



Cape Peninsula
University of Technology

**E-COMMERCE STRATEGIES FOR SMME SUSTAINED GROWTH IN THE
MANUFACTURING SECTOR**

By

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of**

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ABSTRACT

The South African manufacturing industry landscape has changed due to the pressures of globalisation and liberalisation of trade policy regimes. The structural shift of this industry has led to a global market in which many small businesses in the manufacturing sector find it difficult to compete with competitors for example, in Asian countries. Companies are required to improve their competitiveness by using various strategies such as e-commerce. However, these strategies are changing economics, markets, industry structure, products and services, the flow of products and services, consumer segmentation, consumer values, consumer behaviour and labour markets. An e-commerce strategy could assist small businesses in emerging markets to streamline their business processes in their respective sectors and industries, thus enabling them to enhance their business activities. Yet, literature reveals that most SMMEs do not take full advantage of e-commerce applications in their business activities. A qualitative approach using a case study methodology is used for this research. The researcher adopted models such as the Technology-Organisational-Environmental model, a value proposition model and a key assets model to collect and analyse evidence to propose guidelines for e-commerce initiatives in the selected environment. The findings indicate that SMMEs could improve their performance by establishing formal strategies and structures to increase their worth. This is done by creating e-commerce strategies to fit their organisational goals and objectives. Furthermore, manufacturing SMMEs need appropriate online platforms to transact and build strong relationships with suppliers, customers and partners. In addition, it is essential for SMMEs to establish and monitor quality standards in their e-commerce activities. It was found that the key assets needed by SMMEs in the manufacturing sector could impact their ability to sustain their business activities. Finally, manufacturing SMMEs need to deliver targeted and contextual marketing messages to help influence potential decision makers. This research contributes to the field of e-commerce by providing guidelines which manufacturing SMMEs could use as a starting point, to understand and improve their current e-commerce strategies and sustain their business growth.

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DEDICATION

Dedicated to the Nzawou family

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CHAPTER ONE INTRODUCTION

1.1 Introduction

Electronic commerce (e-commerce) became a reality when consumers could withdraw money from automatic teller machines (ATMs), making purchases via point of sale terminals (POS) and using credit cards (Molla & Licker, 2001:131-141). This was enhanced by inter-organisational systems (IOS) allowing the movement of information across organisations (Hughes, Golden & Powell, 2003:277-286). Prior to the use of Internet-based technologies, enterprises conducting e-commerce utilised a closed standardised electronic data interchange (EDI) system (Molla & Licker, 2001:131). During 1995 there was a major shift in focus regarding the sources of competitive advantage and at the same time the Internet spurred an era of high priority in conducting online business (Aldin, Brehmer & Johansson, 2004:44-62). The manifestation of e-commerce resulted in the formation of many companies selling goods and services over the Internet (Van Iwaarden, Van der Wiele, Ball & Millen, 2003:920).

In 2007 Internet use by enterprises in the European Union, for example, reached an average of 92%. However, only 60% of enterprises have interactive websites, with the level of adoption higher in larger enterprises. Despite the relatively high levels of Internet access by enterprises in developed countries, not all enterprises use the Internet for business purposes. Developing countries are still lagging behind regarding Internet use for business purposes (United Nations, 2008). With the South African (SA) Government support, this country has become Africa's dominant Internet centre, with a quarter of Internet users being based in South Africa (Epnet, 2009). At the end of 2011, South Africa had approximately 8.5 million Internet users (Internet World Statistics, 2012).

e-Commerce is changing economics, markets, industry structure, products and services, the flow of products and services, consumer segmentation, consumer values, consumer behaviour and labour markets (Nietsckie, Naidoo, Mulaudzi, Dladla, Mokgabudi, Mansoor & Motshabi, 2011:4). An e-commerce strategy could assist small businesses in emerging markets, such as South Africa. This would streamline their business processes in their respective sectors and industries thus enabling them to enhance their business activities.

1.2 Background to the research

Manufacturing is an important sector to the South African economy, contributing 18% to the Gross Domestic Product and employing more than one million people (Department of Trade and Industry, 2012). The South African share of world manufacturing output has decreased from 0.61% in 1990 to 0.5% in 2010. This decrease highlights the need for domestic policies to improve the domestic economy and manufacturing output (World Wide Worx, 2012a:1). Given its strong backward and forward linkages with other sectors (Department of Trade and Industry, 2012:17), growing the manufacturing sector is crucial to the South African economy.

The South African manufacturing industry landscape changed partly due to the pressures of globalisation and liberalisation of trade policy regimes. This industry landscape change has led to a global market in which many small businesses, especially in the manufacturing sector, find it difficult to compete with countries like China for example. Companies are required to improve their competitiveness using various strategies such as e-commerce (Small Enterprise Development Agency, 2012:12). The advent of the Internet opened new opportunities, affording companies of all sizes the prospect of developing new online business models (Herrera, 2008). The development of these new online business models entails, however, improving and altering the ways they operate and interact with stakeholders to compete effectively. This is made possible by the structural transformation of internal and external processes (Gunasekaran & Ngai, 2005:141-142). There is a need for manufacturers to integrate their e-commerce activities into their value chains to share information, coordinate decisions and activities in order to perceive benefits and sustain their growth (Jelassi & Leenen, 2003:38-47; Moodley, 2003:25-40). This integration implies building a strong business relationship with stakeholders (Electronics Manufacturing Industry, 2012). Yet, the utilisation of e-commerce by organisations such as SMMEs within the manufacturing sector is still in an embryonic stage (Elia, Lefebvre & Lefebvre, 2007:1-23).

The following definitions of four important key concepts provide a holistic view of the research field:

- **e-Commerce**

One of the earliest definitions of e-commerce is the buying and selling of information, products and services via computer networks. Bauer and Glasson (1999) further elaborate on the definition to include the assistance of computer and telecommunication networks that use Internet technology. Clarke (2005) defines

elements of e-commerce functions as support services for trading. According to this author, they include inter-organisational electronic mail, directories, trading support systems for commodities, products, customised goods and services, management information and statistical reporting systems. Warden (2007:48) states that e-commerce includes electronic transactions conducted within the dynamics of inter-organisational business processes, where small firms can foster internal and external relationships for physical and digital products or services using telecommunication technologies. Laudon and Traver (2007:17) and Turban, King and Lang (2009) agree that e-commerce implies the use of a transmission medium where exchange of information takes place in order to conduct business.

For the purpose of this research, these different e-commerce definitions are used in combination.

- **e-Commerce strategy**

e-Commerce strategies adopted by many SMMEs tend to lack long-term planning and focus by stressing short-term profits (Hao & Yue, 2010:500-503). Chenglin and Xinxin (2009:360-364) find that 10.2% of enterprises have a formal e-commerce strategy, whereas 6.7% have a verbally defined strategy. This is followed by 86.7% of enterprises having no strategy at all. Porter (2001) argues that using the Internet will not by itself confer competitive advantage to businesses.

- **Small medium and micro enterprises (SMMEs)**

Definitions for small business differ between countries (Ayyagari, Beck & Dermiguc-Kunt 2007:415). In South Africa, SMMEs are defined according to their industry. For example, SMMEs in the manufacturing sector are defined as organisations with less than 200 employees and having an annual total turnover of less than 51 million Rand. Their total gross asset value should be less than 19 million Rand (South Africa, 2003).

- **Value proposition**

According to Johnson (2010:2), a value proposition is defined as an offering that helps customers to solve problems effectively and efficiently at a given price. Laudon and Traver (2010) state that successful e-commerce value propositions are concerned with the reduction of product search, the management of product delivery and the reduction of price discovery costs. Murphy and Narkiewicz (2010:105) claim that value proposition execution allows the business to reach a competitive advantage through offerings, process, people, and technology. Sound execution of a company's value proposition generates outstanding success. Quality, image, service

and value-based pricing are the core elements of an effective value proposition. Warden (2007:300) further argues that an increase of available management information and integration of suppliers and vendors can lead to better market competitiveness and understanding.

1.3 Current status of the research area

e-Commerce has become an increasingly important source of competitive advantage for business-to-business (B2B) trading. It enables companies not only to decrease transactional costs and offer wide ranges of additional services, but also to enhance efficiency in collaboration with their customers and suppliers (Fauska, Kryvinska & Strauss, 2013:41). e-Commerce strategies in emerging economies could contribute to the expansion of businesses and have the potential to add more value to businesses and consumers than possibly in developed countries (Kshetri, 2007:443-452). This increased value is enhanced by potential benefits of e-commerce which include; expanded geographical reach, expanded customer base, increase visibility through search engine and enhanced marketing which provides customers valuable information about the business (Laudon & Traver, 2007:17; Turban, King & Lang, 2009:73). Kamel (2006) argues that in developing countries, e-commerce represents a compelling strategy for businesses and an opportunity of paramount importance for economic development. Therefore, businesses in developing countries could create and develop new economic opportunities by the adoption of e-commerce practices in order to sustain their growth and enabled them to create new markets space that facilitates electronic interactions among multiple buyers and sellers (Bubanja, 2006:340; Alrubaiee, Alshaibi & Al-bayati, 2012).

1.3.1 Global e-commerce trends in SMMEs

SMMEs, especially in the retail and manufacturing sectors, can participate in the anticipated growth of e-commerce by engaging in supply chain management (SCM) activities (Bharadwaj & Soni, 2007:517). Alrubaiee, Alshaibi and Al-bayati (2012) find that B2B e-commerce has a strong and positive direct and indirect effect on supply chain management. There is a trend for e-commerce applications to be developed that allow the growth of SMMEs in rural communities (Wertlen, 2007; Jere, Thinyane, & Terzoli, 2009). However, Levy and Powell (2003:173-181) indicate that e-commerce is not suitable for all businesses and demonstrates evidence that owners' attitudes toward growth and their understanding of the business value of the Internet are the key to e-commerce adoption. Another study conducted reveals that the lack of considerable e-commerce activities can be attributed to several factors including lack

of technological and human resource infrastructure, as well as lack of knowledge of potential benefits of e-commerce applications (Bharadwaj & Soni, 2007:501-521).

1.3.2 SMMEs in the South African context

The South African government considers SMMEs an essential element in the country's economy that could be a valuable source of employment and a mechanism for the process of improvement of human capital (Gordhan, 2013). The government is developing support programmes and various initiatives such as the National Development Plan (NDP¹) to support SMMEs' development and growth. Furthermore, Zindiye and Mwangolela (2007:90) indicate that small firms can play a major role in SA since the formal employment opportunities are not increasing as expected. However, SMMEs still face challenges around accessibility of finance and accessing technical support in general (Department of Trade and Industry, 2012:17).

A survey conducted by World Wide Worx (2012) indicates that 410,000 SMMEs in South Africa have websites. This represents 63% of active, formal SMMEs. The research further indicates that SMMEs having websites are more likely to be more profitable than those without. Of those having a website, 27% are strongly profitable, while only 11% of those without a website could claim the same. Only 5% of those having a website are running at a loss, while 16% of those without a website are in the red (World Wide Worx, 2012). Furthermore, approximately 150,000 SMMEs in South Africa would not be able to survive without their Web presence. With SMMEs aiming to provide around 7.8 million jobs in South Africa, this translates to as many as 1.56 million jobs that would be under threat.

1.3.3 e-Commerce utilisation and adoption in the South African

e-Commerce is growing at a rate of 30% per year. At the end of 2011, South Africa had approximately 8.5 million Internet users (Internet World Statistics, 2012). This growth brings Internet penetration in South Africa to approximately 17% (World Wide Worx, 2012). Various aspects of e-commerce adoption strategies in SMMEs are reported in literature. For example, De Klerk and Kroon (2005:33-40) conducted research in South African business to determine the role and degree of adoption of e-commerce technologies, comparing micro and small businesses to medium and large businesses. They found that medium and large businesses tend to use business technologies more than micro and small businesses. Cloete (2002) reports that the

¹ National Planning Commission, 2011. National Development Plan: vision for 2030. <http://allafrica.com/download/resource/main/main/idatcs/00041101:c9bd950570730f3cabe7f67cdaf618a2.pdf> [12/03/2012].

use of the Internet for electronic commerce by small businesses in South Africa is limited compared to global standards. A similar finding was made by Cloete, Courtney and Fintz (2002:1-13) examining the acceptance and adoption of e-commerce among small businesses in the manufacturing sector in the Western Cape. In comparison to global e-commerce use, technologies have not been adopted to an extent that is necessary for survival in a rapidly changing environment.

As stated in section 1.3.2, the South African government is aware of the critical importance of e-commerce and online electronic linkages in shaping the performance of domestic enterprises in the global networked economy. Therefore, policies and regulations have been developed to govern e-commerce (South Africa Department of communication, 2000). Despite this growth of e-commerce, there is room for improvement in South Africa.

1.3.4 SMMEs sustainable growth

Churchill and Lewis (1983) find that, as new small firms start and develop, they move through growth stages, each with its own distinctive characteristics. Furthermore, the authors identify five stages of growth: existence, survival, success, take-off and resource maturity. A similar trend remains today. The Churchill and Lewis model provides an insight into the dynamics of SMME growth, including the distinguishing characteristics, problems and requirements of growing SMMEs, and explains business growth processes amongst SMMEs. SMMEs have a high failure rate, with 60% closing within their first year of operation, 40% closing in less than two years and 66% closing in less than six years (Nganga, Onyango & Kerre, 2011). Given these high failure rates, it becomes vital to use sustainable strategies enabling SMMEs to survive and sustain the growth phase in an organisational life cycle. Olatokun and Kebonye (2010:42-56) state that most SMMEs do not take full advantage of e-commerce applications. Furthermore, Warden (2007:204) finds SMMEs can sustain their activities by managing competitive advantage using information as a catalyst for increased sales, lowered costs and competitive marketing

1.4 Statement of research problem

The literature reviewed indicates that e-commerce is a rapidly developing application that presents opportunities and challenges to businesses. The lack of sustainable growth in SMMEs, specifically in the manufacturing sector, could be overcome by creating value in their e-commerce activities.

The research problem is formulated as follows:

Manufacturing SMMEs do not use appropriate e-commerce strategies to sustain their business growth.

Considering the stated research problem, a suitable research question is formulated as:

How can SMMEs in the manufacturing sector formulate and use e-commerce strategies for sustained business growth?

1.5 Research question, sub-questions and objectives

The formulated research question is expanded into three research sub-questions summarised in Table 1.1. The research methods and objectives of the respective research sub-questions are also provided.

Table 1.1: Research question, sub-questions and objectives

Research question	How can SMMEs in the manufacturing sector formulate and use e-commerce strategies for sustained business growth?	
Research sub-questions	Research methodology	Objectives
How can SMMEs in the manufacturing sector identify suitable factors for e-commerce strategies?	Literature analysis.	To identify which relevant conditions would support SMME e-commerce strategies in the manufacturing sector.
Why would an e-commerce strategy contribute to the growth of manufacturing SMMEs?	Literature analysis and in-depth case interviews.	Determine the impact of e-commerce strategies on SMMEs in the manufacturing sector for sustained business growth.
How can manufacturing SMMEs select e-commerce strategy value proposition factors and elements for their business activities?	Literature analysis and in-depth case interviews.	Identify the value proposition composition of e-commerce strategies for manufacturing SMMEs.

1.6 Aim of the research

This research aims to propose guidelines to assist SMMEs in the manufacturing sector to formulate e-commerce strategies for sustained growth.

1.7 Research constraints

1.7.1 Delineation of the research

This research is limited to the Western Cape Province as this province is the second largest contributor to the South African Gross Domestic Product. As such, lessons learnt could be applicable to other areas, but not necessarily replicable.

1.7.2 Limitations

This research focuses on manufacturing SMMEs engaged in e-commerce activities in the Western Cape Province of South Africa.

1.8 Assumptions

- The adoption of e-commerce strategies by SMMEs gives them the ability to be cost effective and efficient.
- The integration of e-commerce strategies in SMMEs business activities provide them with a competitive edge.

1.9 Research design

Research design is defined as a logical sequence which links the empirical data to the original research question and conclusions (Bless, Higson-Smith & Kagee, 2006:71). According to Creswell (2009:3-4), the most common research designs are: qualitative, quantitative and mixed methods. Qualitative research aims to explore and understand the meaning people ascribe to human or social situations, whereas a quantitative approach aims to test objective theory by examining relationships between variables (Willis, 2007:22). A mixed method uses qualitative and quantitative approaches.

1.9.1 Quantitative research

Quantitative research is concerned with the collection and analysis of data in numeric form. This form of research tends to emphasise large data sets. In a quantitative approach the use of variables is critical in describing social phenomena, with a central role being the handling of potential sources of error either through experimental or statistical control (Mouton, 2006:38).

1.9.2 Qualitative research

Qualitative research involves interpreting evidence (Remenyi, Williams, Money & Swartz, 2002), obtained from interviews, documents, and participant observation, in order to understand and explain specific social phenomena.

1.9.3 Metaphysical viewpoints

Metaphysics is a branch of philosophy which is made up of ontological and epistemological views (Willis, 2007:8).

1.9.3.1 Ontological stance

Ontology is concerned with the nature of reality (Willis, 2007:9). According to Corazzon (2009), ontology can be defined as the theory of objects (concrete and abstract, existent and non-existent, real and ideal, independent and dependent) and their ties (relations, dependences and predication) which provides criteria for distinguishing various types of objects and their ties. Ontology explores the way in which the researcher, as the observer, may acquire knowledge (Nel & Com, 2007). The researcher must have clear objectives before gathering data.

1.9.3.2 Epistemological stance

Epistemology focuses on what can be known about the reality and how it can be known (Willis, 2007:10). Steup (2005) defines epistemology thus:

“Epistemology is the study of knowledge and justified belief. As the study of knowledge, epistemology is concerned with the following questions: What are the necessary and sufficient conditions of knowledge? What are its sources? What is its structure, and what are its limits?”

The epistemological perspective of this research is concerned with the lack of a clear understanding of how an e-commerce strategy could generate value and sustain SMME growth in the manufacturing sector. This stance allows the researcher to propose suitable guidelines to assist SMMEs to generate value and sustain their business activities.

1.9.4 Interpretive philosophy

An interpretive philosophy applied to research does not rely on numerical or statistical analysis of data. Interpretive researchers do not suggest that research can naturally be objective but they argue that during carefully implementing procedures, bias inherent in individual researchers can be identified, and at least to some degree controlled (Creswell 2009:15). The design approach for this research was based on interpretive paradigm principles.

In the light of this, the researcher followed a qualitative research approach. This seemed the most appropriate method to propose guidelines to assist e-commerce SMMEs in the manufacturing sector to develop suitable e-commerce strategies and generate value proposition and sustained growth. In this research, an interpretive philosophy and case study methodology are used.

1.9.5 Case study

A case study is an empirical inquiry, in which the focus is on a contemporary phenomenon within its real-life context and boundaries between phenomena (Yin, 2003:10). Rule and John (2011:10) state that the case study method is a systematic and in-depth investigation of a phenomenon in order to generate knowledge. Furthermore, Yin (2003:11) identifies three case studies approaches, namely, explanatory, exploratory and descriptive. Previous researchers in the field of e-commerce have followed the interpretive philosophy and case study methodology which enabled them to better understand the adoption, utilisation and applications of e-commerce. For example, the study conducted by Voges (2006) on the adoption of order processing for B2B e-commerce was conducted using a case study methodology. The outcome of this research proposed guidelines to assist SMMEs in the selection of appropriate order processing systems for their businesses. Another study by Warden (2007:23) on e-commerce adoption by SMMEs was conducted using case study. The study resulted in the development of an e-commerce adoption model which assists SMMEs in their e-commerce venture.

Therefore, a descriptive case study method is selected as the most appropriate method to gain insight into the research problem and the investigation of the research question.

1.9.6 Data collection

A case study allows researchers to make use of different ranges of strategies to collect data (Creswell 2009:10). Yin (2009:102) identifies six different sources of data collection, namely, documentations, archival records, interviews, direct observations, participant observation and physical artefacts.

Interviews and documents are used to collect data and generate relevant information.

1.9.7 Data analysis methods/techniques

According to Yin (2003:109-138), data analysis is the process which involves examining the evidences to address the research problem. Cross-case analysis is used in this research. Furthermore, the researcher uses themes to analyse data collected from manufacturing SMMEs in order to draw conclusions and provide guidelines to assist SMMEs in their e-commerce strategy initiative.

1.9.8 Ethical considerations

There are overarching ethical principles that researchers must follow in their research process (Bless, Higson-Smith & Kagee, 2006:142). Issues such as anonymity of participants, confidentiality of data collected, and informed consent were adhered to in this research

1.10 Conceptual framework for this research

The researcher developed a conceptual framework based on findings from literature. The conceptual framework used for this research is based on the combination of factors from the Technological-Organisational-Environmental (TOE) model originally developed by Tornatzky and Fleisher (1990) and later updated by Zhu and Kraemer (2005:61-84) and discussed in section 2.5.4; Timmers' (2000:19-29) key assets model and a value proposition model by Warden and Van Brakel (2011). This is depicted in Figure 1.1. The researcher uses the TOE factors, key assets factors and value proposition factors as components of the conceptual framework to collect and evaluate evidence from case studies investigated.

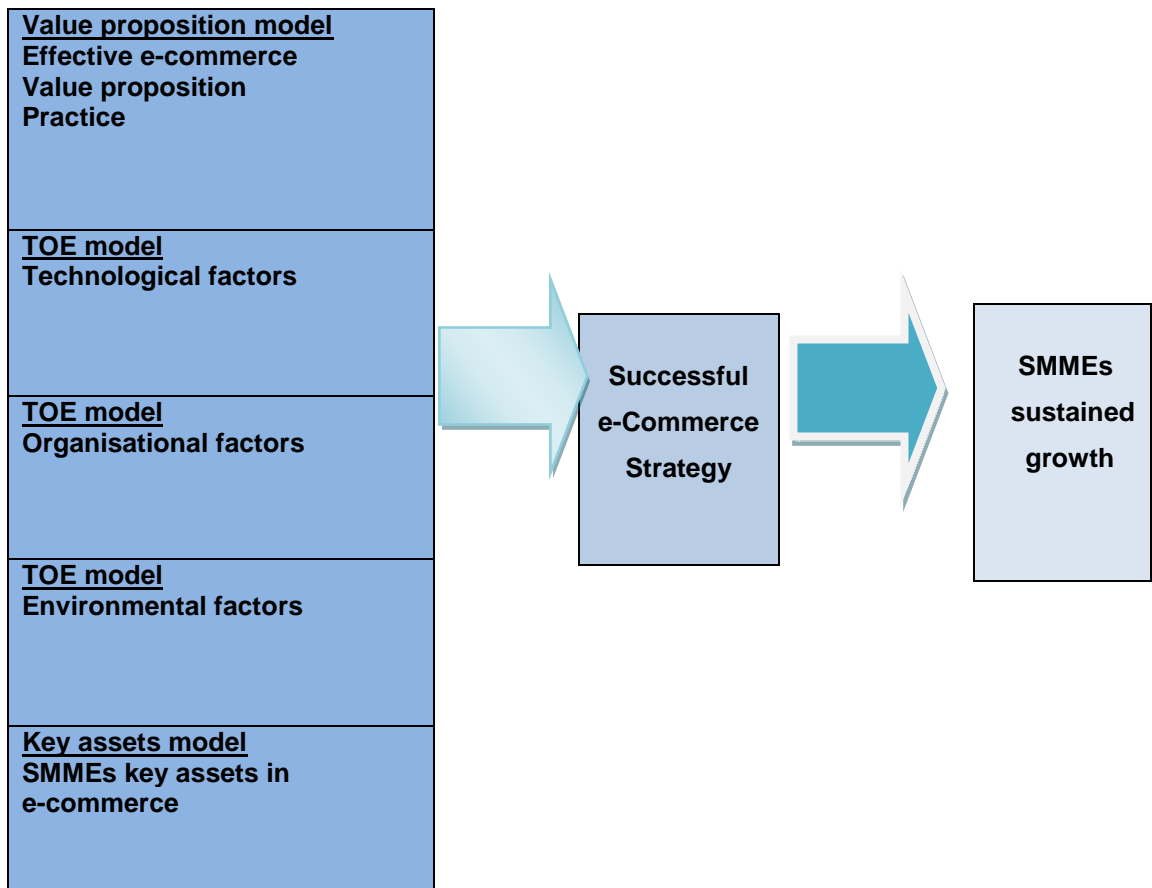


Figure 1.1: Conceptual framework

1.11 Chapter outline

1.11.1 Chapter one: Introduction

Chapter 1 provides an overview of the research conducted. The current state of e-commerce strategy in manufacturing SMMEs is discussed. The chapter also provides a broad overview of the research problem, research question, research sub-questions, research objectives and the research design and methodology.

1.11.2 Chapter two: Literature review

This chapter provides a literature review of the key concepts of this research. Firstly, the researcher discusses the elements and characteristics of an e-commerce strategy. This is followed by exploring the current state of e-commerce practice in the manufacturing sector. Finally, the researcher discusses the Technology-Organisational-Environmental factors; effective value proposition practices and the impact of an e-commerce strategy on SMMEs' sustained growth. The answer to the research sub-question one is provided.

1.11.3 Chapter three: Research methodology and design

In this chapter the researcher first discusses the research design process (3.2) and the epistemological stance (3.3). In addition, the researcher formulates the research philosophy (3.4), research approach (3.5) and the case study design (3.6). Lastly, the researcher explores ethical considerations (3.7) and research time dimensions (3.8). An appropriate research approach (3.5.3) is selected to fulfil the research question and research sub questions.

1.11.4 Chapter four: Data collection

In this chapter the results of the case studies are presented. It also covers the interviews conducted by the researcher in each business and the information gathered is structured based on the questions that were used. The case study evidence is reported under themes and provides answers to research sub-questions two and three.

1.11.5 Chapter five: Findings, analysis and discussion

In chapter 5, evidence is analysed in detail and interpreted in relation to the key research objective, which is to propose a guideline to assist SMMEs to have a clear understanding of e-commerce strategies which could generate value and sustain their growth in the manufacturing sector. In addition, evidence is mapped to the literature to provide a clear understanding of the research problem.

1.11.6 Chapter six: Conclusion

The research objective, research problem and research question are addressed according to findings. A proposed guideline is provided to assist manufacturing SMMEs in their e-commerce strategy initiative. Further, the limitations of the research and recommendations for future research are given.

1.12 Conclusion

The researcher adopts a linear analytical approach. This research aims to produce guidelines to assist SMMEs in the manufacturing sector to have a clear understanding of how e-commerce strategy can sustain their business activities and growth. This is done by conducting a qualitative research using the case study methodology.

CHAPTER TWO LITERATURE REVIEW

2.1 Introduction

This chapter provides a literature review of key concepts and background to this research. Firstly, the researcher discusses the elements and characteristics of the manufacturing sector (2.2). This is followed by an exploration of the current state of e-commerce practice in business and the manufacturing sector (2.3). Then an overview of e-commerce and strategies follows (2.4 to 2.5). Finally, the researcher discusses the Technology-Organisational-Environmental (TOE) factors (2.6); effective value proposition practices (2.7 to 2.8) and the impact of an e-commerce strategy on SMMEs' sustained growth, with a special focus on the manufacturing sector (2.9).

2.2 Overview of the manufacturing sector

The manufacturing sector has been slow to adopt e-commerce, with limited business to business (B2B) e-commerce for major activities such as supply chain management. Limited studies are available to track developments in this economic sector. It is evident that the manufacturing industry requires successful and sustainable business strategies and solutions capable of overcoming modern manufacturing challenges. Due to the changing business environment and product requirements, supply chain building and integration criteria imposed on suppliers are also changing. As the industry matures, the primary basis of competitive advantage shifts to other capabilities such as distribution, marketing, cost saving, a limited product display, high levels of customer service and improved manufacturing practices. Martinez, Bastl, Kingston and Evans (2010:449-469) describe the way manufacturing organisations need to change their strategic perspectives to become 'product-service' providers rather than simply product manufacturers. In so doing, organisations are able to operate at different strategic levels: this pushes companies towards becoming more economically sustainable. According to Barnes, Hinton and Mieczkowska (2004:607-617), manufacturing is not just about producing better goods than competitors, rather it is about delivering an appropriate package of product and services as a solution to customer problems.

2.2.1 The manufacturing sector in South Africa

The manufacturing sector in South Africa has come under increasing levels of stress from the beginning of the global economic crisis. It has declined by almost 20% from 2008 to 2009 and recovered somewhat, showing growth figures of 5.0% (Department of Trade and Industry, 2010:23). However, the South African manufacturing sector is well developed compared to most developing countries (Fedderke & Simbanegavi, 2008:5). This sector is dominated by industries such as agri-processing, automotive, chemicals, ICT and electronics, metals and textiles, clothing and footwear. The industry is spatially dispersed due to the prevalence of natural resource processing. Nel, Rogerson and Marais (2006:49) note that some industries (chemicals and automotive) are growing while others such as clothing, textiles and footwear are declining. The Cobweb (2009) report confirms this decline and reveals that they are experiencing a single digit sales growth.

According to the Quarterly Report for the Western Cape Department of Economic Development and Tourism shows that during 2010, the manufacturing sector in the Western Cape Province made the biggest contribution to national economic growth, adding 0.7% points. The Manufacturer Confidence Index shed 21 points, moving from 54 in the first quarter of 2011, to 33 during the second quarter in 2011. Declining domestic and export sales volumes contributed to the fall in confidence. There is also evidence that profitability among manufacturers in the Western Cape is under strain (Western Cape. South Africa, 2011:8).

2.3 Overview of e-commerce globally and in South Africa

e-Commerce is defined as electronic transactions conducted within the dynamics of inter-organisational business processes, where small firms can foster internal and external relationships for physical, digital products or services using telecommunication technologies (Warden, 2007:48). Kraemer, Dedrick, Melville and Zhu (2006:17) define e-commerce as the use of the Internet to conduct or support business activities along the organisation and industry value chains. Laudon and Traver (2007:17) and Turban, King, and Lang (2009) agree that e-commerce implies the use of a transmission medium where exchange of information takes place in order to conduct business. According to Haag and Cummings (2010:128) e-commerce enables customers, consumers, and companies to form powerful relationships made possible by enabling technologies. Therefore, e-commerce can be seen as a dynamic platform enabling SMMEs to conduct business activities online.

It is evident from chapter 1 (section 1.2) that defining e-commerce differs according to the topic and the purpose in which it is used. e-Commerce thus refers to a new business-operating style in the public environment of the internet, where sellers and buyers conduct various business activities without meeting each other. Thus consumer e-shopping and e-transactions occur between businesses (Sitong, Guoliang, Xianrui & Yuyuan, 2010:139). Online payment and various business activities such as transaction activities, financial activities and related comprehensive services also take place (Hao & Yue, 2010:500). Clarke (2005) defines elements of e-commerce functions such as support services for trading and includes inter-organisational electronic mail, trading support systems for commodities, products, customised goods and services, management information, and statistical reporting systems.

2.3.1 Global e-commerce indicators

The volume of global e-commerce operations is expanding. Based on several estimates, the exchange of accounts on the Internet amounts to billions of dollars each year. The number of Internet users is increasing continuously and reached more than 2 billion at the end of 2012 worldwide. Moreover, the highest increase in the number of online population is expected to take place in China, India, Brazil and Russia (BRICS) where the volume of trade is great and economies are expanding at a great pace (Alhorr, Singh & Kim, 2010:6-13). The Internet population is more than 800 million in Asia, about 500 million in Europe, 250 million in North America and 200 million in Latin America. The highest Internet penetration is in North America, and Europe where the highest income amounts are present. This means that as long as the Internet population and security increase, the volume of e-commerce would correspondingly increase (Vilaseca-Requena, Torrent-Sellens, Meseguer-Artola & Rodriguez-Ardura, 2007:222-241).

In 2008 e-commerce turned over 6.7 trillion Euros worldwide. Of that volume, 90% was due to the B2B sector. A comparison of global regions shows that the United States of America (USA) has held the largest market share since statistics were first collected. However, this tendency is on the way down. It still accounted for 59% of the market in 2003, but was down to only 38% by 2008 (Figure 2.1).

Despite this reduction, in the same period sales volumes in the USA rose from 848 billion in 2003 to 2.517 trillion Euro in 2008 (Global Industry Analysts 2008; BMWI 2009:236); (see Figure 2.2).

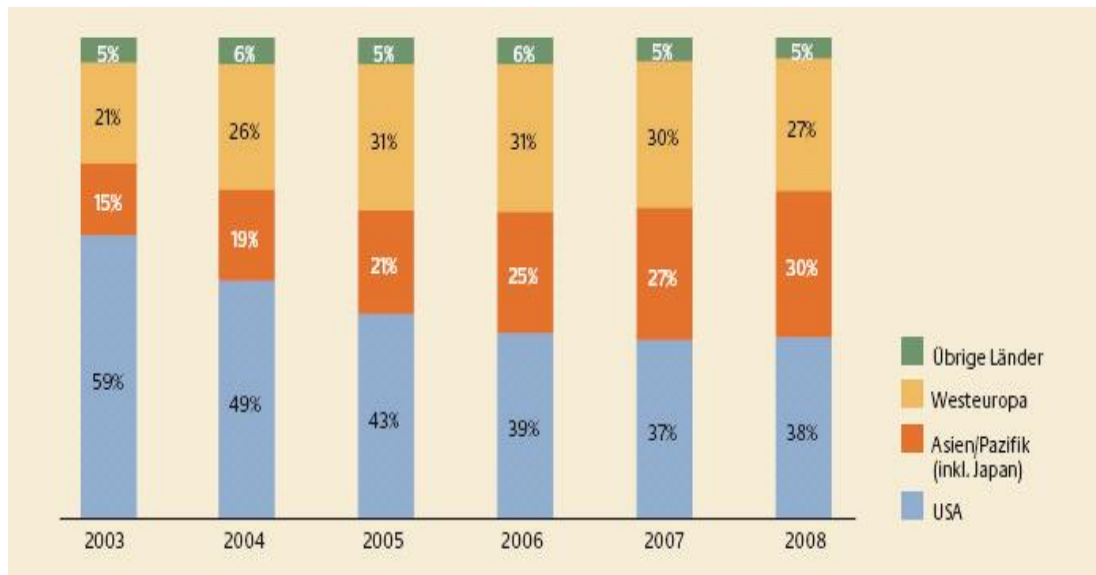


Figure 2.1: B2B E-commerce sales volume by region in percent, 2003-2008

(Source: Global Industry Analysts, 2008; BMWI 2009:236)

In the last few years strong growth is observed most clearly in the Asia/ Pacific region. Although in 2003 it only had a market share of 15%, in 2008 Western Europe had jumped to second place in the ranking. With a 30% share of the world market and a sales volume of 2.026 trillion Euros, the Asia/Pacific region is well ahead of Western Europe, which has a 27% and a 1.828 billion Euro share. As compared to the previous year (2007), this converts to a growth in sales volume for the Asia/Pacific region of 47%, which is far above the worldwide average of 33% (Global Industry Analysts 2008; BMWI 2009:236). B2B e-commerce in the Western Europe region is dominated by Germany. For the year 2008 analysts predicted an annual sales volume in the B2B sector of 562 billion Euros for Germany. Thus Germany accounts for a market share of 31%, positioning it far ahead of Great Britain with 18%; France 15%; Italy 11% and Spain 6% (Figure 2.3). Thus 10.4% of all sales volume generated worldwide in B2B e-commerce is ascribable to Germany. According to studies, B2B relationships accounted for 89% of all e-commerce sales volumes generated within the country in 2006. This leaves the rate in Germany only slightly under the worldwide average of 90%. However, it is expected that this share will reduce to 81% by 2010 in favour of the business-to-consumer (B2C) sector (Global Industry Analysts 2008; BMWI 2009:237).

Furthermore, Kraemer *et al.*, (2006:46) argue that there is convergence among countries in the use of e-commerce to coordinate the supply chain and gain efficiencies in the manufacturing sector.

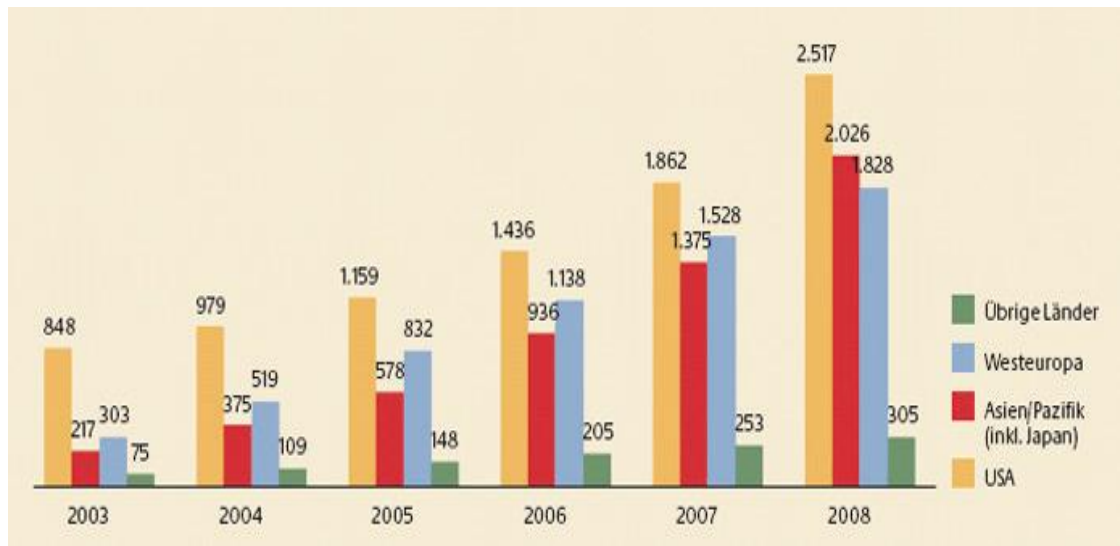


Figure 2.2: B2B E-commerce sales volume by region in billions of euro, 2003-2008
 (Source: Global Industry Analysts 2008; BMWI 2009:237)

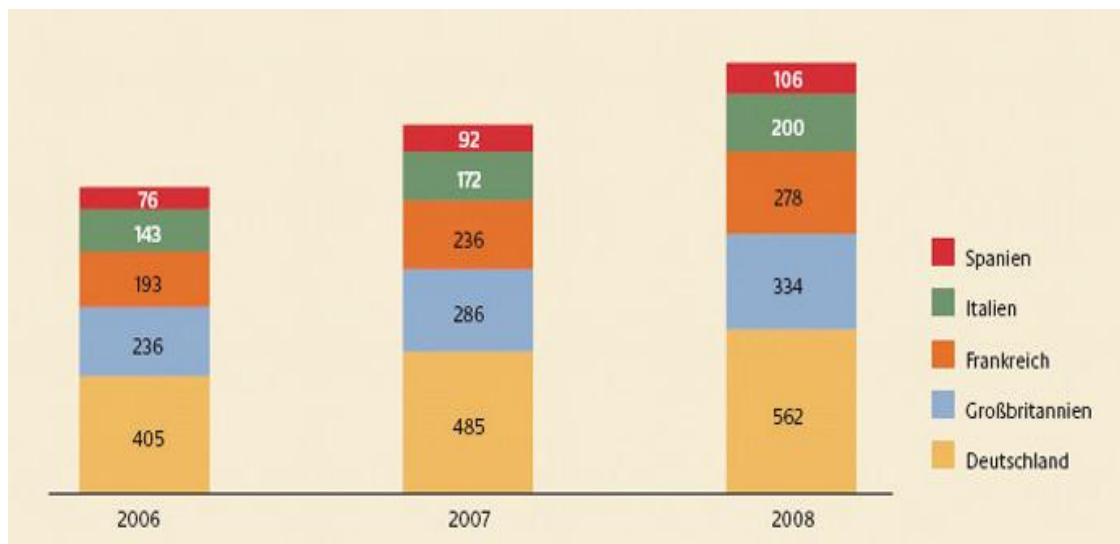


Figure 2.3: B2B E-commerce sales volume in selected Western European countries in billions of euro, 2006- 2008

(Source: Global Industry Analysts 2008; BMWI 2009:237).

They also find that manufacturers tend to adopt similar technologies and business practices as they strive to enhance linkages to global production networks. Many manufactures are putting their supply chain operations onto the Internet to increase profitability and improve customer service (Stair, Reynolds & Chesney, 2008:184). This phenomenon allows businesses to form electronic exchanges to create a platform where competitors and suppliers can exchange trade market information, buy or sell goods, and run back-office operations. This approach has speeded up the movement of raw materials and finished products among all members of the business community and reduced the amount of inventory to be maintained.

In developed countries, technology integration is becoming an important factor for competitiveness and tends to be more advanced in using information technologies. As technologies become strategic necessities, businesses are pursuing a deeper usage (Kraemer *et al.*, 2006:368-369). However, in developing countries, technology readiness is one of the factors which affect e-commerce use. This suggests that basic technology infrastructure is still very important for them.

When combining all industries, the primary drivers for e-commerce are expansion of markets for existing services and products, penetration into new businesses or markets, cost reductions, improved coordination with customers and suppliers and meeting customer demand and increased competition. Less common drivers are demands by suppliers, and government requirements or incentives (Fomin, King, Lyytinen & McGann, 2005). Furthermore, the authors' study reveals some differences in e-commerce orientation and experience across industries sectors. Initial analysis suggests that these differences are related largely to the nature of the tasks done in the respective industries, and to prior industry level investment and learning related to e-commerce. In the case of the manufacturing sector, its experience with electronic data interchange seems to presage a broader e-commerce capability.

2.3.2 e-commerce practice in South Africa

A World Wide Worx (2012) survey shows that approximately 410 000 SMMEs in South Africa have a website, representing 63% of active SMMEs. The full impact of these websites on the economy is placed in perspective by the number of SMMEs that would not have survived without one. Approximately 150 000 SMMEs in SA would go out of business, were it not for their Web presence. Goldstuck (2012) remarks that with an increase in the number of Internet users in 2008, the number of experienced users will begin accelerating in 2013, and will continue to do so for the following five years. The result is that an Internet economy worth 59 billion of Rand in 2011 and contributing 2% of the South African economy could grow to as much as 2.5% of the economy by 2016.

According to Goldstuck (2009:97), 73% of SMMEs use ADSL and 4% use dial-up lines. However, the level of SMMEs Internet usage per business is also relatively low; 70% of SMMEs have 10 or fewer employees accessing the Internet, while only 3% of SMMEs have 50 or more staff who access the Internet. According to the 2011 annual SMME Survey, 9% of SMMEs made use of cloud computing. Cloud computing generally refers to accessing services and applications via the Internet that would

previously have resided on user's computers or internal networks. Although the number of corporates expected to be using cloud computing in 2012 is 52%, the number of SMMEs doing the same is only 18%. While this does represent the proportion of SMMEs using cloud computing doubling in the same year, it will still mean that by the end of 2012 less than one in five SMMEs will be utilising cloud computing. Furthermore, statistics show that an acceleration of Internet growth began in 2008. This results in the number of Internet users in South Africa rising by more than two million in the next two years, from 4.6 million to 6.8 million in 2010. Furthermore, this means that by the end of 2013, there will be a projected 4.6 million experienced users on the Internet, and the experienced user base will see the same acceleration that the overall user base began to see five years earlier.

2.4 Role of e-commerce in business

The advent of e-commerce has digitalised traditional commercial processes, replacing property flow with electronic flow, reducing the need for human power and material resources, thus lowering the cost of purchase, marketing and stockholding (Hao & Yue, 2010:500-503). The World Wide Web (Web) offers SMMEs opportunities but at the same time, they are faced with challenges ensuring that adequate measures are in place to take full advantage of the new business environment (Bedi & Warden, 2009). Olatokun and Kebonye (2010:42-56) argue that competitive advantage is the single most important factor that influences the adoption of e-commerce technologies amongst SMMEs. The transformation from traditional business to electronic business has been enhanced by the advancement of technology and increasing availability of web-based applications (Warden, 2007:41). Stair, Reynolds and Chesney (2008:193) acknowledge that the use of e-commerce driven supply chains allows businesses to achieve operational excellence by enabling cost reduction, global reach, increased accuracy of order processing and fulfilment, and improved customer service. Electronic technologies enabling e-commerce have assisted businesses to focus on integration, automation and collaboration in their activities. It has also facilitated the automation of routine tasks and the sharing of information. This has resulted in a more responsive, coordinated, efficient and error-free supply chain (Botha, Bothma & Geldenhugs, 2008:433). Kraemer *et al.*, (2006:367-372) found e-commerce to have the potential to streamline business processes by facilitating improved data exchange, hence increasing operational efficiency and staff productivity. Furthermore, using e-commerce to support supplier-facing activities, firms can strengthen online integration with suppliers and business partners. This improves information flow, reduces coordination cost and increases

inventory turnover. Based on Internet technologies, e-commerce applications can help businesses improve market responsiveness and increase operational efficiency.

2.4.1 Benefits of e-commerce for SMMEs

e-Commerce enables companies to improve services, grow business and reduce costs. This applies particularly to e-marketplaces involving highly differentiated distribution chains. Furthermore, as reported in Oracle (2011), the emphasis on e-commerce assisting small businesses in the process of improving efficiency and reducing costs is noteworthy. This is made possible by automating previously manual labour-intensive processes and providing customer self-service options. Online channels automate a wide variety of processes that include approving buyer registration, delivering buyer-specific online catalogues, displaying contract-based pricing, and automatically enforcing contractual terms and conditions. The application of e-commerce by SMMEs means the elimination of traditional barriers to trade such as, the distance between markets and the size difference between firms (Lai & Sharma, 2006). e-Commerce offers a cost-effective means to process claims, purchase goods and track sales in an approach that allows them to reduce their fixed and administrative costs. This also gives them the opportunity to expand their operations. Some benefits are summarised in Table 2.1. These benefits include the ability to compete with larger organisations, improved communication and quality of information, providing cost effective marketing strategies, reduced stock and lead time, cost savings, easy access to new suppliers, improved competitiveness and operational efficiency and reduced information search and transaction costs.

Table 2.1: Electronic commerce benefits derived by SMMEs

(Source: Dube, Chitura & Runyowa, 2010:1-16).

E-commerce benefits	Referencing papers
Ability to compete with larger organizations.	MacGregor and Vrazalic (2004) ; Cloete <i>et al.</i> , (2002) ; Bolongkikit, Obit, Asing and Tanakijal (2006).
Improved communication/quality of information.	Cloete <i>et al.</i> , (2002); Lawson, Alcock, Cooper and Burgess (2003:265-276); Stockdale and Standing (2006).
Providing cost effective ways to market themselves.	Cloete <i>et al.</i> , (2002) ; Bolongkikit <i>et al.</i> , (2006).
Improved marketing.	Quayle (2002) ; Turban <i>et al.</i> , (2006).
Reduced stock and lead time.	Quayle (2002).
Cost savings.	Stockdale and Standing (2006)
Finding new suppliers.	Cloete <i>et al.</i> , (2002).
Improved operational efficiency.	MacGregor and Vrazalic (2004); Andam (2003) Lawson <i>et al.</i> , (2003).
Improved competitiveness.	Stockdale and Standing (2006).
Offering entirely new products and services.	Cloete <i>et al.</i> , (2002).
Reaching new and/or global markets.	MacGregor and Vrazalic (2005); Stockdale and Standing (2006); Bolongkikit <i>et al.</i> , (2006).
Reduced information search and transaction costs.	MacGregor and Vrazalic (2005).
Inexpensive advertising medium.	Turban <i>et al.</i> , (2006).

2.5 Introduction of e-commerce strategy

One of the main goals for many SMMEs has shifted from cutting costs to growing revenue. A survey in BtoB Online (2009) reports that 61% of respondents lists customer acquisition as their top goal. Yet, many organisations find that their ability to reach new customers or enter new markets is limited because of the high costs of maintaining and supporting a direct sales force. An e-commerce strategy can assist to bridge the gap between the desire to grow the business and the need to work within budget constraints.

2.5.1 e-Commerce strategy

As strategic landscapes in business are rapidly changing, it is important to be able to respond quickly to changes by introducing new initiatives to re-establish some strategic space between firms and their rivals (Eisenhardt, 2002). To achieve this, firms need to have a distinctive strategy, for example, choosing target customers, providing a wide range of products and delivery processes in order to maximise profitability (Vassell & Amin, 2005: 139-144). However, e-commerce strategies adopted by many SMMEs tend to lack long-term planning and focus on stressing short-term profits (Hao & Yue, 2010:500-503). Chenglin and Xinxin (2009:360-364) found that 10.2% of enterprises have a formal e-commerce strategy, whereas 6.7% have a verbally defined strategy. This is followed by 86.7% of enterprises having no strategy at all. Porter (2001) argues that using the Internet will not by itself confer competitive advantage to businesses. Furthermore, Raymond and Bergeron (2008:213-220) note that investment in e-business technology alone is not sufficient to improve business process performance, especially if there is no coherence within the business environment and strategic objectives of firms.

Companies serving business buyers are realising that the traditional ways of doing business are no longer sufficient. SMMEs that wish to grow and become more profitable are considering adopting e-commerce strategies (Oracle, 2011). The optimal implementation of an e-commerce strategy within an e-business environment will allow businesses to analyse the wants and needs of customers, and thus to offer efficient value-added services on the basis of this information. It is especially true for SMMEs that are continuing opening up new markets in the traditional manner which is expensive and often not considered profitable. By building well-fitting e-commerce strategies, businesses may manage to open up those markets that were previously considered not worth the effort pursuing. Launching sales channels on the Internet

will allow firms to open up new geographical sales areas. This is easily achieved and economically viable, even facilitating penetration into new industry sectors (Sonntag, 2011).

2.5.2 Challenges in e-commerce strategy

The majority of studies of e-commerce in SMMEs have reported that e-readiness among SMMEs is relatively low. This is particularly obvious as far as developing countries are concerned (Sulaiman, 2000:153-161; Sam & Leng, 2006; Hussin, Noor & Suhaimi, 2008:107-125). Furthermore, adoption is limited to the basic e-commerce applications particularly of e-mail and Web presence. Firms simply rely on e-commerce for communication and basic advertising strategies with no awareness of the possibility of online transactions (Lawson *et al.*, 2003:265-276). Despite the fact that e-commerce offers extensive lists of applications for business use, advanced applications are rarely found as being strategically used by SMMEs. According to Fomin *et al.*, (2005) the primary challenge of e-commerce readiness for most firms is business integration, knowing what needs to be integrated and how Information Technology (IT) can assist them. Routine use of e-commerce lags behind more traditional forms of commerce. IT is deployed in most firms for communication and information sharing such as e-mail, web sites and file transfer. Fomin *et al.*, (2005) further find the primary barriers to e-commerce are privacy and security, the need for face-to-face business communication and the high costs of implementing e-commerce. There are differences in e-commerce attitudes and experience between SMMEs and large firms. Large establishments have greater resources than SMMEs and can devote those resources to e-commerce more easily.

Hao and Yue (2010:500-503) and Sitong, Guoliang, Xianrui and Yuyuan (2010:141) find issues such as security, lack of laws and regulations and lack of talent obstacles for the development of e-commerce. Kim, Ow and Jun (2008:116) identify ten factors depicted in Figure 2.4, which have negative effects on e-commerce strategies. The authors claim that such factors affect SMME performance.

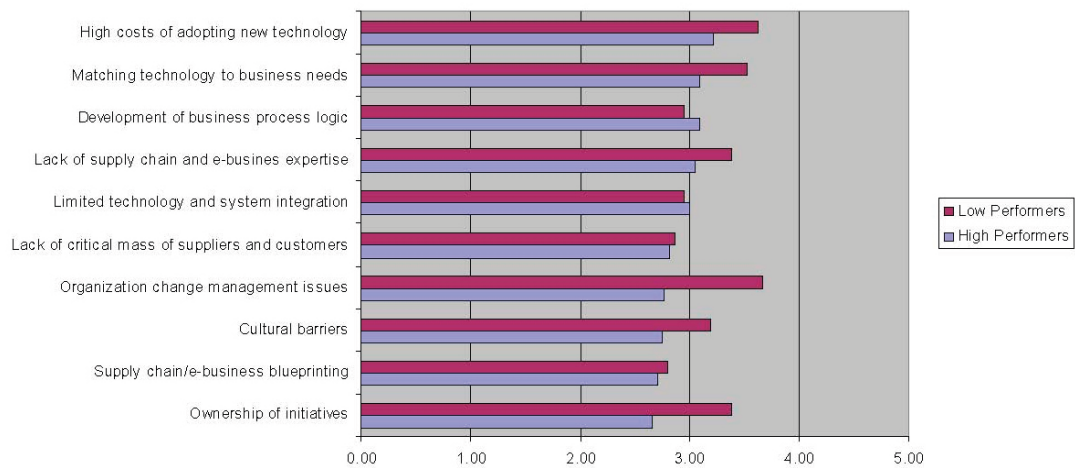


Figure 2.4: Challenges and obstacles of e-business initiative

(Source: Kim, Ow & Jun, 2008:113-117)

The e-commerce strategy deployed by many SMMEs tends to lack long-term planning and only focuses on short-term profits. e-Commerce involves business transformation and different enterprises have different ways to develop e-commerce strategies. The implementation of e-commerce in many SMMEs needs to be planned for the long-term and implemented step by step (Hao & Yue, 2010:500-503).

2.5.3 e-Commerce strategy approaches

The transformation of the manufacturing sector by introducing e-commerce technologies is seen as involving delicate and complex changes in strategy and not primarily in simple aspects of cost reduction and disintermediation. Profound changes in production regimes normally accrue in the course of accretionary processes of capacity building that take place over decades (Kraemer *et al.*, 2006). Chenglin and Xinxin (2009:361) maintain that SMMEs should develop their e-commerce strategies from the perspective of strengthening core competitiveness according to features of their established business. In this regard, Motjoloane and Warden (2007:11) argue that SMMEs can on the one hand, follow the “...adoption ladder...” approach proposed by a number of researchers depicting e-commerce adoption as a “...step-by-step...” process (He & Zhang, 2010). This is from simple emails to a virtual integrated online business. On the other hand, they can use a “...managed strategic adoption...” approach. Proponents of this approach argue that reaching e-commerce is a result of a management decision to move directly to e-commerce, based on business goals and requirements. Furthermore, to achieve a competitive e-commerce strategy Kim, Ow and Jun (2008:116) argue that SMMEs need to carefully understand their industry characteristics. This means to develop their competitive

action priorities. These includes value chain activities, consistently with their competitive priorities, and focus more on building supply chain execution capabilities as well as supply chain planning. In all cases, they need to quickly respond to rapidly changing current business environments.

Various authors provide empirical evidence on the best approaches that SMMEs can consider in order to be successful in their e-commerce venture.

- Vassell and Amin (2005:139-144) suggest a Meta strategy in e-commerce enabling SMME owners/managers to maximise the long-term potential of their firms. This meta strategy needs to be guided by simple rules when re-evaluating strategies, such as focusing on a narrow sector and seeking to offer the best price/performance in that sector. It must seek to maximise the network effects and to employ an efficient business model.
- Warden (2007:182) argues that e-commerce strategy is concerned with the strategic management of business objectives, resources and policies. Furthermore, the author argues that themes such as virtualisation, molecularisation, disintermediation and marketing must be carefully examined to optimise e-commerce success. These concepts further optimised by Warden and van Brakel (2011) are depicted in Table 2.2 (these are ranked according to their importance, 1 being the most important and 5 the least important).
- Gökmen (2012:48) advocates that SMMEs follow transnational strategies when conducting e-commerce. Consumer demand has been increasing in almost every region of the world. Furthermore, the structures of businesses should be decentralised and be organic in order to respond to ever-changing consumer demand punctually, and not to miss market opportunities.
- Chenglin and Xinxin (2009:360-364) identify dislocation management strategies based on niche differentiation, value innovation strategies (based on niche expansion), resources expansion strategies (based on niche extension) and utilisation of third party e-commerce service platform strategies. These are key e-commerce strategies enabling SMMEs to be more efficient and cost-effective.

Table 2.2: Strategic implementation factors

(Source: Warden & VanBrakel, 2011)

Virtualisation	Molecularisation	Disintermediation	Marketing
1-Enhance customer reach 1-Provide online transaction processing 1-Ease distribution of products or services 1-Reduce searching cost 1-Facilitate real time access to information 1-Maintain market segment 1-Promote online trading to build brand name 1-Manage negative working capital 1-Provide complementary products 1-Lower distribution cost of products and services 1-Meet customer needs 1-Manage marketing and advertising 1-Facilitate upgrade path to integrated e-commerce 1-Lower distribution costs 1-Select of products and services 3-Be aware that web sites expose businesses 3-Act as information broker 5-Provide price comparison	1-Provide superior online service 1-Provide access to 3 rd party products 1-Develop co-products 1-Facilitate virtual community participation 1-Enhance trust in partners and reputation 2-Be aware of SMMEs quick response to opportunities 2-Provide customisation 3-Develop personalisation 3-Manage first mover danger 3-Improve stakeholder relationships 5-Facilitate joining networks 5-Foster e-Loyalty	1-Establish direct link to customers 1-Eliminate intermediaries 1-Explore new markets 1-Control business network centrally 1>Create new products 1-Be aware of rivalry amongst competitors 5-Monitor large companies outsourcing to SMMEs	1-Manage Place – distribution 1-Maintain competitive Pricing 1-Develop marketing strategy (Online) 1-Foster community communication 1-Develop marketing strategy (Offline) 1-Develop online strategy 1-Promote marketing strategy 3-Adapt to Promotion - communication 4-Develop products 5-Develop business strategy 5-Promote integrative marketing strategy

From the above discussion, it is clear that SMMEs need to establish their e-commerce strategies according to their business characteristics, objectives and goals. In the IBM (2010) report, three elements are considered as key in the next-

generation B2B e-commerce strategy: operational automation, buyer-centric marketing and rich customer experience (IBM, 2010). These are briefly described:

- **Operational automation** - The primary goal of operational automation is to reduce cost-per-transaction and optimise quote-to-cash cycle time; this improves the bottom line by capturing a zero-touch, perfect order in an efficient manner. The key to achieving this objective is to replace telephone, facsimile and electronic mail-based manual processes with a web-based, self-service solution that delivers a customer-specific catalogue and product pricing.
- **Buyer-centric marketing** - Buyer-centric marketing is focused on a profound understanding of customer needs, segments and behaviour. It intends to deliver targeted and contextual marketing messages to help influence the decision makers. Buyer-centric marketing may also assist build brand loyalty and community for both company and products.
- **Rich customer experience** - Delivering a rich experience is fundamentally about becoming easy to do business with, which includes delivering a rich online experience, providing access to information such as entitled price or stock availability to aid in purchasing decisions and offering online communities to support customers post purchase.

2.5.4 Strategy platform approach

Vatcharaporn and Chavananon (2001) establish that e-commerce success depends on the type of trade made on the Internet. For SMMEs seeking competitiveness in their participation in e-commerce, it is necessary to identify the key variables of good performance in their e-commerce practices. Raymond and Bergeron (2008:577) further indicate that the ideal e-commerce profiles vary in relation to a firm's strategic orientation, whether it is of the defender, analyser or prospector type. e-Commerce alignment has positive performance outcomes for manufacturing SMMEs in terms of growth, productivity and financial performance. Timmers (2000:31-45) classifies 10 strategic business approaches found in Internet e-commerce. These approaches are discussed:

- e-Shop

In the first instance this is done to promote the company and its goods or services. Increasingly, the possibility to order and perhaps to pay is added, often combined with traditional marketing channels. Benefits sought for the company are increased demand, a low-cost route to global presence, and cost-reduction of promotion and sales.

- e-Procurement

This is the electronic tendering and procurement of goods and services. Benefits sought are to have a wider choice of suppliers which is expected to lead to lower cost, better quality, improved delivery, reduced cost of procurement. Electronic negotiation and contracting and collaborative work can further enhance time and cost saving and convenience. For suppliers the benefits are in more tendering opportunities, possibly on a global scale, lower cost of submitting a tender, and possibly tendering in areas which may be better suited for smaller enterprises, or collaborative tendering.

- e-Auction

Electronic auctions offer an electronic implementation of the bidding mechanism. This can be accompanied by a multimedia presentation of the goods. It can offer integration of the bidding process with contracting, delivery and payments. Benefits for suppliers and buyers are increased efficiency, time-savings and global sourcing.

- e-Mall

An electronic mall, in its basic form, consists of a collection of e-shops. It can be enriched by a common guaranteed payment method. Benefits for the e-mall members are lower cost and the advantages of being on the Web, with sophisticated hosting facilities such as electronic payments.

- Third-party marketplace

This is an emerging model that is suitable in cases where companies wish to leave the Web marketing to a third party (possibly as an add-on to their other channels). They all have in common, that they offer at least a user interface to the suppliers'

product catalogues. Several additional features like branding; payment; logistics; ordering and ultimately the full scale of secure transactions are added to third party marketplaces. Chenglin and Xinxin (2009) propose that SMMEs should utilise third-party e-commerce service platform strategies to build and develop their core competitiveness according to the features of their established business. Third party e-commerce service platforms can solve problems that SMMEs may encounter and increase efficiency, lower business cost, and promote the processing of information.

- Virtual communities

The value of virtual communities comes from the members (customers or partners), who add their information onto a basic environment provided by the virtual community company. A virtual community can also be an important add-on to other marketing operations in order to build customer loyalty and receive customer feedback.

- Value-chain service provider

These specialise in a specific function for the value chain, such as electronic payments or logistics, with the intention of connecting that into their distinct competitive advantage. New approaches are also emerging in production management where the specialised expertise needed to analyse and fine-tune production is offered by new intermediaries.

- Value-chain integrators

These focus on integrating multiple steps of the value chain, with the potential to exploit the information flow between those steps as further added value.

- Collaboration platforms

These provide a set of tools and an information environment for collaboration between enterprises. This can focus on specific functions, such as engineering and collaborative design, or in providing project support with a virtual team of consultants.

- Information brokerage, trust and other services

A range of new information services is emerging to add value to available data on the open networks or coming from integrated business operations, such as information search customer profiling, business opportunities brokerage and investment advice.

Some of the above strategies are essentially an electronic re-implementation of traditional forms of doing business. Other strategies such as value chain integration go far beyond traditional business and seek innovative ways to add value through information management and a rich functionality. Sonntag (2011) claims that while SMMEs can benefit from their e-commerce strategy by an efficient deployment of e-commerce solutions, improvements in efficiency and productivity must be achieved in all business processes to reduce the operating costs.

In the following, elements of the conceptual framework design provided in Section 1.10 are discussed to better capture and understand the TOE factors (section 2.6), the value proposition of e-commerce strategy (section 2.7) and the impact of e-commerce on SMMEs sustained growth (section 2.8).

2.6 Technological-Organisational-Environmental (TOE) factors

SMME competitiveness depends on many factors and is usually considered as a firm's external, internal and entrepreneurial-related factors (Porter, 2004:126). Kaefer and Bendoly (2004:529-541) investigate the impact of organisational constraints (technological compatibility and operational capacity) on the success of the B2B e-commerce effort and Eid, Trueman and Ahmed (2002:110-123) classify 21 critical success factors into five categories: marketing strategy, web site, global, internal-related, and external-related factors.

Based on the Tornatzky and Fleisher (1990) original TOE model, later updated by Zhu and Kraemer (2005:61-84), Robles-Estrada, Navarrete-Cova and Vargas-Barraza (2008:135) provide an extended model aimed at measuring the competitiveness level of the e-commerce strategies of SMMEs. This identifies the relationship between the variables that construct the organisational, environmental and technology factors and their relationship with the successful practice of e-commerce. The model is embedded in the findings of Zhu and Kraemer (2005:61-84), Mehrtens, Cragg and Mill (2001:165-176), Beatty, Shim and Jones (2001:337-354), Lui and Arnett (1999:23-33), Golden, Hughes and Ruane (2002), Vatcharaporn and Sivaporn, (2001). Furthermore, Masrek, Jamaludin and Hashim (2009:591-598) study the effect of these factors (TOE) on the strategic utilisation of e-commerce. The

authors propose a conceptualised framework based on previous work of Ang, Davies and Finlay (2001:159-174) and Zailani, Ong and Shanon (2006:28-33). The model suggests the importance of taking into account elements of strategic planning at the moment of deciding to participate in e-commerce. It highlights the importance of considering the environment when developing better e-commerce strategies as well as a proper assimilation of the technology; all of them are vital for achieving competitiveness in e-commerce strategy. Furthermore, the empirical results support the argument that the organisational, environmental and technological factors within an SMME in the manufacturing sector influence its ability to deploy sound e-commerce strategies to achieve a better competitive edge.

Zhu and Kraemer (2005:61-84) further argue that the three fundamental factors could be identified as a source of success in e-commerce strategies. Robles-Estrada *et al.*, (2008:142) find that the organisational, environmental and technological factors within an SMME influence its ability to deploy sound e-commerce strategies to achieve a better competitive position. Robles-Estrada *et al.*, (2008:142) argue that:

- **The organisational factor** confirms that the development of an e-commerce planning process is of great importance. However, the factor that contributes the most to reach a successful e-commerce strategy leading to competitiveness in e-commerce is the intensity of use of the electronic media.
- **The environmental factor** reveals key elements for fostering the performance of the company in the context in which it participates. There are: knowledge of competition, understanding of the market dynamics (interaction between customers and suppliers), the level of customer satisfaction, the benefits afforded them by conducting electronic transactions and information received from the players (customers, suppliers and competitors).
- **The technological factor** constitutes an important variable for the development of SMMEs. There are: correct assimilation of technological innovation, simultaneously with the establishment of quality standards, contributes to improve the performance of the company and achieve greater competitiveness. Within this factor, capacity and training of staff is of importance, since efficient and effective use of technological innovations depends on this.

2.7 Effective value proposition practices in e-commerce

Various research projects examine the significance of e-commerce usage by SMMEs from different angles. These include financial performance (Raymond, Bergeron & Blili, 2005:106-118; Johnston, Wade, & McClean, 2007:354-361), competitive advantage (Teo, 2007:1-27), business efficiency (Beck, Dermiguc-Kunt & Levine, 2005:199-229), and implementation success/satisfaction (Chong, 2008:468-492). Warden and Van Brakel (2011) argue that value proposition is concerned with the management of competitive advantage using information for increased sales, lowered costs and competitive marketing. This also includes the description of a customer's problem, the product that addresses the problem and the value of the product from the customer's perspective. Therefore, SMMEs need to understand and generate value from their chain of activities in their e-commerce strategy.

Murphy and Narkiewicz (2010:100) find that online value propositions must include the following distinct elements:

- The value proposition should be specifically developed for a target customer segment.
- The value proposition should not be limited to the on-site customer's experience, but be involved in a linkage to other channels as part of a multi-channel buying process.
- The service or product offered is based on what factors impact loyalty and purchase behaviours and is redefined based on the actual experience of the on-line value proposition by customers.
- The value proposition is clear, credible, concise, and consistent over time.

2.8 Value chain of e-commerce context

Liu and Wu (2010) state that the value chain in e-commerce starts with the Content (what is offered?) provider, then goes to the Infrastructure (what enables the transaction to occur?) for distribution and transactional support, and then to the Context (how is it offered?) provider supplying user interfaces and customer interactions.

Creating value in any stage of a value chain, involves five activities: gathering, organising, selecting, synthesising and distributing information. SMMEs need to effectively manage opportunities presented in each stage of the value chain. To create value or increase new value for customers, they must try their best to gather raw information, organise it for the customers, select what is valuable, synthesise and distribute it. Liu and Wu (2010) further argue that these value-adding steps, applied to each activity in the value chain, make up a value matrix that allows businesses to effectively identify and efficiently fulfil customers' needs. The value matrix guides managers to build processes necessary to create new relationships with existing markets and exploit new market opportunities.

Warden and Van Brakel (2011) further argue that SMMEs need to effectively manage various factors in their e-commerce strategy in order to generate value proposition in their business activities. These factors summarised in Table 2.3 are ranked according to their perceived importance by SMMEs (1 being the most important and 3 the least important).

Table 2.3: Value proposition factors

(Source: Warden & van Brakel, 2011)

Value proposition
1-Maintain customer needs
1-Awareness of business needs
1-Provide correct product delivery
1-Maintain efficient service delivery
1-Manage access to sales information
1-Manage timing to market: Long-term
3-Facilitate any place, anytime
3-Foster fast market response
3-Ensure timing to market: Short term
3-Provide access to financial information
3-Safeguard access to customer data

2.8.1 Competitive advantage based on e-commerce

With the strong wave of globalisation and liberation of markets across the world, IT, which enables e-commerce, is believed to be the most cost-efficient tool to assist SMMEs to gain bigger markets and the ability to compete with larger organisations in attracting customers to their products, services and information (Tan, Chong, Lin &

Eze, 2009:224-244). Companies realise that their existing, often primitive e-commerce solutions are insufficient and are investing in improving their e-commerce platforms. Indeed, 48% of companies surveyed in a recent Forrester Research poll said that an e-commerce platform was their technology investment priority for 2010 (Forrester Research, 2009). e-Commerce changes the basis of competition by adding alterations to the products and the cost structure of manufacturing SMMEs (Turgay & Karibov, 2006:179-208). According to Fomin *et al.*, (2005) e-commerce impact could be substantial on competition and industrial organisations. Liu and Wu (2010) argue that in the e-commerce environment SMMEs can generate value through cost-leading and differentiation advantages. This implies decreasing the cost of production, decreasing the cost of management, decrease the external transaction cost, decrease the principle-agent cost, increasing the differentiations by innovating existing value activities and creating differentiations by rebuilding value chain.

- **Decreasing the cost of production-** The interplay and interdependence of value activities in the value chain provides opportunities for decreasing total cost of interdependent activities. The value chain can improve the efficiency of information communication among departments and employees through integrating modern information technology and sharing information resources from the inside, thus increasing labour productivity, and decreasing the cost of production comparatively and loss caused by human error.
- **Decreasing the cost of management-** The application of Internet technology can sharply decrease the cost of management in transportation, communication, wages, finance and the rentals of office space. By managing the value chain based on the information technology, SMMEs can enhance the efficiency of management and cut salary expenses and the cost of office equipment. In addition, the use of information technology enhances the coordination of departments; savings from this coordination exceeds the savings from decreasing the cost of using information and transactions.
- **Decreasing external transaction cost-** In the context of e-commerce, SMMEs through establishing an Internet based extranet with partners, can decrease their transaction cost and simultaneously increase their ability to coordinate other value chain partners, thus gaining a competitive advantage.
- **Decreasing the principle-agent cost-** In the environment of e-commerce, the continuous improvement of the network of inner information management and the

penetration of the extranet and Internet between companies and their suppliers, customers and competitors form efficient channels for information communication and wide channels for supervision and feedback. This decreases the interest warp between clients and agents efficiently, supervising and restricting agents' tendencies to put their own interest first, and controlling inner principle-agent cost efficiently.

- **Increasing the differentiations by innovating existing value activities-**The value chain adds to the value of products and services by providing additional information on those products and services. In the marketplace, companies combine the products with related information to assist them to offer more personalised services more comprehensively, and the extent of individualised service is in direct proportion to the quantity of information related to the products. SMMEs also consolidate the relationships with suppliers and sale channels; optimise the division of labour of the value activities among these partners. They create the differentiation on the management of partners' relationships preceding competitors through the Internet and extranet.
- **Creating differentiations by rebuilding value chain-** In the context of e-commerce, the aim of integrating resources and innovative management models is to rebuild value chain. The rebuilding of a value chain requires that companies consider the buyer's value chain in the value chain system and determine again which value activities need to be involved in their value chain in order to maximise the buyer's value.

2.9 Impact of e-commerce strategy of SMME's growth

2.9.1 SMMEs sustained Growth

Ansoff (1965) developed a "product/market matrix" and argued that strategy is the integration of product-market scope, competitive advantage, growth vector, internally generated synergy and make or buy decisions. This product/market matrix has been among the most popular tools for growth strategy identification. The Ansoff matrix helps to identify the company's product and market growth strategy. In this regard, Turgay and Karibov (2006:179-208) suggest that for SMMEs the most appropriate growth strategies are therefore product development and market development. Furthermore, according to Churchill and Lewis (1983), as a new small firm starts and develops, it moves through growth stages, each with its own distinctive

characteristics. The authors identify five stages of growth: existence, survival, success, take-off and resource maturity. The Churchill and Lewis (1983) model illustrated in Figure 2.5 gives an insight into the dynamics of SMMEs growth, including the distinguishing characteristics, problems and requirements of growing SMMEs, and explains business growth processes amongst SMMEs.

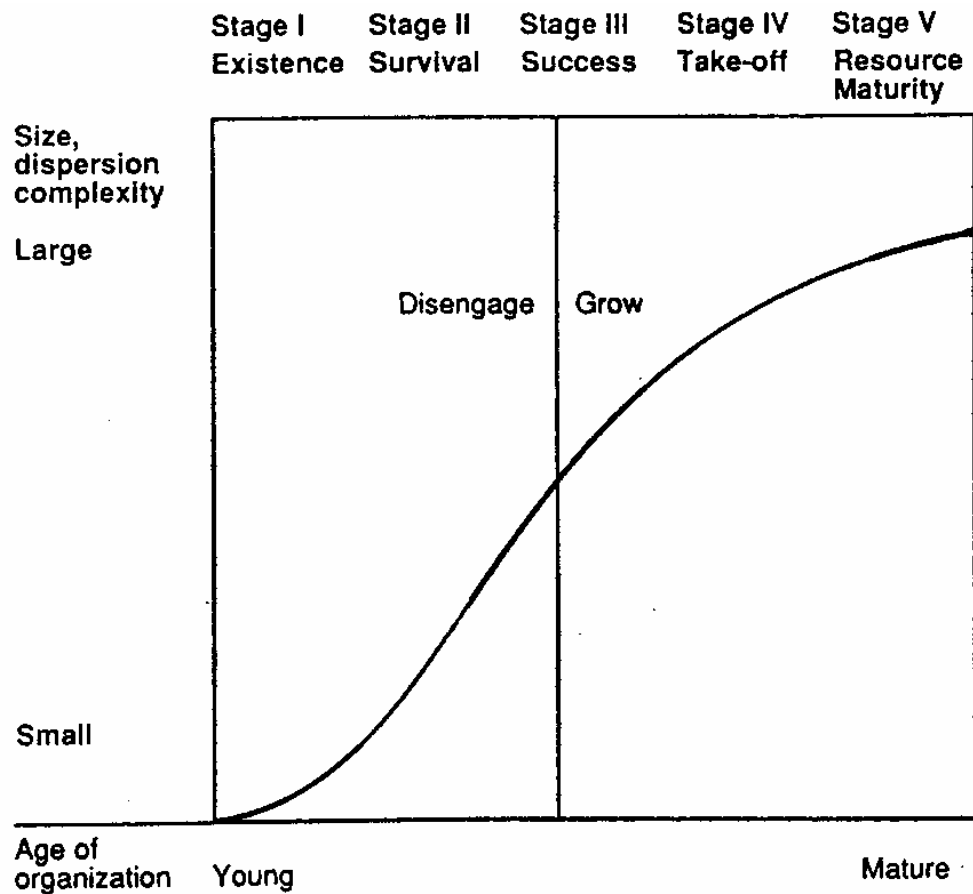


Figure 2.5: Growth stage model

(Source: Churchill & Lewis, 1983:31).

Bilton and Cummings (2010) contend that SMMEs' survival depends on the extent of their innovation². There is evidence in literature that innovative SMMEs grow faster in comparison to other businesses (Rosenbusch, Brinckmann & Bausch, 2011:441-457). Furthermore, Raisch, Birkinshaw, Probst and Tushman (2009:685-695) find that companies with sustainable competitive advantages maintains two types of innovations - exploration and exploitation. However, according to Vladimirov, Simeonova-Ganeva and Ganev (2012:597-613), the leading role of innovations in achieving sustainable competitive advantages is valid in times of smooth growth.

² Actively aligning creative and strategic thinking in any enterprise can enable more effective innovation.

Innovation and internationalisation, which are crucial for mid-term business success, cannot lead to immediate positive impact on sales and profits, which is a crucial requirement in crisis periods.

SMMEs' sustained growth is one of the most critical issues facing manufacturers today. Business sustainability can be regarded as "...an increase in productivity and/or reduction of consumed resources without compromising product or service quality, competitiveness or profitability while helping to save the environment..." (Institute for Sustainability, 2011). Sustainability, therefore, is not just maintaining current operational levels; it is also about penetrating new markets on a continuous basis to replace lost ones. This is achieved by growth and development ensuring companies remain in business (Thomas, Francis, John & Davies, 2012:1-30). Therefore, in order to be sustainable, SMMEs need to become more flexible, catering for fluctuating market demands, but must at the same time have robust and resilient processes and supply chains.

2.9.2 e-Commerce strategy impact on growth

Mei (2008:311) demonstrates that the growth of manufacturing SMMEs is positively and significantly influenced by their e-commerce managerial skills, their use of e-commerce technology resources to sell their products and services, and the collaboration with partners through business networks. This would have a more indirect effect on sales growth, that is, through an intermediate effect on other determinants of growth such as customer satisfaction. Timmers (2000:19-29) argues that business sustainability in e-commerce strategy is subject to a firm's ability to build assets which will provide the company with a competitive edge. There are key assets which could form the basis for creating sustainable competitive advantage. The author further identified key assets depicted in Table 2.4 as critical to improve the performance of e-commerce by SMMEs.

Table 2.4: Key assets

(Source: Timmers, 2000:19-29)

Cost base
Time to market
Brand image
Market share and market access
Customer orientation
Quality
Customer loyalty
Functional integration
Network integration
Innovation orientation

It is evident that SMMEs need to consider and understand different characteristics of a strategy to be able to succeed in their e-commerce strategy initiatives.

The reliability of e-commerce and its common aim by various business representatives assists manufacturing SMMEs to implement their activities despite changes. The relative size of the firms enables manufacturing SMMEs to be more responsive to changing conditions than large organisations (Grieger, 2003:280-294) and to benefit from the speed and flexibility that the electronic environment offers (Turgay & Karibov, 2006:179-208).

The BtoB (2009) survey established that e-commerce strategy supports business growth by assisting companies to:

- **Speed time-to-market for new products** - e-Commerce solutions can streamline the product introduction cycle. For example, companies can publish online product catalogues faster by eliminating the time-consuming process of printing hard copies. Companies can also announce products online, rather than having to travel to multiple cities for a product roll-out.
- **Reduce risks and costs of entering new markets** - Opening a new sales channel over the Internet allows some B2B suppliers to market their products to new geographies or industries at a fraction of the cost of establishing a direct presence in the targeted market.
- **Leverage the existing sales force** - When customers are serviced directly, account teams are often unable to uncover all of the potential opportunities in the

account. e-Commerce allows the sales force to offload routine activities so they can focus on building relationships, uncovering new opportunities, and nurturing complex deals that require more personal interaction.

- **Find up-selling and cross-selling opportunities** - Analysing the information that B2B e-commerce solutions provide, suppliers can more easily determine which products or services are likely to appeal to which customers. They can then use cross-selling or up-selling techniques, in addition to automated recommendation solutions, to direct buyers to additional products they might want or need.
- **Offer customers their preferred channel** - Many customers prefer not to interact with a sales representative. Companies need a multichannel approach that includes e-commerce and a standard sales force to allow customers to use their preferred channel. Moreover, a good e-commerce site brings in additional customers regardless of whether those customers want to transact solely through the online channel. For example, customers may research a solution online before discussing it with the sales team.
- **Implement new business models** - An e-commerce platform enables new business models. For example, manufacturers can employ an e-commerce platform to sell directly to customers, while distributors can add value by providing convenient, personalised content or other services to the buyer's desktop.

2.10 e-Commerce stages

Shi, Porter, Otterson and Barclay (2005) developed an e-Commerce maturity model which is used in this research to classify and understand the level of e-commerce utilisation of SMMEs. The maturity model is found to be extremely useful to classify SMMEs' current e-commerce status. It increases self-awareness of companies, provides a possible vision of ideal future stature and the size of the gap between the current situation and that future state. It also motivates SMMEs to create competitive strategies working towards their goals. The six stages of the maturity model are presented below:

- **Start Stage:** Little or no ICT use, skills and expertise. At this stage, SMMEs are willing to uptake e-commerce but with only limited or no knowledge and awareness.
- **Entry Stage:** SMMEs are starting to adopt e-commerce but just using email, basic IT skills, some knowledge and awareness of e-commerce.
- **Presence Stage:** SMMEs are using e-mail for effective internal and external communication and website only for publishing information.
- **e-Commerce Stage:** Range of ICT skills, mid-level knowledge of e-commerce. A functional website that can achieve online ordering, Internet marketing and online transaction.
- **e-Business Stage:** Companies have good level of ICT knowledge and application, of skills. Linked customer relation management (CRM) system and integrated supply chain.
- **Transformed Stage:** Completely integrated with suppliers, customers and partners in a “collaborative organisation”.

2.11 Chapter summary

The essence of e-commerce is to innovate around traditional commerce, to enhance the effects and the degree of the effectiveness of the business, and to bring customers’ satisfaction to a higher level (Chenglin & Xinxin, 2009:360-364). The strategic analysis historically explores why within the same sector, there are differences in the performance of organisations. Because of this, the study of the e-commerce strategy moved into the paradigm of strategy based on the resources and capabilities that firms have in order to compete (Porter & Millar, 1985). Furthermore, these companies that are able to create competitive advantage, by the development and improvement of their capabilities will be better prepared to face the current and future challenges. The literature acknowledges that the lack of appropriate e-commerce strategies in SMMEs may hamper their ability to thrive (Morison, Breen & Ali 2003:417-425). Furthermore, it is important to emphasise that e-commerce is not entirely about technology. Instead, it is more appropriate to perceive e-commerce as a way for organisations and industry to gain value from and transform key business processes with the Internet and related technologies.

In chapter three the research methodology and design is presented.

CHAPTER THREE RESEARCH METHODOLOGY AND DESIGN

3.1 Introduction

In this chapter the researcher formulates the research design process, epistemology stance, philosophy and research approach to support the requirements of this research in sections 3.2, 3.3, 3.4 and 3.5 respectively. In addition, the researcher discusses the case study design, ethical considerations and research time dimensions in sections 3.6 to 3.8. In Chapter 1, the researcher established the aim (section 1.6) of this research, which is to propose a guideline to assist SMMEs to comprehend how an e-commerce strategy could sustain their business activities and growth in the manufacturing sector. It is evident from Chapter 2 that manufacturing is a key sector of the South African economy, contributing 18.6% to the Gross Domestic Product (GDP). It is further reported that this sector employs more than one million people in South Africa (Small Enterprise Development Agency, 2012). From the literature, it is clear that e-commerce is a rapidly developing business application that presents opportunities and challenges to businesses. This research design thus incorporates all the relevant issues found and the researcher's concept of providing a well-researched e-commerce strategy for SMME sustained growth.

3.2 Research design process

The research design is a logical sequence which links the empirical data to the original research question and conclusions (Bless, Higson-Smith & Kagee, 2006:71). This implies that the researcher needs to have a clear purpose for the research study and clear research questions. Thus, an appropriate research approach, research methodology, and analysis techniques must be built around the research questions and aligned to the ultimate research purpose (Thomas, 2011:26). The aim of a research design process is to achieve an overriding goal of the research. In this research, it is to propose a guideline to assist manufacturing SMMEs in their e-commerce strategy in order to sustain their business activities and growth.

The research problem focuses on how manufacturing SMMEs can sustain business activities and growth using an e-commerce strategy. Therefore, an organised and scientific process adapted from Warden (2007:30) is utilised and the following seven-step process is proposed:

- Step 1- Preliminary literature review (Chapter 1)
- Step 2- Identifying the research problem (Chapter 1)
- Step 3- Formulating the research question and sub-questions (Chapter 1)
- Step 4- In-depth literature review to support research question and sub-questions (Chapter 2)
- Step 5- Collecting evidence from respondents (Chapters 3 to 4)
- Step 6- Analysis of findings and results (Chapter 5)
- Step 7- Conclusion and recommendations (Chapter 6)

Step 1 to step 3 were used in chapter 1 to formulate Table 1.1.

Placing the above in context assist in the overall design of this research, the formulated research problem (section 1.4) and research question (section 1.5) are repeated:

- **Research Problem**

Manufacturing SMMEs do not use appropriate e-commerce strategy to sustain their business growth.

- **Research question**

How can SMMEs in the manufacturing sector formulate and use e-commerce strategies for sustained business growth?

3.3 Epistemological stance

Epistemology is derived from *episteme*, the Greek word for *knowledge*. Henning (2004:15) avers that epistemology is the philosophy of knowledge or *how we come to know*. According to Hallebone and Priest (2009:27), epistemology is a set of axiomatic assumptions that define the way knowledge about a particular view of reality is to be generated, understood, represented and used. This stance implies that the researcher attempts to gain knowledge about a phenomenon (Willis, 2007:9-10; Creswell, 2009). Furthermore, Willis (2007:9-10) states that an epistemological stance allows researchers to answer questions such as how can we know the things that exist? In an attempt to achieve the aim of this research, the researcher adopts an

epistemological stance to gain knowledge of how SMMEs in the manufacturing sector can formulate and use e-commerce strategies for sustained business growth.

3.4 Research philosophy

Research in information systems (IS) could be classified according to three well-known philosophical approaches or paradigms: positivism, interpretivism, and critical theory (Orlikowski & Baroudi, 1991). These paradigms provide fundamental laws, methodological prescriptions and techniques to conduct research (Willis, 2007:9). These are discussed in sections 3.4.1 through 3.4.3 with the aim of providing an appropriate philosophy for this research.

3.4.1 Philosophy of Positivism

Positivist research is based on the notion that research can be objective, the researcher is independent, and the results are valid, reliable and can be generalised (Galliers, 1992:144-162). Positivists strive to ensure that the research process is rational and logical and believe that in so doing, all elements of subjectivity are eliminated from the research (Mouton & Marais, 1990:30). Hallebone and Priest (2009:27) further argue that positivistic philosophy seeks to establish descriptive principles for a reality that exist independently of an observer or participant. According to April (2007:49-51), the dimensions he used for evaluating information systems, services and quality expectations of e-commerce SMMEs were guided by positivistic principles. The author emphasised the objectivity of this paradigm and used survey and statistical analysis to provide credence to the recommendations made to relevant stakeholders.

3.4.2 Interpretivistic philosophy

Interpretivism is a philosophy that assumes "...reality and our knowledge thereof are social constructions..." (Khazanchi & Munkvold, 2000:34), and its outputs are "...subjective constructions..." of the researcher (Wyssusek, Schwartz & Kremberg, 2002:832-835). Henning (2004:20) maintains that interpretive knowledge is constructed not only by observable phenomena, but also by description of people's beliefs, intentions, reasons and values, self-understanding and meaning. Interpretivists acknowledge that their problems in question exist in a social context and the most appropriate way of understanding social factors may not necessarily be described by numbers and statistical tests (Jones, 2000). Furthermore, interpretive research philosophy does not rely on numerical or statistical analysis of data or

evidence. Interpretive researchers do not suggest that research can naturally be objective but argue that using carefully implemented procedures such as triangulation and interview protocols, bias inherent in individual researchers can be identified, and to some extent controlled. Myers (2009:39) explains that interpretive researchers tend to focus on meaning of context. The aim is to understand the context of a phenomenon, since the context is what defines the situation. Walsham (1995:376-394) states that interpretivism is based on the notion that reality is socially constructed: research becomes a case of trying to understand this construction rather than generating facts.

In line with the interpretivistic paradigm, Warden (2007:9-14) uses in-depth literature studies and interviews to examine an emerging e-commerce adoption model for SMMEs. In this context, the author developed an e-commerce adoption model taking into consideration multiple factors such as technical, business and external factors. Through this, the model aims to guide SMMEs in reducing the risk of failure at the outset of e-commerce initiatives and provide some degree of success.

3.4.3 Critical theory

According to Cornford and Smithson (2006:60), this philosophy suggests that society is based on certain structural faults that need to be exposed. Furthermore, the critical theory denies that researchers can be objective. According to critical researchers, bias is inherent in the human condition. Therefore, researchers declare their interests, biases, and purpose or use of their research (Willis 2007). Babbie and Mouton (2001:34) point out that the single most distinctive feature of the critical research tradition is its insistence on science. Therefore, knowledge becomes a transformative force in society. Critical researchers recognise that change to their social and economic circumstances is constrained by various forms of social, cultural and political domination (Myers, 1997).

From this philosophy, Pather (2006:213) argues that the failure of e-commerce initiatives by businesses is the consequence of poor business ideas, lack of general business experience and little understanding of the importance of managing the technology enabling e-commerce opportunities. The author explores the intricacies of information systems within the B2C e-commerce environment and states that without a coherent understanding of factors affecting information systems' success, the implementation of traditional evaluation mechanisms may be problematic. Furthermore, an e-commerce success theory was developed to provide the basics of

a coherent approach in the development of specific e-commerce information systems instruments.

3.4.4 Implication of the philosophy of interpretivism on this research

This philosophy would enable the researcher to form a clear perception of how e-commerce strategies affect manufacturing SMMEs growth in South Africa. The interpretivism paradigm is found to be the best suited for this research as an intellectual underpinning. This is supported in the context of the stated research problem and research question and considering the foregoing discussion on positivism, interpretivism and critical theory.

3.5 Qualitative research approach

The nature of the research problem and the associated research question formulated in sections (1.4) and (1.5) and repeated above, essentially drive the choice of methods.

Snape and Spencer (2003:2-3) describe qualitative research as follows:

- Research aims are directed at providing an in-depth and interpreted understanding of the social world of research participants.
- Samples are small in scale and deliberately selected on the basis of relevant criteria.
- Data collection methods usually involve close contact between the researcher and the research participants.
- Data is detailed, information-rich and broad.
- Analysis is open to evolving concepts and ideas, which may produce detailed descriptions and classifications.
- Outputs tend to focus on the interpretation of social meaning.

Using a qualitative approach for this research is based on the premise that since the advent of e-commerce for business purposes, SMMEs have adopted e-commerce as a strategy (Cloete, Courtney & Fintz, 2002; Moodley, 2003:25-40; Motjoloane, 2006:14; Warden, 2007:22), although the utilisation was in an embryonic stage five years ago (Elia, Lefebvre & Lefebvre 2007:1-23). Secondly, the literature review conducted by the researcher revealed that not all known e-commerce strategies are suitable for SMMEs. Therefore, the need to identify e-commerce strategies suitable

for manufacturing SMMEs is gaining momentum as this sector is important to the South African economic development.

Qualitative research involves interpreting evidence (Remenyi, Williams, Money & Swartz, 2002), obtained from interviews, documents, and participant observation, in order to understand and explain specific social phenomena. The use of such data or evidence is in keeping with the interpretivistic aim of being able to offer deep explanations of the objects under inquiry (Myers, 2009:8). Furthermore, qualitative research is less structured than other types of social research in that the researcher initiates a study with a certain degree of openness to the research subject and what may be learned from it (Willis, 2007; Creswell, 2013:42-50). The imperatives of an interpretivism paradigm tradition suggest that a qualitative research approach would be a suitable approach for this research.

3.6 Case study design

Myers (2009:76) defines case study research as an attempt to study the subject matter in context and where multiple sources of evidence are used. Where the phenomenon under investigation is not readily distinguishable from its context, how and why type questions are preferable to provide a better understanding of the phenomenon (Yin, 2003:10). Furthermore, a case study is an empirical inquiry, in which the focus is on a contemporary phenomenon within its real-life context and boundaries between phenomena. According to Simons (2009:19-21), a case study is an in-depth investigation from multiple perspectives of a phenomenon enabling us to generate in-depth understanding of a specific topic. Rule and John (2011:10) state that the case study method is a systematic and in-depth investigation of a phenomenon in order to generate knowledge. A case study strategy is suitable for this research because it allows the researcher to gain in-depth knowledge and understanding of sustainable e-commerce strategies for SMMEs' growth within the manufacturing sector context. Therefore, this strategy could better assist the researcher in his attempt to answer the subsequent research question "How can SMMEs in the manufacturing sector formulate and use e-commerce strategies for sustained business growth?"

3.6.1 Bias in case study research

Babbie and Mouton (2006:238) argue that case study research is not always free from bias, as participants in the interview may not be objective in the process.

Therefore, Creswell (2013:251) suggests that clarifying research bias from the outset of the study is important so that the reader understands the researcher's position and any bias that may impact the inquiry.

Three contributing bias-related problems were identified:

- Respondents' difficulty in remembering and giving accurate information.
- Unwillingness of respondents to disclose information
- Concern about the consequences of trust and confidentiality after revealing information.

To minimise bias-related problems and ensure the validity of research outcomes, the researcher used the triangulation strategy. Simons (2009:129-130) argues that triangulation is a plausible strategy to validate results in qualitative environments. This strategy enables cross-checking relevance and issues of significance and perspectives from different angles to generate and strengthen evidence in support of key arguments. Myers (2009:10) further claims that triangulation allows one to gain a holistic picture of what is happening and compares data from different sources. Subsequently, this was achieved by using multiple source of data collection in section 4.2.

3.6.2 Number of cases

According to Yin (2003:43) there is no formula or rule to determine the optimal number of cases used in case study research. The logic underlying the use of multiple case studies indicates that the researcher should select each case to predict similar results or contrasting results for predictable reasons. Yin (2003:47) argues that two to three cases should be sufficient to predict similar results or literal replication during the study process. Gomm, Hammersley and Foster (2000:2-3) observe that, the fewer cases investigated, the more information can be collected about each of them.

For this research, the underlying logic is to achieve a literal replication of the research by using three to five cases. It is therefore acceptable to purposely select respondents from manufacturing SMMEs in order to gain insight into their e-commerce activities (Simons, 2009:34-35). This will enable the researcher to obtain a holistic picture of the effect of e-commerce strategies on SMMEs' sustained growth. The researcher compiled Table 3.1 to depict recent research approaches and the

number of cases used in e-commerce related research, based on a case study approach.

Table 3.1: Summary of e-commerce related research using case study research

Researchers	Titles and topics of research	Research Methods	Number of cases
Kartiwi (2006)	Case Studies of e-commerce adoption in Indonesian SMEs: The evaluation of strategic use	Qualitative approach and interviews	2
Limbada (2006)	How Internet supports the consumer decision process: the case study of McCarthy call-a-car	Qualitative approach	1
Voges (2006)	A Guideline for adoption of order processing for B2B e-commerce	Qualitative approach	9
Motjolopane (2006:63-69)	A preliminary study into strategies for determining the level to start e-commerce adoption for success in SMMEs.	Qualitative approach	5
Warden (2007:21-39)	e-Commerce adoption by SMMEs- How to optimise the prospects of success.	Qualitative approach and Interviews	5
Eshum and Taylor (2009:28-37)	Internet and e-commerce adoption among SME non-traditional exporters.	Qualitative approach	2

In Table 3.1, all the studies presented similar type results to develop theories or guidelines arriving at various conclusions and recommendations. For this research it was proposed that two to five case studies might achieve the desired results

3.6.3 Case study protocol

According to Yin (2003:67-68), the use of protocol in case study research assists and guides researchers in their process of collecting data in the field of investigation. Yin (2003:69) maintains that such a protocol should include an overview of the case study project, field procedures, case studies questions and it should also be used as a guide for the case study report.

3.6.3.1 Field protocol

Case study protocol consists of procedures involved in conducting research. The following list of *protocol activities* is developed by the researcher and used for all case studies adapted from Lubbe (2003:9) and Warden (2007:26-27)

- Initial telephonic contact was made with each SMME.
- A trusted intermediary was established to act as a contact in each SMME
- A number of respondents were identified in consultation with the trusted intermediary in each of the SMMEs, and each respondent was approached to be interviewed.
- Face-to-face interviews were conducted where possible.
- Interviews were tape recorded by prior arrangement with management.
- Additional documentary evidence was collected from SMMEs.

3.6.3.2 Interview structure

The interview protocol was structured in four parts which were constructed as follows:

- Business information

This section assists the researcher to scrutinise SMMEs and select appropriate businesses to form part of this research. Organisations which met the pre-set requirements discussed in chapter 1 are included.

In this part, the nature of the business, number of employees, number of years in business and other company issues relevant to this research are discussed.

- TOE model

This section aims to identify critical success factors of e-commerce strategy for manufacturing SMMEs in the selected environment.

- Key assets

This section aims to better comprehend the ability of manufacturing SMMEs to build a competitive advantage by managing their strategic assets, and to capture the extent to which e-commerce strategy could assist manufacturing SMME to sustain their growth.

- Value proposition

This section aims to assess the perceived value proposition of e-commerce strategy in manufacturing SMMEs.

3.6.4 Interview topic coding approach

The emphasis of qualitative research using in-depth interviews and collecting evidence from other sources such as documents requires detailed analysis (Miles & Huberman, 1994:50). There are different ways of analysing the evidence collected from case studies: manually, semi-automated or using specialised computer software. In all of these methods, some form of coding is required to keep track of data collected.

Miles and Huberman (1994:57) argue that creating codes is important and recommend a *start list* prior to any fieldwork. Miles and Huberman (1994:59) further provide an example of a start list consisting of various categories using a master code, sub-codes and a key-code to link the property to the original research question from which it was derived. In this research, such a start list could originate from a list of research sub-questions or key variables that the researcher has brought to the study.

Alternatively, a list of initial themes could be identified and all evidence collected could then be categorised according to these themes. This would finally manifest in the form of headings used in the case study reports. The approach to interpreting evidence for case studies in a purely qualitative way is often thematic.

3.6.5 Research themes and start list

A deeper understanding, as opposed to a wide investigation on possible e-commerce strategies for manufacturing SMME issue, is required. The research sub-questions are formulated in section 1.5 (Table 1.1) in the selected e-commerce environments:

1. How can SMMEs in the manufacturing sector identify suitable factors for e-commerce strategies?

This research sub-question is addressed in Chapter four (section 4.3) under the Organisational-Environmental-Technological themes which were discussed in section 2.6. Furthermore, key attributes of e-commerce forming part of each theme are identified and used as start list.

2. Why would an e-commerce strategy contribute to the growth of manufacturing SMMEs?

This research sub-question is addressed under the key asset theme (section 2.9.2). Timmers (2000:19-29) Key assets are depicted in Table: 2.4 and constitute the start list of this theme.

3. How can manufacturing SMMEs select e-commerce strategy value proposition factors and elements for their business activities?

This research sub-question is addressed under the value proposition theme (section 2.8). Warden and Van Brakel (2011) value proposition factors depicted in Table: 2.3 constitute the start list. The top factors (ranked 1) are used. Furthermore, correct product delivery is used instead of efficient service delivery as both factors deal with the delivery process.

Each research sub-question (RSQ) is addressed according to specific themes identified in the literature. These themes form the *start list* in Table 3.2, to assist the researcher to categorise all data gathered.

Table 3.2: Summary of themes and start list

	RSQ1	RSQ2	RSQ3
Themes	TOE factors (section 2.6)	Key assets factors (Table 2.4)	Value proposition factors (Table 2.3)
Start list	-Organisational factors -Environmental factors -Technological factors	-Cost base -Time to market -Brand image -Market share and market access -Customer orientation -Functional integration -Network integration -Innovation	-Customer needs -Awareness of business needs -Correct product delivery -Access to sales information -Timing to market

		orientation -Quality -Customer loyalty	
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In line with the research approach, semi-structured interviews were conducted according to interview protocols designed by Warden, (2007:31); Mei (2008) and Robles–Estrada, Navarette-Cova and Vargas-Barraza (2008:132-134) in their respective research studies.

3.6.6 Format of a case study report

Yin (2003:143) argues that the case study investigator should consider the target audiences of the reports and therefore attempt to satisfy their particular needs. In the case of academic audiences for example, the connections between the cases, the findings and previous research or theory are likely to be important. Furthermore, Yin (2003:141) suggests that high-quality and interesting case studies should be conducted and report layouts and formats should reflect this. Furthermore, Yin (2003:164) argues that the exemplary case study is one that effectively and judiciously presents the most relevant evidence, so the reader can reach an independent judgment regarding the merits of the analysis.

3.7 Ethical considerations

Myers (2009:45) states that research ethics can be seen as the application of moral principles in the research process. Ethics includes how researchers should behave in relation to the people with whom they interact during the research process (Simons, 2009:96). Etherington (2007:599-615) states that trust and respect should be created through the research process. House (1993:168) points out that “...ethical principles are abstract, and it is not always obvious how they should be applied in given situations...” In this research, ethical principles such as confidentiality, negotiation and accessibility are adhered to. These principles enable the researcher to secure the trust and necessary conditions to gather valid data from cases. Furthermore, it ensures that data which are not harmful to manufacturing SMMEs can be released for public knowledge (Simons, 2009:101-102).

3.8 Time horizon

Research time dimension is either cross-sectional or longitudinal. Cross-sectional studies are research studies where evidence collection represents a snapshot of one point in time (Cooper & Schindler 2003:149). This research study is cross-sectional as interviews with manufacturing SMMEs are conducted once.

3.9 Chapter summary

The items discussed in this chapter forms the basis of the research design. The underlying epistemology for this research was interpretive. The researcher adopted a qualitative methodology and a descriptive case study approach to gain deeper insight into the research problem. The case study approach allows various methods for data collection. It allows the researcher to use in-depth interviews and additional documentation. This approach is best suited to the attempt to answer the research questions. Furthermore, in the data analysis process tactics such as coding and categorising are used. The researcher adheres to ethical principles such as confidentiality, negotiation and accessibility to ensure that data which are not harmful to selected manufacturing SMMEs can be released for public knowledge.

In Chapter four, the researcher discusses the data collection process

CHAPTER FOUR DATA COLLECTION

4.1 Introduction

In this chapter the data collection process is discussed. This includes the interviews conducted with each case. The gathered data is structured based on the protocol design in Chapter 3 (section 3.6.3). Yin (2003:155-165) stresses that the final project report should communicate the answer to the research question in a clear manner. The case study evidence (presented in appendix A) is reported under themes identified in section 3.6.5. The conclusion of this chapter provides a summary of the case study evidence collected.

4.2 Data collection process

In this section, the researcher summarises what transpired with respect to finding and selecting the respondents, how evidence was collected and how the data were managed. In section 4.3, a comprehensive account of the in-depth interview process is given. The interview technique is considered to be the crux of the data collection process and is a significant aspect of this research.

One of the key elements of qualitative research entails working with a small number of informants who are purposely selected on the basis of salient criteria. Such selections entail selecting typical or interesting cases (Blaxter *et al.*, 2001). Babbie and Mouton (2001:166) affirm that it is appropriate for the researcher to select informants on the basis of his/her own knowledge of the population, its elements, and the nature of the research aims.

To better serve the aim of this research, a case study protocol was designed in section 3.6.3. The **protocol activities** were developed by the researcher and used for all the case studies, adapted from Lubbe (2003:9) and Warden (2007:26-27). The interview protocol is summarised for clarity again:

- Initial telephonic contact was made with each SMME.
- A trusted intermediary was established to act as a contact in each SMME.
- A number of respondents were identified in consultation with the trusted intermediary in each of the SMMEs, and each respondent was approached to be interviewed.

- Face-to-face interviews were conducted where possible.
- Interviews were tape recorded by prior arrangement with management.
- Additional documentary evidence was collected from SMMEs.

According to Yin (2003:55), the protocol serves as an agenda for data collection and all topics included can serve as the outline for the case study report.

The researcher identifies manufacturing SMMEs according to the definition of the Department of Trade and Industry, which considers SMMEs in the manufacturing sector to be organisations with fewer than 200 employees and having an annual total turnover less than 51 million Rand. Their total gross asset value should be less than 19 million Rand (South Africa, 2003). This was achieved by considering companies registered with the Cape Chamber of Commerce. From the list of potential participants, the researcher purposely selected nine businesses categorised as follows: three micro businesses, three small businesses and three medium businesses. The businesses were selected based on the fact that they all used the Internet, had an online presence and were readily accessible. Each business conducted e-commerce. The researcher contacted all nine businesses via telephone to establish a first contact and enquired if they were willing to participate in the research. Following the telephone conversation, two companies indicated that they were unwilling to participate – no reasons were given. The remaining seven companies asked to be sent the interview protocol via electronic mail (e-mail) for them to familiarise themselves with the topics to be discussed. A week after the initial telephone conversations, one company (pseudonym Company A) responded to the e-mail and set a date for an interview. Afterwards, interviews were conducted with three more of the companies B, C and D in order of their response. All interviews were conducted within a five month period (September 2012-January 2013). At each company, the researcher requested multiple sources of information such as brochures, magazines, articles which provided details of the company, profiles of the companies and business activities. In some cases, the researcher was given access to online company catalogues and an overview of some company websites. After each interview, transcripts, information collected and other documents were categorised according to specific themes. Evidence collected at companies A, B and C revealed a data saturation condition. The researcher decided to continue and use company D as planned, to confirm the literal replication.

4.3 Using the interview technique to gather evidence

In-depth interviews were used to collect data. According to Silverman (2009:125-126) interviews provide access to the meanings people attribute to their experiences and social worlds. However, Patton (1980:252) avers that "...there is no single right way of interviewing, no single correct format that is appropriate for all situations, and no single way of wording questionnaires that will always work..." Therefore, an open-ended interview questionnaire is appropriate to gain deeper knowledge and to understand current e-commerce strategies and challenges faced by manufacturing SMMEs (Simons, 2009:43). The interview process allows the researcher to gather information from respondents in selected manufacturing SMMEs. Information gathered enabled the researcher to answer each research sub-question under different themes. The companies used for this research have been given pseudonyms and some details of the companies have been masked to uphold confidentiality. Each case study report is presented in appendix A.

The first research sub-question reads: **"How can SMMEs in the manufacturing sector identify suitable factors for e-commerce strategies?"** This is addressed under the technological, organisational and environmental (TOE) themes. In an attempt to answer this research sub-question, the researcher uses key attributes of e-commerce under each theme in order to gather evidence to identify which relevant conditions would support SMME e-commerce strategies in the manufacturing sector.

- **Organisational factors (Section 5.2.1)**
 - Existence of a strategy and plan of operation identified by the staff working at the company to carry out its operations in e-commerce.
 - Impact that e-commerce operations have within the company.
 - Intensity of e-commerce use.
 - Information transfer.
 - Ability to enter new markets.

- **Environmental factors (Section 5.2.2)**
 - Market composition
 - Dynamics of the market
 - Understanding the client
 - Marketing

- **Technological factors (Section 5.2.3)**

- Staff capacity
- Quality standards
- Guarantees and benefits
- Technological capacity.

The second research sub-question reads: **“Why would an e-commerce strategy contribute to the growth of manufacturing SMMEs?”** This is addressed under the key assets theme (Table 2.4). Timmers’ (2000:19-29) key assets could form the basis to determine the impact of e-commerce strategies on SMMEs in the manufacturing sector for sustained business growth (Section 5.2.4).

The third research sub-question reads: **“How can manufacturing SMMEs select e-commerce strategy value proposition factors and elements for their business activities?”** This is addressed under the value proposition theme (Table 2.3). These value propositions attribute could assist in identifying the value proposition composition of e-commerce strategies for manufacturing SMMEs (Section 5.2.5).

4.4 Conclusion

In this chapter the researcher investigates and reports on four case studies. The findings of each case study are reported under four distinct headings: background of the company, TOE factors, key assets and effective value proposition practice. They are based on the three research sub-questions. The businesses interviewed represent SMMEs as defined by the National Small Business Act (South Africa, 2003). Companies A and B have business activities in South Africa, Europe and North America. Company C is in the process of expanding its business outside South Africa, and Company D is planning to do business in Sub-Saharan Africa. All businesses are based in the Western Cape and have a website and makes use of e-mails and outlook systems. While all businesses acknowledge that e-commerce could be useful for their business activities, they currently use rather few e-commerce applications. Only company A is planning to introduce a user friendly e-commerce platform where customers will be able to buy online in 2013.

In chapter five, evidence gathered is analysed and discussed.

CHAPTER FIVE FINDINGS, ANALYSIS AND DISCUSSION

5.1 Introduction

In this chapter, evidence collected from respondents is analysed and interpreted in relation to the key research aim (Section 1.6) which is stated as:

To propose guidelines to assist SMMEs in the manufacturing sector to formulate e-commerce strategies for sustained growth.

The output of this research would assist small businesses in the manufacturing sector formulate and use e-commerce strategies for sustained business growth. The findings are mapped to the literature to provide a clear understanding of the significance of the research problem. Furthermore, the literature review in Chapter 2 is guided by the research question and sub-questions.

The research problem formulated in Section 1.4 is stated as:

Manufacturing SMMEs do not use appropriate e-commerce strategy to sustain their business growth.

What SMMEs are experiencing is that they have no point of reference in selecting appropriate e-commerce strategy approaches to suit their business requirements. In order to assist with the investigation of the research question (Section 1.4), a qualitative approach is used (discussed in Section 3.5.3) to solicit evidence from the cases by conducting in-depth interviews with respondents followed by analysis and interpretation of these findings.

5.2 Data analysis

Wolcott (1994:13-14) avers that simply presenting quotations from interviews without any thematic structure and analysis is not likely to convey the meaning of the evidence. Miles and Huberman (1994:59) suggest that a list of initial themes could be identified and all evidence collected could then be categorised according to these themes. In this research, a start list originates from a list of research sub-questions and key variables that the researcher has identified for this research in Section 3.6.5.

In this research, the analysis is conducted according to five themes expanded upon in Sections 5.2.1 to 5.2.5. They are: organisational factors (discussed in section 2.6), environmental factors (discussed in section 2.6), technological factors (discussed in 2.6), key assets factors (discussed in section 2.9.2) and value proposition factors (discussed in section 2.8). Each of the research sub questions (RSQ) is addressed according to these specific themes identified in the literature. These themes form a start list (mentioned before) depicted in Chapter 3 (Table 3.2), to assist the researcher to categorise the data gathered.

5.2.1 Organisational factors

At the organisational level, there are five attributes that the researcher is introducing to comprehend in which way organisational factors affect these manufacturing SMMEs' e-commerce strategy. These attributes are: existence of a strategy and plan of operation identified by the staff working at the company to carry out its operations in e-commerce; impact that e-commerce operations have within the company; intensity of e-commerce use; information transfer; and lastly, the ability to enter new markets. These originate from Sections 2.6 and 4.3 and are analysed in Sections 5.2.1.1 to 5.2.1.5

5.2.1.1 Existence of a strategy and plan to carry out its operations in e-commerce

All manufacturing SMMEs investigated have organised their businesses to have an online presence. Companies A, B, C and D (Appendix A, Sections A. 2.1, B 2.1, C 2.1 and D 2.1) have established websites at the early stage of their business ventures. Their current e-commerce strategies are limited to the use of the Internet as a means to disseminate and collect information. In all cases, their websites provide brief company profiles, description of products and contact details such as physical address, electronic mails and telephone numbers. Furthermore, Company A and C provide additional features in their online platforms. All SMME cases use Microsoft Outlook to interact with customers, suppliers and partners. Company A uses this tool to allow their customers to place orders directly and request information online. Furthermore, Company C provides an enquiry form allowing customers and suppliers to raise any concern in their business transactions. In all four cases, they use the Internet to enhance customer relationships. However, in all four cases, these companies do not have agents or departments dedicated wholly or partly to activities using the Internet.

All manufacturing SMMEs investigated are aware of the importance of their online platform to expand their market share in markets such as Europe, North America and sub-Saharan Africa. However, currently they do not have clear strategies to explore niche markets, capture outsourcing opportunities and promote online trading.

5.2.1.2 Impact that e-commerce operations have within the company

The main impact of e-commerce activities for these SMMEs is the improvement of communication channels between customers, suppliers and partners. Their online platforms enhance customers' reach and give a greater product exposure in the global market. For example, Company A is using blogs and videos linked to Youtube.com to improve their company profile and product information visibility to customers and suppliers (Section A 2.2). In addition, Companies B, C and D subscribe to electronic media such as Cape Business News, Yellow Pages, SA Business Direct and Mbendi information service to increase their company profiles' visibility (Sections B 2.2, C 2.2 and D 2.2). However, the direct impact on total sales is still limited. This could be due to the fact that they all lack clear strategies to promote online trading.

5.2.1.3 Intensity of e-commerce use

All SMMEs investigated offer various ranges of services to their customers and suppliers. These services include easily accessible Web pages; electronic mails; electronic catalogues; and subscription banners. Company D further provides a search facility on their website to ease information access (Section D 2.3). These SMMEs use their Web pages intensively to provide product descriptions (key features and range of product available). Furthermore, they regularly send electronic catalogues to their suppliers and customers to keep them informed. However, these SMMEs do not have agents or a department devoted partly or wholly to the facilitation of activities through the Internet. This negatively impacts on the handling of queries received through electronic mail and information updates on their websites.

5.2.1.4 Information transfer

These SMMEs receive information from their customers or suppliers daily. This ranges from orders and information requests about products to complaints. They also use the Internet to keep track of their competitors' activities. However, information posted on their Web pages is not updated regularly. This is as a result of not having

agents or departments in charge of business activities on the Internet (online) channel.

5.2.1.5 Ability to enter new markets

These manufacturing SMMEs use their online platforms as a means to access markets outside South Africa. Companies A and C are already trading in Europe, North America and Sub-Saharan Africa (Sections A 2.5 and C 2.5). By using the Internet, they are able to build strong relationships with customers without having to establish physical branches or having agents in those markets.

Evidence shows that at the organisational level, these manufacturing SMMEs use their online platforms intensively and exchange information with their customers, suppliers and partners on a daily basis. They use their online platforms to access markets such as Europe, North America and the rest of the African continent. However, despite their online presence, these manufacturing SMMEs still lack clear strategies to explore niche markets, capture outsourcing opportunities and promote online trading. Porter (2001) argues that using the Internet will not by itself confer competitive advantage to businesses. The lack of strategy to carry out operations appears to be a problem for SMMEs in the manufacturing sector. This finding is consistent with Terziovski (2010:899), who concludes that manufacturing SMMEs could improve their performance by establishing formal strategies and structures. To improve the prospects of success in their e-commerce strategies, these manufacturing SMMEs need to establish formal strategies which will fit their organisational goals and objectives. It is also important to highlight the fact that the manufacturing SMMEs investigated still have limited resources (mainly financial resources) to allocate agents to be devoted especially to business transactions through the Internet.

5.2.2 Environmental factors

At the environmental level, there are four attributes that the researcher included to better comprehend in which way environmental factors affect these manufacturing SMMEs e-commerce strategies. These attributes are: market composition; dynamics of the market; understanding the client and finally, marketing. These originate from Sections 2.6 and 4.3 and are analysed in Sections 5.2.2.1 to 5.2.2.4.

5.2.2.1 Market composition

Online activities have afforded these SMME cases more cost-effective communication (Sections A 3.1, B 3.1, C 3.1 and D 3.1). The use of Microsoft Outlook enables fast and real-time exchange of information between SMMEs and their customers, suppliers and partners. This also provides for better information exchange between employees and different internal departments, utilising intranet systems. This additional channel of communication provides opportunities to explore new markets at lower costs.

5.2.2.2 Dynamics of the market

These SMMEs provide information about new products or new promotions to their customers regularly (Sections A 3.2, C 3.2 and D 3.2). They also regularly send electronic catalogues via electronic mail. However, information provided on these SMMEs' Web pages is not regularly updated.

5.2.2.3 Understanding the client

This factor focuses on the level of customer satisfaction. These SMMEs still have limited capacity in their electronic platforms to increase ease of automated data extraction. This is clearly shown by their lack of online strategies to monitor satisfaction levels of customers doing transactions via electronic mail or visiting their webpages (Sections B 3.3, C 3.3 and D 3.3).

5.2.2.4 Marketing

The marketing strategy of these SMMEs focuses on enhancing customers' relationships. Since the incorporation of electronic activities in their businesses, all case SMMEs have adapted their marketing strategy to lowering cost, focussing on distribution and pricing (Sections A 3.4, B 3.4, C 3.4 and D 3.4).

- Distribution

These SMMEs have established local and global partnerships to ensure that the right products are available at the correct time. They mainly use their electronic mails to gather and exchange information related to product needs in the markets. In addition, they are also still making use of facsimile and telephone calls. For example Company

A (Section A 2.3) uses a pro-forma including terms and conditions, which customers must sign and send back to the sales department via facsimile for approval.

- Pricing

They are dedicated to provide competitive pricing in their respective markets. To achieve this, Company A provides an indication of their pricing strategy on the website (e.g. R 200.00 for sample designs using available fabrics; R 400.00 for new designs and not available fabrics and R 100.00 for shipment costs). However, Companies B, C and D (Sections B 2.4, C 6.3 and D 2.4) do not provide price lists of their products on their webpages to enable customers and suppliers to compare prices across the markets.

The analysis of the environmental factors reveals that these SMMEs have used their electronic platforms to improve communication channels with their business partners, customers and suppliers. They are all utilising their electronic mail facilities on a daily basis to exchange information. However, these SMMEs still lack strategies to increase ease of automated data extraction of customers and monitor their satisfaction levels. They also lack updated price information of products on their Web pages.

These SMMEs could eliminate manual tasks by using more effective online channels. These channels could improve ease of automated data extraction of customers, monitor the satisfaction level of their customers and provide regular updated price information of products. This implies that they need to clearly understand all forces at play in their markets in order to have an e-commerce strategy which fits their business and the needs of their suppliers and customers. This is consistent with Raymond and Bergeron (2008), who found that investment in e-commerce technology alone is not sufficient to improve business process performance, especially if there is no coherence within the business environment and strategic objectives of firms.

5.2.3 Technological factors

At the technological level, there are four attributes that the researcher included in to better comprehend in which way technological factors affect these manufacturing SMMEs' e-commerce strategies. These attributes are: staff capacity; quality standards; guarantees and benefits and technological capacity. These originate from Sections 2.6 and 4.3 and are analysed in Sections 5.2.3.1 to 5.2.3.4.

5.2.3.1 Staff capacity

These SMMEs, except Company D (Section D 4.1), use a third party to ensure the technical support and the maintenance of their websites. Companies A, B and C's technical support is provided by the external service companies ESQ A, ESQ B and ESQ C, respectively (Sections A 4.1, B 4.1 and D 4.1). They provide the following services: Web analytics consulting; Internet market share consulting; website optimisation consulting; search engine optimisation consulting; search engine marketing consulting; net infrastructure consulting and custom projects.

These SMMEs' staff have good information communication technology (ICT) skills and have the ability to use new technologies in their business environments. For example, Company C provides regular training to their personnel in computer use and the management of electronic transactions.

5.2.3.2 Quality standards

Companies B, C and D do not have online strategies in place to verify set standards for the quality of services on the Internet. Only Company A (Section A 4.2) often assesses its standards using the International Congress Association³ database which sets Industry standards. All four SMMEs also lack online strategies to constantly monitor the satisfaction level of their customers who use their online platforms to transact with them.

5.2.3.3 Guarantees and benefit

These SMMEs adhered to their specific industry standards. However, only Company D provides a secure environment for transactions made through the Internet (Section D 4.3). All customers and suppliers making online transactions with the company have secure accounts.

³ICA is one of the most prominent organisations in the world of international meetings. It is the only association that comprises a membership representing the main specialists in handling, transporting and accommodating international events.

5.2.3.4 Technological capacity

All manufacturing SMMEs investigated have strong technological capacity (Sections A 4.4, B 4.4, C 4.4 and D 4.4). They use software such as QuickBooks⁴ to keep the accounting of their business on track, and a Microsoft Outlook⁵ system to send e-mails over the Internet. Furthermore, Company A uses a cloud system allowing them to coordinate business activities anytime and anywhere over the Internet. Company C uses a cloud system providing those with additional expertise, for example, web analysis consulting.

The analysis of technological factors reveals that these manufacturing SMMEs do have good staff and technological capacities. However, they all lack online strategies to constantly monitor the satisfaction level of their customers who use their online platforms to transact with them. This is consistent with Bharadwaj and Soni (2007), who find that the low level of e-commerce activity of SMMEs could be attributed to the lack of knowledge and loss of potential benefits using e-commerce applications.

5.2.4 Key assets factors

Nine key assets within e-commerce strategies identified by Timmers (2000) (discussed in Section 2.9.2) were explored in this research, to determine the impact of e-commerce strategies on SMMEs in the manufacturing sector for sustained business growth. These assets are: cost, time to market, brand image, market share and market access, customer orientation, functional integration, network integration, innovation orientation, quality and customer loyalty. These originate from Sections 2.9.2 and 4.3 and are analysed in Sections 5.2.4.1 to 5.2.4.9.

5.2.4.1 Cost base

All SMMEs investigated identify cost as a key factor for their business success (Sections A 5.1, B 5.1, C 5.1 and D 5.1). They further acknowledge that due to their limited resources, it is important for them to be cost effective with their transactions. They also believe that the introduction of a well-defined e-commerce strategy, combined with other factors such as high-tech engineering equipment, skilled human

⁴ QuickBooks is a set of software solutions designed to manage payroll, inventory, sales and other needs of a small business.

⁵ Microsoft Outlook is an application in the Microsoft Office Suite that can be used for electronic mail, appointment and task scheduling and recording of personal and business contacts.

resources, a reliable resource of raw materials, reliable shipping and sourcing the right product at the right price, could give them a competitive edge.

These SMMEs still have high operating costs. They intensively use telephone calls and facsimiles to communicate with their customers, suppliers and partners (Sections A 2.4, B 2.3 and C 2.3). Furthermore, Company A also makes regular visits to potential customers and suppliers. This implies considerable transportation costs and subsequently, an increase in operational cost. They are in agreement that cutting unnecessary costs would be beneficial to their businesses.

5.2.4.2 Time to market

All SMMEs investigated operate in specialised industries. Their products range from the manufacturing of eco-friendly bags to polymer concrete. They all indicate that time to market could be vital for their businesses (Sections A 5.2, B 5.2, C 5.2 and D 5.2). However, due to the fact that they are operating in specialised industries, they are not certain that it will provide them with a competitive edge. There is agreement among these manufacturing SMMEs that to remain in business they need to shorten their time to market.

5.2.4.3 Brand image

These SMMEs use various online strategies to enhance their brand image. For example, Companies A and C use a third party's website to promote their products and services. Furthermore, Companies B, C and D (Sections B 5.3, C 5.3 and D 5.3) subscribe to various online directories to increase their brand exposure in the local and global markets.

5.2.4.4 Market share and market access

In this research, evidence obtained shows that these case SMMEs are using their online platforms as a means to access new markets and expand market share. Companies A and C use online strategies to build partnerships in Europe, North America and Sub-Saharan Africa (Sections A 5.4 and C 5.4). They mainly use electronic transactions to interact with their partners. All four SMMEs believe it is cost-effective because they have limited resources.

5.2.4.5 Customer orientation

All SMMEs investigated acknowledge the importance of doing business to meet customers' needs. These companies design their products according to customer demands. For example, Company B (Section B 5.5) finds internet costs effective and efficient to interact with customers to provide specialised, custom-made packaging solutions and is keen to co-operate to achieve mutual benefits.

5.2.4.6 Network and functional integration

The use of Microsoft Outlook provides, to some extent, integration of their business activities. They all acknowledge that the use of the Microsoft Outlook application provides them with some network integration. This is mainly in the way that the manufacturing activities are coordinated within the marketing function. This allows for better coordination of activities and delivery of products and services. Furthermore, this software enables coordination of employees' tasks, schedules and activities.

5.2.4.7 Innovation orientation

These SMMEs' business environments are rapidly changing and they have to adapt to stay competitive. They are adopting new technologies to improve their business processes where possible. For example, company D (Section D 5.7) finds the use of online media such as Mbendi⁶ information service, to be a vital contributor to their long-term survival. This strategy provides greater exposure at local and global markets.

5.2.4.8 Quality

The SMMEs are in agreement that quality of online activities and transactions could to some extent provide them with a competitive edge. They all provide detailed information of products on their websites. They use this strategy to make their products well known in their respective markets. However, there is little evidence that these SMMEs have aligned their online strategies with their adopted new technology to improve their business processes and performance. Their online services do not

⁶Mbendi Information Services (Pty) Ltd is a privately owned Internet business publishing company founded in 1995 and based in Cape Town, South Africa. The company uses the Internet to support business and political decision makers worldwide.

fully respond to customers' needs. For example, information on galleries, blogs and newsletters is not updated regularly (Section A 2.2).

5.2.4.9 Customer loyalty

SMMEs still lack suitable strategies to retain and attract new customers. They still rely mainly on a word-of mouth strategy. They are also faced with the challenge of a limited range of products displayed on their websites. However, they all agree that retaining customers is essential for them to remain in business (Sections A 5.9, B 5.9, C 5.9 and D 5.9).

The above analysis reveals that the dynamics of key assets in e-commerce are difficult to perceive and affect due to their intangible nature. The researcher concludes that these SMMEs still lack adequate strategies to strengthen key assets for their e-commerce strategies.

5.2.5 Value proposition factors

There are five attributes that the researcher included to identify the value proposition composition of e-commerce strategies for manufacturing SMMEs. These attributes are: customer needs, awareness of business needs, providing correct product delivery, access to information and lastly, time to market. These originate from Sections 2.8 and 4.3 and are analysed and expanded in Sections 5.2.5.1 to 5.2.5.5.

5.2.5.1 Customer needs

The findings indicate that these SMMEs have limited online strategies to monitor customer satisfaction and the quality of services they receive. They mainly use telephone calls and do visits. Company C uses services provided by a third party to trace how their customers navigate through their products (Section C 5.3). In contrast, Company A is planning to introduce a formal strategy to monitor customer satisfaction during 2013 (Section A 2.1).

All the SMMEs interviewed are currently using electronic mail (*Contact us*) on their Web pages and provide customer enquiry forms as strategies to receive feedback from their customers and suppliers.

5.2.5.2 Awareness of business needs

These SMMEs are well aware of the need to integrate well defined e-commerce strategies into their online activities to optimise the prospect of success in their pursuit of accessing new markets to increase their market shares (Sections A 5.4, B 2.5, C 2.5 and D 2.5). They are therefore all in agreement, emphasising that this is a key attribute for their respective business success.

5.2.5.3 Provide correct product delivery

The findings indicate that these SMMEs foster sound information exchanges between themselves and customers, suppliers and partners. This is achieved using Microsoft Outlook systems. These companies are committed to deliver the right product at the right price to their loyal customers through dedicated services and support. However, they all lack regular information updates on their webpages (Sections A 2.4 and D 2.4).

5.2.5.4 Access to sales information

The findings indicate that these SMMEs utilise their online databases to make information easily available and accessible to all stakeholders. This improves efficiency across their businesses. For example, Companies A and D have integrated systems such as QuickBooks, where sales information can be accessible by employees (Section A 4.4 and D 2.3).

5.2.5.5 Timing to market

These SMMEs indicate that time to market could be important for their businesses, but because of their specialised industry, they are not certain that it will provide them with a competitive edge. To remain competitive these companies use their websites and third party platforms to increase their product ranges, maintain information visibility and provide accessibility (Sections A 2.1, B 2.2, C 6.4 and D 5.4).

These value proposition factors reveal that these SMMEs' online strategies provided them with more efficient sales information access. However, these SMMEs still have limited strategies for their online platforms to monitor customer satisfaction. None of them regularly update information on their webpages.

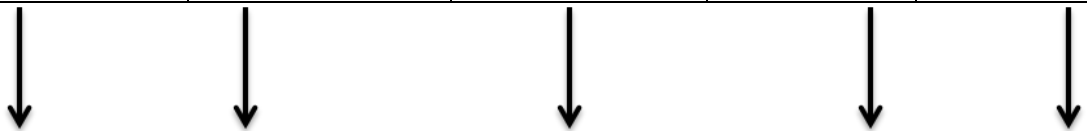
5.2.6 Summary

The researcher created a summary of the findings to serve as a guideline for SMMEs. This is provided in Table 5.1, depicting key factors and key attributes of e-commerce that manufacturing SMMEs need to consider in their e-commerce strategies for sustained growth.

Table 5.1: Key attributes and proposed strategies for e-commerce

Key attributes of e-commerce strategies for sustained business growth in the manufacturing sector (Sections 3.6.5 and 4.3)

<u>Organisational</u> (Sections 5.2.1.1 to 5.2.1.5)	<u>Environmental</u> (Sections 5.2.2.1 to 5.2.2.4)	<u>Technological</u> (Sections 5.2.3.1 to 5.2.3.4)	<u>Key assets</u> (Sections 5.2.4.1 to 5.2.4.9)	<u>Value proposition</u> (Sections 5.2.5.1 to 5.2.5.5)
-Existence of a strategy and plan of operation to carry out its operations in e-commerce. -Impact that e-commerce operation have within the company. -Intensity of e-commerce use. -Information transfer. -Ability to enter new markets.	-Market composition. -Dynamics of the market. -Understanding the client. -Marketing.	-Staff capacity. -Quality standards. -Guarantees and benefits. -Technological capacity.	-Cost base. -Time to market. -Brand image. -Market share and market access. -Customer orientation. -Functional and Network integration. -Innovation orientation. -Quality. -Customer loyalty.	-Customer needs. -Awareness of business needs. -Correct product delivery. -Access to sales information. -Timing to market.



Proposed e-commerce strategy for the manufacturing sector (Section 5.3)

Establish formal and clear e-commerce business strategies. (5.3.1)	Establish new online channel strategies. (5.3.2)	Establish online strategies to monitor quality standards and customer satisfaction. (5.3.3)	Establish strategies to strengthen key assets. (5.3.4)	Establish strategies to improve value proposition in e-commerce. (5.3.5)
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5.3 Explanation of e-commerce for the manufacturing SMMEs

From the analysis of organisational factors (5.2.1), environmental factors (5.2.2), technological factors (5.2.3), key assets factors (5.2.4) and value proposition factors (5.2.5), the researcher found that these SMME cases do not have formal and clear e-commerce strategies in their businesses to explore niche markets, capture outsourcing opportunities and promote online trading; they lack appropriate online channels to increase ease of automated data extraction; they lack online strategies to monitor quality standards and customers satisfaction; they lack clear strategies to strengthen key assets in e-commerce strategies; and they lack clear strategies to generate value proposition in their e-commerce. Therefore, to address these deficiencies, these manufacturing SMMEs need to improve their current e-commerce practices in order to be successful in their e-commerce strategies for sustained growth. These key issues are analysed and discussed in Sections 5.3.1 to 5.3.5.

Manufacturing SMMEs therefore, need to establish:

- A formal and clear e-commerce strategy in their businesses
- A new online channel strategy
- A online strategy to monitor quality standards and customer satisfaction
- A strategy to strengthen key assets
- A strategy to improve value proposition in e-commerce.

5.3.1 Establish a formal and clear e-commerce strategy

Manenti (2010:2) is of the opinion that since the inception of the Internet era, most manufacturers have started evaluating the opportunities connected with opening new sales channels through the Web. This is in order to connect, collaborate and automate selling processes with their business customers. Motjoloane and Warden (2007) found that there are two approaches for SMMEs to adopt e-commerce. The one approach is an adoption ladder which is a step by step process. These steps start at e-mail and follow to a static website, e-commerce, e-business and e-enterprise. Alternatively, there is a managed strategic adoption approach and when reaching the e-commerce adoption stage, it is due to a management decision. In this research, evidence supports that manufacturing SMMEs are likely to follow an adoption ladder approach. Findings further indicate that SMMEs are currently moving from a presence stage to an e-commerce stage in reference to the e-commerce maturity model discuss in Chapter 2 (Section 2.10).

SMMEs need to establish clear strategies taking into consideration the business short- and long-term goals and business objectives. Warden (2007) maintains that SMMEs should strategically manage their business objectives, resources and policies. On the basis of this information, SMMEs in the manufacturing sector should implement an e-commerce strategy according to the requirements of customers, and thereby offer efficient value-added services.

5.3.2 Establish new online channel strategy

The literature indicates that setting up a meaningful and adequate sales channel over the Internet allows B2B suppliers to market their products to new industries or geographic areas. This could be achieved at a fraction of the investment that it would have taken to establish an onsite or telemarketing sales force for the targeted market (Sonntag, 2011). Therefore, selecting the appropriate online business model is essential to achieve their short- and long-term goals and objectives. Timmers (2000) provides various business models, summarised in Table 5.2, which could be used by manufacturing SMMEs to select the appropriate approach for their particular online platforms. Although these models were identified in 2000, they are still relevant in current business environments. While these SMME cases use third parties as a strategy to some extent, further attention needs to be given to strengthening their current practices. Furthermore, these manufacturing SMMEs need to clearly understand the characteristics of each online business approach in order to be successful in their e-commerce ventures. This is essential as Vatcharaporn and Sivaporn (2001) find that e-commerce success depends on the type of trades made on the Internet.

In addition to the Timmers (2000) online model, manufacturing SMMEs could further incorporate the use of social media to enhance awareness of their respective business. This could provide them with a further competitive advantage considering the rapid growth of the use of social media as a business strategy in the local and global.

Table 5.2: Summary of online platform strategies

(Source: Timmers, 2000)

Online approach in e-commerce	Characteristics
E-shop	This promotes the company and its goods or services. Increasingly added is the possibility to order and possibly to pay, often combined with traditional marketing channels. Benefits sought for the company are increased demand, a low-cost route to global presence, and cost-reduction of promotion and sales.
E-procurement	This is electronic tendering and procurement of goods and services. Benefits sought are to have a wider choice of suppliers which is expected to lead to lower cost, better quality, improved delivery, reduced cost of procurement. Electronic negotiation and contracting and collaborative work in specification can further enhance time and cost saving and convenience.
E-auction	This can be accompanied by multimedia presentation of the goods. It can offer integration of the bidding process with contracting, delivery and payments. Benefits for suppliers and buyers are increased efficiency and time-savings, global sourcing.
E-mail	Benefits for the e-mail members are lower cost and less complex processes to be on the Web, with sophisticated hosting facilities such as electronic payments.
Third-party	This offers a user interface to the suppliers' product catalogues. Furthermore, these offers features like branding, payment, logistics, ordering and secure transactions.
Virtual communities	A virtual community can be an important add-on to marketing operations in order to build customer loyalty and receive customer feedback.
Value-chain service provider	These specialise in a specific function for the value chain, such as electronic payments or logistics, with the intention of making that into their distinct competitive advantage.
Value-chain integrators	These focus on integrating multiple steps of the value chain, with the potential to exploit the information flow between those steps as further added value.
Collaboration platforms	These provide a set of tools and an information environment for collaboration between enterprises. This can focus on specific functions, such as engineering and collaborative design, or on providing project support with a virtual team of consultants.

Information brokerage, trust and other services	A range of new information services are emerging to add value to available data on the open networks or coming from integrated business operations, such as information search customer profiling, business opportunities brokerage, investment advice.
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5.3.3 Establish strategy to monitor quality standards and customer satisfaction

It is essential for SMMEs to establish and monitor quality standards in their e-commerce activities. This is consistent with Singh, Gard and Deshmukh (2008), who found that SMMEs in the manufacturing sector can improve their performance by using the most appropriate information technology tools in their different manufacturing activities. Evidence from this research supports the proposition that SMMEs in the manufacturing sector have the necessary technological capabilities in place to improve their e-commerce usage. This is consistent with Cloete (2002), who finds that small manufacturing businesses have the required technological capabilities which could be used as a foundation to build more sophisticated e-commerce capabilities.

5.3.4 Establish a strategy to strengthen key assets

Chenglin and Xinxin (2009:361) maintain that SMMEs should develop their e-commerce strategies from the perspective of strengthening their core competitiveness according to the features of their established business. These key assets could support manufacturers to prepare for new, or extend current e-commerce initiatives. Manufacturing SMMEs need to strengthen key assets to enhance their business growth. All key assets identified in this research, namely: cost, time to market, brand image, market share and market access, customer orientation, functional integration, network integration, innovation orientation, quality and customer loyalty, could provide SMMEs with a competitive edge. Strategies to strengthen key assets in e-commerce are discussed:

- **Cost base**

These SMMEs need to take action to cut unnecessary costs. Cost reduction is a leading driver for businesses to implement B2B e-commerce strategies. The literature supports that it is not unusual for B2B e-commerce initiatives to achieve fast returns on investment with more cost reductions in one year, than the total cost to implement this. Cost advantages are gained by implementing more efficient and streamlined

selling and purchasing processes. This could be measured at both the seller side and at the buyer side.

- **Time to market**

Shortening time-to-market is an essential task for any business. Not only does it assure that new products are available to the market more quickly, but also that there is enough time to reach return on investment through adequate selling during the narrowing product's life cycle. Introducing new products and services to customers points to the need to focus on enhancing sales, marketing and after-market business processes. The implementation of B2B e-commerce capabilities can eliminate a significant amount of time it takes to go to the market or to be ready to introduce new products.

- **Brand image**

These SMMEs are currently using third party platforms to enhance brand awareness within their specific markets. However, these SMMEs still need to generate more awareness of their websites; this will lead to a greater volume of movement and potential for sales.

- **Market share and market access**

These SMMEs need to take further steps to raise awareness of their e-commerce websites. Achieving better ranking and relevance on, for example, Google or other search engines may represent a good opportunity to raise awareness, particularly in new markets. They need to take into consideration that their new potential buyers will be searching for specific products, features or attributes and not necessarily for product names

- **Customer orientation**

The literature indicates that SMMEs need to focus on an understanding of customer needs and behaviour. These manufacturing SMMEs need to further develop their intent to deliver targeted and contextual marketing messages to help influence decision makers. This implies providing clients with a modern purchasing service that needs to be tailored to fit customers' business process workflows. The capability of supporting complex workflows over the web is not an option for modern B2B e-

commerce platforms. Indeed, for the majority of B2B interactions, the purchasing process requires the following of strict process workflows with milestones to be achieved, tasks to be completed, due dates to be respected, approval levels to be confirmed, and contractual thresholds to be considered.

- **Network and functional integration**

These SMMEs could improve their integration, ensuring the complete visibility of product information and the ability to transfer product data to customers, as and when needed. The literature supports that the availability of good information is critical to managing an efficient B2B e-commerce initiative. In effect, without complete, up-to-date, and consistent product information, suppliers frequently suffer from flawed actions. These are problems with orders, incorrect shipments and urgent customer support requests. The lack of conformity in product data also stems from the fact that product data typically remains dispersed in multiple enterprise systems. These range from engineering, sales, service, logistics, manufacturing, financial and marketing databases, to Word documents and Excel spread sheets on individual desktops. Integration implies that suppliers and manufacturers need to coordinate decisions related to inventory management, collaborative planning, forecasting, replenishment, and the flows of physical resources.

- **Innovation orientation**

These SMMEs need to better understand their product-related services and be closer to customers. This implies leveraging on cross-selling and up-selling techniques. Suppliers can direct a buyer towards product-related services and consumable products that better fit customers' applications. This would increase the proportion of revenue coming from the sales of product-related services to their businesses.

These SMMEs need to turn their attention to the delivery of product-related services that not only provide an additional revenue source, but also enable higher customer satisfaction. Therefore, moving towards service-based revenues is fundamentally changing manufacturers' ways of doing business as they are blurring the boundaries between products and services.

- **Quality**

Quality is the extent to which a product or service meets and/or exceeds the customer's expectations, conformance to specifications, and other excellence requirements. It is a very complex and rich factor. Various researchers suggest multiple dimensions of quality in terms of product performance, services outcomes, customer satisfaction and employee processes.

- **Customer loyalty**

These SMMEs need to deliver a rich experience. This includes delivering a rich online experience, providing access to information such as entitled price or stock availability to aid in purchasing decisions and offering online communities to support customers post purchase. Furthermore, an adequate B2B e-commerce capability increases the ease with which customers do business with suppliers. This reduces the need to go to competitors when they are sourcing product information, developing specifications, or making purchases. As customers become more familiar with a supplier's e-commerce capabilities, their desire to go elsewhere diminishes. This results in increased customer retention.

From the discussion of key assets, it is clear that in order to manage an e-commerce strategy effectively, SMMEs should be able to act selectively on different policy levers affecting the accumulation and draining processes of key assets. Literature supports that the efficient and effective management of SMMEs' key assets in the manufacturing sector could have an impact on their ability to sustain their business activities.

5.3.5 Establish a strategy to improve value proposition in e-commerce

e-Commerce offers a cost-effective means to deal with orders, claims, purchasing of goods and tracking of sales in an approach that allows a manufacturing SMME to reduce their fixed costs and administrative costs. It also gives them the opportunity to expand their operations.

To gain a competitive advantage, manufacturing SMMEs need to increase the rate of new customers visiting their websites. This could be achieved by devoting agents or a department to deal with e-mails and other electronic queries. In turn, this will increase perceived service and product scope offered through websites. SMMEs need to advertise in industry related publications. Furthermore, these SMMEs need to replace telephone, facsimile and electronic mail manual processes with web-based, self-

service solutions that deliver a customer-specific catalogue and product pricing service.

5.3.6 Summary

It is important to understand the current level of e-commerce utilisation by SMMEs in the manufacturing sector. Then one can propose appropriate guidelines to assist them to sustain their business activities and growth. The researcher found that all SMMEs investigated do not fully understand the use of an e-commerce application. Most SMMEs still perceive e-commerce as only the process of selling and buying online. According to the **e-commerce maturity model** discussed in Chapter 2 (Section 2.10), it appears that all selected SMMEs in the manufacturing industry investigated in this research are currently at the **Presence stage** of the e-commerce maturity model. This is consistent with Moodley (2003:31), indicating that manufacturing SMMEs mainly use the Internet to access: commercial databases, information search, marketing, monitoring prices, using online catalogue, checking suppliers financial and e-mail applications. However, evidence from this research indicates that all SMMEs investigated are moving toward the **e-Commerce stage**. All SMMEs have considerable ICT skills in which they can build on to fully achieve this stage.

5.4 Conclusion

The analysis of the findings indicates that SMMEs in the manufacturing sector still use basic e-commerce applications in their business activities. They all have some organisational capabilities in regard to the intensive exchange of information through their online platform. From the environmental capabilities perspective, they are using, to some extent, their online capabilities to market their products and services to suppliers and customers. They all have adequate technological resources to operate in their specialised industries. Despite the fact that they are not using e-commerce extensively, they are all aware of the importance of having clear e-commerce strategy to build their capabilities on their business key assets and they perceive the value of e-commerce. The proposed e-commerce strategy guidelines (Table 5.3) could assist these manufacturing SMMEs to develop suitable e-commerce strategy and sustain their business growth.

Chapter six is the conclusion. The answers to the research question, sub-questions and proposed guidelines are discussed and recommendations made for further research.

CHAPTER SIX CONCLUSION

6.1 Introduction

In this chapter the final conclusions of this research are presented. The research problem and research questions are summarised, although these were discussed in more detail and addressed according to the findings in Chapter 5. Furthermore, the limitations of this research and future research are discussed in Section 6.8. Finally the guideline is presented in Table 6.1.

The overall research aim (Section 1.6) of this research is stated as:

To propose guidelines to assist SMMEs in the manufacturing sector to formulate e-commerce strategies for sustained growth.

It is evident from this research that:

- Manufacturing is an important sector contributing more than 15% of the GDP in South Africa; and,
- SMMEs lack appropriate or formal e-commerce strategies in their businesses for sustained growth.

6.2 Research problem

The research problem, supported by the aim of this research flows through this thesis providing the focus of the research. This culminates in the final outcome in the form of a guideline for SMMEs in the manufacturing sector to adopt e-commerce strategies (Table 6.1).

The formulated research problem (Section 1.4) is stated as:

Manufacturing SMMEs do not use appropriate e-commerce strategy to sustain their business growth.

This research problem was underpinned by the literature indicating that the majority of SMMEs have no e-commerce strategy.

6.3 Research question, sub-questions and objectives (Table 1.1)

The research question formulated for this research in an attempt to cover the broad statement of the research problem necessitated the formulation of three research sub-questions. The research question reads as follows:

How can SMMEs in the manufacturing sector formulate and use e-commerce strategies for sustained business growth?

After reviewing the literature, it became evident that SMMEs still have limited understanding of e-commerce and lack clear plans and strategies to take full advantage of e-commerce applications in their businesses. Therefore, it was necessary to provide guidelines to assist SMMEs in their e-commerce ventures.

Against the background of the research question, three research sub-questions were formulated as follows:

1. How can SMMEs in the manufacturing sector identify suitable factors for e-commerce strategies?
2. Why would an e-commerce strategy contribute to the growth of manufacturing SMMEs?
3. How can manufacturing SMMEs select e-commerce strategy value proposition factors and elements for their business activities?

The objective of each research sub-question is briefly discussed.

- **Relevant conditions supporting SMME e-commerce strategies in the manufacturing sector.**

SMME adoption of appropriate e-commerce technologies could support e-commerce management; the evaluation of competitors; identification of potential customers; and implementing new technologies. SMMEs could improve their performance by

establishing formal strategies and structures to optimise the prospect of success in their e-commerce strategies to fit their organisational goals and objectives.

Furthermore, manufacturing SMMEs need appropriate online platforms to transact and build strong relationships with suppliers, customers and partners. For this, they need to fully understand their industry characteristics.

It was essential for SMMEs to establish and monitor quality standards in their e-commerce activities. These SMMEs in the manufacturing sector need to improve the quality of their websites. This implies improving the design, speediness and attractiveness of their websites. In addition, these SMMEs need to provide guarantees on post-sale assistance and delivery-delay reliability.

- **Impact of e-commerce strategies on SMMEs in the manufacturing sector for sustained business growth.**

It is found that the key assets needed by SMMEs in the manufacturing sector could impact their ability to sustain their business activities. The literature reveals that the efficient and effective management of SMMEs' e-commerce strategies could sustain manufacturing SMMEs' growth. These are:

- Reduce risks and cost of entering new markets
- Ensure faster time-to-market for new product introduction
- Leverage the existing sales force
- Find up-selling and cross-selling opportunities
- Offer customers their preferred channel
- Implement new business models
- Lower costs and increase productivity
- Retain existing customers
- Manage product complexity
- Ensure innovation through services
- Exploit new markets.

- **The value proposition composition of e-commerce strategies for manufacturing SMMEs.**

To generate a value proposition in their business activities, manufacturing SMMEs need to deliver targeted and contextual marketing messages to help influence

potential decision makers. This includes delivering a rich online experience; providing access to information such as entitled price or stock availability to aid in purchasing decisions; and offering online communities to support customers post purchase.

6.4 Guideline for e-commerce strategies for sustained growth for manufacturing SMMEs

Building on the analysis and discussions, mapping findings to the literature, provided guidelines to assist SMMEs in the manufacturing sector. These guidelines (section 5.3) encompass the following:

- Establish a clear and formal e-commerce strategy
- Establish new online channel strategy
- Establish a strategy to monitoring quality standards and customer satisfaction
- Establish a strategy to strengthen key assets
- Establish a strategy to improve value proposition in e-commerce.

These are discussed in Sections 6.4.1 to 6.4.5.

6.4.1 Establish a clear and formal e-commerce strategy

Manufacturing SMMEs need to take the following guidelines into consideration to establish effective and efficient e-commerce strategies:

- Build competitive action priorities on e-commerce value chain activities consistently with their competitive priorities and focus more on building supply chain execution capabilities as well as supply chain planning.
- Maximise their long term potential as firms.
- The structures of businesses should be decentralised and be organic in order to respond to ever-changing consumer demand punctually, and not miss market opportunities.
- Utilise the third-party e-commerce service platform to be more efficient and cost-effective.

6.4.2 Establish new online channel strategy

Manufacturing SMMEs need to consider the following aspects:

- In addition to the use of third party platforms, these SMMEs should incorporate the use of e-shop, e-procurement, e-mail and virtual community models in their businesses.

6.4.3 Establish a strategy to monitor quality standards and customer satisfaction

Manufacturing SMMEs need to consider the following guidelines:

- Improve the design, speediness, attractiveness of websites and update information regularly in the website to retain customers or attract new ones.
- Provide guarantees on post-sale assistance and delivery-delay reliability.
- Have agents or department dedicated wholly or partly to deal with online queries and the update of information provided on their websites.

6.4.4 Establish a strategy to strengthen key assets

Manufacturing SMMEs need to consider the following guidelines to strengthen key assets in e-commerce strategy:

- Cut unnecessary cost by reducing cost-per-transaction and optimise quote-to-cash cycle time; this improves the bottom line by capturing a zero-touch, perfect order in an efficient manner.
- Shorten time to market by ensuring that new products are available to the market quickly and that there is enough time to reach return on investment through adequate selling during the product's narrowing life cycle.
- Generate more awareness for their website leading to a greater volume of movement and potential for sales.

- Deliver targeted and contextualised marketing messages, to influence decision makers.
- Ensure the complete visibility of product information and the ability to transfer product data towards customers, as and when needed.
- Focus attention on the delivery of product-related services.
- Deliver a rich experience: this is fundamentally about becoming easy to do business with.

6.4.5 Establish a strategy to improve value proposition in e-commerce

Manufacturing SMMEs need to consider the following guidelines to generate value proposition in their e-commerce strategy:

- Offer a cost-effective means to deal with orders, claims, purchase of goods and tracking of sales.
- Increase the rate of new customers visiting the website.
- Advertise in industry related publications and subscribe to search engines.
- Use Web-based, self-service solutions that deliver a customer-specific catalogue and product pricing service.

6.4.6 Summary of the proposed guidelines

Table 6.1 represents the guidelines that manufacturing SMMEs need to consider in order to have suitable e-commerce strategies for sustained growth. The guidelines could assist manufacturing SMMEs to firstly; identify the relevant conditions which would support their e-commerce strategies. Secondly; determine the impact of their e-commerce strategies for sustained business growth. Thirdly, identify the value proposition composition of their e-commerce strategies.

The researcher found that manufacturing SMMEs could formulate and use their e-commerce strategies for sustained business growth by establishing a formal and clear e-commerce strategy; establishing a new online channel strategy; establishing an online strategy to monitor set standards and customers' satisfaction; establishing a

strategy to strengthen key assets and finally, to establish a strategy to improve the value proposition in e-commerce.

Table 6.1: Guidelines for e-commerce strategies for sustained growth in SMME manufacturing sector

Establish formal and clear e-commerce business strategies. (Sections 5.3.1 and 5.4.1)	Establish new online channel strategies. (Sections 5.3.2 and 5.4.2)	Establish online strategies to monitor quality standards and customer satisfaction. (Sections 5.3.3 and 5.4.3)	Establish strategies to strengthen key assets. (Sections 5.3.4 and 5.4.4)	Establish strategies to improve value proposition in e-commerce. (Sections 5.3.5 and 5.4.5)
<ul style="list-style-type: none"> -Build competitive action priorities on e-commerce value chain activities. -Focus on building supply chain execution capabilities and planning. -Maximise the long term potential of firms. -Decentralise the structures of businesses. -Utilise third party e-commerce service platform to be more efficient and cost-effective. 	<ul style="list-style-type: none"> -In addition to the use of third party platforms, these SMMEs should incorporate the use of e-shop, e-procurement, e-mail and virtual community models in their businesses. 	<ul style="list-style-type: none"> -Improve the design, speediness, attractiveness of websites, and update information regularly in the website to retain customers or attract new ones -Provide guarantees on post- sale assistance and delivery- delay reliability. -Have agents or department dedicated wholly or partly to deal with online queries. 	<ul style="list-style-type: none"> -Cut unnecessary cost by reducing cost-per-transaction and optimise quote-to-cash cycle time. - Ensure that new products are available to the market more quickly. -Generate more awareness for the website. -Deliver of targeted and contextualised online marketing messages to influence decision makers. -Ensure the complete online visibility of product information and the ability to transfer product data towards customers, as and when needed. -Turn attention to the delivery of product-related services. -Deliver a rich online experience to customers. 	<ul style="list-style-type: none"> -Offer a cost-effective means to deal with orders, claims, purchase goods and tracking sales. -Increase the rate of new customers visiting website. -Advertise in industry related publications and subscribe to search engines. -Use Web-based, self-service solutions that deliver a customer-specific catalogue and product pricing service.

6.5 Contribution of this research

The researcher adopted three models. These are: Technology-Organisational-Environmental model, a value proposition model and a key assets model to collect and analyse evidence to propose guidelines for e-commerce initiatives in the selected environment. The findings indicate that SMMEs could improve their performance by establishing formal strategies and structures to increase their worth. This is done by creating e-commerce strategies to fit their organisational goals and objectives. Furthermore, manufacturing SMMEs need appropriate online platforms to transact and build strong relationships with suppliers, customers and partners. In addition, it is essential for SMMEs to establish and monitor quality standards in their e-commerce activities. It was found that the key assets needed by SMMEs in the manufacturing sector could impact their ability to sustain their business activities. Finally, manufacturing SMMEs need to deliver targeted and contextual marketing messages to help influence potential decision makers.

This research contributes to the field of e-commerce by providing guidelines which manufacturing SMMEs could use as a starting point, to understand and improve their current e-commerce strategies and sustain their business growth.

6.6 Conclusion

The rationale of this research was to understand how an e-commerce strategy could be a solution for manufacturing SMMEs to sustain their business growth. An extensive literature review was undertaken to better understand the value proposition of e-commerce strategies for manufacturing SMMEs. This involved identifying critical success factors of e-commerce strategies in the manufacturing sector. Furthermore, the potential impact of e-commerce strategies on manufacturing SMMEs' growth was determined. For this to be realised, a descriptive case study approach was taken. This enabled the researcher to describe the current state of e-commerce strategies in the manufacturing sector. This was achieved by gathering qualitative data, which was then used to analyse the evidence using a thematic approach. This empirical evidence enabled the researcher to propose guidelines to assist manufacturing SMMEs in their e-commerce initiatives.

6.7 Personal reflection

Undertaking this research has given the researcher a more informed view of the use of e-commerce by SMMEs. It has become clear that e-commerce has the potential to

provide SMMEs with a competitive edge and sustain their business growth. Yet, owners and managers have limited understanding of e-commerce. The researcher was under the impression before conducting this research that, in spite of the intangible nature of SMMEs' key assets in e-commerce, they did not lack formal strategies: actually, the limited nature of their strategies are obstacles to fully enjoying the benefits of e-commerce. The researcher hopes that the proposed guidelines in this research will assist SMMEs to generate value and sustain their business activities.

Furthermore, undertaking this research has been a fulfilling and enriching experience. This journey has been a great learning process. The researcher is fairly optimistic that SMMEs in South Africa and Africa as a whole will in the near future benefit from the many resources available to them, and contribute to the growth and development of strong economies in the continent. This optimism is mainly due to the enthusiastic attitude of the respondents when interviewed.

6.8 Limitations and future research

6.8.1 Limitations

This research focuses on the manufacturing sector. The sample selected was in the Western Cape of South Africa. The researcher used empirical evidence such as the TOE model, a Value proposition model and a key assets model to collect and analyse evidence to provide the proposed guidelines for e-commerce initiatives in the selected environment. There may be other ways of conducting this research as well, but that would be a different research study.

6.8.2 Future research

- Further research can be conducted at the National level using a combination of qualitative and quantitative data to provide a bigger picture of e-commerce strategy initiatives in the manufacturing sector.
- A cross-sector analysis can be conducted to compare evidence and develop suitable models to assist different sectors.
- A comparative study with other developing countries could be interesting, to compare the state of e-commerce strategies in those manufacturing sectors.

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APPENDIX A: The four case studies (A-D) are summarised in this appendix

CASE STUDY A

The case study of bags and accessories manufacturer

1. Introduction and background

Company A is a socially focused company which trains and develops skills of ladies in suburbs. These participants are helped to create their own cooperatives in order for them to be completely independent and have their own businesses. Each cooperative is registered at the DTI independently of the group because Company A is a group which has a CC (close corporation) patent. The group has a non-Governmental Organisation (NGO) type of company (in manufacturing) and different cooperatives. Company A has 80 employees who are employed across different functions which include sales, quality, production and management.

2. Organisational factors

2.1 Existence of a strategy and plan to carry out its operations in e-commerce

The company has established its website at the early stage of their business. Their current online strategy is to use their website as a mean to present information about the company, their markets segment and their products. The company information includes electronic mails contacts; facsimiles; telephone numbers and physical address. Company A targets 3 main markets:

- B2B (all conferences and events in South Africa, Europe and USA)
- Fashion (fashion items and accessories)
- Retails (supply retailer x with eco-friendly bags)

They provide catalogues of their products. This includes products category, size and features. The company manufactured business bags for conferences and events; bags, shoes, selected clothes and other accessories such as belt and bandana for their fashion market; and eco-friendly shopping bags for their retail market. The company further uses a 3rd party website platform in the fashion segment, enabling them to have a wide product exposure.

The company uses their online platform mainly to exchange information with their customers, suppliers and partners. They are currently using this platform as an

additional medium of communication with stakeholders and lack clear strategies to monitor the quality of services they provides to customers and suppliers. The company also does not have agents or a department devoted to the attention of activities through the Internet. They are also planning to launch an interactive website aimed to directly increase their direct sales of products in 2013.

2.2 Impact that e-commerce operation have within the company

The main impact that electronic activities have on the company is the improvement of communication channels between the company and their partners, customers and suppliers. The company provide blogs on their website. These blogs ranges from business solution bags to environment fabrics and videos. In these blogs, the company posts information on their current projects and past achievements. These blogs are not regularly updated. For example the last video posted was on April 2012. These videos can also directly be watched on Youtube.com. The impact on sales is not yet clear, as the mainly use the online platform as an extra channel of communication.

2.3 Intensity of e-commerce use

The company provides electronic mail services to their customers, suppliers and customers. These electronic mails range from information request (info@companyname.co.za) to online sales service (onlinesales@companyname.co.za). They also use electronic catalogues. They use electronic mails, telephone calls and facsimiles to receive orders from their customers. The major local customer (Retailer x) makes orders every weeks via electronic mails. For order confirmation and payment process, the company uses pro-forma including the terms and conditions which customers must signed and sent back to sales department for approval. Afterward, a tax invoice is issued. The order is confirmed by the payment of a 50% deposit. The balance is due upon delivery.

2.4 Information transfer

The company interacts with customers and suppliers on daily basis. They mainly use electronic mail to send information to customers about new products. Sometimes orders are also made through electronic mail and website. They also intensively use telephone and visit to their current and potential customers to exchange information.

2.5 Ability to enter new markets

The electronic platform has given the company the opportunity to access to markets in Europe and North America. For example, the company has established partnerships with three retailers in Paris. The order process is done online. They find these markets more accessible because of they are advanced in the use of e-commerce in their businesses.

Their market list is expanding into the global market. The for example supply products to the following events and conferences:

Kenes International – EFNS 2010

Switzerland
Bags: 6000
Year: 2010

AXA – Shareholder general meeting

France
Bags: 1200
Year: 2010

African Agenda – ICA2010

South Africa
Bags: 1500
Year: 2010

3. Environmental factors

3.1 Market composition

The company is much more efficient in their communication. Information is easily accessible by all employees in every department. All employees can access information about the production level need of different products to for example meet the need of a specific conference. This allows them to coordinate the production level and make the products available at the right place and time.

The company mainly use a follow up strategy to monitor customers' satisfaction after each sale. The make physical visits for local market and telephone calls and electronic mails for their markets in Europe and North America.

3.2 Dynamics of the market

The company send electronic catalogues of new products to their current customers as soon as there are available. This could be in monthly basis. The company uses electronic mail to send these catalogues. However, the electronic catalogue on their website is not updated regularly. This gives an impression that the website is static.

For their fashion segment, the mainly use a third party website where their products can be visible and accessible anytime. For prospective customers they use physical visits and phone calls. This strategy is to establish a relationship with these potential customers and present their products. They believe using the face to face strategy is still relevant as this bring more confidence to the customers.

3.3 Understanding the client

The company design and manufacture their products according to their customers' needs. They provide shopping bags for the retail segment and business bags for events and conferences worldwide. They mainly use Internet to access more information on their customers in order to adapt the products design to the specific market.

One director said:

... "We work with all kinds of logo designs, no matter the complexity"...

They advise their customers on the best solutions based on the complexity and size requested for the specific product.

They provide for example:

- Digital printing (printed on a separate piece of fabric and sewn onto the bag)
- Screen printing (printed on the material)
- Embroidery
- Woven logo (quantity > 1000)

3.4 Marketing

Their online platform makes the marketing of product much cost- effective. The company use mainly electronic mails to promote their products. This enables them to

cut the cost sending mail through the post office. They also use media such as youtube.com to post video of past events and conferences and interviews with key stakeholders in the local and global market. This brings more awareness of their business in the market.

Pricing strategy

- Any existing sample is charged at its showroom price (+ shipment). They can be reimbursed if goods are returned.
- A customized sample is charged at a fixed rate:

If the order < 500: sample costs is recharged and deducted if order is confirmed as per sample.

If the order > 500: sample costs are not recharged

If, for a same order, more than one customized sample is required, costs will be recharged (including shipment costs).

- Customized sample costs:
 - R200.00 for sample design using available fabrics
 - R400.00 for new design or not available fabrics
 - R100.00 for shipment costs

Distribution strategy

- They customers can either be responsible of the transportation of goods or the company can provide their expertise to deliver products.
- Customers are free to request a quotation for the delivery. Delivery costs quoted are at cost, with no service fee taken by the company.
- South Africa: shipment takes around 3-4 days
- Cape Town: deliveries for Cape Town and surrounds are free of charge
- Outside South Africa: for small shipments the company provides airfreight solutions (10 days) and for large quantities they encourage the use of sea freight (30 days).

- The company advises date of shipping to be 1.5 months prior to delivery date.

4. Technological factors

4.1 Staff capacity

The company provide regular training for staff in the manufacturing plants.

- Three training cycles and graduations
- The training focus more on business understanding and personal skills

Staff in the marketing and administrative department has good ICT skills. They do not provide training to them regularly.

Company A work with an IT company who is in charge of the system maintenance on on-going basis.

4.2 Quality standards

Company A is members of the International Congress Association (ICA). They often asses their standards using the ICA database which sets the industry standards.

4.3 Guarantees and benefits

The company does not provide specific warranty or benefits to customers who make orders through its website or electronic mails. Their general guarantee is that products will always be delivering on time after orders confirmation.

4.4 Technological capacity

Company A has an integrated system which enables them to share information within the group. They use a cloud computing system which is called Salesforces.com. This system allows Company A to save information in the cloud and give them the opportunity to manage their clients according to their specific needs. The cloud system allows them to coordinate business activities anytime and anywhere over the Internet.

The company also uses QuickBooks to keep the accounting of the business on track.

5. Key assets factors

5.1 Cost base

Company A admits that costs is a strategic issue in their e-commerce strategy. Because of their limited resources, using e-commerce applications will be an opportunity to become cost effective by eliminated unnecessary expenses such as the cost of having sale agents in their market in Europe and America.

5.2 Time to market

In regard to timing to market, they do not yet know if e-commerce will provide them with a competitive advantage because their market is much specialised and has few players.

5.3 Brand image

They accept that e-commerce is important for their brand image because using their website they will have a greater exposure and will become better known.

The director of finance was quoted saying

...”The designer bag provided a huge opportunity for us to grow our network of co-operatives, creating four new ones, and in the space of a year, we were able to dramatically increase our production capacity to 30,000 units a month”...

5.4 Market share and market access

They agreed that a well define e-commerce strategy could assist them:

- Further gradual expansion behind the new product range from the company and the retail x uniform project.
- Formalising partnership with Institution Y
- Developing existing co-operatives

- Established complete CIS process, new clients in the global market.

5.5 Customer orientation

The company believes it is important to be customer oriented in order to respond to their specific needs. Their market is very competitive and has few players. This can make easy for customers to switch suppliers if their needs are not met.

5.6 Network and functional integration

e-Commerce provides them with a functional integration in the way that the manufacturing activities will be coordinated with the marketing function and allows for better products and services deliveries. There is a start of self-support within Network enabling sharing tips and ways of working.

5.7 Innovation orientation

They believe that being innovative could be key for their business success. This will allow using the online platform not only as an additional communication channel but also as a mean their e-commerce activities within their long-term goals and objectives.

5.8 Quality

They do not perceive a direct impact on the quality of products, but acknowledges that e-commerce will allow them to be more professional.

5.9 Customer loyalty

e-Commerce will enable to build in some extend a customer loyalty base because customers can find it easy to buy and renew their experience by buying other products via the website.

Due to their limited products range, the effect will be limited.

6. Value proposition factors

6.1 Customer needs

- To make sure their customers' needs are met, they always organise meetings with all departments to share, ask, and get coaching before client meeting.
- Order-book is shared during meetings to identify the best possible course of actions.
- They build team spirit and real-world client relationship.

6.2 Awareness of business needs

- Find more clients for their established co-operatives
- Expand their market shares and products range
- Maintain sustainable fundraising strategy

6.3 Provide correct product delivery

- For logistical reasons, the company advises that customers place order at least 2 months before the event. However, they always have bags in stock for urgent orders.
- They guarantee to deliver on the agreed upon delivery date.

6.4 Access to sales information

Access of sales information is easy. Information is available on their website and can be seen in their annual report.

6.5 Timing to market

- Their production capacity is large and they are able to produce several thousand bags per week.
- The lead time for different orders varies according to the complexity of the product, the printing solution, the quantity ordered and the cooperative's availability.

7. Conclusion

The company is positioned to become the number one African accessories brand and leading model of a social enterprise. They are planning to launch an interactive website aimed to directly increase their direct sales of products in 2013.

CASE STUDY B **The case study of packaging products manufacturer**

1. Introduction and background

Company B is a fully, owner-managed, family business in existence since 2000. The business has grown to become a BEE leader in the field of pallet-stabilisation and wrapping/packaging solutions. They recently upgraded lines for the production of multi-layered bio-degradable bags and natural or colour, wet and dry wrapping.

2. Organisational factors

2.1 Existence of a strategy and plan to carry out its operations in e-commerce

The company has established its website the first year of opening their business. They mainly use the Internet platform to present information about the company and emphasise on products description. They further provide information such as electronic mail address, facsimiles and telephone numbers. The company does not have a department or agents responsible to deal with online queries and transactions. They mostly use electronic mails to interact with clients.

2.2 Impact that e-commerce operation have within the company

The company subscribes on the Mbendi information services. This electronic media provide business information on different organisation. Thus increase visibility in the business community. Potential customers in the business community can follow the company link on the electronic media to get access to the company website.

2.3 Intensity of e-commerce use

The company offers electronic mails service to interact with their business partners and customers. They also use their Web page to provide information to all

stakeholders. They further use their electronic mails facility and telephone calls to take orders.

2.4 Information transfer

The company regularly obtain information from their customers. This is done mainly for products orders or general information about any product. The company does not make regular update on their Web pages.

2.5 Ability to enter new markets

The mainly use their online Web page and electronic mail facility to raise product awareness and enhance global exposure.

3. Environmental factors

3.1 Market composition

The result the online platform has brought to the company is the increase visibility of the company among various online directories and platforms such as tuuogo.co.za and southafricab2b.co.za.

3.2 Dynamics of the market

The company does not use their online platform to provide information about new products regularly. Their Web page appears to be static. Information is not regularly updated.

3.5 Understanding the client

The company does not currently have strategy in their online activities to monitor the level of customers' satisfaction.

3.4 Marketing

The company's marketing strategy focuses on effective pricing and cost-effective distribution. The company use new technology to improve their distribution

processes. This is done to provide niche market products at highly competitive pricing locally, nationally and internationally.

4. Technological factors

4.1 Staff capacity

The respondent argues that ...”Due to the high specialised sector in which the company operates, it is imperative that all the personnel are well skilled in the use of new technology and Internet access...”

Fresh Identity is responsible for the design and maintenance of their website.

4.2 Quality standards

Company B does not have a formal strategy to verify the quality of their services online.

4.3 Guarantees and benefits

Their products are approved to the leading standard PIFA. This guarantees customers are getting the highest quality film possible. Their Stretch Films are readily available from stock and backed up with a price beater guarantee.

The company does not have online strategy to provide benefits to customers using their website.

4.4 Technological capacity

Company B mainly uses outlook system and electronic mails for electronic transactions with their suppliers and customers.

5. Key assets factors

5.1 Cost base

Company B finds cost critical to their business. Cutting unnecessary costs will allow the business to stay competitive at the local, national and global market.

5.2 Time to market

They agreed that shortening time to market is essential in their markets. This is due to the high competition.

5.3 Brand image

They agree that having a great brand image is essential for their business as their market is very competitive. They believe the use of their online platform is going to give them more exposure and will be better known.

5.4 Market share and market access

Company B finds the use the platform on Internet to critical to increase their visibility in the global market. They also believe that the e-commerce platform will allow access to new markets and most definitely increase their market share.

5.5 Customer orientation

In regard of customer orientation, company B finds internet cost effective and efficient to interact with customers to provide specialised, custom-made packaging solutions and keen co-operation in achieving mutual benefit.

5.6 Network and functional integration

They believe business integration is essential as this will provide efficiency in business activities and information is always available at right time in order to provide the right products to customers.

5.7 Innovation orientation

They agreed that the use of more sophisticate applications in their online strategy could be essential to remain competitive and sustain their activities in the long run.

5.8 Quality

The provide quality information on their website. They provide detail information on products. They also agreed that these information need to be updated regularly to keep the edge.

5.9 Customer loyalty

They agreed that retaining customers is essential.

6. Value proposition factors

6.1 Customer needs

The company only manufacture's bags that is Bio-degradable. As a specialist manufacturer, they are able to custom make according to the customer specifications and requirements. This may be specific colour, size and microns requirements.

6.2 Awareness of business needs

The company still focuses on providing their customers with the best products in market. For example they provide their customer with Stretch Wrapping which is is cost- effective and have the following benefits:

- Stretch wrap film is more cost effective than alternatives such as strapping, corrugated or heat shrink film.
- Stretch wrap equipment typically cost less than same caliber alternatives like shrink wrapping and strapping equipment.
- Stretch wrappers uses less energy to operate than other unitising methods like shrink wrap systems.

The mainly use their online platform to increase awareness around their products range in the local and global market.

6.3 Provide correct product delivery

The company is committed to deliver the right product at the right price loyal customers through dedicated service and support.

6.4 Access to sales information

The company sales information is not accessible through their online platform.

6.5 Timing to market

They agreed that shortening time to market is essential in their markets.

7. Conclusion

The company uses their online platform to provide description of all range of products and benefits. This platform is mainly used to enhance business awareness in the local and global stage. The company still focus on building their core competencies in order to stay competitive in their market.

CASE STUDY C

The case study of engineering products manufacturer

1. Introduction and background

Company C was established in 1989 and supplies the industrial sector of South Africa with specialist engineering requirements. The company is in the process of expanding its operations and establishing trade links for exports. They are proudly contributing to training and job creation for previously disadvantaged communities over the years. The company has been approved by most mining houses in South Africa, as well as its other major industrial clients.

2. Organisational factors

2.1 Existence of a strategy and plan to carry out its operations in e-commerce

The company has established a website which content information on the company, their products and contacts details. The company mainly uses Internet to present their products, exchange information on products and to receive orders or request from customers.

The company does not have agents responsible to deal with queries and transactions over Internet.

2.2 Impact that e-commerce operation have within the company

The company subscribes to ranges of online platform such as Cape business news, Yellow pages and SA business direct. These platforms allow them to have more visibility amongst their business community and the industry.

2.3 Intensity of e-commerce use

The company offers an Outlook electronic mail facility and query form in their online platform. They also provide a full description of product and their availability.

The receive orders through electronic mails, telephones calls and sometimes via facsimiles.

2.4 Information transfer

The company regularly uses their online platform to deal with orders and queries from customers.

2.5 Ability to enter new markets

They agree that the use of their online platform provides them with the ability to expand their market in South Africa. This is the result of their increase visibility on various electronic media.

3. Environmental factors

3.1 Market composition

The result that the company perceives since the incorporation of internet activities in the business is the visibility of the company's brand and products in the market. This can be seen by their presence in various online platforms where potential customers in the country can easily have access.

3.2 Dynamics of the market

The company uses regularly their electronic mails to send information to their partners and customers. However, the company does not update information regularly on their webpage.

3.3 Understanding the client

The company intensively use the Internet to search information about their competitors. They do not have online strategies to monitors the satisfaction level of their customers.

3.4 Marketing

Their marketing strategy focuses on lowering the cost of promoting their products within the market. They use their online platform to make information on their products easily accessible to potential customers.

4. Technological factors

4.1 Staff capacity

The company's staff is well trained and have good ICT skills. Company C is committed to developing new skills by offering on-going training and providing full technical support to their employees.

A third party company is responsible for the maintenance.

4.2 Quality standards

They do not often verify set standard for quality of services provided through the Internet.

4.3 Guarantees and benefits

They do not provide clear benefits to customers making online transactions through their website.

4.4 Technological capacity

The company uses a cloud consulting service called 1stWarning.com. The cloud system provides company C with expertise on web analysis consulting, Internet market shares consulting; website optimization; search Engine optimisation; search Engine marketing and Net infrastructure consulting.

The company also uses another business to business third party website which provide platform for various business to interact and exchange information in a secure environment. From this platform, customers and suppliers can directly use

search a facility to find any information on specific products and send request for quotations.

5. Key assets factors

5.1 Cost base

Cost is a very important aspect to keep on the edge in the manufacturing of engineering components. Their partnership with third party such as SA business direct allow them have great exposure of products to their global market.

5.2 Time to market

They also believe that the introduction of a well define e-commerce strategy combine with other factors such as high-tech engineering equipment, skilled human resources, a reliable resource of raw materials, reliable shipping and sourcing the right product at the right price will give the company the edge.

5.3 Brand image

They believe their brand image can be enhanced because of their exposure through their website and the exposure of their products on a third party website (1stWarning.com). This is enhanced by the fact that every product company C brand comes with a full Enterprise version of HitsLink. This enables company C to see exactly how customers are traveling through their products.

5.4 Market share and market access

The company is in the process of expanding its market outside South Africa. They agreed that the Internet could be essential to achieve this. The further mentioned that their online strategy must be aligning with the overall business strategy.

5.5 Customer orientation

Company C designs their products according to customers demand.

5.6 Network and functional integration

They agreed that the effective use of Internet technology will provide a better functional and network integration.

5.7 Innovation orientation

In regard to innovation, the company high-tech lathes give them the edge when it comes to delivering on tight turnaround times and tooling costs.

5.8 Quality

Company C's cutting edge, high-tech, automatic lathes enable them to manufacture piece-parts of various sizes and almost any contour, economically - single units and large quantities.

5.9 Customer loyalty

They agreed that customer's loyalty is essential to survive in their business.

6. Value proposition factors

6.1 Customer needs

The company does not currently have an online process to verify the satisfaction level of their customers. The currently rely on off-line strategy such as telephone calls to follow up their customers.

6.2 Awareness of business needs

The company is aware of the need to improve their current online strategy. This will enable them to effectively expand their markets outside South Africa.

6.3 Provide correct product delivery

The company agreed that making information on products easily available and accessible to their customers is essential.

6.4 Access to sales information

Customers can access sales information by sending electronic mails or using the query form available in the company website.

6.5 Timing to market

The company use their online platform to increase their products visibility and information availability to keep the edge over competitors.

7. Conclusion

The company online strategy focuses on building strong information database about their products on various electronic platforms. This allows them to be more visible in the market.

CASE STUDY D

The case study of Polymer concrete Manufacture

1. Introduction and background

Company D is South Africa's leading manufacturers of Polymer concrete manhole covers and frames, and was founded in 2000. Initially the company employed a staff of 6 people and had since grown and now employs a total of 33 permanent employees. It has an office, warehouse and a manufacturing plant in Brackenfell in Cape Town. They also have a sales office in Gauteng and Port Elizabeth. The company is 100% Black Owned.

2. Organisational factors

2.1 Existence of a strategy and plan to carry out its operations in e-commerce

The company employs the use of the Internet in their business to provide details information of their products. The further give contact details, electronic mails addresses, telephone numbers and facsimile. The company does not have agents or department dedicated to the attention of activities through Internet.

2.2 Impact that e-commerce operation have within the company

The company have a subscription with Mbendi information service. They use this platform to increase their company profile visibility in the market.

2.3 Intensity of e-commerce use

The company provide various services on their online platform. They have electronic mails facility, website with a search facility, Outlook electronic mail system and a newsletter subscription.

The company receive major orders through electronic mails. Customers can place directly orders to the sale department by using the Outlook electronic system.

2.4 Information transfer

The company does not update regularly information on their webpage. This is clearly seen by the last update made on October 2012.

2.5 Ability to enter new markets

The company believe that the use of online platform could make it easier for them to market their products outside South Africa.

3. Environmental factors

3.1 Market composition

The company uses their online platform to improve communication between Cape Town, Port Elisabeth and Gauteng branches. They use an Intranet system to exchange information.

3.2 Dynamics of the market

The company has strong partnership with various clients in South Africa and Mozambique. They provide information about new product regularly to their customers according to regulations provided in the framework of their partnership. This is often done through their online platform.

4.2 Understanding the client

The company does not have online strategies to monitor the level of customers' satisfaction using electronic media to transact with them. They are currently using facsimiles and telephones for enquiries.

3.4 Marketing

Their focus is on lowering the cost of making available information of new products. This is done by using third party platform and their website enabling to increase visibility of their company's products.

4. Technological factors

4.1 Staff capacity

The company' staff has good ICT skills and are all able to use computers. Furthermore, the company is responsible for the maintenance of its website.

4.2 Quality standards

They do not have strategy to verify the quality of service they provide through Internet.

4.3 Guarantees and benefits

They do not provide benefits and warranty for transactions made through Internet. However, all customers have secure online accounts with the company.

4.4 Technological capacity

The company mainly uses electronic mails and an Outlook electronic mail to transact and exchange information over the Internet.

5. Key assets factors

5.1 Cost base

They believe that e-commerce will be a cost effective way to expand their business and access new market.

5.2 Time to market

The business's online transactions enable faster response to market.

5.3 Brand image

The company agreed that providing quality service online could contribute to improve their brand image.

5.4 Market share and market access

The main online strategy to increase their market share is the use of third party platforms. This enables the company to have more exposure in the local and global market.

5.5 Customer orientation

They also believe being customer oriented is important for their business as it is specialised market.

Company D's product range includes polymer concrete manhole covers (drain covers) and frames for heavy, medium and light duty traffic, and is used in roads, water and sewerage systems; gully grids for roadside storm water drains, inlet kerbs, access covers for Telkom and electrical chambers; replacement covers for stolen and/or damaged cast-iron manhole covers.

5.6 Network and functional integration

They agreed that e-commerce could provide functional and network integration to their business as the plan to expand their activities in Africa.

5.7 Innovation orientation

The agreed innovation is essential to adapt their business strategy with the use of online media.

5.8 Quality

The qualities of service the company currently provide in their online services do not fully respond to customers' needs. For example information on galleries and newsletters is not updated regularly.

5.9 Customer loyalty

The company's online strategy to retain customer is account subscription on their website for all customers they are doing business with.

6. Value proposition factors

6.1 Customer needs

Maintaining customers' needs is essential for the company. This is the reason they use newsletters account to regularly inform their customers on new products available. To ensure that the regularly receive feedback from their customers; the company has a facility where all customers with an account can leave comments.

6.2 Awareness of business needs

The company uses their website and third party online platforms to expand their market share.

6.3 Provide correct product delivery

The company is currently using electronic mails to exchange information between different branches to ensure the right products are available to their customers at the right time.

6.4 Access to sales information

The company has an integrated system where sales information can be accessible by employees.

6.5 Timing to market

The company's online transactions enable faster response to market.

7. Conclusion

The company is currently engaging in the development and improvement of their online platform. They are committed to build strong partnerships with key partners in the local and global market to grow their business.

APPENDIX B: letter addressed to SMMEs



08/09/2012

To whom it may concern

Mr Arnaud Nzawou is a full time Masters student in Business Information Systems in the Faculty of Business at the Cape Peninsula University of Technology (CPUT). Mr Nzawou will be conducting case study research at suitable and willing SMMEs in the Western Cape, within the manufacturing sector.

His Masters thesis title is:

"Electronic commerce strategies for SMME sustained growth within the manufacturing sector".

Case study research entails a number of in-depth interviews with various employees (informants) in organisations, and in this case, SMMEs. The aim is to solicit knowledge of "how things work in reality", in order to be mapped to theory.

The analysis of the qualitative data collected is a tedious process and it would be extremely helpful if some (or all) of the interviews are tape recorded to assist the transcription process later. Copious notes and various other forms of data collection also needs to be done by the interviewer.

This research proposal has served at the CPUT ethics committee and approved by the Higher Degrees Committee (HDC). Confidentiality is of paramount importance and will be upheld.

As supervisor, I am closely associated and linked to this research and I would be very grateful if you could accommodate Mr Nzawou in this regard. If you need any more details please do not hesitate to contact me.

Thank you.



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APPENDIX C: Interview guide

1. Organisational factors

	Existence of a strategy and / or plan of operation either identified by the staff working at the company to carry out its operations in electronic commerce.	Impact that e-commerce operations have within the company	Intensity of Use	Information transfer	Intervention in new market.
Questions	<p>-How long the company has been dedicated to the use of internet and e-commerce?</p> <p>-During the incorporation of electronic transactions in your business activities, did you set clear goals and objectives?</p> <p>-Do you have department or agent devoted wholly or partly to the attention of activities through the internet?</p>	<p>What impact e-commerce operations have on the total sales of the company?</p>	<p>-What type of electronic services do you offer to your customers or suppliers?</p> <p>-What means do you use to receive or precede orders?</p>	<p>How often do you conduct electronic transactions with customers and suppliers?</p>	<p>Do you think e-commerce enables you to access new markets?</p>

2. Environmental factors

	Market composition	Dynamics of the market	Understanding the client	Marketing
Questions	<p>What result do you perceive since the company incorporated e-commerce activities?</p>	<p>How often do you provide customers with information about products,</p>	<p>How do you monitor the satisfaction level of your customers online?</p>	<p>From the marketing perspective, what is the incorporate the use of e-commerce?</p>

		promotion or general information over the internet?		
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3. Technological factors

	Technological Capability	Staff Capacity	Quality Standards	Guarantees and benefits
Questions	What types of equipment do you purchase or use for electronic transactions?	Who is responsible for technical support? How frequently are trained personnel for computer use and management of electronic transaction?	How often do you verify set standards for quality of your services in the Internet?	What warranty and benefits do you give to customers who make purchase through your website?

4. Key assets

**How do you manage the following assets in your company?
Do you perceive these assets as essential for your company?**

Cost base
Time to market
Brand image
Market share and market access
Customer orientation
Functional integration
Network integration
Innovation orientation
Quality
Customer loyalty

5. Value proposition practice

	Customer needs	Awareness of business needs	Efficient service delivery	Access to sales information
Questions	How do you monitor the satisfaction level of customers?	What importance do you attach to the inclusion of e-commerce in planning process?	Which frequency information is obtained from customers or competitors exchanged information on the internet?	Do you think that the use of e-commerce enable access of new or previously restricted market?