is not just the notion of it but the fact that being adopted by every day people, which broadens the market for small businesses and to sell their services into, and so from that perspective I would somewhat agree then that they do dominate the innovation space and it is a result of the legacy because they have that access that the small businesses dont have, which we spoke about earlier.				
3	Higher education institutions have a role to play as a development agency.	1	2	3	4	5
3.1	Why do you say so?	I could not agree more. Is there more than 5. I would strongly agree, there is absolutely no doubt about that. I think and this is a very short answer, I think that the very definition of what it is that they are meant to do or their brief, is to cultivate, incubate and accelerate the potential of ... the latent potential that is there and to be those enablers too because that is a space where we should be given access to those factors I have mentioned earlier.				
4	Role models within the technology space could serve as good mentors for entrepreneurs.	1	2	3	4	5

4.1	Why do you say so?	I am neutral as far as that is concerned, there are some very good examples of that, Mark Shuttleworth is one, there are some very bad examples which I would rather not name but yeah I think we make that mistake sometimes that we think that good cricketers will make a good coach and that is not necessarily the case, so I dont have an opinion as far as that is concerned, it would be case by case.				
5	The SME can compete on the technological level but not on the commercial level with corporates.	1	2	3	4	5
5.1	Why do you say so?	I would agree with that. I would be a 4 for me, I would somewhat agree with that, I think a lot of the time the challenge in SME is that they are a little sheltered in terms of the trends, they would have access to a fair amount of it, but I think without really being out there without almost international fact finding missions and being exposed and immersed in that landscape, being immersed in it, I think only then will we see what our potential really is, but as long as we are sitting in Cape Town, even in a hub even in a really creative conducive space, the pool that we have access to is still limited and so I think the corporates have access, the corporates can send their executives all over the world to experience and to expose to whatever it is that we are meant to				
6	SMEs are generally poor researchers of real business opportunities and do not always clearly know how they should participate.	1	2	3	4	5
6.1	Why do you say so?	I would somewhat agree with that. I think a requirement for being a SME or being an entrepreneur or business person is some level of delusion and so I think that to an extent is healthy but it has a downside, and that downside is pretty well articulated.				
7	SMEs participate as isolated entities and there is no real serious evidence of networking and collaboration.	1	2	3	4	5
7.1	Why do you say so?	I would somewhat agree with that. I think an example, Cilicone Cape for example is a very romantic notion and I think there is limited participation, I don't think that particular grouping is particularly representative and so yes again I think by definition SME are entities that do not collaborate for fear of ... because for example, you would not have access to the resources to protect our IP, we tend towards not sharing ... (so you believe that is the possibility that people are scared of losing their IP, their ideas, their innovation?) I think that is one component and the second component is, I think that within the Western Cape there is a lot of cronyism as far as those initiatives and resources associated with this initiatives are concerned, so it is maybe a litte bit of a jaded view, but it is the view I would have.				
8	In order for the SME to capitalize on innovation, it requires more of a complete business focus rather than a simple technical focus.	1	2	3	4	5
8.1	Why do you say so?	I would somewhat disagree with that in that I think ironically that is what holds, it's a double edged sword, but I think that is what holds SME's back, a lot of the time is the legalities and compliances that are associated with operating a business sometimes holds us back from that pure sort of technology focus or the technical focus to perfect ... that will will lead to the mastery of the craft, and so we get bogged down a little bit by that, but it is a double edged sword because we do need it, you cannot do one without the other.				
9	The SME should make use of the innovation to transform itself into a business that can succeed and be sustainable.	1	2	3	4	5

9.1	How could we ensure that this takes place?	When you refer to the innovation, would that then be the (unclear) product or service ... so they should make use of that to transform them into the ... Absolutely! I mean I think I would strongly agree with that. It's the life blood of any business, it is the capital that they are sort ... or the currency rather they are trading in, and so without that you dont really have anything (ok and you noticed that particular question and you answered it like that, it wasnt simply why but how could we ensure that this takes place? in other words how do we make this innovation become / make the business successful) I think it links back to question no 8 where if I can be placed in an environment where the legalities and compliance to an extent are seen to on my behalf, I can focus more directly on the technical aspects of my business and on growing that currency and on perfecting that and not have to sort of oppoitioned (energies into that) absolutely.				
10	Government's policy on enterprise development is effectively implemented.	1	2	3	4	5
10.1	Why do you say so?	I am neutral there and I will tell you why I am neutral is because there again there very good examples and there are very very bad examples. I don't think figured out where our focus should lie from a sectoral prospective, I think we a notion that ICT is a growing sector, we have a notion that tourism sector, we have a notion that mining is a growing sector but then we sort of stop ourselves short on the mining side for example, I think we stop ourselves short there because it is so loaded and so I think it would be very very effective once we pin down our sectoral focus and we know which channels we driving through and why.				
11	The mobile application space is a worthwhile space to explore for the SME.	1	2	3	4	5
11.1	Why do you say so?	I think it is, I would strongly agree with that and the reasons for that is, there are relatively low barriers to entry so that is really good. In terms of research and development, that is a potential sort of limitation but a mobile App and it should have (unclear) into that space is easily scalable, if it is well put together from the start and also it is almost designed taper off, so it is designed to be something that is very functional and something that is used but then what would happen is, there would be a new innovation which is sort of either kick that particular product into its next phase or be replaced by something else, and so I think that something SME's are faced with a lot of the time is that anxiety of the venture failing, the mobile App space is almost designed to have a shelf life and then to fail if you will by some standards, but then have to reinvent itself, so it feeds off itself in a sense, so I think that works for SME.				
12	All said and done, the standard commercial practices apply to this industry.	1	2	3	4	5
12.1	Why do you say so?	I strongly disagree, which is where the opportunities lie. The same rules of commerce do not apply, the positional scales, the positional thinking with regard to the source markets that those barriers have virtually disappeared, so no, I don't think the same rules apply.				
13	SMEs should ride "on the shoulders of giants" (corporates) by becoming solutions-partners to the opportunities that the corporates have explored and created.	1	2	3	4	5

13.1	Why do you say so?	Absolutely. I would rate that as a 4 or actually maybe bringing it back from a 5 and say that there really ... you have to ride some of the time to be commercially viable and successful you have to ride pretty close to the wind and a lot of the time that wind is generated by the corporate and again a lot of the time the corporates creates more problems than solutions, and if you are in the solutions game then you should be close to where the problems are, so for me the one sort of goes along with the other if we could compound that reality by having the corporates creating and enabling environments, I think we would be sitting with something pretty sweet if we could have the corporate along with ... on a legislation rate and enterprise development, for example coming together and hit that sweet spot where we would identify the sector and the resources are directed at those notes, I think we would be on to something (and we do see evidence of that, we think of things like the Telkom programs that is run at the bandwidth ... so there is evidence of that) absolutely.				
14	There appears to be an over-glamorization of the entrepreneurial experience based on the role models within the IT sector by way of Steve Jobs, etc.	1	2	3	4	5
14.1	Why do you say so?	I am going to be a bit maybe intellectual with this answer now and say I don't really agree with that because I think there is an over glamorisation across sectors (ok so it is not specific) it is not specific, I think in terms from a sports point of view you will have the Dale Steyn's of the world who drive their R8's and there is an over glamorisation of his success and what it means and there are so may would be Dale Steyn's on our primary school fields every day who never ever make it, and so if we reflect on the sadness of that relative the to sadness of SME's not making it, I would from an intellectual perspective, I would say that you would be able to relate it to each other, so over glamorisation from IT, there is over glamorisation absolutely but it is no specific to the IT sector, does it hurt it, maybe it does but yeah. I would say that I am neutral on that, which is a strange answer				
15	The development agency must provide the soft skills development in transforming the entrepreneur from mobile application developer to competent business person within the innovation space.	1	2	3	4	5
15.1	What are these soft skills?	Absolutely! I would strongly agree. (what are these soft skills that you believe to be important?) how do you quantify this, I don't know, but resilience I think is critical and tenacity, now what that translates into from a soft skills perspective I think would be the conversation that we need to have but it is really for example understanding the industry and the previous example I used was Apps that sort of come to the end of their life cycle, understanding that is not personal that that is how the industry works and being resilient relative to that, to day ok so I need to understand the creativeness but I need to recreate it relative to these cycles and so having that understanding, and then tenacity where things they often don't work but that's ok, and I think also maybe one that is also maybe very critical is effective communication and I think increasingly it is becoming a space for pictures, it is becoming a space for succinctly being able to communicate concepts and so that for me would be core and it would be one of the first things that I would look at, being able to articulate your ideas.				
16	The SME needs protection from the "big customer" as doing business with corporates can influence the cash flow when payment is delayed or protracted.	1	2	3	4	5

16.1	Why do you say so?	<p>I disagree. I somewhat disagree, it would be 2 and I will tell you why, I think sometimes we find ourselves buying into the thinking that a SME needs to have a number of small contracts as oppose to the smaller number big contracts. Does that expose you to risks? absolutely but that links me back to the enablers and at an enabling environment where access to finance and support of an SME that has secured a big contract would ensure that they would not have a cash flow challenge, that would be bank rolled because there would be guarantees in place relative to that, so the fact that there is a disconnect is strange to me if you have signed a R30 million deal with FNB and you having a cash flow issue, there is a disconnect there, where are your big brothers that are saying to you 'listen here is R250000 guaranteed I know they are going to pay you on 90 days but you could keep your doors open' (and who do you suggest would give you that R250000, a development agency, development bank or what is it) I think again it links back to our enterprise development discussion where I think that that needs to be working there, so we have preferential payment periods within the enterprise development and so I think we need to look at that, and I mean to leverage that more effectively so that small businesses are not exposed to that risk because they needn't be exposed to the risk, if in that example FNB were to give a small business a R30 million contract, there is no good reason why they could not be paid on a 15 day schedule, given many considerations obviously but they would not have to be subject to a 90 day payment, and that could be a win win for them as well as a corporate would be able to claim those points.</p>				
17	State and corporate payouts take too long for the SME and many would cease to exist by the time they receive payment and/or funding.	1	2	3	4	5
17.1	Why do you say so?	<p>I think it relates to the basket of services, it relates to the fact that often we have one line of products or our offering is pretty insular and so we have not diverse, we have not entered the point we diversified so all our eggs are then in one sort of proverbial basket and then mean ... because if you waiting for one payment its worse than waiting for four because there can be like a staggered kind of trickle almost of money all the time and so yeah I think that is the course of it alone.</p>				
18	There is benefit in collaboration in mobile application development.	1	2	3	4	5

18.1	Why do you say so?	<p>I strongly agree given the scarcity of resources, that is one, so I am talking about physical resources and again relating to bandwidth in particular but I also think that collaboration is critical, we need to broaden a pool of ideas, we need to broaden the pool of thinking and we need to be disruptive and we need to rattle and have our models tested and thrown up against sort of other people who think differently to how we do, and if that could happen more and more often I think that could only benefit SME's and their development. (Thanks for that. What makes an App a good App in your view?) quite simply, functionality ... functionality number one and I think what make a good App from a commercial perspective is conversion, so it is about being able to take somebody from one place to another, sometimes quite literally ... let me say this, I was at a conference a couple of weeks ago and they said something very interesting, they said that mobile web leads discovery but the mobile app environment leads experience and that is a very important distinction because from a brand point of view, I think that it needs to be noted is that from a mobile web perspective you need to be out there to be found, where mobile apps are, they at the forefront of the experience of your brand and they deepen the experience and so that for me is what there needs to be a deeper appreciation in terms of and I think if that informs more of the design thinking, then I think it is a rabbit hole we can never get too deep down (do you think this whole mobile app thing, is it a fad or is it something ... is it a genuine thing in your mind, is this something ... not that it is going to be here forever but do people take these things seriously) our apps ... maybe I am unique in this view but I believe that our Apps are an extension of our personalities so just to qualify that, if I were to ask you what Apps you have downloaded I would very quickly be able to get a sense of your personality so that is from one perspective, I think from another perspective just to go down the road from experience again ... it is an extension, so it is an extension of me, it allows me to pool more information towards myself, it enriches my experience of the environment I am in, if I choose to do that then it has te potential rather to deepen my experience of where we are sitting right now, of what I am looking at and so I think Apps feed our curiosity and that is a basic drive within people and so it doesn't have legs by virtue of that App, I am really excited to see where it is going to go, I don't think it is going to peter out any time soon (in closing, I really mean this now in closing. What is your most indispensable App that you got on your phone) I have a number but I really enjoy Instagram, I really enjoy Twitter but increasingly I find myself communicating in more visual way and so what would have been a sort of textual reference on Twitter now becomes more visual, it becomes more textured, it becomes richer, and again that links to experience, so I am able to communicate or articulate more clearly what it is that I am experiencing to people in my circle that I was able to do before, and to be able to communicate so richly is something I enjoy so I think Instagram would be number 1.</p>
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APPENDIX GG:

Is disruptive innovation a common term used in industry, and if so, what is the nature of it?

	Comment
R1	To my mind disruptive innovation would be innovation for thinking outside of the box. It is about sort of those left field notions and concepts that sort of would find a place in this new sort of digital landscape that we find ourselves in, so new opportunities that are born out of that landscape and sort of the innovation and the thinking that needs to almost catch up with that (yes can you think of an example?) well it is almost anticipating needs that we didn't know we had, and I think a fair example of that is ... there is actually an App that won an award now at the U-Start Conference in Milan called Over and what they do is, with the rise of Instagram for example ... Clicker etc etc and mobile photograph, what they've done is, they provide an App platform for you to overlay texts and images or texts and little iphoneography over your images that you photograph so it is beyond ... it is manipulation beyond manipulation if you know what I mean, which is strange, so Instagram already allow you to filter and so to get a particular effect ... so a lot of the time I think we would stop at the manipulation, these guys are pushing even further and saying well manipulate the manipulation and that would be an interesting example of (and what is the name of that App?) it is called OVER, an interesting model there, maybe we will that later but it is a premium model, a lot of the functionalities are offered free, then they offer you teasers as you go along so you can also like this set of icons, you can buy it for 99US cents, you can also like 'wouldn't this be great do to XYZ' and they sort of (ok so they reel you in initially and its premium ok some kind of subscription or pay as you go)
R2	I am not aware of this term disruptive innovation
R 3	I do light steel frame construction and my experience is that the disruptive part that I have encountered was where bigger companies will seek maybe an opportunity in seeing that maybe what is coming is a new wave of technology and they want to cash in on that and then you kind of like align yourself with them and then further down the line they realise its actually not the cash cow that they thought it was going to be and then they pass it off to someone else who had the same idea that they initially had and then they start the whole process again, and now I have to realign and build relationships, so that kind of is disruptive in that case, so that is a moving target
R 5	
R 4	I think from my side I certainly have not come across it as a common term, I think when people use the word disruptive its more around when they talk about management practice, in terms of how do you disrupt your organisation in terms of different management styles you know to kind of bring better practices into the business but not around innovation per se as it kind of pertains to technology and I think its probably something that SA is lagging behind but because we sometimes have the technology but we don't understand to a certain extent what we have and ends up we basically do nothing with it.
R 5	Putting it in perspective from the business that I am currently involved in, its called Shakti initiative and it creates human power, its really going back to the whole concept of creating energy to the whole dynamo effect and the terms of this is there is also an effect of innovation that's played into this concept, so the question of disruptive innovation ...I might not be in a position to answer that as you would want it to be but I might not have a conclusive answer or response to you regarding that question
R 6	That is not a term that I am too familiar with so I would not be able to describe it exactly
R 7	I don't believe that it is a common term used. A few years of being in the industry and I haven't really come across the term. If my understanding is correct or maybe I have a notion of what it may be, is the effect of innovation maybe of businesses as they are, and if so, we see all the time ... automation... of people lost hundreds of jobs when industries get automated, there is many industries ... counting packages have taken away the need for 5 and 10 (indistinct) so that is innovation to a large degree a lot of times have benefitted through the companies, from a bottom line point of view, so I would say that that does happen, but I think the labour force might have been affected and we come from very labour orientated to certain industries which basically now can be run without anyone there, certain assembly lines in the motor vehicle industry or welding...the full welding gets done by robots today
R 8	Not particularly in my industry, considering that engineering principles and standards dictate how things are and should be done (so we are in a more sustained innovation environment)
R 9	I'm not familiar with the term
R10	I have heard the term before, not too often though. When a product or service, not generally too popular in a in a market becomes popular.