

**THE DETERMINATION OF CRITICAL SUCCESS FACTORS THAT IMPACT
ON THE PERFORMANCE OF SMEs IN E-COMMERCE**

BY

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DECLARATION

I declare that:

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is my own work, and that all sources used or quoted have been indicated or acknowledged by means of complete references, and that this thesis was not previously submitted by me for a degree at another university.

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DATE

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SYNOPSIS

The research problem addressed in this study is the determination of the critical success factors for SMEs in e-commerce. To achieve the objective, an integrated list of critical success factors, gathered from practitioner- and academic literature, had to be identified. The integrated list was developed through the following sub-processes:

- The first consisted of a literature survey of the sources and the identification of critical success factors, which lead to insights into the role of critical success factors in strategic management and the objectivity of the CSF identification process.

- The second comprised surveying the literature dealing specifically with the unique characteristics of SMEs, to identify factors that are critical to the survival and growth of SMEs.
- The third consisted of a survey of the academic and practitioner literature dealing with critical success factors in e-commerce, in order to develop an integrated list of critical success factors for SMEs in e-commerce.

The integrated list that emerged from the literature study consisted of the following seventeen critical success factors:

1. Target the right customers
2. Involve all stakeholders
3. Provide access to all customer information
4. User-friendly web design
5. Let customers help themselves
6. Offer online and offline assistance to customer enquiries
7. Deliver personalized service
8. Foster online community
9. Top management support
10. Technical infrastructure
11. Security and control of the e-commerce system
12. Promotion of site
13. Financial planning and control of project

14. Loyalty
15. Development of a business plan
16. Branding of the site
17. Shipping and fulfilment

The integrated list was used as the basis for the compilation of a survey questionnaire to identify the eight most critical success factors for SMEs in e-commerce. The survey questionnaire was sent to SMEs that are members of the Port Elizabeth Chamber of Commerce and Industry, have a website and comply with the criteria for SMEs.

The empirical study identified the eight most critical success factors for SMEs in e-commerce and indicated strong concurrence with the unique characteristics of SMEs.

Key terms: Critical success factors
Small, medium enterprises

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Chapter 1

Problem Statement and Definition of Concepts

1.1 INTRODUCTION

The growth and the dramatic impact of electronic commerce (e-commerce) on the business environment have been widely documented in a variety of media. Although statistics and forecasts by analysts are highly speculative, there is broad consensus that the figures represent a realistic projection of the impact of e-commerce. Acuity Media Africa (2000: 47) reports that South African consumers spent \$400 million on Internet generated purchases in 1999, while BMI-TechKnowledge, as quoted by Accone and Sigonyela (1999: 1), expects South African business-to-consumer spending to reach \$2,7 billion by 2003. These figures are clear indicators of the increasing interest and consumer use of the Internet for e-commerce. As small- and medium enterprises (SMEs) form the foundation of the economic strength of a nation, it is vitally important for South African SMEs to adopt and reap the benefits of the rapid expansion of the Internet and e-commerce.

The South African Electronic Commerce Green Paper (Discussion paper on ... :1999) contends that e-commerce enhances the establishment of new SMEs by lowering the cost of marketing and by providing access to global supply chains and vital input resources. This view is echoed by Janko (1998:

1), who notes that electronic commerce carries an underlying promise of being a great equalizer between large corporations and SMEs, which exposes the latter to a number of novel and cost effective ways of promoting their goods and services on a global level.

Janko (1998: 5) continues that one of the disturbing realities of the current state of e-commerce is that many on-line vendors have failed to turn a profit and have discovered that they have not been prepared for the complexities of business-to-consumer e-commerce, despite the increase in the overall number of on-line transactions and sales revenues.

The underlying theory of critical success factor (CSF) developed by Rockart (1979: 81), seeks to provide a framework for the determination of those activities, critical to the success of the firm or project, which must be done well by management. Dobbins (2000) states that the success of a venture often requires practices that go beyond the ordinary, and that attention must be given to those things that are less obvious, but of critical importance. Dobbins continues that 80 percent of software development systems are delivered late and over budget and that commercial organizations fail to learn from their past mistakes. The Dobbins (2000) notes that findings have shown that firms that adopt a CSF based management practice, report an average two percent late project delivery and a one percent project cancellation rate, while in less effectively managed firms, 85 percent of projects are late, while cancellations amount to up to 40 percent.

Since CSFs are those activities managers must do well to achieve project success, the question remains whether the adoption of a CSF based business practice will impact on the overall performance of SMEs that implement e-commerce applications. This leads to the following research question formulated under the Main Problem.

1.2 MAIN PROBLEM

The following problem will be addressed by this research:

What are the critical success factors for SMEs that utilize e-commerce applications?

1.3 SUB-PROBLEMS

To address the main problem, the following sub-problems have to be addressed:

- (a) What, according to the literature, are the factors critical to the success of an e-commerce venture?

- (b) What are the critical success factors according to SMEs that have adopted e-commerce applications?

- (c) How can the above be integrated into a generic checklist for SMEs that wish to adopt e-commerce applications?

1.4. DEMARCATION OF THE RESEARCH

The parameters of the study have been limited to make the research topic manageable from a research perspective. The omission of a topic does not imply the absence of the need for it to be researched.

1.4.1 E-commerce

As the electronic activities of a number of SMEs do not qualify as e-business in a strict sense, the term e-commerce will be used throughout the text and will be considered as being inclusive of e-business.

1.4.2 Categories of e-commerce

This research focuses on business-to-consumer commerce systems, i.e., systems that interact directly with end-customers. Business-to-business e-commerce that flows from an alliance between organizations through technologies or electronic platforms are beyond the scope of this research.

1.4.3 Levels of e-commerce

IBM (What is e-business ... :2000) identified four levels of web presence, each level more sophisticated than the last. The levels are:

Level 1: Content only

An electronic brochure publishes information about the firm and its products, but has no interactive ordering mechanism.

Level 2: Online commerce, but no integration with business systems

Presence of dynamic catalogues, operating twenty-four hours a day, seven days a week (24x7), and orders can be taken over the web, but no integration with existing accounting and inventory systems.

Level 3: Integration of web site with business payment systems

Payments can be collected, but no integration with web orders and inventory systems.

Level 4: Complete integration of web site with business systems

Comprises the integration of the web site with payment systems, order fulfilment, inventory control and all traditional business functions.

For the purpose of this research, all four levels of web presence will be included.

1.4.4 Geographic Demarcation

The empirical component of the study will be limited to SMEs that are registered members of the Port Elizabeth Regional Chamber of Commerce and Industry. SMEs registered outside the borders of South Africa will be excluded due to the fact that certain legal and cultural factors may differ from one country to another.

1.5 DEFINITION OF SELECTED CONCEPTS

Set out below is a number of definitions of concepts that will be applied in this research.

1.5.1 Electronic commerce

A number of academic treatises distinguish between the terms e-commerce and e-business. May (2000: xv) points out that e-commerce is a compact word for a wide array of interconnected business concepts, technologies and cultural phenomena and refers to the buying and selling of goods and services over digital media with the associated flow of information and funds. According to May (2000: 14), the term e-business was introduced by IBM in a marketing initiative and has subsequently entered the general lexicon. Kalakota and Robertson (1999: 4) view e-business as the overall business strategy that encompasses e-commerce, while Plummer (1999: 3) indicates that application integration, a high technology-to-business ratio and zero latency are vital to e-business success. Kalakota and Oliva (1999: 3) state that in its purist sense, the term e-business refers to business models built around networking technologies, from the ground up, without having to accommodate any unnecessary legacy systems, ways of doing business, or assets unneeded in digital markets.

Hoque (2000: 7) points out that the Association for Electronic Commerce defines e-commerce as “doing business electronically”. This definition implies, however, that a digital transaction, from a telephone call to a fax transmission, can be categorized as e-commerce. Bloch, Pigneur and Segev (1996: 2) extended the definition to include “support for any kind of business transaction over a digital infrastructure”. For the purposes of this research, e-commerce will be defined as the establishment of an effective support structure in the

buying and selling of information, products and services over a digital infrastructure.

1.5.2 Critical success factors

Rockart (1979: 85) defines CSFs as “the limited number of areas in which results, if they are satisfactory, will ensure competitive performance for the organisation. They are the few areas in the business where things must go right for the business to flourish.” Dobbins (2000) extended the definition by adding “areas of activities that should receive constant and careful attention from management.” From this definition it is apparent that CSFs are not a statement of every routine thing that should be done for eventual success and that CSFs identified for a project differ fundamentally from the set of interlinked, detailed tasks, which must be completed satisfactorily in the ordinary course of business.

1.5.3 SMEs

The South African National Small Business Act No.102 of 1996 defines a small and medium enterprise as a separate and distinct business entity, including cooperative enterprises and non-governmental organisations, managed by one or more owners and satisfies the criteria mentioned in columns three, four and five of Table 1.1.

For the purposes of this study, requirements listed in the last two columns of the table will be excluded due to the unavailability and reluctance of small business practitioners to provide financial information. To comply with the generally accepted international terminology for small business, the term SMEs, instead of SMME's as is the practice in South Africa, will be used in this report.

Table 1.1
Criteria for the classification of SMEs

Sector or sub-sectors in accordance with the Standard Industrial Classification	Size or class	Total full-time equivalent of paid employees	Total annual turnover	Total gross asset value (fixed property excluded)
		<i>Less than:</i>	<i>Less than:</i>	<i>Less than:</i>
Agriculture	Medium	100	R 4.00 m	R 4.00 m
	Small	50	R 2.00 m	R 2.00 m
	Very small	10	R 0.40 m	R 0.40 m
	Micro	5	R 0.15 m	R 0.10 m
Mining and Quarrying	Medium	200	R30.00 m	R18.00 m
	Small	50	R 7.50 m	R 4.50 m
	Very small	20	R 3.00 m	R 1.80 m
	Micro	5	R 0.15 m	R 0.10 m
Manufacturing	Medium	200	R40.00 m	R15.00 m
	Small	50	R10.00 m	R 3.75 m
	Very small	20	R 4.00 m	R 1.50 m
	Micro	5	R 0.15 m	R 0.10 m
Electricity, Gas and Water	Medium	200	R40.00 m	R15.00 m
	Small	50	R10.00 m	R 3.75 m
	Very small	20	R 4.00 m	R 1.50 m
	Micro	5	R 0.15 m	R 0.10 m
Construction	Medium	200	R20.00 m	R 4.00 m
	Small	50	R 5.00 m	R 1.00 m
	Very small	20	R 2.00 m	R 0.40 m
	Micro	5	R 0.15 m	R 0.10 m
Retail and Motor Trade and Repair Services	Medium	100	R30.00 m	R 5.00 m
	Small	50	R15.00 m	R 2.50 m
	Very small	10	R 3.00 m	R 0.50 m
	Micro	5	R 0.15 m	R 0.10 m
Wholesale Trade, Commercial Agents and Allied Services	Medium	100	R50.00 m	R 8.00 m
	Small	50	R25.00 m	R 4.00 m
	Very small	10	R 5.00 m	R 0.50 m
	Micro	5	R 0.15 m	R 0.10 m
Catering, Accommodation and other Trade	Medium	100	R10.00 m	R 2.00 m
	Small	50	R 5.00 m	R 1.00 m
	Very small	10	R 1.00 m	R 0.20 m
	Micro	5	R 0.15 m	R 0.10 m

Transport, Storage and Communications	Medium	100	R20.00 m	R 5.00 m
	Small	50	R10.00 m	R 2.50 m
	Very small	10	R 2.00 m	R 0.50 m
	Micro	5	R 0.15 m	R 0.10 m
Finance and Business Services	Medium	100	R20.00 m	R 4.00 m
	Small	50	R10.00 m	R 2.00 m
	Very small	10	R 2.00 m	R 0.40 m
	Micro	5	R 0.15 m	R 0.10 m
Community, Social and Personal Services	Medium	100	R10.00 m	R 5.00 m
	Small	50	R 5.00 m	R 2.50 m
	Very small	10	R 1.00 m	R 0.50 m
	Micro	5	R 0.15 m	R 0.10 m

Source: Small Business Act No.102 of 1996

Note that the definition for small business may vary from one country to another and cause discrepancies when comparing statistics of SMEs in one country to another.

1.6 SIGNIFICANCE OF THE RESEARCH

The identification of critical success factors can impact positively on the performance of SMEs that wish to adopt- and/or have adopted e-commerce applications. The introduction of a CSF based management practice enables e-commerce practitioners to focus on every important aspect of e-commerce and its impact on the firm's strategy, structure and performance. It provides a framework for SMEs for the design of their future directions and to adjust their goals and objectives to the idiosyncrasies found in the micro and macro environments.

The findings of this study can serve as benchmark for South African SMEs that wish to adopt e-commerce applications and raise their successful participation in the Internet economy. Additionally, it enables government organizations and trade associations to develop SME e-commerce assistance

programmes that are designed to address the factors identified by this research.

1.7 SUMMARY

The chapter has shown that business-to-consumer e-commerce is growing at an increasing rate, and while SMEs form the foundation of the economic strength of a nation, it is vitally important for South African SMEs to adopt and reap the benefits of the rapid expansion of the Internet and e-commerce. The question whether the adoption of a CSF based business practice will impact on the overall performance of e-commerce SMEs, lead to the formulation of the main problem and it's associated sub-problems.

The chapter articulated the definitions for a number of key concepts and provided parameters for the study to make the research topic manageable from a research perspective. It concludes with an outline of the significance of the research. The chapter that follows demonstrates the expected growth of e-commerce activities and provides an overview of the macro issues that may impact on the growth and success of e-commerce.

Chapter 2

E-Commerce In Perspective

2.1 INTRODUCTION

The Internet has emerged in the last decade and is central to what is known as the information- age or society. Although still viewed as path-breaking technology by some, it has already played a significant role in the transformation of the global economy. Currie (2000: 12) argues that a number of firms are making the transition to e-commerce simply out of fear of being left behind in the technological race. The purpose of this chapter is twofold. It firstly demonstrates the importance of e-commerce by providing an overview of the expected growth in the number of Internet users and e-commerce activities, particularly amongst SMEs, and secondly, it provides an overview of the macro issues that may impact on the growth and success of e-commerce.

The chapter begins with a reference to the factors that have contributed to the rapid expansion and growth of the Internet and the world-wide-web (WWW), despite the existence of earlier forms of electronic trade. One of the ground rules in assessing the opportunities and risks posed by a market is to fully enumerate its size, scope and characteristics. Hence, the chapter offers an outline of the extent of e-commerce adoption, both from a global- and SME perspective.

The widespread adoption and global reach of the Internet and e-commerce has highlighted the need for international co-operation and policy formulation. The final component of the chapter examines the macro regulatory issues that govern electronic trade across international borders, and the legal pitfalls facing SMEs that adopt e-commerce applications.

2.2 THE EMERGENCE OF THE INTERNET ECONOMY

Earlier forms of electronic trade, electronic data interchange (EDI), required pre-existing relationships, expensive and complex custom software, and dedicated communication links between specific parties. Consequently, the main users of EDI were large corporations and their first-tier suppliers.

Research reflects that SMEs generally experienced difficulties and dissatisfaction with EDI. According to McGregor and Bunker (2000: 147), larger trading partners generally force SMEs into EDI. The most reported difficulties experienced by SMEs in EDI are that the numbers of transactions is too low to warrant EDI, tasks often need to be duplicated as a result of the installation of EDI, there are too few participants to an EDI system and the cost of EDI outweighs the benefits.

Despite the continued use of EDI as a form of electronic trade, a number of economic factors have contributed to the exponential growth of the Internet and e-commerce. Firstly, the cost and difficulty of Internet access is low

compared to networks that adhere to proprietary systems. The Internet uses existing communication systems to create a network that is independent of any one platform. Secondly, the Internet facilitates one-to-many marketing, which accommodates customer feedback and creates an open, global, interactive platform for buyers and sellers. In a sense, EDI is a market, while e-commerce over open networks constitutes a global marketplace (The economic and social impact, 1998: 28). Thirdly, the Internet has given rise to business-to-consumer e-commerce, which enables customers to access business information and conclude transactions without time and place restrictions.

From the above it appears that in sharp contrast to EDI, the Internet has made it technically possible for a small business to capture the global market, sell to local and international customers and compete favourably with large corporations. It should be noted that the mere presence of an SME on the Internet does not guarantee success and the factors that are critical to the success of an e-commerce venture need to be identified and addressed by management. This is the main thrust of this research and will be addressed in the next chapters. However, the success of e-commerce, particularly business-to-consumer e-commerce, is dependent on the degree to which consumers adopt the Internet as a medium of exchange (Poon, 2000:113), a topic that will be examined in the following paragraphs.

2.3. MEASURING E-COMMERCE ACTIVITIES

Due to the recent emergence and accelerated growth of the Internet and e-commerce, data reflecting the extent of e-commerce activities is not readily available from traditional sources such as public statistical offices. According to Franson in (The economic and social impact, 1998: 28), a number of problems are posed by the fact that researchers have to rely on data from firms engaging in e-commerce, or from market research firms that conduct surveys of e-commerce activities.

For example, a number of firms seem to exaggerate expectations prior to a public offering, while suppliers of e-commerce infrastructure and management-consulting firms are likely to have an incentive to infer that the e-commerce market is large and growing rapidly. Moreover, estimates based on turnover pose additional problems (The economic and social impact, 1998: 31). Firstly, these figures include costs of doing business, which result in double counting, by reflecting the output of one e-commerce business as sales revenue in another e-commerce business, particularly in business-to-business e-commerce. Secondly, no indication is given as to whether e-commerce sales simply replace sales from traditional channels, and thirdly, such statistics do not reveal whether the firms engaging in e-commerce are making a profit.

Due to the variance that exists across the various estimates, the use of any one set of estimates should be applied with caution. However, despite its

limitations, it is possible to construct a clearer quantitative picture of the current structure and future direction of e-commerce, by comparing such disparate data from the various regions globally.

2.3.1 A global Internet perspective

The Computer Industry Almanac (CIA) (Worldwide Internet, 1999) projects that the number of Internet users worldwide will be approaching 720 million users, or 11 per 100 people by year-end 2005 (See Table 2.1). The CIA defines Internet users as adults that access the Internet from home or business on a weekly basis.

Table 2.1 depicts an accelerated growth in the number of Internet users from 1995 through to 2005. By 2005, North America is expected to

Table 2.1
Internet users by region

Region	Users (000)				% Users of Population			
	1995	1998	2000	2005	1995	1998	2000	2005
Worldwide	39479	150887	318650	717083	0.69	2.54	5.24	11.05
North America	26217	82989	148730	229780	8.94	27.57	47.91	71.54
Western Europe	8528	34741	86577	202201	2.17	8.75	21.75	50.14
Eastern Europe	369	2983	9487	43767	0.13	1.02	3.27	15.18
Asia/Pacific	3628	24559	57607	171098	0.11	0.72	1.65	4.59
South/Central America	293	2722	10766	43529	0.06	0.55	2.11	7.86
Africa	444	2893	7482	26708	0.05	0.29	0.72	2.36

Source: Adapted from Computer Industry Almanac (1999)

constitute 32 percent of worldwide Internet users. Significantly, the number of Internet users per 100 people in South/Central America is expected to exceed that of the Asia/Pacific region by 2005, despite having significantly less Internet users in absolute terms. Throughout all the projections, Africa remains the least connected region.

Within the various global regions the extent of Internet usage and e-commerce adoption reflect a large degree of disparity depicted in the following passages.

2.3.2 North America

From Table 2.1 it is evident that North America has been the early world leader in the use of the Internet and in e-commerce sales. According to the CIA (Worldwide Internet ..., 1999), North America is expected to remain the leading region of Internet usage until 2005, growing from 83 million users in 1998 to almost 230 million users by the end of 2005. A report in Cyberatlas (Internet heads for ..., 2000), ranks the United States (US) ranks first and Canada second on most of the categories measured by the study. The US has the highest home PC ownership (107 million), most Internet users (108 million) and highest Internet usage (59 percent). The study also found that the US represents 39 percent of Internet usage worldwide. A study by the Gartner Group (E-commerce growth predicted ..., 2000), found that North American Internet retailing in 2000 represents a 75 percent increase over 1999 reported figures. According to the report, the 2000 online retail activity represent less

than one percent of overall consumer spending in North America, while online spending is expected to grow to seven percent of retail sales by the end of 2004. The Strategies Group (Internet heads for ..., 2000) found in their 1999 study that the average US Internet user spent an average of \$68,50 monthly on online purchases, while almost 40 percent of these users spent more than \$50 per month online. From the statistics it appears as if consumers do not use the Internet for information purposes only, but that a sizable portion of Internet traffic in North America result in online retail sales.

2.3.3 Western Europe

The percentage growth in the number of Internet users from 1999 through to 2005 is expected to be greater in Western Europe than North America. According to Table 2.1, by 2005, Western Europe is expected to be a close second after North America in terms of the total number of Internet users, with more than 202 million Internet users connected (Worldwide Internet ..., 1999). The Angus Reid study (Internet heads for ..., 2000) ranked Germany third with 18 million users, after the US and Canada, and the UK fourth with 14 million users in terms of Internet usage worldwide. Reid also found that the eastern- and southern regions of Western Europe have the highest proportions of adults with no interest in going online. According to the IDC, (Overseas electronic commerce ..., 1999), e-commerce spending in Europe is expected to grow at a compound annual growth rate of 138 percent from \$5.6 billion in 1998 to \$430 billion in 2003. The report also reflects a disparity in Internet usage and online spending between the various European countries.

Eleven percent of the British adult population had made an online purchase in the three months prior to the survey, while only two percent had done so in Spain. Elmer (Europe sees big gains ..., 2000) notes that the European online culture differs from that in the US. According to Elmer, the average European Internet user exhibits a more focused Internet usage and less spontaneous surfing. From the above it is evident that the bulk of business-to-consumer e-commerce emanate from Western Europe and North America, and the question remains whether firms targeting on-line consumers in the aforementioned regions will be more successful than those targeting consumers in regions with lower Internet usage.

2.3.4 Eastern Europe

The Global Reach Express (E-commerce in Eastern Europe ..., 2000) reports that the former Soviet Bloc has been extremely slow to adopt e-commerce, despite a sharp increase in entrepreneurial activities, booming business activity and the arrival of consumer choice. The low Internet usage could be due to the fact that only three percent of Eastern Europeans and less than one percent of the inhabitants of the Baltic States own a home computer, which can cost up to six months the average salary. However, according to the findings depicted in Table 2.1, a rapid growth in the number of Internet users per 100 people in Eastern Europe is expected from 2000 to 2005.

The Global Reach Express report continues that consumers in the former Soviet Bloc exhibit a psychological fear of making payments over the Web,

while one quarter of Hungarian Internet users refuse to buy online because they believe the web is not secure.

The report states further that despite the low numbers, a number of factors may contribute to the growth of e-commerce in the region. Full liberalization of the telecommunication networks is expected between 2001 and 2003, which should bring down the cost of web access. Call costs are already lower in Slovenia and Hungary than in Portugal or Greece. Countries in Eastern Europe with the highest penetration rates are Greece and Slovenia, with penetration rates of 12 and 23 percent respectively.

2.3.5 Asia - Pacific

According to Table 2.1, the number of Internet users in the Asia-Pacific region is growing at a faster rate than the users in Western Europe and by 2005, more than 170 million users are expected to have access to the Internet. The Angus Reid study (Internet heads for ..., 2000), reports that Hong Kong (35 percent), Japan (33 percent) and Singapore (33 percent) are in the top ten countries in terms of the percentage of population online. The Boston Consulting group (Online retail market soars ..., 2000) identifies Japan as the largest generator of online retail revenues in the region at \$1.5 billion, followed by Korea at \$720 million and Australia at \$380 million. Together, these three countries account for 94 percent of the total regional market. Researchers at IDC (Overseas electronic commerce ..., 1999) expect e-commerce spending in the Asian-Pacific market to increase from \$2.7 billion

to \$72 billion by 2003. Despite the rapid growth, online transactions account for only 0,1 percent of the total retail market in the region.

2.3.6 South/Central America

Finding reported in the Fort Worth Business Press (E-commerce in Latin ...:2001) reflect that the total e-commerce revenues generated in 2000 in South/Central America amounted to \$3.6 billion. Business-to-business transactions accounted for \$2.85 billion and business-to-consumer transactions for \$724 million. The report also states that three countries, Brazil, Mexico and Argentina, account for approximately 65 percent of the region's 9,9 million Internet users with Brazil at 3,9 million, Mexico 1,5 million and Argentina with one million users.

According to a report in Cyberatlas (Latin America faces E-commerce ...), South American users spend an average of \$53 per month on service fees and local phone charges, twice the amount spent by US users. The report continues that this reduces the time users spend online and thus the likelihood to shop online. The high cost is also the reason why only 20 percent of the region's computers are linked to the Internet.

2.3.7 North/Central Africa

According to Jenkins (2000), Africa, excluding South Africa, has approximately as many computers permanently connected to the Internet as a small Eastern European country such as Latvia, which has a population of 2.5 million, compared to the 780 million people in Africa. Although it is difficult to measure the number of actual Internet users, it is estimated that the number of Internet subscribers in North/Central Africa amount to 300 000. It translates into one Internet user for every 750 people, compared to a world average of one user for every 35 people. Unlike South Africa, that boasts a competitive e-commerce industry almost as advanced as the West, but smaller in scale, North/Central Africa e-commerce is undeveloped and the Internet is used almost exclusively as a source of information.

2.3.8 South Africa

According to Acuity Media Africa (2000: 47), the number of South African Internet users reached 1.8 million by 1999 year-end, while online consumers spending reached \$400 million. A report by Accone and Sigonyela (1999) indicates that the number of active Internet users in South Africa is expected to rise to two million by 2002, while South African business-to-consumer spending is expected to reach \$2,7 billion in 2003. The report also shows that less than five percent of South African households have a personal computer, and that up to 64 percent of office workers will have access to the Internet by 2000 year-end.

From the above it is evident that developed countries are taking the lead in terms of Internet usage and e-commerce transactions. It may be due to the high cost of Internet access or the lack of infrastructure, which seem to impact negatively on the use of the Internet for transaction purposes in developing economies. It is interesting to note that online consumer spending in South Africa exceeds that of Australia, a country with an economy generally perceived as a more developed than that of South Africa. With less than 5 percent of South African households owning a personal computer, it appears as if the bulk of e-commerce transactions are concluded from the workplace.

In view of its rapid growth worldwide and the generally accepted notion the WWW and the Internet enable SMEs to compete globally with large corporations, the following section examines the extent and nature of e-commerce adoption by SMEs.

2.4 E-COMMERCE USAGE: AN SME PERSPECTIVE

Poon (1999: 114) states that SMEs are adopting e-commerce at an increasing rate. His view is supported by the Dun & Bradstreet Small Business Survey (More small businesses ..., 2000), which reports that 40 percent of SMEs in the US have their own web sites, up from just over 25 percent in 1999. Of the SMEs surveyed, 70 percent have Internet access, up from 57 percent in 1999. Thirty one percent of the respondents indicated that the Internet had a positive effect on their business, while nearly 60 percent indicated that the

web had no measurable impact on their business. The survey found that 38 percent of SMEs with web sites transacted business with customers over their sites, up from 33 percent the previous year, while 43 percent use the Internet to purchase goods and services for business purposes. On average, eight percent of 1999 revenues came from their web sites, down slightly from 12 percent in 1998.

The report does not draw a distinction between business-to-business and business-to-consumer e-commerce and the question remains whether the increase in the sourcing of business products and services over the Internet by SMEs correlates with the accelerated growth of business-to-business e-commerce, as opposed to business-to-consumer e-commerce.

According to BMI-TechKnowledge (2000), just as is the case with US SMEs, 70 percent of South African SMEs had Internet access by 2000 year-end, while 16 percent had their own websites, as opposed to 40 percent in the US. Despite the high Internet connectivity, only two percent of South African SMEs use the Internet to source products and services for their business activities, unlike the 43 percent of their US counterparts. The report continues that 31 percent of the SMEs believe that they will never use the Internet to conduct e-commerce between themselves and their customers.

In contrast to the US, where 31 percent of SMEs have achieved positive returns on their Internet activities, only 16 percent of the South African SMEs have generated returns on their investment. A significant finding of the BMI-TechKnowledge report (2000) is that the primary objective of the Internet

presence of the SMEs surveyed is not to generate additional income. The reasons in order of importance are to improve customer communication (55 percent), improve service (54 percent), reach new customers (51 percent) and to increase revenue (50 percent), while cutting costs and improving margins is rated fifth (45 percent).

It appears as if e-commerce has been received more favourably by SMEs in the US than in South Africa (Electronic commerce not ..., 2000). The negative sentiment could be ascribed to the low level of Internet connectivity in South African and the relatively high cost of Internet access. However, the report continues that although South African SMEs had not yet awakened to the commercial applications of the Internet, their mere presence on the web may imply that they reflect a willingness to further explore the application of the medium.

The Internet has an international presence and SMEs that adopt the Internet as a business medium, need an awareness of the uncontrollable regulatory issues that govern electronic trade across international borders. The macro constraints, within which SMEs engaging in cross-border e-commerce need to operate, will be discussed in the following paragraphs.

2.5 E-COMMERCE REGULATORY ISSUES

The global reach and the explosive growth of the Internet and e-commerce have highlighted the need for international co-operation in the regulation of e-

commerce activities. Countries worldwide are currently formulating laws, policies and practices to co-ordinate aspects such as the development of compatible telecommunication infrastructures and to building business and consumer trust and confidence in the Internet economy. The problem of taxation and the regulation of markets that have no national boundaries, is a matter of conjecture to most governing authorities around the globe. SMEs undertaking e-commerce must structure and operate business activity in a manner that anticipates the impact of the law – especially in world markets. Although the rules, regulations, custom and procedures often differ markedly from one country to another, the reality of e-commerce is that the laws of every country apply simultaneously. Hence, a proactive legal approach to e-commerce is key to the commercial future of the enterprise (PricewaterhouseCoopers, 1999: 7). The following paragraphs focus on the major macro issues that may impact on the business activities of SMEs in e-commerce. The list is not exhaustive and merely provides an overview of the backdrop against which CSF in e-commerce need to be identified.

2.5.1 Trade and tariffs

Firms that trade electronically across international borders need to firstly obtain clarity on the nature of the goods being traded and secondly, ascertain where the trade occurs.

Tariffs on traditional goods are normally collected as they clear customs. However, the Internet has created a vehicle for the digital delivery of goods

that formerly could only be done in physical form. To date there is no globally accepted agreement as to whether electronic transmissions should be classified as goods, services or a new category unique to the Information Age (PricewaterhouseCoopers, 1999:17).

Should electronic transmissions be classified as goods, a tariff will accrue as it is sold internationally. In the event of it being classified as a service, no tariffs will apply, but tax applicable to the sale of a regular service will apply.

Laws that govern a transaction can either be the laws of the country where the firm is established, or the laws of the country where the customer is served. Should the latter prevail, a firm posting a website runs the risk of facing a liability in every country the site can be accessed.

2.5.2 Security and trust

Norris, West & Gaughan (1999: 97) cite security as the number one barrier to the growth of online trade. PricewaterhouseCoopers (1999: 20) reports that 59 percent of sites selling products and services on the Internet reported at least one or more security breaches, while information losses occurred in 22 percent of firms conducting Internet sales.

Consumers and online merchants have realized that rules and laws that regulate conventional commerce are not necessarily applicable in the digital

environment. The major security and trust issues that need to be resolved through international co-operation include:

- Confidentiality – data must not be visible to eavesdroppers
- Authentication – communicating parties must be certain of each other's identity and/or credentials
- Integrity – communicating parties must know when data has been tampered with
- Non-repudiation – it must be possible to prove that a transaction has taken place

Integrity and authentication can be secured through the use of digital signatures. However, the public key system used for digital signatures requires a secure, technical, organisational and legal infrastructure to be reliable in the application of encryption in open markets. Conflicting national laws might impose undue restrictions on e-commerce. (PricewaterhouseCoopers, 1999: 21). No globally accepted agreements are in place to regulate the rights of governments to access digitally encrypted information and the acceptance of electronic signatures for legal and commercial purposes. The expansion of the Internet has exposed citizens to the risk of liability of damage that might result from their actions. Inconsistent

laws and uncertainties regarding jurisdiction could increase litigation that in turn may expose consumers to unnecessary financial costs (Currie, 2000: 59).

2.5.3 Infrastructure and access

The European Union paper on strengthened international co-ordination (1998: 6) sites high telecommunication costs as one of the major obstacles to the development of advanced communication services, which form the basis of an online economy. According to the report, the current cost of a trans-Atlantic telephone call is just 1.5 percent of the cost 60 years ago. The World Bank predicts that by 2010 the cost will have fallen by another two thirds, making trans-Atlantic telecommunications increasingly affordable to all. According to the Global Information Infrastructure Commission (GIIC) (1998: 5), increased competition and deregulation in the telecommunications market will add a new impetus to the growth of the electronic marketplace. However, regional disparities in the cost, quality and accessibility of e-commerce infrastructure and services must be reduced to allow remote areas full access to global markets and to compete on an equal terms.

The EU is taking steps to ensure that a high-bandwidth infrastructure is put in place to enable all consumers and businesses to take full benefit of the ongoing technological developments. In South Africa, on the other hand, access to telecommunications infrastructure in rural areas and in townships lack in comparison to the urban centres, where high technology facilities and services are widely available to those portions of the population that can

afford them (The e-commerce debate ...,1999). Due to the low level of basic telephone service penetration in the rural areas, the possibility of participating in the global electronic marketplace is remote for much of the country's population. The future market structure of the telecommunications industry, following the termination of Telkom's exclusive franchise after 2002, has yet to be resolved. The general expectation is that the market will be opened to new participants, which will have an important impact on the scope of infrastructure development.

2.5.4 Intellectual property rights

The GIIC report (1998: 10) reflects consensus amongst the US, the EU and the Ministry of International Trade and Industry of Japan (MITI) on the protection of intellectual property rights. All parties agree that an effective legal framework is required to deter fraud and theft and to provide effective legal recourse when these crimes occur.

The GIIC (1998: 7) proposes that the protection of intellectual property rights be based on the existing regime of copyrights and other intellectual property rights. The report also proposes that the carefully tailored balances under the existing property rights system not be inadvertently jeopardized. Additionally, the boundary between legal and illegal activities is necessary to clarify the enforcement of rights. Currently, the issue whether stock quotes are merely facts, part of the public domain or the property of the exchanges where the prices are generated is yet unresolved.

According to the GIIC report (1998: 8), the implementation of the two international treaties adopted by the World Intellectual Property Rights Organisation (WIPO) (1996) in December 1996 was vital to ensure consistent universally accepted rules in this area. As a member of the WTO and WIPO, South African laws are in accordance with those treaties, which offer a degree of protection to South African intellectual products both locally and internationally.

Despite the legal protections offered by international agreements, the use of trademarks on the Internet continues to raise important questions, particularly to jurisdictional authority.

2.5.5 Privacy

Technology has eased the process of obtaining detailed personal information from consumers, without their knowledge or consent. Privacy is linked to the concept of personal freedom and the individual's ability to control what others know about him/her. The importance of privacy to Internet users is echoed by McCandlish, programme director at the Electronic Frontier Foundation (Steinke, 1999: 213), who states that 70 percent of Internet users are so concerned about privacy that they refrain from monetary exchanges on the Web. Although a number of different privacy regulatory principles exist amongst various nations, the principles proposed by the European Community Directive on Data Protection (1995) seems to be favoured by a

number of countries beyond the European Union (EU) framework. The EU directive favours a strong regulatory approach and requires European Union nations to adopt the following principles:

- Notice of a firm's or website's policies and practices with respect to the collection, use and dissemination of consumer data should be prominently posted: this should also include a clear identification of the entity collecting and storing the data
- Consumers should have a clear choice as to whether their personal information can be used in any manner; moreover, this must be an affirmative decision, rather than "passive" approval (i.e. failure to disapprove)
- Users must have the right of access to whatever information a firm may hold on them, and the means to correct, modify or remove any information that is faulty, or which the consumer does not want the database owner to retain
- Specific descriptions of the security policies and practices of the database owner should be available for scrutiny by all users

The directive also prohibits the transfer of personal data from one EU country to another country that does not ensure an adequate level of protection of

personal data in a similar fashion. According to Currie (2000: 45), countries in Asia favour the EU model.

The US favours the self-regulation principle and contends that government intervention could inhibit the legitimate collection and use of commercially valuable data and add excessive costs and burdens to online commerce. Steinke (1999: 215) reports that the US Federal Trade Commission (FTC) survey of June 1998 found self-regulation to be unsuccessful. Of the more than 1400 websites surveyed in March 1998, only 14 percent of the respondents provided any notice with respect to their information practices, while only two percent provided notices by means of a comprehensive privacy policy.

The US and the EU member states have approved the safe harbour privacy arrangement designed to allow U.S. organisations to comply with the requirements of the European Directive on Data Protection for transfers of data to third countries and to ensure that data flows are not interrupted (EU - US summit statement: 2000). The arrangement provides a bridge between the differing US and EU approaches to privacy in a way that enhances consumer confidence by protecting European citizens' privacy while keeping data flowing across the Atlantic.

South Africa has not yet passed any legislation to deal with privacy issues. The Open Democracy Bill introduced in July 1998 has been withdrawn. The draft contained provisions to allow individuals access to, correction of, and

limits on use of personal information, to be enforced by the Human Rights Commission.

Of critical importance to firms that wish to trade electronically, is to tailor their privacy policies to those of the countries within which the firms and/or consumers, whom they wish to conduct business with, reside.

From the above paragraphs it is apparent that the global reach of the Internet and e-commerce has highlighted the need for international co-operation and policy formulation to facilitate the growth of Internet and e-commerce. Countries worldwide are currently formulating laws, policies and practices to co-ordinate aspects such as the development of compatible telecommunication infrastructures and to building business and consumer trust and confidence.

2.6 SUMMARY

Although EDI will continue to be used as a form of e-commerce, there has been a shift to Internet based e-commerce due to its open, non-proprietary protocol. Despite the variance that exists across the estimates of worldwide Internet activities, studies generally reflect an exponential growth in the rate of Internet adoption in all the world regions. Globally, North America is expected to remain the leading region of Internet usage until 2005, despite the faster growth in the number of Internet users in Europe. Unlike South Africa that boasts a competitive e-commerce industry that is almost as advanced as the

West but smaller in scale, North/Central Africa e-commerce is undeveloped and used almost exclusively as a source of information.

It appears as if e-commerce is received more favourably by SMEs in the US than in South Africa. In contrast to the US, where 31 percent of SMEs have achieved positive returns on their Internet activities, only 16 percent of the South African SMEs have generated returns on their investment. The negative sentiment could be ascribed to the low level of Internet connectivity in South African and the relatively high cost of Internet access. Additionally, South African SMEs primarily use their Internet presence to improve customer communication, while cutting costs and improving margins is rated only fifth in order of importance.

Although the outcome of the current debate to shape the future of e-commerce is not apparent, e-commerce enterprises involved with cross border transactions and data inter-changes, need to structure and operate business activity in a manner that anticipates the impact of the law. Although the rules, regulations, custom and procedures often differ markedly from one country to another, the reality of e-commerce is that the laws of every country apply simultaneously. Hence, an awareness of and a proactive approach to the pitfalls in e-commerce is critical when formulating strategies and identifying CSF for SMEs in e-commerce.

Chapter 3

The Nature of Critical Success Factors in SMEs

3.1. INTRODUCTION

As the notion that “e-business is business” gains wider acceptance, executives are beginning to realize that technology alone and simply having an on-line presence is not sufficient to sustain growth and/or to ensure the long-term survival of the venture. Electronic commerce is not a one-dimensional functional activity and according to Deise, Nowikow, King and Wright (2000: xvi), the successful implementation of an e-commerce initiative is dependent on the willingness and ability of management to perceive and manage Internet commerce as an integral part of all aspects of business. Jenster (1987: 102) adds that the effectiveness, efficiency and the strategic performance of a venture are raised through the identification and use of critical success factors (CSFs). Whether as a guide to clarify issues or as a tool to formulate strategy, CSFs play a key role in the way tasks are defined and the manner in which the firm’s strategy is interpreted.

The purpose of this chapter is to identify the process of CSF identification and its application in SMEs. The concept CSFs is critically examined, using the definition formulated by Rockart (1979: 82), who was first to apply the CSF

concept in the information systems arena. Here, in particular, the sources of and the identification of industry CSFs are examined in more detail. It leads to insights into the role of CSFs in the strategic management process and the objectivity of the CSF identification process.

Although SMEs are in most respects subject to the same economic restraints as their larger counterparts, one can assume that differences exist in the application of management principles. The chapter concludes with an assessment of the differences between SMEs and large organizations and the impact of these differences with respect to SME failures. By assessing these factors, an insight can be gained to the factors that are key to the survival and growth of SMEs.

3.2 CRITICAL SUCCESS FACTORS IN PERSPECTIVE

To place CSFs in perspective, the definitions and perspectives of various authors on the subject of CSFs are critically examined. It is followed by an analysis of the CSF identification process.

3.2.1 Critical success factors defined

Daniel (1961: 111) was the first to discuss success factors in the management literature in 1961. He turned to the concept of success factors to draw attention to the nature of information required to support managerial activities. Daniel contended that in most industries there are usually three to six factors

that determine success. These factors are linked to key jobs that must be done exceedingly well for a company to be successful.

Anthony, Dearden and Vancil (1972: 147) expanded and applied Daniel's approach in their work in the design of management control systems. While the authors continued to recognize industry-based CSFs, they placed additional emphasis on the need to tailor CSFs to each individual firm's particular strategic objectives and its particular managers.

Rockart (1979: 85) applied the concept of CSFs in the information systems arena by assisting executives and managers to identify their managerial information needs in a clear and meaningful manner. He defines CSFs as "the limited number of areas in which results, if they are satisfactory, will ensure competitive advantage for the organisation. They are the few areas in the business where things must go right for the business to flourish."

From the definition, the following three key elements can be identified that warrant further discussion:

- *Limited number of areas.* To identify CSFs one has to make a judgement about the degree of importance of various activities in the firm. Rockart (1979: 85) suggests that CSFs stem from areas of activities that should receive constant and careful attention from management, while Dobbins (2000) concludes that CSFs are not statements of every routine thing that should be done for eventual success. Dobbins continues that CSFs identified for a project differ

fundamentally from the set of interlinked detailed tasks which must be completed satisfactorily in the ordinary course of business.

- *Results.* Rockart (1979: 89) cites, amongst others, a good societal image, a strong management team, company morale and improved productivity as CSFs. Contrary to Rockart, Wheelen and Hunger (1995: 294) suggest that CSFs should not be expressed as end results, but as activities that need to be performed. This view, however, is refuted by a number of authors. Jenster (1987: 102) and Leidecker and Bruno (1984:24) point out that CSFs do not only apply to activities to be performed, but can be an event, a condition or a characteristic. Thompson and Strickland (1998: 96) support this view and suggest that a CSF can be expressed as a product attribute, a competency, a competitive capability and/or a market achievement.
- *Competitive advantage.* Rockart (1979: 85) links CSFs to the attainment of a competitive advantage and according to Thompson (1995: 37), competitive advantage implies a distinct, and ideally sustainable edge over competitors. CSFs, therefore, do not represent the activities, events, conditions or characteristics required for the mere survival of a firm, but are linked to strategies that allow the firm to disrupt the normal course of industry events and forge new industry conditions to the disadvantage of competitors. Midlane (1996: 44) points out that a firm that achieves its CSFs will not necessarily operate at a competitive advantage indefinitely, since a number of firms can set

and achieve similar CSFs. According to South (1981: 17) the central theme is whether the advantage is measurable and whether it is sustainable, at least for a period of time. A competitive advantage thus offers the opportunity for sustained profitability relative to competitors, rather than a circumstance where profits are competed away from competitors with similar positions through short-term tactical interventions.

From the above and for the purpose of this study, CSF can be defined as the limited, controllable activities, conditions, events and/or characteristics that are linked to strategies that result in a sustained, measurable competitive advantage for the organization.

Factors that represent the difference between the more and less successful firms should, therefore, become the focal point for the strategic thought process and CSF identification. With the parameters of CSFs established, the various sources from which CSFs can be identified need to be established.

3.2.2 Identifying critical success factors

Critical success factors, as the name suggests, are critical for an organization's success. CSFs have their origin in the strategy formulation process and the eventual selection of strategic priorities. To establish the point in the process at which CSF are determined, one can begin with the definition of CSFs (See paragraph 3.2).

According to the definition, CSFs are linked to results that will ensure a competitive advantage. In order to gain a competitive advantage, organizations pursue a particular strategy. In their definition of strategy, Johnson and Scholes (1999: 10) refer to “the direction and scope of the business ... which achieves an advantage for the organization...”. From this definition one can conclude that strategy represents the plan that management has to position the organization to gain a competitive advantage. Hence, strategy is developed to gain a competitive advantage, and once the competitive strategy has been selected, the CSFs can be determined. One can therefore conclude that CSFs follow strategy and are determined after the strategy has been selected for an organization.

According to Thomson and Strickland (1987: 68), strategy formulation and selection is an analysis driven exercise and not a task where management can get away with opinions and instinctive thinking. They continue that strategy flows directly from a thorough analysis of the organization’s internal- and external environment.

Hofer and Schendel (1978: 47) suggest that strategy formulation is a seven-step process consisting of strategy identification, environmental analysis, resource analysis, gap analysis, strategic alternatives, strategy evaluation and strategy choice. The authors continue that the findings of the environmental analysis need to firstly be viewed against the internal realities of the firm, after which various strategic alternatives are evaluated and the best strategy chosen. Viewed in this context, strategy selection flows directly from an

assessment of the organization's internal- and external environment. Hence, one can argue that although closely related, an environmental analysis does not determine CSFs, but provides a framework within which strategies and their corresponding CSFs can be formulated. Rockart (1979: 86) proposed the following framework to assess the internal- and external environment and with it the identification of CSFs:

- *Industry analysis.* CSFs can be sourced through an analysis of the factors that significantly impact on the performance of firms in a particular industry. Jain (1990: 100) notes that each industry has a number of unique dynamic characteristics that are subject to change and, to ensure success, the firm has to adapt to the dynamic factors of the industry. For example, in industries with high transportation costs, the key areas are plant location and the ability to market plant output within economical shipping distances (Thompson and Strickland, 1987: 76). A CSF for such an organization, for example, could be proximity to a port.
- *Competitive strategy of a firm.* An analysis of the competitive strategy of the firm provides an insight into the factors that give the firm a competitive advantage over competitors. Each firm in an industry is in a unique situation determined by its history and its current competitive strategy. The strategies of smaller firms in industries that are dominated by one or two major competitors may have to be altered in response to changes in strategies of the larger firms. At times, the

strategy of a dominant firm in a particular industry may become a CSF. For example, IBM's competitive approach to the marketing of small, inexpensive computers became a CSF for all minicomputer manufacturers in the late seventies. Consequently, they all focused on producing small, inexpensive personal computers. Likewise, differences in geographic location may lead to differing CSFs from one firm to another in the same industry.

- *Environmental factors such as the economic- and political climate.* Firms are affected by fluctuations in the economy, political developments and changes in regional demographic factors. In recent years, fluctuations in the external environment have become increasingly dynamic and difficult to forecast (Thompson, 1995: 13). It is important for firms to identify and monitor the impact of environmental changes and to be alert to the need to formulate new strategies and their accompanying CSFs. For example, changes in smoking laws have had an impact on the CSFs of cigarette manufacturers. Intensive marketing and distribution networks in third world countries with lax smoking laws have become a CSF for manufacturers in the tobacco industry.
- *Temporal factors.* These are internal areas of activity that generally do not require special attention but are significant for the success of the firm for a particular period of time because they are below the threshold of acceptability at that time. For example, a firm that has suffered major

losses due to currency fluctuations can make “the replenishment of cash reserves” a CSF for the period of time until it is accomplished.

An environmental analysis provides the groundwork for matching the organization strategy with the external market conditions and its internal resources and competitive ability. Once strategy has been established, the associated CSFs can be determined. Thomson and Strickland (1998: 99) point out, however, that analysing a firm’s environment is not a mechanical, formula-like exercise where facts and data are plugged in and definite strategies and CSFs come pouring out. The process does leave room for differences in opinions and interpretations as to what the industry and the future competitive environment will be like.

To identify firm specific CSFs, Rockart (1979: 87) relies primarily on the inputs from open-ended interviews with executives after the internal- and external environment have been assessed and strategies selected. The aim of the interview is to probe management for the CSFs that will most affect the success or failure of implementing these strategies.

Rockart suggests the same process to identify industry CSFs. He notes that common factors identified by executives in the same industry can be regarded as the industry CSFs. He acknowledges the fact that the CSFs identified using this approach are dependent on the subjective ability, style and perspective of executives, but he offers no objective measures to assist with the CSF identification process. While organizations should be as objective as possible in their internal- and external analysis, an element of subjectivity will

probably enter the process. Furthermore, elements peculiar to a particular organization will also play a role in the choice of CSFs.

From the preceding paragraphs one can conclude that CSFs follow strategy and can only be determined once the organization's strategy has been formulated. Strategy is formulated after a thorough analysis of internal- and external environmental factors. Through a series of open-ended interviews with executives, firm specific and industry CSFs can be determined. CSFs are, however, subject to the circumstances and management perspectives within individual firms and may vary from one firm to another in the same industry.

The aim of this study is to determine CSFs in SMEs in e-commerce. To put CSFs into an SME perspective, the paragraphs that follow examine the role of SMEs in the South African economy and the factors that distinguish SMEs from large organizations.

3.3 SMEs IN PERSPECTIVE

Most publications and studies in business management are directed towards large businesses with multiple management levels and functional specialists. The smaller scope and simplicity of SMEs may require an adaptation of the management principles applied in large organizations. Since this study focuses on CSFs relating to SMEs, the aim of this section is to examine whether the causes of failures in SMEs and the differences that exist between

SMEs and large organizations have an impact on the management of and the CSF identification process in SMEs. This section firstly demonstrates the impact of SMEs on the South African economy, followed by an outline of the differences that exist between SMEs and large organizations. Finally, the reasons for SME failures and their impact on the CSF identification process are examined.

3.3.1 Role of SMEs in the South African economy

SMEs play an important role in the South African economy. They represent approximately 97,5% of establishments in the formal private sector and generate 34,8% of the South African GDP (Ntsika, 2000: 23). The biggest single contribution of SMEs to the South African economy is in terms of employment, with 54,5% of employees in private sector enterprises being employed in SMEs.

A substantial difference exists in the average number of employees employed in SMEs as opposed to large organizations. According to the statistics provided by Ntsika (2000), the national average is 18,2 employees per establishment, with an average of 15,3 for small enterprises and 35,1 for medium enterprises. On the other hand, large enterprises employ, on average, 331 employees, which indicate that a large disparity exists between the average number of employees employed in SMEs and large organizations and it raises the question whether it may influence the management practices employed in SMEs as opposed to large organizations.

One can therefore conclude that SMEs collectively make a significant contribution to the national economy and that the development and support of SMEs play an important role in the growth of the South African economy. There is a significant difference in the average number of employees employed in SMEs as opposed to large organizations and whether a difference actually exists in the management practices between SMEs and large organizations will be discussed in the section that follows.

3.3.2 A comparison between SMEs and large organizations

Although SMEs operate in the same economic environment and are subject to the same business principles as their larger counterparts, the question remains whether differences exist that may have an impact on the management of SMEs. Claessens (1982: 66) compared SMEs to large organizations and his findings are depicted in Table 3.1.

Table 3.1 shows that the typical organization structure of SMEs is simple and informal and the personality and style of owner/manager sets the tone of the business. This may be due to the low average number of employees employed in SMEs (See paragraph 3.3.1) and may not warrant the establishment of formal management structures. Birley (1989: 79) notes that SME owner/managers may view management as a bureaucracy and have no wish to delegate authority. She continues that the growth of the firm is dependent on the willingness and ability of the owner/manager to devolve management to lower levels. The lack of delegation may be due to the

personal involvement of the owner/manager in the problem solving process, which may limit the need to delegate authority.

Table 3.1

Differences between SMEs and large organizations

SMEs	Large Organizations
1. Informal relations and structure	1. Formal relations and structure
2. Centralized authority	2. Delegation of authority
3. No clear distinction between planning and those who carry out the plans	3. Clear distinction between planners and those implementing plans
4. Lack of specialized skills	4. Appointments based on technical qualifications
5. Vague or non-existent job descriptions	5. Precise job description of tasks and responsibilities of employees
6. Open communication	6. Structured communication
7. Limited employee promotion opportunities	7. Improved promotion opportunities
8. Involvement of owner/manager in daily management activities	8. Management activities responsibility of functional experts

Source: Claessens (1982:66)

Unlike large organizations, the resources upon which SMEs can draw for growth is limited. In the absence of specialist managers, the development and growth of the firm has to be achieved by one or a few generalists that may compromise the planning process in SMEs. The probability that the owner/manager possesses the full range of personnel, financial, marketing, manufacturing and administrative skills to make strategically sound decisions independently, is unlikely. Wheelen and Hunger (1995: 359) point out that just as the owner/manager's strengths can be the key to the firm's success, so too personal weaknesses can be a cause of failure.

Additionally, SMEs are unable to provide the same benefits, security and promotion as their larger counterparts. Moolman (1992: 655) suggests that low productivity levels and an inability to retain skilled staff retards the growth and success of SMEs. The problem is compounded by the fact that appointments are made on a personal basis rather than according to technical qualifications. Skilled employees that can contribute positively to the growth of the SME are lured away by the better career prospects offered by large organizations.

Pickle and Abrahamson (1981: 15) suggest that the simple organization structure of SMEs facilitate one-to-one communication, which eliminates many common communication problems encountered by large organizations. It may also be an important advantage where time is a critical factor. However, the improved flow of communication may be offset by the general lack of expert skills in SMEs.

Table 3.1 also reflects a difference in the planning approach between SMEs and their larger counterparts. According to Moolman (1992: 680), SME management decisions are usually based on feeling and the time frame of planning is generally short. They tend to focus on short-term advantages and adopt a tactical, day-to-day planning approach rather than a strategic approach. Birley (1989: 81) adds that the strategic choices available to and made by the owner/manager differ fundamentally from those facing managers in large organizations. As the same person usually holds the ownership and management of an SME, the objectives of the firm and those of the owner often become one and the same, hence personal and family needs may be the determining factors in the formulation of the SME mission and objectives. Birley continues that the majority of SME owners start a business with the declared intent of maintaining their independence from external forces. They maintain day-to-day operational control and set strategic goals of no growth or minimal growth consistent with survival. This is confirmed by findings reported by Driver, Wood, Segal & Herrington (2001: 5) suggest that only five percent of new firm entrepreneurs intend to create more than twenty jobs in the next five years, and will account for half of the job creation by new firm entrepreneurs.

Wheelen and Hunger (1995: 362) note that strategic planning is more likely to be an integral part of the entrepreneurial venture than a typical SME. They define the entrepreneurial venture as a business characterised by innovative strategic practices whose primary goals are profitability and growth. This may be significant, as the identification of CSFs stem from the strategic planning

process and it raises the question whether CSFs are identified and are applied in SMEs other than those that can be classified as entrepreneurial ventures.

It is evident that SMEs differ in a number of key areas from large organizations and that inadequate planning, the lack of decentralization of authority and the inability to attract and retain skilled staff are major stumbling blocks to the success of SMEs. The following paragraphs address the major causes of SME failures and examine whether such failures can be linked to the areas in which SMEs differ from large organizations.

3.3.3 Reasons for SME failures

From the previous paragraph it is evident that SMEs are confronted by a number of problems that are associated with the particular characteristics and needs of SMEs. By identifying the reasons for SME failures one can identify root causes of business failure and gain insight into critical factors that need to be addressed to ensure the long-term growth of the business.

SMEs face the greatest danger of failure during their first three years of business. Research by Dunn and Bradstreet (1979: 3) shows that managerial incompetence (42,3%) and insufficient experience (23%) account for 65,3 percent of SME failures.

According to Moolman (1992: 653) managerial incompetence stems from the following:

- Ineffective management planning such as a lack of formal objectives and budget systems.
- Insufficient management information and regular feedback on matters such as sales, stock, profits and productivity. Decision-making is based on instinct and personal judgement.
- Poor control. It stems from an inability to apply basic management functions and irresponsible administration.
- Unsatisfactory financial management and the lack of policies and procedures for planning and managing finances.

From the list it appears as if a number of the managerial shortcomings, that constitute managerial incompetence, stem from the differences that exist between SMEs and large organizations (See paragraph 3.3.2). Planning in SMEs is based on feeling and the time frame is short, while control may be compromised by the fact that authority for all managerial functions are vested in the owner/manager, who is unlikely to possess the full range of personnel, financial, marketing, manufacturing and administrative skills required.

Generally, SMEs lack the resources to employ technical specialists while they have difficulty in attracting and retaining sufficiently skilled staff (See paragraph 3.3.2). Coupled with this, the skills of the owner/manager are generally product based which can be a limiting factor in an organization structure where all decision-making authority is centralized in the owner/manager. The general lack of specialized skills in SMEs may contribute to the lack of management information and deficient financial management practices depicted in the list of managerial incompetencies.

The above paragraphs have shown that SMEs differ in a number of areas from their larger counterparts and that a number of these differences are the primary causes of SME failures. It leads one to the conclusion that the failure of SMEs could stem from the inherent differences that exist between SMEs and large organizations, particularly in the field of planning, feedback, control and the availability of specialized skills, and that special attention focused on these areas could attribute to the survival and growth of SMEs.

3.4 SUMMARY

A major challenge facing managers is the identification, selection and monitoring of information which is related to the strategic performance of the firm. CSF are the few areas of activities that should receive constant and careful attention from management. CSF are not statements of every routine task to be performed and the CSF identified for a project differ fundamentally from the interlinked detailed tasks that must be completed satisfactorily in the ordinary course of business. Additionally, CSF do not represent the activities,

events, conditions or characteristics required for the mere survival of a firm, but are linked to strategies that allows the firm to disrupt the normal course of industry events and forge new industry conditions to the disadvantage of competitors.

CSFs follow strategy and can only be determined once the organization's strategy has been formulated. Strategy is formulated after a thorough analysis of internal- and external environmental factors. CSFs are, however, subject to the circumstances and management perspectives within individual firms and may vary from one firm to another in the same industry.

The chapter has shown that SMEs are not merely miniature versions of large organizations and they differ in a number of respects from their larger counterparts. The informal communication and organization structure in SMEs facilitate faster decision making and open communication. However, these benefits can be offset by the absence of specialised technical skills and limitations in the owner's skills and perceptions. SMEs generally resort to short term reactive planning practices.

It appears as if the failure of SMEs could stem from the inherent differences that exist between SMEs and large organizations, particularly in the field of planning, feedback, control and the availability of specialized skills. As per the definition of CSFs, these are areas of activities that should receive constant and careful attention from management in SMES. These differences may therefore be sources of CSFs in SMEs, and special attention focused on

these critical areas could offer SMEs a sustained advantage and contribute to their survival and growth. In the following chapter the CSFs identified in the literature search will be discussed in view of the criteria for CSFs and the characteristics of SMEs identified in this chapter.

Chapter 4

Critical Success Factors in E-commerce

4.1 INTRODUCTION

The previous chapter has shown that CSF may vary from one firm to another in the same industry and are subject to the circumstances and subjective management perspectives within individual firms. The chapter also showed that although SMEs are in most respects subject to the same economic restraints as their larger counterparts, a number of differences exist in the application of management principles. These differences may be sources of CSFs that can contribute to the survival and growth of SMEs.

Despite the significance and importance of the issue, little research has been published on CSFs in e-commerce. The aim of this chapter is to compile a comprehensive list of CSFs for firms in business-to consumer e-commerce, gathered from practitioner- and academic literature. The importance and applicability of the CSFs identified will be tested empirically in the following chapter.

4.2 AN EVALUATION OF CRITICAL SUCCESS FACTORS IN BUSINESS-TO-CONSUMER E-COMMERCE

The following paragraphs discuss, in chronological date order, CSFs, sourced from practitioner and academic literature.

Seybold (1998: xviii) was the first to investigate CSFs in e-commerce and found that firms that successfully engage in e-commerce, even those that do not operate any physical business location, share the following CSFs:

- **Target the right customers**

Defining the target market is essential and online efforts should be focused directly at those customers who are most likely to respond by buying. Chappell and Feindt (1999: 12) support Seybold's view and suggest that SMEs can rapidly build up a customer base for their products, by exploiting niche markets and the dynamics of existing trading communities and/or communities of interest. However, the extent to which products lend themselves to e-commerce differ from one product type to another, which highlights the importance of careful niche market selection. For example, Ferguson (2000: 174) notes that the online transaction cost for high touch goods is higher than in the offline environment, since it is impossible to examine the product and to engage in dialogue as one would in a brick-and-mortar shop in the offline environment. Ferguson continues that only eight percent of total revenue generated by South African firms engaging in business-to-

consumer and/or business-to-business e-commerce in 2001, was generated by Internet sales, which seems to indicate that e-commerce is linked to a niche market of organizations and individuals who trust the technologies and have access to and/or can afford the cost of access to the Internet. Hence, the evaluation and selection of an e-commerce niche market extends beyond the mere extrapolation of current offline buying patterns to an online environment. Firms also need to take into account whether the product or service lends itself to e-commerce and whether a critical mass of e-commerce users exists for the product offering. Viewed from an SME perspective, identifying a niche market is often neglected and has led to the demise of a number of SMEs. Moolman (1992: 657) suggests that SMEs generally place a greater emphasis on the product and product development and fail to analyse market demand. Hence, target market selection is often based on instinct and personal judgement, rather than on facts.

- **Involve all stakeholders in the organization**

The development and implementation of an e-commerce venture requires the participation of all key stakeholders, as information services personnel may not know much about retailing, customer service, or inventory management. There has to be an integration of skills. Skills integration in e-commerce SMEs may be easier than in large organizations. This view is shared by Chappell and Feindt (1999: 19) who note that the flatter hierarchies and loosely defined

competencies in SMEs tend to facilitate the involvement of all staff members in business processes which makes skills integration in the re-engineering process easier than may be the case in large organizations.

- **Provide staff access to all customer information**

To better understand customer behaviour and preferences when queries occur, everyone in an organization must have access to customer information and transaction records. Chappell and Feindt (1999: 26) suggest that it may not matter if not everyone in an e-commerce SME has access to customer information and transaction records while the volumes are small. However, as volumes increase, it may result in a fragmented view of customers that approach the firm via more than one channel, raise overhead costs through a duplication of processes, and cause e-commerce based operations to become more inefficient and unresponsive than their offline counterparts.

- **A user friendly web design**

The web design must allow for structured, simple navigation that allows the user to flow through the buying process in a logical manner. Seybold's view that the web design is a CSF is echoed by Currie (2000: 92), who suggests that poorly designed web sites with difficulty of use deter users from using them for transactional purposes. Stafford

and Stafford (2000: 229), found that web information content, and not the effects of graphic design, is the primary gratification sought from use of the Internet medium. They suggest that a site that delivers the information sought will prove more gratifying than a site that seeks to amaze users through fancy graphics and ornate designs. Over and above the content and the look and feel of the site, Jones and Field (2000: 47) suggest that the layout and navigation should be structured in a hierarchical, sequential design to optimise the shopping process. The design should exploit cross-sell and up-sell opportunities and should lead the customer through alternative product configurations, product add-ons and optional extras to the checking out process. Rehman (2000: 12) found that the checking out process is often neglected in web design. Rehman continues that consumer tests of major sites found that 43 percent of buying attempts failed due to a poorly designed checking out procedure. When measured against the US 2000 holiday sales, lost sales due to poor checking out processes amounted to more than \$14 billion.

- **Let customers help themselves**

The site should make it easy for customers to get information or place and track an order. Deise, Nowikow, King and Wright (2000: 79) acknowledge that allowing the customer to place and track an order can reduce the order processing costs and raise customer satisfaction and loyalty. It gives the customer more control over the transaction and

reduces the time necessary to make requests to a customer service representative over the telephone. Timmers (2000: 26) suggests that customer loyalty is inadvertently developed when the customers invest their own time and effort in the self-service facility.

- **Web application must offer online and offline assistance to customer enquiries**

An online and offline help facility must be available for customers that require assistance towards concluding the sale and/or require additional product information. To gain a competitive advantage, e-commerce firms seek to collect and structure information in a frequently asked questions (FAQ) facility in anticipation of customer queries, thus saving staff time and offering the customer a 24-hour service. According to Hartman and Sifonis (2000: 10), Cisco Systems, a firm that cultivates a culture of information sharing, found that customer queries represented a classic Pareto problem in that 70 percent of the customers requested the same 30 percent of information. Instead of adding more customer service representatives, Cisco developed a web application to handle the majority of calls. By developing a Web-based application (a self-service model), Cisco increased its customer service ratings significantly. The authors continue that the Web-based self-service model received higher satisfaction ratings than did the humans who previously answered routine customer queries.

- **Deliver personalized service**

By allowing the customer to set up a customized account, software tracking customer preferences can be utilized to push product lines preferred by customers. Personalization involves tailoring a web site's presentation to accommodate specific customer needs, nuances and interests and setting up particular accounts, special terms and tailored conditions. Timmers (1999:20) notes that personalization increases customer satisfaction through more convenience and choice and allows the firm to form ongoing, intimate, commercial relationships with customers. Hartman and Sifonis (2000:50) suggest that customisation has shifted the emphasis of marketing in e-commerce to one-to-one marketing. In one-to-one marketing the emphasis shifts from finding customers for products to finding products for customers. Turban, Lee, Kind and Chung (1999: 311) point out that one-to-one marketing requires the integration of the e-commerce applications with the existing legacy systems for seamless database operation, queries and transaction processing. These issues must be weighted against the cost and challenge of implementation. To implement one-to-one marketing, recording, security and data-mining technology is required, which may preclude SMEs from readily embracing the concept.

- **Foster community**

In addition to making customers feel welcome at a web site, features that permit customers to interact with each other through recommendations, information sharing, games and contests, and other online activities are essential. Riggins (1999: 306) agrees that building virtual communities may offer a strategic advantage, as they create new levels of user loyalty by allowing the users to interact with one another via online forums. The Motley Fool, a website for investors, provides an online bulletin board where users can trade ideas and suggestions, an online chat room where users can meet with various experts or the management of a particular firm, and a bulletin board where users can critique other people's investment strategies. The amusement aspect of the site promotes return visits, which results in significant advertising revenues. Additionally, content is generated from free outside customer sources, which lowers maintenance costs and increases user loyalty.

From the above it appears as if Seybold focuses mainly on issues that revolve around web design and optimisation of customer relationships. In addition to the CSFs identified by Seybold (1998: xviii), Turban, Lee, King and Chung (1999: 311) suggest that the following CSFs apply to firms in e-commerce:

- **Top management support**

Top management support constitutes the participation of management in the planning and the monitoring of programme outcome. Deise, Nowikow, King and Wright (2000: 188) support this view and suggest that e-commerce is essentially a strategic issue and that the leadership of a firm's e-commerce efforts should rest with top management. They define the role of top management as the setting of direction, demonstrating personal resolve for change, and influencing all role players to give their full commitment and support. Viewed from an SME perspective, authority and decision-making is typically centralized in the owner/manager (See paragraph 3.3.2), hence, successful e-commerce implementation may be dependent on the commitment and leadership practiced by the owner/manager.

- **Selection of appropriate technical infrastructure**

The e-commerce system must be secure, scaleable, reliable and cost effective, as it is the heart of the e-commerce system that handles order processing, order management and a number of ancillary services. Chappell and Feindt (1999:26) report that SMEs' investment costs in an e-commerce technical infrastructure is typically a greater proportion of revenue than in larger firms, and that SMEs with a low level of technology infrastructure do not appear to be at a significant disadvantage compared to high technology based firms. They continue that the continuous learning required to manage the rapid change in technology has lead a large number of SMEs to outsource their

technology needs. It enables firms to stay focused on their core skills and to tap into the skills of third-party experts. Another reason why SMEs may favour outsourcing is due to their inability to attract and retain the skills of sufficiently skilled staff (See paragraph 3.3.2). Outsourcing can have its drawbacks for SMEs that do so, as they may lose a measure of control over the updating and currency of their sites.

- **Security and control of the e-commerce system**

Security measures to secure customer information must be built into the e-commerce system. According to May (2000: 165) security in the e-commerce setting is primarily concerned with protecting the privacy of transactional information and authenticating the credentials of transacting parties. Deise, Nowikow, King and Wright (2000: 52) concur that security issues in e-commerce have come to the forefront. They note that firms in e-commerce are facing strict security demands from customers and suggest that firms that fail to mitigate the security risks of e-commerce face the prospect of failure.

- **Promotion of site**

Users must be encouraged to visit the site and to make a purchase. Jones and Field (2000: 26) note that despite spending considerable sums of money building e-commerce sites, a number of these same entrepreneurs do not do enough to draw customers to their sites, resulting in low traffic, poor sales and possibly failure. The authors

continue that a combination of online and offline promotion and PR techniques for the launch, growth and evolution phase of the venture are critical to the success of the firm. However, according to Moolman (1992: 654), SME owner/managers are often so involved with the daily problems of the firm that the marketing function is neglected, with little or no budgetary allocation for publicity, promotion and other marketing expenditure.

- **Monitoring the cost of the e-commerce project**

As with all new investments, the cost justification of e-commerce investments must be demonstrated in real terms. Currie (2000: 128) notes that a number of firms are finding that setting up an e-commerce venture does not automatically add value to a firm. Turban, Lee, King and Chung (1999: 312) suggest that although the rate of return on investment is a useful tool in investment decision making, many of the critical benefits in e-commerce may not easily be converted to numbers. For example, improvements in administration and customer efficiencies are not easily quantifiable. The authors continue that an assessment of all quantifiable and non-quantifiable resources is critical in the formulation of a desirable e-commerce strategy. Rehman (2000: 13) suggests that a site's conversion rate is the best measure of its effectiveness. The conversion rate is the percentage of visits that result in a purchase and according to Rehman, the average conversion rate for e-commerce sites is 1,8 percent. The author suggests that by focusing on strategies to raise the conversion rate, firms can

significantly raise their revenues from e-commerce activities. From an SME perspective, Moolman (1992: 654) suggests that a lack of financial management and control is a major contributor to the failure of SMEs (See paragraph 3.3.3) and that the majority of SMEs have no policies and procedures to plan and manage finances.

- **Developing loyalty and trust between buyers and sellers**

Loyalty raises the proclivity of customers to pursue further future transactions with a particular firm. Reichheld and Scheffer (2000:105) support the notion that loyalty is a CSF and posit that customer retention has a significant impact on the profitability of a firm. They note that at the beginning of a relationship, the outlay needed to acquire a customer is often considerably higher in e-commerce than in traditional retail channels. They cite an example of apparel e-commerce retail venture, where the acquisition of new customers cost up to 40 percent more for pure-play Internet firms (firms without a physical presence) than for traditional retailers with both physical and on-line stores. Wang, Head and Archer (2000: 2) support Reichheld and Scheffer's view and note that relationship marketing, where customer loyalty is the primary focus, is critical in the e-commerce environment. Porter (2001: 69), however, suggests that loyalty in the Internet environment is difficult to attain, as the user switching cost is likely to be lower than it is in the traditional ways of doing business. Porter continues that buyers can switch from one online firm to another with just a few mouse clicks. Contrary to the view put forward by **Porter, Wang, Head**

and Archer (2000:6) argue that the environmental learning process tends to be longer for individual customers in the Web market than in the conventional market. The authors note that the establishment of a relationship in the Web market often entails the transfer of personal information and due to that, the relationship tends to be of a longer term, which raises customer-switching costs and cements customer loyalty.

In addition to the CSF discussed in the above paragraphs, Jones and Field (2000: viii) identified the following CSFs:

- **Compiling a business plan**

A business plan offers insight into the market and resources required to succeed. Although the compilation of a business plan may seem as a given, routine business activity, it may be a critical activity in SMEs, where planning is generally done on an ad hoc, short term basis (See paragraph 3.3.2). Jones and Field (2000:3) argue that a business plan is a useful tool that serves as a benchmark to test new ideas, opportunities and evaluate competitor performance. By developing business plans, SMEs in e-commerce may raise their proclivity to identify trends and anticipate and adapt to the rapidly changing technological environment.

- Branding the website

A brand is critical as it makes a site easy to remember. Hartman and Sifonis (2000: 290) argue that one of the most pervasive myths of e-commerce is that the web levels the playing field and negates the advantages of established brands. They suggest that with the numerous sites on the web, customers will seek the brands they know and recall, and a carefully cultivated brand name can become the most prized intangible asset of an e-commerce firm. This view is supported by May (2000: 250), who points out that the real function of a brand is to provide reassurance and to set expectations about quality and redress. The author continues that a brand encapsulates and delivers consumer trust. For example, Amazon has built a powerful brand by giving individual customers positive experiences, resulting in considerable goodwill and word-of-mouth advertising. According to Moolman (1992: 681), SMEs in the traditional brick-and-mortar markets build up personal relationships with their clients and confine their activities mainly to the local market. This may create loyalty to the SME brand. However, presence on the web exposes the SME to users beyond its immediate environment where it may not enjoy strong brand recognition as in its local market. Brand building, as pointed out earlier, requires a financial commitment, which is often neglected or refused by SME owner/managers.

- **Shipping and fulfilment**

The authors suggest that shipping and fulfilment is often under optimised, leaving e-commerce firms ill-prepared to meet the challenge of product distribution in Internet time. The authors continue that sound customer relations are dependent on an efficient fulfilment system, which is a customer facing activity and directly tied to customer satisfaction and retention. They note that a number of e-commerce firms fail due to inefficient systems that fail to ship products to the client in a timely manner. Hargrove (2001: 245) supports this notion and note that success in the Internet environment is dependent on the ability to supply products to consumers accurately, swiftly and economically.

That concludes the discussion of the various CSFs identified in the literature. The following section integrates the CSFs into a comprehensive list of issues that are deemed critical for firms in e-commerce.

4.3 AN INTEGRATED LIST OF CRITICAL SUCCESS FACTORS IN E-COMMERCE

Table 4.1 depicts the integrated list of CSFs discussed in the above paragraphs. A number of the CSFs depicted in the table may be interpreted as a representation of the interlinked, detailed tasks that must be completed satisfactorily in the ordinary course of business, and should therefore, according to Dobbins (2000), not be viewed as CSFs (See paragraph 3.2).

However, this argument may be countered by the fact that a closer scrutiny of each CSF reveals that they can make a material impact on the performance of an e-commerce initiative (See paragraph 4.2). Additionally, the circumstances and management perspectives within individual firms are unique, which implies that at a particular point in time, one CSF may be more relevant to one firm than to another.

A number of CSFs depicted in Table 4.1 may be viewed as routine management activities, yet they have a direct impact on the long term survival and growth of SMEs (See paragraph 3.3). The literature has shown that the following CSFs are often neglected in SMEs and are often the cause of SME failures:

- **Targeting the right customers**
- **Involving all stakeholders**

Table 4.1

Integrated list of CSFs as suggested in the literature

Critical Success Factors

- ❑ **Target the right customers**
- ❑ **Involve all stakeholders**
- ❑ **Provide access to all customer information**
- ❑ **User-friendly web design**
- ❑ **Let customers help themselves**
- ❑ **Offer online and offline assistance to customer enquiries**
- ❑ **Deliver personalized service**
- ❑ **Foster online community**
- ❑ **Top management support**
- ❑ **Technical infrastructure**
- ❑ **Security and control of the e-commerce system**
- ❑ **Promotion of site**
- ❑ **Financial planning and control**
- ❑ **Loyalty**
- ❑ **Business Plan**
- ❑ **Branding**
- ❑ **Shipping and fulfilment**

Source: CSFs according to the literature survey

- **Top management support**
- **Promotion of site**
- **Financial planning and control**
- **Development of a business plan**

That concludes the discussion of the CSFs identified in the literature search. The applicability of the CSFs to SME organizations in e-commerce will be empirically tested in Chapter Five.

4.4 SUMMARY

The differences that exist between SMEs and large organizations may have an impact on the ability and willingness of SMEs in e-commerce to implement a number of the CSFs identified.

This chapter has shown that the development and implementation of an e-commerce venture requires the participation of the owner/manager and all key stakeholders. This may favour SMEs, as the flatter hierarchies and loosely defined competencies in SMEs tend to make skills integration in the re-engineering process easier than may be the case in large organizations. However, the shift to the virtual e-commerce environment requires skills and experiences over and above the traditional management principles applied in the physical business environment. This, on the other hand, may impact negatively on SMEs, who generally have difficulty in attracting and retaining sufficiently skilled staff due to their inability to provide the same benefits, security and promotion opportunities as opposed to their larger counterparts.

Although the compilation of a business plan may seem as a given, routine business activity, it is deemed a CSF in e-commerce. It may be particularly critical in SMEs, where planning is generally done on an ad hoc, short-term basis. The chapter also shows that the establishment of personalised, one-to-one marketing is a critical factor in raising customer satisfaction and allowing the firm to form ongoing, intimate, commercial relationships with customers.

However, the cost implication of implementing such a customized facility may preclude a number of SMEs from implementing such a service.

Although marketing and branding are listed as CSF for e-commerce ventures, SME owner/managers generally focus on operational issues and often refuse to budget for publicity, promotion and other marketing expenditure. Additionally, SMEs in the traditional, offline environment tend to have a regional focus and are inclined to establish loyalty through personal relationships with their clients. In the virtual, impersonal e-commerce environment, where a competitor is merely a mouse click away however, customer loyalty needs to be nurtured through an electronic interface, which may require an investment in additional resources.

Shipping and fulfilment is a CSF and often under optimised, leaving e-commerce firms ill-prepared to meet the challenge of product distribution in Internet time. Sound customer relations are dependent on an efficient fulfilment system, which is a customer facing activity and directly tied to customer satisfaction and retention.

An assessment of all quantifiable and non-quantifiable returns on the e-commerce investment is critical in the formulation of a desirable e-commerce strategy. From an SME perspective, however, the evaluation and control of costs and return on investment of the e-commerce venture may be negatively affected by the general lack of financial management policies, procedures and control measures in SMEs.

The importance and relevance of the CSFs listed in this chapter will be tested empirically in the following chapter.

Chapter 5

Description of Research Method and Design

5.1 INTRODUCTION

This chapter provides an outline of the empirical approach adopted in this study and presents the results of the empirical survey. Chapter Two and Three addressed the first sub-problem identified in Chapter One, namely to identify CSF for SMEs in e-commerce according to academic and practitioner literature. Chapter Three critically examined the process of CSF identification and its application in SMEs. The sources and the identification of CSFs were examined in detail, which lead to insights into the role of CSFs in the strategic management process and the objectivity of the CSF identification process. The chapter also showed that although SMEs are in most respects subject to the same economic restraints as their larger counterparts, differences exist in the application of management principles, which may have an impact on the CSFs identified for SMEs. Chapter Four critically examined and measured CSFs, gathered from practitioner and academic literature, against the backdrop of the criteria for CSFs and the unique characteristics of SMEs discussed in Chapter Three.

The aim of this chapter is to establish a framework, which empirically tests the applicability of the CSFs identified in the literature study, against the

perceptions of SME owner/managers that have adopted e-commerce applications.

The chapter firstly details the research design, which sets out the research methods and design employed in this study. It is followed by an outline of the measuring instrument used in the research, which details the development of the survey questionnaire, the pilot study, the administration of the questionnaire, the sampling method and the response to the survey. The results of the survey are presented in tabulated form and the chapter concludes with an interpretation of the research findings.

5.2 RESEARCH METHOD AND DESIGN

The research method and design is the general approach applied to answer the research question. According to Johnson and Solso (1971: 4), the design of the research is fundamental and researchers need to consider their methodology carefully. Smith & Dainty (1991: 68) describe research as a systematic examination to discover new information to expand or verify existing knowledge, in an attempt to resolve a problem. The broad research design followed in this study was to firstly identify the main problem to be resolved, which was broken into three sub-problems. The main problem is:

What are the critical success factors for SMEs that utilize e-commerce applications?

To resolve the main problem, the following sub-problems were identified:

- (1) What, according to the literature, are the factors critical to the success of e-commerce ventures?
- (2) What are the critical success factors according to SMEs that have adopted e-commerce applications?
- (3) How can the above be integrated into a generic checklist for SMEs that wish to adopt e-commerce applications?

The following broad procedures were adopted to solve the main and sub-problems:

- (a) Chapter Three has shown that a major challenge facing managers is the identification, selection and monitoring of information which is related to the strategic performance of the firm. CSFs are the few areas of activities that should receive constant and careful attention from management. Although SMEs are in most respects subject to the same economic restraints as their larger counterparts, a number of differences exist in the application of management principles, which can impact on the CSFs pertaining to SMEs.

(b) Chapter Four critically examined and measured CSFs, gathered from practitioner- and academic literature, against the backdrop of the criteria for CSFs and the unique characteristics of SMEs discussed in Chapter Three. Seventeen CSFs pertaining to firms in business-to-consumer e-commerce were identified to be tested empirically.

5.3 THE PLANNING OF THE EMPIRICAL STUDY

For the purpose of this study, an e-mail survey questionnaire was selected as the means to collect data from the research subjects. The survey, the questionnaire, the sample and the statistical analysis of the data are described below.

5.3.1 The survey

Saunders, Lewis and Thornhill (1997: 72) suggest that the survey method is a common strategy in business and management research, and allows for the collection of a large amount of data from a sizeable population in an economical manner. They continue that the questionnaire is one of the most widely used survey data collection techniques. The authors use the questionnaire as a general term to include all techniques of data collection in which each person is asked to respond to the same set of questions in a predetermined order. A range of techniques including structured interviews, telephone questionnaires and postal questionnaires fall under this category.

According to Welman and Kruger (2001: 146), survey questionnaires can be used to obtain the following information from respondents:

- Biographical particulars for example the age, education and income levels of respondents
- Typical behaviour for example, the television programmes respondents favour
- Opinions, beliefs and convictions of respondents on a particular topic or issue
- Attitudes towards a particular topic or issue

The authors continue that a postal survey offers the following advantages and disadvantages:

- **Advantages**
 - A postal survey is the least expensive of all survey methods
 - Of all the survey methods the postal survey offers the greatest degree of anonymity

- The respondents can complete the questionnaire at their own convenience

- **Disadvantages**
 - The researcher has the least control over the conditions under which postal questionnaires are completed and may result in some questions not being responded to in the order presented
 - Researchers are unable to clarify questions that may be unclear to the respondents
 - Postal surveys tend to have the lowest response rate of all survey methods

Maas (1995: 91) suggests that a postal questionnaire is particularly suited to SME related research for the following reasons:

- A greater geographic area can be covered by the survey

- The relative cost of a postal survey method may be less than other data collection methods

- The questionnaire can be completed at a time that is convenient for the SME owner/manager

- The centralization of power in the owner/manager raises the likelihood that the owner/manager will complete the questionnaire, rather than delegate it to a subordinate

5.3.2 The questionnaire

The questionnaire for this study (See Annexure 2) was developed using information extracted from the literature study. Twenty-six closed questions, that limit responses to a small number of alternatives and generate precise answers (Leedy, 1997: 193), were posed to the respondents. McBurney (1994: 194) adds that closed ended questions are easier to code and analyse and are favoured by respondents, who do not have to be articulate in formulating their answers.

The questionnaire consists of three sections. The first measures biographic data of respondents, which permits important cross-tabulation of data to establish relationships that might exist between variables.

The second category measures the attitudes, beliefs and behaviour of the respondents towards the CSFs identified in the literature study. According to Saunders, Lewis & Thornhill (1997: 250), attitude variables record how respondents feel about something. They differ from belief variables which record what respondents think or believe is true or false. Behaviour variables record what respondents did in the past, do now or will do in the future.

The third section of the questionnaire measures the respondents' rank order of importance of the CSFs identified in the literature study.

To heed the warning of Emory & Cooper (1991: 333) that long and/or complex questionnaires stand less chance of being responded to, the questionnaire was limited to allow the respondents to complete it within 20 minutes.

5.3.3 The pilot study

To ensure the clarity and user-friendliness of the questionnaire, a draft questionnaire was tested in a pilot study. Hague (1994: 95) identifies piloting as a study to evaluate the following aspects of the questionnaire:

- Whether the wording of questions is correct and not ambiguous or vague.
- Whether the questions are relevant to the research topic.
- Whether the layout of the questionnaire is user-friendly.

The pilot study to test the questionnaire for this study was conducted amongst academics and SMEs.

The draft questionnaire was scrutinised by two university professors promoting the study, and comments were received from the statistician who assisted with the statistical analysis. A number of refinements were affected to the draft questionnaire to ensure a balance between statements expressed

positively and negatively and to avoid establishing a central tendency in the responses.

After the changes had been affected, the questionnaire was presented to two organizations classified as SMEs that are using e-commerce applications in their organizations. After a review of the responses to the pilot study, the title of the covering letter to the questionnaire (See Annexure 1) was changed from “Critical Success Factors in E-commerce” to “Critical Success Factors in Conducting Business through the Internet”. The reason for the change was to eliminate the probability that firms in the first stage of e-commerce (See paragraph 1.4.3) may fail to see the relevance of the study to their organizations and refuse to complete the questionnaire.

5.3.4 The sample

To answer the research question, information needs to be collected from the research subjects referred to as the population. Welman and Kruger (2001: 46) define the population as the study object, which may be individuals, groups, organizations, human products or events, or the conditions to which they are exposed.

At times the populations under scrutiny may be so large, that it may be impossible to collect data from all its constituents. Consequently, researchers have to obtain data from only a sample of these populations. Saunders, Lewis and Thornhill (1997: 125), suggest that the use of samples results in a higher

overall accuracy than the research of an entire population. They argue that the smaller the number of cases for which data must be collected, the more time can be spent designing and piloting the means of collecting this data. Collecting data from fewer cases also means that more detailed information can be collected. Additionally, more time can be spent following up data from difficult cases and checking and testing the data for accuracy prior to analysis.

Due to the absence of a generally available register or database that contain the contact details of SMEs that utilize e-commerce applications, a list obtained from the Port Elizabeth Chamber of Commerce and Industry was used to identify SMEs to participate in the study. From the list 40 firms that have a website and comply with the criteria for SMEs (See paragraph 1.5.3) were selected for the study.

The selected firms were contacted telephonically to explain the purpose of the study and to elicit their participation in the study. The questionnaire, with a covering letter (See Annexure 1) was e-mailed to the SMEs demarcated in the study on 20 August 2002. The purpose of the covering letter was to increase the response rate and to raise the probability of an honest response.

A cut-off date of 26 September 2002 was set for the return of the questionnaire. A follow-up call was made telephonically to the SMEs demarcated in the study to ensure that the questionnaires had been received and to remind respondents to complete the response sheet. Only five completed questionnaires had been received by the cut-off date, which

prompted the extension of the cut-off date. A second follow-up call reflected a general negativity towards the study and a reluctance to complete the questionnaire. By the revised cut-off date of 15 October 2002, sixteen (40 percent) completed questionnaires had been received, which compares favourably with 30 percent mark, which Emory and Cooper (1991: 333) list as acceptable for postal surveys. The results of the biographic variables are listed next.

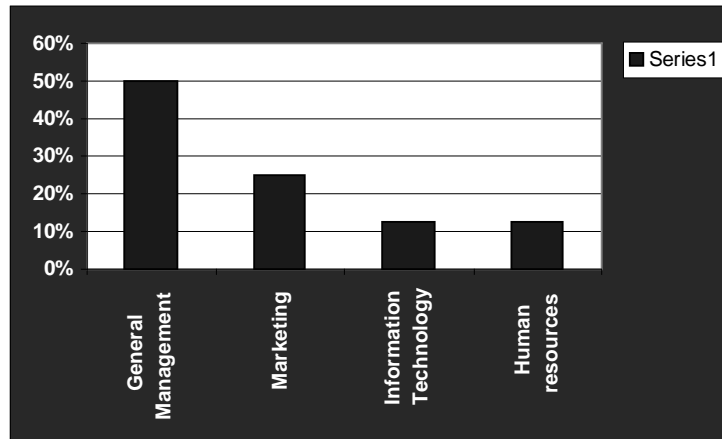
5.4 RESULTS OF BIOGRAPHICAL VARIABLES OF THE QUESTIONNAIRE

Section A of the survey questionnaire (See Annexure 2) requested general information regarding the respondents, to allow comparisons between the independent variables (biographic variables) and the dependent variables (Section B) of the survey questionnaire.

The results for the biographic details of the respondents are reflected in Charts 5.1 to 5.8. A brief discussion of the data is provided immediately following the respective charts.

Chart 5.1

Respondents by field of expertise

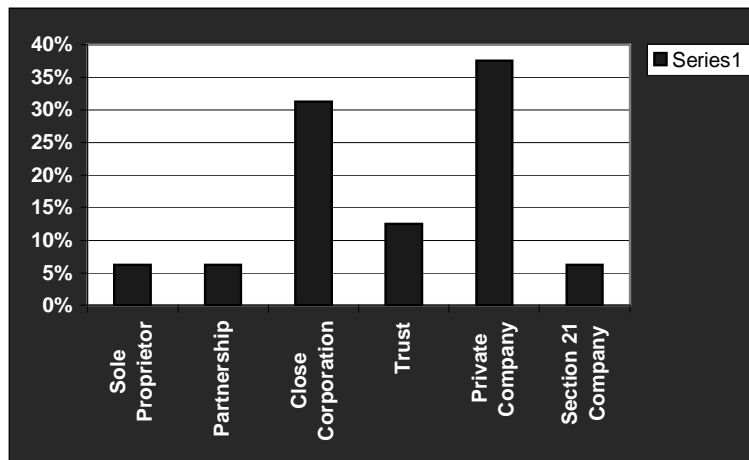


Source: Results obtained from analysis of respondent field of expertise

The response to question one of the survey questionnaire depicted, in Chart 5.1, indicates that individuals from a varied field of expertise across the surveyed organizations are the respondents in the survey. The highest percentage (50%) of respondents are general managers, followed by marketing- (25%), information technology- (12,5%) and human resources practitioners (12,5%). It is significant to note that despite the generally accepted notion that SMEs generally lack the resources to employ functional experts (See paragraph 3.3.2), 50 percent of the respondents are functional experts within SMEs.

Chart 5.2

Respondents by legal entity of organizations

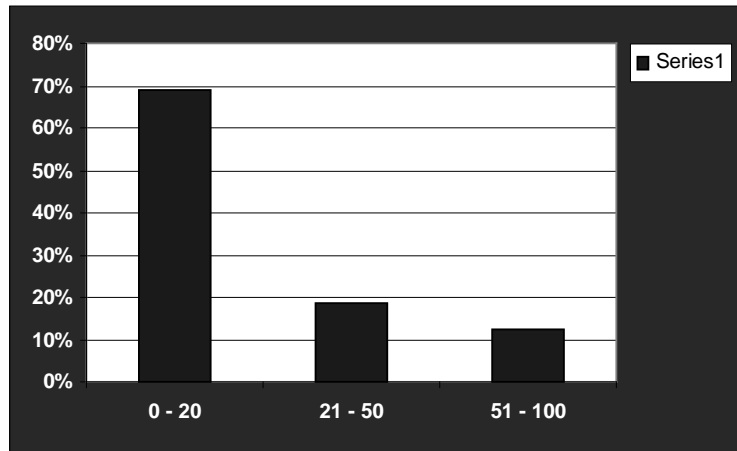


Source: Results obtained from analysis of response rate per organization legal entity

The response to question two of the survey questionnaire, depicted in Chart 5.2, reflects a wide spread of organization formats. Sixty eight percent of the respondent organizations trade as private companies (37,5%) or as close corporations (31,25%). The organization legal entity that elicited the third most responses amongst the respondents is a trust (12,5%). Twelve percent of the respondent organizations trade as a sole proprietor or partnership and do not have legal personality.

Chart 5.3

Respondents by size of organization

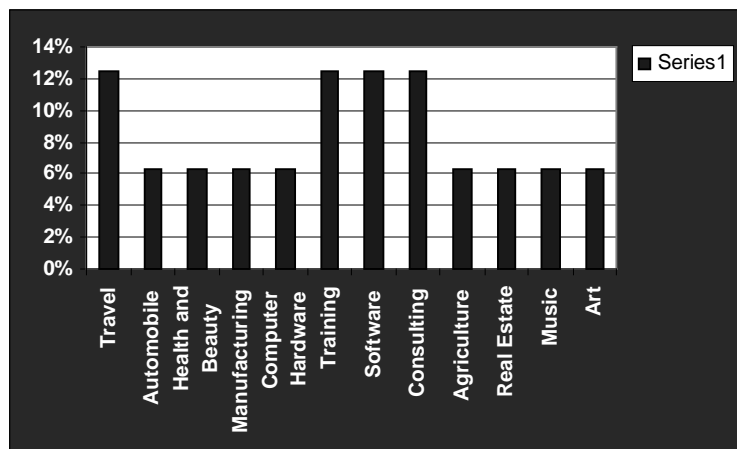


Source: Results obtained from analysis of size of organization

In response to question three of the survey questionnaire depicted in Chart 5.3, the majority of the respondents (68,75%) indicated that they employ less than 20 employees, while 87,5 percent of the respondents employ less than 50 employees. Twelve percent of the respondents employ more than 50 employees.

Chart 5.4

Respondents by industry sector

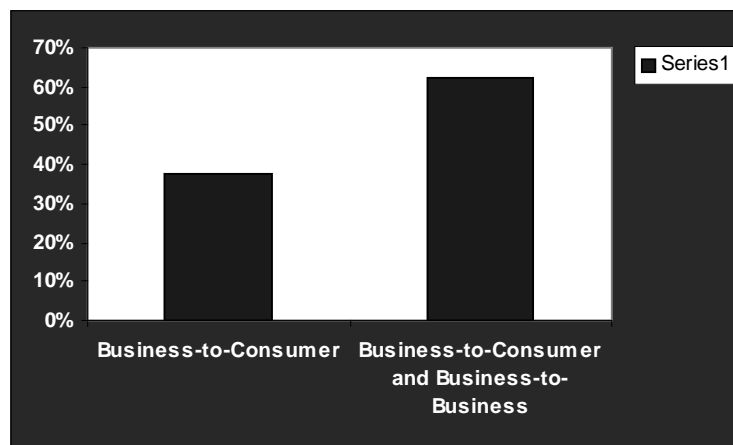


Source: Results obtained from analysis of industry sectors

The response to question four of the research questionnaire is depicted in Chart 5.4, which indicates that the respondents are spread evenly over a wide spectrum of industries. The bulk of the responses came from four industry sectors namely travel, training, software and consulting, each contributing 12,5 percent of the responses. The wide spread indicates that firms from diverse backgrounds have adopted e-commerce and that its activities are not restricted to only a few industries.

Chart 5.5

Respondents by form of e-commerce

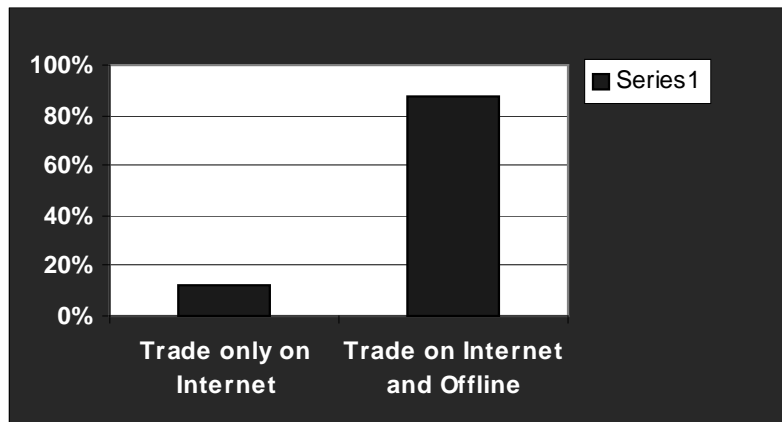


Source: Results obtained from analysis of the forms of e-commerce

Chart 5.5 reflects the forms of e-commerce adopted by the respondents. The bulk of the respondents (62,5%) use both business-to-consumer and business-to-business e-commerce, while 37,5 percent of the respondent use the Internet for business-to-consumer e-commerce exclusively.

Chart 5.6

Respondents by nature of e-commerce activities

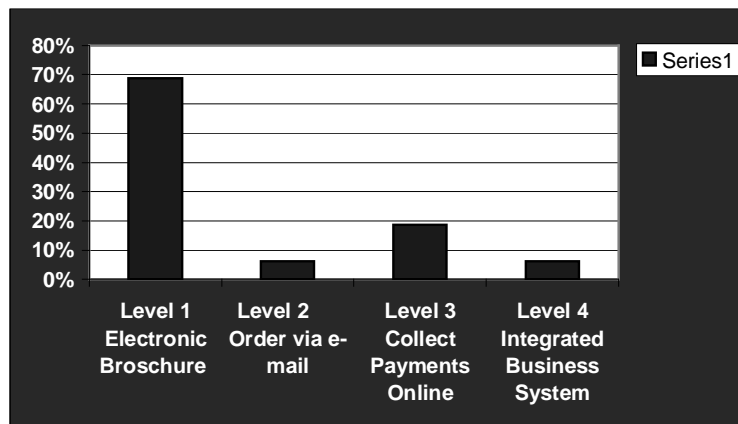


Source: Results obtained from analysis of e-commerce activities

According to the response to question six of the research questionnaire depicted in Chart 5.6, the majority of the respondents (87,5 %) trade in the offline environment and on the Internet, while twelve percent of the respondents trade on the Internet only.

Chart 5.7

Respondents by level of e-commerce

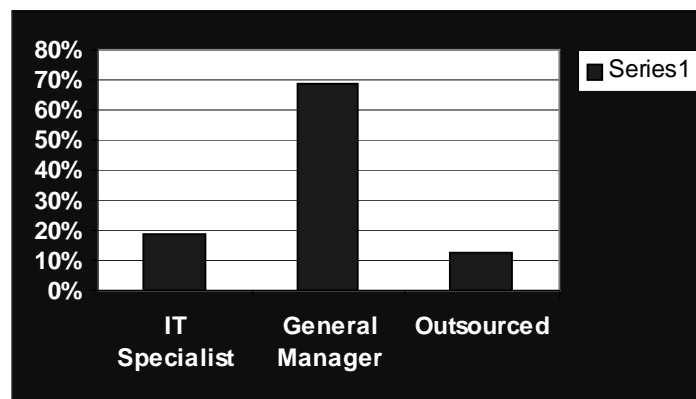


Source: Results obtained from analysis of level of e-commerce

Chart 5.7 shows that the majority of the respondents (68.75%) have the most elementary web presence (Level 1) and use their Internet presence merely as a brochure, with no interactive ordering mechanism, while 18,75 percent of the respondents have a Level 2 web presence, which enables them to take orders over the Internet, but their e-commerce systems are not integrated with their accounting and inventory systems. Six percent of the respondents have the most sophisticated web presence (Level 4) with an e-commerce system that is fully integrated with the business network.

Chart 5.8

Responses concerning the management of e-commerce



Source: Results obtained from analysis of management of e-commerce

According to the findings depicted in Chart 5.8, the e-commerce activities of sixty eight percent of the respondents are managed internally by the general manager, while in 18,75 percent of the respondent organizations it is managed by an IT specialist. Twelve percent of the respondents have outsourced the management of their e-commerce activities to an external firm.

That concludes the presentation of the biographic details of the respondents. In the following section, the results of Section B of the survey questionnaire, measuring the attitudes, beliefs and behaviour of respondents, will be presented.

5.5 RESULTS OF THE QUESTIONNAIRE VARIABLES MEASURING THE ATTITUDES, BELIEFS AND BEHAVIOUR OF RESPONDENTS

Section B of the survey questionnaire (See Annexure 2) was designed to measure the attitudes, beliefs and behaviours of the respondents towards e-commerce and the critical success factors in e-commerce. The results are depicted in tables 5.1 to 5.30. Table 5.1 reflects the respondents' beliefs concerning e-commerce in general, while tables 5.2 to 5.30 reflect the respondents' attitudes, beliefs and behaviour concerning the CSF in commerce as identified in the literature survey of this study. A brief discussion of the data is provided immediately following the respective tables. A qualitative analysis of the results follows in section 5.6 of the chapter.

Table 5.1

Responses reflecting e-commerce expectations

E-commerce expectations		n	Key	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree
8.1	E-commerce lowers personnel costs	16	No	5	4	4	3	0
			%	31.2	25.0	25.0	18.7	0
8.2	E-commerce lowers distribution costs	16	No	3	8	3	1	1
			%	18.7	50.0	18.7	6.2	6.2
8.3	E-commerce lowers postage costs	16	No	5	9	0	2	0
			%	31.2	56.2	0	12.5	0
8.4	E-commerce lowers operational costs	16	No	6	4	3	3	0
			%	37.5	25.0	18.7	18.7	0
8.5	E-commerce lowers order processing costs	16	No	5	7	2	2	0
			%	31.2	43.7	12.5	12.5	0
8.6	E-commerce lowers order delivery time	16	No	6	7	1	2	0
			%	37.5	43.7	6.2	12.5	0
8.7	E-commerce lowers payment collection period	16	No	3	5	5	3	0
			%	18.7	31.2	31.2	18.7	0
8.8	E-commerce improves the response rate to market demands	16	No	7	7	2	0	0
			%	43.7	43.7	12.5	0	0
8.9	E-commerce improves customer relations	16	No	7	7	2	0	0
			%	43.7	43.7	12.5	0	0
8.10	E-commerce improves the flow of information	16	No	8	7	1	0	0
			%	50.0	43.7	6.2	0	0
8.11	E-commerce offers access to new markets	16	No	10	6	0	0	0
			%	62.5	37.5	0	0	0
8.12	E-commerce offers new marketing avenues	16	No	8	7	1	0	0
			%	50.0	43.7	6.2	0	0
8.13	E-commerce is an equalizer between large organizations and SMEs	16	No	4	5	5	2	0
			%	25.0	31.2	31.2	12.5	0
8.14	The introduction and management of a business-to-consumer e-commerce system is a simple process	16	No	0	5	6	3	2
			%	0	31.2	37.5	18.7	12.5

Source: Results obtained from analysis of e-commerce activities

The respondents' beliefs concerning e-commerce in general were tested in questions 8.1 to 8.14 of the survey questionnaire and the results are depicted in Table 5.1. The results indicate a general pattern of agreement with the statements contained in the questions.

The statements that elicited the strongest agreement from the respondents are the following:

- E-commerce offers access to new markets (62,5 %)
- E-commerce improves the flow of information (50 %)
- E-commerce offers new marketing avenues (50 %)
- E-commerce improves the response rate to market demands (43,7%)
- E-commerce improves customer relations (43,7%)

A predominant response of “agree” was received in response to the following statements:

- E-commerce lowers postage costs (56.2%)
- E-commerce lowers distribution costs (50%)

The statement that the introduction and management of a business-to-consumer e-commerce system is a simple process, elicited the strongest disagreement from the respondents, with 18,7 percent of the respondents in disagreement and 12,5 percent in strong disagreement with the statement. The statement also invoked the greatest response of “uncertain” by the respondents (37,5%).

Table 5.2

Responses concerning the identification of a target market

Target market selection		n	Key	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree
9.1	"Identifying a target market is critical to the success of an e-commerce venture"	16	No	7	8	0	1	0
			%	43.7	50.0	0	6.2	0
9.2	In general, organizations in e-commerce do clearly define their target markets	16	No	0	5	5	6	0
			%	0	31.2	31.2	37.5	0
9.3	Your organization has a clearly defined e-commerce target market	16	No	0	9	4	3	0
			%	0	56.2	25.0	18.7	0

Source: Results obtained from analysis of e-commerce activities

The respondents' attitudes, beliefs and behaviour concerning target market selection as a CSF in e-commerce were tested in questions 9.1 to 9.3 of the survey questionnaire and the results are depicted in Table 5.2.

Question 9.1 measured the respondents' attitudes and their responses indicate that 94 percent of the respondents either strongly agree (43,7%) or agree (50%) that identifying a target market is critical to the success of an e-commerce venture. It therefore appears as if the respondents generally have a positive attitude towards the notion that the identification of a target market is a CSF in e-commerce.

Question 9.2 measured the respondents' beliefs and in spite of the generally positive response to question 9.1, 37 percent of the respondents hold the belief that firms in e-commerce do not clearly define their target markets.

The respondents' behaviour was measured in question 9.3 and the responses in Table 5.2 indicate that 56,2 percent of the respondent organizations do have clearly defined target markets.

Table 5.3

Responses reflecting level of participation by stakeholders in firm

Internal integration and participation		n	Key	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree
10.1	“The participation of all key stakeholders in the organization is critical to the success of an e-commerce venture”	16	No	7	7	0	1	1
			%	43.7	43.7	0	6.2	6.2
10.2	In general, organizations in e-commerce do involve all key stakeholders in the development and management of their e-commerce initiatives	16	No	2	1	6	5	2
			%	12.5	6.25	37.5	31.2	12.5
10.3	Your organization involves all key stakeholders in the development and management of its e-commerce initiatives	16	No	2	8	1	5	0
			%	12.5	50.0	6.25	31.2	0
10.4	Staff throughout your organization contribute information to be published on the web site	16	No	2	6	0	7	1
			%	12.5	37.5	0	43.7	6.2

Source: Results obtained from analysis of e-commerce activities

The respondents’ attitudes, beliefs and behaviour concerning the participation of all key stakeholders as a CSF in e-commerce were tested in questions 10.1 to 10.4 of the survey questionnaire and the results are depicted in Table 5.3.

Question 10.1 measured the respondents’ attitudes and their responses indicate that 87 percent of the respondents either strongly agree (43,7%) or agree (43%) that the participation of all key stakeholders is critical to the success of an e-commerce venture. It therefore appears as if the respondents generally have a positive attitude towards the notion that the participation of all stakeholders is a CSF in e-commerce.

Question 10.2 measured the respondents’ beliefs and in spite of the generally positive response to question 10.1, 68 percent of the respondents disagree (37.5%) or strongly disagree (12,5%) that firms in e-commerce involve all key

stakeholders in the development and management of their e-commerce initiatives.

The respondents' behaviour was measured in question 10.3 and 10.4. The responses in Table 5.3 indicate that 62,5 percent of the respondents do involve all key stakeholders in the development of their e-commerce initiatives.

Table 5.4

Responses concerning access to customer information

Access to customer information		n	Key	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree
11.1	"Providing all staff members access to real time customer information and transaction records is critical to the success of an e-commerce venture"	16	No	3	7	3	3	0
			%	18.7	43.7	18.7	18.7	0
11.2	In general, organizations in e-commerce do provide all staff members access to real time customer information and transaction records	16	No	0	3	9	3	1
			%	0	18.7	56.2	18.7	0
11.3	Your organization provides all staff members access to real time customer information and transaction records	16	No	1	5	2	7	1
			%	6.2	31.2	12.5	43.7	6.2

Source: Results obtained from analysis of e-commerce activities

The respondents' attitudes, beliefs and behaviour concerning the provision of access to customer information as a CSF in e-commerce were tested in questions 11.1 to 11.3 of the survey questionnaire and the results are depicted in Table 5.4.

Question 11.1 measured the respondents' attitudes and their responses indicate that 62 percent of the respondents either strongly agree (18,7%) or agree (43,7%) that the provision of access to real time customer information

and transaction records to all staff members is critical to the success of an e-commerce venture. In contrast, 18 percent of the respondents disagree with the statement and it therefore appears as if the respondents generally have a positive attitude towards the notion that access to real time customer information and transaction records is a CSF in e-commerce.

Question 11.2 measured the respondents' beliefs and the responses were equally divided between respondents that agree (18,7%) and respondents that disagree (18,7%) that providing all members of staff access to real time customer information and transaction records is critical to the success of an e-commerce venture.

The respondents' behaviour was measured in question 11.3 and the responses indicate that 50 percent of the respondents do not provide all staff members access to real time customer information, as opposed to 37 percent of the respondents that do so.

Table 5.5

Responses concerning web design

Web design		n	Key	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree
12.1	"The web design is critical to the success of an e-commerce venture"	16	No	5	8	1	2	0
			%	31.2	50.0	6.2	12.5	0
12.2	In general, the web designs of organizations in e-commerce allow customers a logical flow through the buying process	16	No	3	8	3	2	0
			%	18.7	50.0	18.75	12.5	0
12.3	In your opinion, web information content, and not the effects of graphic design, is the primary gratification sought by customers	16	No	1	9	1	4	1
			%	6.2	56.2	6.2	25.0	6.2
12.4	In your opinion, the design of an e-commerce checking out process has a major impact on the customer's decision to buy or not	16	No	2	8	4	2	0
			%	12.5	50.0	25.0	12.5	0
12.5	The web design of your organization exploits cross-sell and up-sell opportunities	16	No	1	5	4	6	0
			%	6.2	31.2	25.0	37.5	0

Source: Results obtained from analysis of e-commerce activities

The respondents' attitudes, beliefs and behaviour concerning the web design as a CSF in e-commerce were tested in questions 12.1 to 12.5 of the survey questionnaire and the results are depicted in Table 5.5.

Question 12.1 measured the respondents' attitudes and their responses indicate that 81 percent of the respondents either strongly agree (31,2%) or agree (50%) that web design is critical to the success of an e-commerce venture. In contrast, 12 percent of the respondents disagree with the statement and it therefore appears as if the respondents generally have a positive attitude towards the notion that the web design is a CSF in e-commerce.

Question 12.2 to 12.4 measured the respondents' beliefs. With 68 percent of the respondents in strong agreement (18,7%) or agreement (50%), it appears as if the respondents hold the belief that the web design of firms generally offer customers a logical flow through the buying process. The majority of the respondents (62,4%) believe that the web content, and not the graphic design, is the primary gratification sought by customers, as opposed to 32,2 percent who either disagree (25%) or strongly disagree (6,2%). Sixty two percent of the respondents hold the belief that the design of the checking out process has a major impact on the customer's decision to buy.

The respondents' behaviour was measured in question 12.5 and the responses were equally divided between the combined total of respondents

that strongly agree and agree (37,5%) and respondents that disagree (37,5%) that the web sites of their organizations exploit cross-sell and up-sell opportunities.

Table 5.6
Responses concerning tracking orders

Order tracking		n	Key	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree
13.1	"Allowing customers to place and track orders is critical to the success of an e-commerce venture"	16	No	6	6	1	3	0
			%	37.5	37.5	6.2	18.7	0
13.2	In general, organizations in e-commerce do allow customers to place and track orders	16	No	1	4	6	5	0
			%	6.2	25.0	37.5	31.2	0
13.3	The web site of your organization allows customers to place and track orders	16	No	1	3	0	8	4
			%	6.2	18.7	0	50.0	25.0

Source: Results obtained from analysis of e-commerce activities

The respondents' attitudes, beliefs and behaviour concerning the placement and tracking of orders as a CSF in e-commerce were tested in questions 13.1 to 13.3 of the survey questionnaire and the results are depicted in Table 5.6.

Question 13.1 measured the respondents' attitudes and the responses indicate that 75 percent of the respondents either strongly agree (37,5%) or agree (37,5%) that the ability for customers to place and track orders is critical to the success of an e-commerce venture. In contrast, 18 percent of the respondents disagree with the statement and it therefore appears as if the respondents generally have a positive attitude towards the notion that the ability for customers to place and track orders is a CSF in e-commerce.

Question 13.2 measured the respondents' beliefs and the responses reflect a high degree of uncertainty (37,5%) amongst the respondents as to whether organizations in e-commerce allow customers to place and track orders. The balance of the responses were equally divided between the total respondents that strongly agree or agree (31,2%) and respondents that disagree (31,2%), which also reflects a degree of uncertainty in the belief of the respondents regarding the order tracking practices of organizations in e-commerce.

The respondents' behaviour was measured in question 13.3 and despite the generally positive response to question 13.1, 75 percent of the respondents do not allow customers to place and track orders.

Table 5.7

Responses concerning customer assistance

Customer assistance		n	Key	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree
14.1	"Allowing customers to find answers to frequently asked questions is critical to the success of an e-commerce venture"	16	No	5	6	1	4	0
			%	31.2	37.5	6.2	25.0	0
14.2	In general, organizations in e-commerce do allow customers to find answers to frequently asked questions	16	No	1	5	5	5	0
			%	6.2	31.2	31.2	31.2	0

Source: Results obtained from analysis of e-commerce activities

The respondents' attitudes and beliefs concerning customer service as a CSF in e-commerce were tested in questions 14.1 and 14.2 of the survey questionnaire and the results are depicted in Table 5.7.

Question 14.1 measured the respondents' attitudes and the responses indicate that 68,75 percent of the respondents either strongly agree (31,2%)

or agree (37,5%) that offering customers answers to frequently asked questions is critical to the success of an e-commerce venture. In contrast, 25 percent of the respondents disagree with the statement. However, it appears as if the respondents generally have a positive attitude towards the notion that offering customers solutions to frequently asked questions is a CSF in e-commerce.

Question 14.2 measured the respondents' beliefs and 37,5 percent of the respondents strongly agree (6,2%) or agree (31,2%) that organizations in e-commerce do allow customers to find answers to frequently asked questions, as opposed to 31,2 percent of the respondents that do not share the belief.

Table 5.8

Responses concerning customer assistance response rate

Customer assistance		n	Key	Always	Sometimes	Seldom	Never
14.3	Your organization responds to online customer queries within one business day	16	No	13	3	0	0
			%	81.2	18.7	0	0

Source: Results obtained from analysis of e-commerce activities

The respondents' behaviour regarding the provision of customer assistance was measured in question 14.3 to 14.5 of the survey questionnaire. The responses in Table 5.8 indicate that the majority (81,2%) of the respondents respond to online customer queries within one business day.

Table 5.9

Responses concerning customer assistance behaviour

Customer assistance		N	Key	Yes	No	Unsure
14.4	The web site of your organization allows customers to find answers to frequently asked questions		No	6	10	0
			%	56.2	43.7	0
14.5	Online customers of your organization have immediate access to human support staffers		No	6	10	0
			%	56.2	43.7	0

Source: Results obtained from analysis of e-commerce activities
 Responses to questions 14.4 and 14.5 reflected in Table 5.9 show that 43,7 percent of the respondents do not enable customers to find answers to frequently asked questions and do not offer organizations immediate access to human support staffers.

Table 5.10

Responses concerning personalization

Personalization		n	Key	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree
15.1	“The use of software that track customer preferences is critical to the success of an e-commerce venture”	16	No	1	10	3	2	0
			%	6.2	62.5	18.7	12.5	0
15.2	In general, organizations in e-commerce do use software that track customer preferences	16	No	0	4	8	4	0
			%	0	25.0	50.0	25.0	0
15.3	In general, the emphasis in e-commerce has shifted from finding customers for products to finding products for customers	16	No	0	7	6	3	0
			%	0	43.7	37.5	18.7	0

Source: Results obtained from analysis of e-commerce activities

The respondents’ attitudes and beliefs concerning personalization as a CSF in e-commerce were tested in questions 15.1 to 15.3 of the survey questionnaire and the results are depicted in Table 5.10.

Question 15.1 measured the respondents' attitudes and the responses indicate that 72,7 percent of the respondents either strongly agree (6,2%) or agree (62,5%) that the use of software to track customer preferences is critical to the success of an e-commerce venture. In contrast, 12,5 percent of the respondents disagree with the statement and it therefore appears as if the respondents generally have a positive attitude towards the notion that the use of software to track customer preferences is a CSF in e-commerce.

Question 15.2 measured the respondents' beliefs and the responses reflect a high degree of uncertainty (50%) amongst the respondents as to whether organizations in e-commerce use software to track customer preferences. The balance of the responses were equally divided between respondents that strongly agree or agree (25%), and respondents that disagree (25%), which reflects a degree of uncertainty in the belief of the respondents regarding the use of software to track customer preferences. Forty three percent of the respondents agree that the emphasis in e-commerce has shifted from finding customers for products to finding products for customers.

Table 5.11

Responses concerning personalization behaviour

Personalisation		n	Key	Yes	No	Unsure
15.4	Your organization uses software that track customer preferences	16	No	4	12	0
			%	25.0	75.0	0
15.5	Your organization integrates e-commerce applications with the existing legacy systems for seamless database operation, queries and transaction processing	16	No	3	12	1
			%	18.7	75.0	6.2

Source: Results obtained from analysis of e-commerce activities

The respondents' behaviour concerning personalization in e-commerce was measured in question 15.3 and the results are depicted in Table 5.11. The table shows that despite the generally positive response to question 15.1, seventy five percent of the respondents do not track customer preferences and do not integrate e-commerce applications with existing legacy systems for seamless database operation, queries and transaction processing.

Table 5.12

Responses concerning fostering community

Foster Community		n	Key	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree
16.1	"Building an online community is critical to the success of an e-commerce venture"	16	No	3	8	3	2	0
			%	18.7	50.0	18.7	12.5	0
16.2	In general, organizations in e-commerce do make use of features allowing customers to interact with one another	16	No	0	2	6	8	0
			%	0	12.5	37.5	50.0	0

Source: Results obtained from analysis of e-commerce activities

The respondents' attitudes and beliefs concerning the fostering of an online community as a CSF in e-commerce were tested in questions 16.1 and 16.2 of the survey questionnaire and the results are depicted in Table 5.12.

Question 16.1 measured the respondents' attitudes and the responses indicate that 68,7 percent of the respondents either strongly agree (18,7%) or agree (50%) that building an online community is critical to the success of an e-commerce venture. In contrast, 12,5 percent of the respondents disagree with the statement and it therefore appears as if the respondents generally

have a positive attitude towards the notion that building an online community is a CSF in e-commerce.

Question 16.2 measured the respondents' beliefs and in contrast to the generally positive response to question 16.1, 50 percent of the respondents hold the belief that organizations in e-commerce do not use features that allow customers to interact with one another.

Table 5.13

Responses concerning fostering community behaviour

Foster community		n	Key	Yes	No	Unsure
16.3	The web site of your organization uses features to build an online community	16	No	0	16	0
			%	0	100	0
16.4	The web site of your organization allows customers to develop an online community	16	No	0	16	0
			%	0	100	0
16.5	Online customers contribute to the content of your organization's web site	16	No	3	13	0
			%	18.7	81.2	0

Source: Results obtained from analysis of e-commerce activities

The respondents' behaviour concerning fostering an online community in e-commerce was measured in question 16.3 to 16.5 and the results are depicted in Table 5.13. The table shows that despite the generally positive response to question 16.1, none of the respondents use features to build an online community or allow customers to develop an online community. However, 18,7 percent of the respondents use contributions of online customers to build their web content.

Table 5.14

Responses concerning management participation

Management participation		n	Key	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree
17.1	"Top management support is critical to the success of an e-commerce venture"	16	No	11	5	0	0	0
			%	68.7	31.2	0	0	0
17.2	In general, the top management of organizations in e-commerce offer leadership in their organizations' e-commerce efforts	16	No	3	3	9	1	0
			%	18.7	18.7	56.2	6.2	0
17.3	The top management of your organization offers leadership in the organization's e-commerce efforts	16	No	9	3	1	2	1
			%	56.2	18.7	6.2	12.5	6.2

Source: Results obtained from analysis of e-commerce activities

The respondents' attitudes, beliefs and behaviour concerning management participation as a CSF in e-commerce were tested in questions 17.1 to 17.3 of the survey questionnaire and the results are depicted in Table 5.14.

Question 17.1 measured the respondents' attitudes and all the respondents either strongly agree (68,7%) or agree (31,3%) that top management support is a CSF in e-commerce.

Question 13.2 measured the respondents' beliefs and the responses reflect a high degree of uncertainty (56.2%) amongst the respondents as to whether top management offer leadership in e-commerce efforts.

The respondents' behaviour was measured in question 13.3 and according to Table 5.14, seventy five percent of the respondents strongly agree (56,2%) or agree (18,7%) that top management offer leadership in their organization's e-

commerce efforts. The high degree of agreement may be due to the fact that members that form part of top management may have completed the surveys.

Table 5.15

Responses concerning technical infrastructure

Technical infrastructure		N	Key	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree
18.1	"A scaleable/upgradeable infrastructure is critical to the success of an e-commerce venture"	16	No	5	9	2	0	0
			%	31.2	56.2	12.5	0	0
18.2	In general, organizations in e-commerce employ the appropriate technical infrastructure for their e-commerce endeavours	16	No	1	5	9	1	0
			%	6.25	31.2	56.2	6.2	0

Source: Results obtained from analysis of e-commerce activities

The respondents' attitudes and beliefs concerning the technical infrastructure as a CSF in e-commerce were tested in questions 18.1 and 18.2 of the survey questionnaire and the results are depicted in Table 5.15.

Question 18.1 measured the respondents' attitudes and the responses indicate that 87,5 percent of the respondents either strongly agree (31,2%) or agree (56,2%) that a scaleable or upgradeable technical infrastructure is critical to the success of an e-commerce venture.

Question 18.2 measured the respondents' beliefs and the responses reflect a high degree of uncertainty (56.2%) as to whether firms in e-commerce employ the appropriate technical infrastructure.

Table 5.16

Responses concerning technical infrastructure behaviour

Technical infrastructure		n	Key	Yes	No	Unsure
18.3	The technical infrastructure employed in your organization is scaleable/upgradeable	16	No	9	2	5
			%	56.2	12.5	31.2

Source: Results obtained from analysis of e-commerce activities

The respondents' behaviour concerning the application of an appropriate technical infrastructure was measured in question 18.3 and the results are depicted in Table 5.16. The table shows that 56,2 percent of the respondents do employ a scaleable or upgradeable technical infrastructure. It is significant to note that 31,2 percent of the respondents are unsure about the scalability of the technical infrastructure used by their organizations.

Table 5.17

Responses concerning security

Security		n	Key	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree
19.1	“ A secure infrastructure is critical to the success of an e-commerce venture”	16	No	7	7	2	0	0
			%	43.7	43.7	12.5	0	0
19.2	In general, organizations in e-commerce employ secure technical infrastructure for their e-commerce endeavours	16	No	1	7	7	1	0
			%	6.2	43.7	43.7	6.2	0

Source: Results obtained from analysis of e-commerce activities

The respondents' attitudes and beliefs concerning the employment of a secure technical infrastructure as a CSF in e-commerce were tested in

questions 19.1 and 19.2 of the survey questionnaire and the results are depicted in Table 5.17.

Question 19.1 measured the respondents' attitudes and the responses indicate that 87,5 percent of the respondents either strongly agree (43,7%) or agree (43,7%) that a secure technical infrastructure is critical to the success of an e-commerce venture.

Question 18.2 measured the respondents' beliefs and the responses reflect that 50 percent of the respondents strongly agree (6,2%) or agree (43,7%) that organizations in e-commerce employ secure technical infrastructures.

Table 5.18

Responses concerning security behaviour

Security		n	Key	Yes	No	Unsure
19.3	The technical infrastructure employed in your organization is secure	16	No	10	3	3
			%	62,5	18,7	18,7

Source: Results obtained from analysis of e-commerce activities

The respondents' behaviour concerning the application of a secure technical infrastructure was measured in question 19.3 and the results are depicted in Table 5.18. The table shows that 62,5 percent of the respondents do employ a secure technical infrastructure. Eighteen percent of the respondents are unsure about the level of security of the technical infrastructure used by their organizations.

Table 5.19

Responses concerning promotion

Promotion		N	Key	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree
20.1	"The promotion of the web site is critical to the success of an e-commerce venture"	16	No	7	9	0	0	0
			%	43.7	56.2	0	0	0
20.2	In general, organizations in e-commerce employ sufficient resources to promote their web sites	16	No	1	2	6	5	2
			%	6.2	12.5	37.5	31.2	12.5

Source: Results obtained from analysis of e-commerce activities

The respondents' attitudes and beliefs concerning the promotion of the web site as a CSF in e-commerce were tested in questions 20.1 and 20.2 of the survey questionnaire and the results are depicted in Table 5.19.

Question 20.1 measured the respondents' attitudes and the responses indicate that all the respondents either strongly agree (43,7%) or agree (56,2%) that the promotion of the web site is critical to the success of an e-commerce venture.

Question 18.2 measured the respondents' beliefs and despite the generally positive response in question 20.1, forty three percent of the respondents believe that organizations in e-commerce do not employ sufficient resources to promote their web sites.

Table 5.20

Responses concerning promotion behaviour

Promotion		N	Key	Yes	No	Unsure
20.3	The promotion of your web site is governed by a formal marketing plan	16	No	4	12	0
			%	25.0	75.0	0

Source: Results obtained from analysis of e-commerce activities

The respondents' behaviour concerning the promotion of their web sites was measured in question 20.3 and the results are depicted in Table 5.20. The table shows that despite the consensus that the marketing of a web site is a CSF for firms in e-commerce, 75 percent of the respondents do not have a marketing plan to govern the promotion of their web sites.

Table 5.21

Responses concerning financial management and control

Control		N	Key	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree
21.1	"Monitoring the cost of the e-commerce project is critical to the success of an e-commerce venture"	16	No	5	6	5	0	0
			%	31.2	37.5	31.2	0	0
21.2	In general, organizations in e-commerce monitor the cost of e-commerce projects	16	No	0	8	7	1	0
			%	0	50.0	43.7	6.2	0

Source: Results obtained from analysis of e-commerce activities

The respondents' attitudes and beliefs concerning the monitoring financial management and control as a CSF in e-commerce were tested in questions 21.1 and 21.2 of the survey questionnaire and the results are depicted in Table 5.21.

Question 21.1 measured the respondents' attitudes and the responses indicate that 68,7 percent of the respondents either strongly agree (31,2%) or agree (37,5%) that monitoring the cost is critical to the success of an e-commerce venture.

Question 21.2 measured the respondents' beliefs and the responses reflect that 50 percent of the respondents agree that organizations in e-commerce monitor the cost of e-commerce ventures. Six percent of the respondents hold the belief that organizations do not monitor the costs of their e-commerce initiatives.

Table 5.22

Responses concerning financial management and control behaviour

Control		n	Key	Yes	No	Unsure
21.3	The performance of your e-commerce initiative is measured against a projected return on investment (ROI)	16	No	7	9	0
			%	43.7	56.2	0
21.4	The performance of your e-commerce initiative is measured against a specified conversion rate	16	No	5	10	1
			%	31.2	62.5	6.2
21.5	The performance of your e-commerce initiative is measured in terms of turnover	16	No	11	5	0
			%	68.7	31.2	0
21.6	The performance of your e-commerce initiative is measured in terms of site visitors	16	No	11	5	0
			%	68.7	31.2	0
21.7	The e-commerce activity of your organization is financially viable	16	No	11	3	2
			%	68.7	18.7	12.5
21.8	The ROI achieved by your e-commerce initiative is better than expected	16	No	7	5	4
			%	43.7	31.2	25.0
21.9	The conversion rate achieved by your e-commerce initiative is better than expected	16	No	5	5	6
			%	31.2	31.2	37.5
21.10	The increase in turnover generated by your e-commerce initiative is better than expected	16	No	8	6	2
			%	50.0	37.5	12.5
21.11	The number of site visitors is better than expected	16	No	6	6	4
			%	37.5	37.5	25.0

Source: Results obtained from analysis of e-commerce activities

The respondents' behaviour concerning the monitoring of an e-commerce venture was tested in questions 21.3 to 21.11 of the survey questionnaire and the results are depicted in Table 5.22.

The statements that elicited the strongest affirmative responses from the respondents are the following:

- The performance of e-commerce initiatives is measured in terms of turnover (68,7%)
- The performance of e-commerce initiatives is measured in terms of site visitors (68,7%)
- The respondents' e-commerce activities are financially viable (68,7%)
- The increase in turnover generated by e-commerce initiatives is better than expected (50%)

The statements that elicited the strongest negative responses from the respondents are the following:

- The performance of e-commerce initiatives is measured against a specified conversion rate (62,5%)
- The performance of e-commerce initiatives is measured against a projected return on investment (ROI) (56,2%)

- The number of site visitors is better than expected (37,5%)

It is significant to note that although 50 percent of the respondents indicated that the increase in turnover generated by their e-commerce initiatives is better than expected, while only 43 percent indicated that the ROI achieved by the e-commerce initiative is better than expected. This may imply that an increase in turnover from e-commerce activities does not necessarily translate into increased revenues. It should be noted, however, that the response to question 21.8 might be influenced by the fact that only 43,7 percent of the respondents measure the performance of their e-commerce activities against a projected ROI (question 21.3).

Table 5.23

Responses concerning customer loyalty

Loyalty		N	Key	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree
22.1	"Customer retention is critical to the success of an e-commerce venture"	16	No	6	6	3	1	0
			%	37.5	37.5	18.7	6.2	0
22.2	In general, organizations in e-commerce employ effective loyalty programmes	16	No	0	4	7	5	0
			%	0	25.0	43.7	31.2	0

Source: Results obtained from analysis of e-commerce activities

The respondents' attitudes and beliefs concerning the retention of customers as a CSF in e-commerce were tested in questions 22.1 and 22.2 of the survey questionnaire and the results are depicted in Table 5.23.

Question 22.1 measured the respondents' attitudes and the responses indicate that 75 percent of the respondents either strongly agree (37,5%) or

agree (37,5%) that customer retention is critical to the success of an e-commerce venture.

Question 21.2 measured the respondents' beliefs and the responses reflect a high level of uncertainty (43,7%) whether organizations in e-commerce employ loyalty programmes, while 31,2 percent of the respondents do not agree that organizations employ effective loyalty programmes.

Table 5.24
Responses concerning customer loyalty behaviour

Loyalty		n	Key	Yes	No	Unsure
22.3	Your organization employs mechanisms to promote customer loyalty	16	No	9	7	0
			%	56.2	43.7	0

Source: Results obtained from analysis of e-commerce activities

The respondents' behaviour concerning customer loyalty was measured in question 22.3 and the results are depicted in Table 5.24. The table shows that 43,7 percent of the respondents do not have mechanisms in place to promote customer loyalty.

Table 5.25

Responses concerning planning

Planning		n	Key	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree
23.1	"Compiling a business plan is critical to the success of an e-commerce venture"	16	No	5	10	1	0	0
			%	31.2	62.5	6.2	0	0
23.2	In general, organizations in e-commerce compile business plans for their e-commerce ventures	16	No	2	2	9	3	0
			%	12.5	12.5	56.2	18.7	0

Source: Results obtained from analysis of e-commerce activities

The respondents' attitudes and beliefs concerning planning as a CSF in e-commerce were tested in questions 23.1 and 23.2 of the survey questionnaire and the results are depicted in Table 5.25.

Question 23.1 measured the respondents' attitudes and the responses indicate that 95,8 percent of the respondents either strongly agree (31,2%) or agree (62,5%) that the compilation of a business plan is critical to the success of an e-commerce venture.

Question 23.2 measured the respondents' beliefs and the responses reflect a high level of uncertainty (56,2%) as to whether organizations in e-commerce compile business plans for their e-commerce ventures.

Table 5.26

Responses concerning planning behaviour

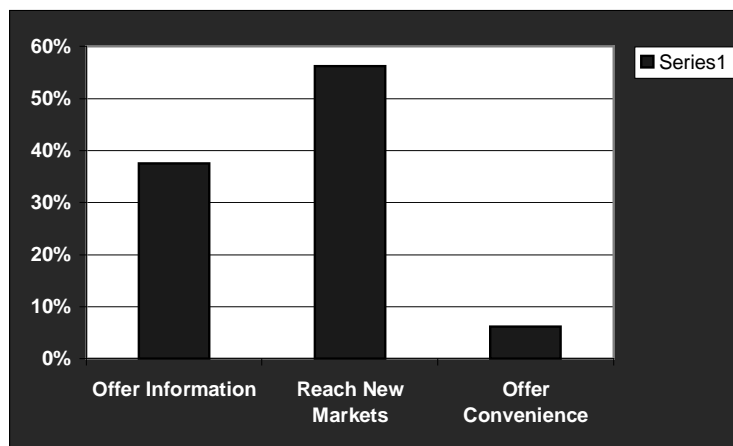
Planning		n	Key	Yes	No	Unsure
23.3	Your organization has a clear vision statement depicting the role of e-commerce	16	No	5	10	1
			%	31.2	62.5	6.2
23.4	Your organization has specific goals for its e-commerce initiative	16	No	3	12	1
			%	18.7	75.0	6.2

Source: Results obtained from analysis of e-commerce activities

The respondents' behaviour concerning planning in e-commerce was measured in questions 23.3 to 23.5 and the results are depicted in Table 5.26 and Chart 5.9. Table 5.26 shows that 62,5 percent of the respondents do not have a clear vision statement depicting the role of e-commerce in their organizations, while 75 percent do not have specific goals for their e-commerce initiatives.

Chart 5.9

Responses concerning e-commerce objectives



Source: Results obtained from analysis of e-commerce activities

Chart 5.9 shows that the primary e-commerce objective of the majority (56,25%) of the respondents is to reach new markets, while 37,5 percent of the respondents primarily aim to offer information about the organization through their Internet presence.

Table 5.27

Responses concerning branding

Branding		n	Key	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree
24.1	"Brand building is critical to the success of an e-commerce venture"	16	No	6	5	2	3	0
			%	37.5	31.2	12.5	18.7	0
24.2	In general, organizations in e-commerce endeavour to build strong brands	16	No	3	3	7	2	0
			%	18.7	18.7	43.7	12.5	0

Source: Results obtained from analysis of e-commerce activities

The respondents' attitudes and beliefs concerning branding as a CSF in e-commerce were tested in questions 24.1 and 24.2 of the survey questionnaire and the results are depicted in Table 5.27.

Question 24.1 measured the respondents' attitudes and the responses indicate that 68,7 percent of the respondents either strongly agree (37,5%) or agree (31,2%) that building an effective brand is critical to the success of an e-commerce venture.

Question 23.2 measured the respondents' beliefs and the responses reflect a high level of uncertainty (43,7%) as to whether organizations in e-commerce endeavour to build strong brands.

Table 5.28

Responses concerning branding behaviour

Branding		n	Key	Yes	No	Unsure
24.3	Your organization is building a strong brand for its e-commerce venture	16	No	8	5	3
			%	50.0	31.2	18.7

Source: Results obtained from analysis of e-commerce activities

The respondents' behaviour concerning building a strong brand was measured in question 24.3 and the results are depicted in Table 5.28. The table shows that 50 percent of the respondents do endeavour to build a strong online brand, as opposed to 31,3 percent of the respondents who indicated that they do not endeavour to do so.

Table 5.29

Responses regarding shipping and fulfilment

Shipping and Fulfilment		n	Key	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree
25.1	"Shipping and fulfilment is critical to the success of an e-commerce venture"	16	No	6	5	2	3	0
			%	37.5	31.2	12.5	18.7	0
25.2	In general, organizations in e-commerce have effective fulfilment systems	16	No	0	6	10	0	0
			%	0	37.5	62.5	0	0

Source: Results obtained from analysis of e-commerce activities

The respondents' attitudes and beliefs concerning shipping and fulfilment as a CSF in e-commerce were tested in questions 25.1 and 25.2 of the survey questionnaire and the results are depicted in Table 5.29.

Question 25.1 measured the respondents' attitudes and the responses indicate that 68,7 percent of the respondents either strongly agree (37,5%) or agree (31,2%) that effective shipping and fulfilment is critical to the success of an e-commerce venture.

Question 25.2 measured the respondents' beliefs and the responses reflect a high level of uncertainty (62,5%) as to whether organizations in e-commerce do have effective fulfilment systems.

Table 5.30

Responses regarding shipping and fulfilment behaviour

Shipping and Fulfilment		n	Key	Yes	No	Unsure
25.3	In your opinion, your organization has an effective e-commerce fulfilment system	16	No	8	5	3
			%	50.0	31.2	18.7
25.4	E-commerce has lowered order processing costs in your organization	16	No	7	7	2
			%	43.7	43.7	12.5
25.5	E-commerce has lowered order delivery time in your organization	16	No	7	7	2
			%	43.7	43.7	12.5
25.6	E-commerce has lowered the payment collection period in your organization	16	No	7	7	2
			%	43.7	43.7	12.5

Source: Results obtained from analysis of e-commerce activities

The respondents' behaviour concerning the implementation of an effective fulfilment system was measured in question 25.3 to 25.6 and the results are depicted in Table 5.30. In response to question 25.3, fifty percent of the respondents do have effective fulfilment systems in place. Eighteen percent of the respondents expressed uncertainty as to whether their organizations have an effective shipping and fulfilment system. The responses were equally

divided between respondents that agree (43,7%) and disagree (43,7%) with the notion that e-commerce has lowered the order processing costs, order delivery time and the payment collection period in their organizations.

That concludes the presentation of the results of the variables measuring the attitudes, beliefs and behaviour of respondents. A quantitative analysis of the survey questionnaire follows.

5.6 A QUANTITATIVE ANALYSIS OF THE RESEARCH FINDINGS

Section C of the survey questionnaire was designed to measure the respondents' rank order of importance of the CSF identified in the literature study and the results are depicted in Table 5.31. The mean scores and standard deviation of the responses were used to determine the rank order and to measure the variability of the responses. According to Saunders, Lewis & Thornhill (1997: 312), the mean is the most frequently used measure of central tendency and includes all data values in its calculation. The standard deviation is a calculation of the average amount of deviation from the mean (Bryman & Cramer, 1990: 87). It describes the dispersion of data and measures the extent to which the values differ from the mean. The lower the standard deviation, the lower the variability in the respondents' responses.

The responses to questions measuring the respondents' attitudes depicted in Tables 5.2 – 5.30, were used to compile an additional rank order for the CSF and the results are reflected in Table 5.23. To correlate the findings reflected

in Tables 5.31 and 5.32, the Spearman rank correlation coefficient was used to measure the degree of monotone relationship between the two sets of values.

Table 5.31
Rank order of CSF according to mean values

Critical Success Factors	Mean	Std. Dev
Targeting the right customers	5.875	4.485
Involve all stakeholders in the venture	9.750	4.434
Provide online access to all customer information	12.062	3.889
A user-friendly web design	4.500	2.875
Let customers help themselves	10.600	4.171
Online and offline customer assistance	9.187	4.607
Offering personalized service	11.000	4.966
Fostering an online community	13.812	3.673
Top management support	7.125	4.674
A scaleable technical infrastructure	8.437	5.328
A secure infrastructure	7.687	4.700
Promotion of site	6.133	3.226
Financial planning and control of initiative	9.687	5.095
Loyalty of customers	9.437	4.589
Development of a business plan	7.375	4.937
Branding of site	8.812	4.791
Shipping and fulfilment	9.200	5.361

Source: Results obtained from ranking of CSFs in Section C of survey questionnaire

Table 5.31 shows that based on the mean scores, the respondents rank a user-friendly web design (mean score 4.500) as the most important CSF. The corresponding standard deviation of 2.875 reflects a low variability in the respondents' responses. It therefore appears as if there is a general

agreement among the respondents that a user-friendly web design is the most important of the CSFs listed in Table 5.31.

The table also shows that the development of an online community as the lowest ranked CSF, with a mean score of 13.812. The relatively low corresponding standard deviation of 3.673 reflects a low variability in the responses, which seems to indicate that there is a relatively strong degree of agreement amongst the respondents that the development of an online community is the least important of the CSFs listed in Table 5.31.

The top eight-ranked CSF based on the mean scores of the responses to Section C of the survey questionnaire are the following:

- A user-friendly web design
- Targeting the right customers
- Promotion of the site
- Top management support
- The formulation of a business plan
- A secure technical infrastructure
- Scaleable technical infrastructure

- Branding of the site

Table 5.32

Rank order of CSF according to Likert type scale responses

Critical Success Factors	% Strongly Agree	% Agree	Total
Targeting the right customers	43.75	50	93.7
Involve all stakeholders in the venture	43.75	43.75	87.5
Provide online access to all customer information	18.75	43.75	62.5
A user-friendly web design	31.25	50	81.25
Let customers help themselves	37.5	37.5	75
Online and offline customer assistance	31.25	37.5	68.75
Offering personalized service	6.25	62.5	68.75
Fostering community	18.75	50	68.75
Top management support	68.75	31.25	100
A scaleable technical infrastructure	31.25	56.25	87.5
A secure infrastructure	43.75	43.75	87.5
Promotion of site	43.75	56.25	100
Financial planning and control of initiative	31.25	37.5	68.75
Loyalty of customers	37.5	37.5	75
Development of a business plan	31.25	62.5	93.75
Branding of site	37.5	31.25	68.75
Shipping and fulfilment	37.5	31.25	68.75

Source: Results obtained from respondents' attitudes towards CSFs

Table 5.32 represents the ranking of the CSFs based on the responses to questions that measure the attitudes of respondents in Section B of the survey questionnaire. The ranking of each CSF depicted in Table 5.32 is determined by the degree to which the respondents strongly agree and agree that the variable is a CSF in e-commerce.

The results indicate that the respondents rank top management support as the most important CSF, followed by the promotion of the site. Providing staff online access to all customer information is regarded as the least important of the CSFs depicted in Table 5.32.

The top eight ranked CSFs based on the responses to questions in Section B of the survey questionnaire are the following:

- Top management support
- Promotion of the site
- Targeting the right customers
- Development of a business plan
- A secure technical infrastructure
- Involvement of all stakeholders
- A scaleable technical infrastructure
- A user-friendly web design

The Spearman rank correlation coefficient was applied to test the degree of the relationship between the two sets of rankings. This coefficient can take on any value from -1 to +1, where a value close to 1 indicates a strong relationship and a value close to 0 a weak or no relationship between the two sets of rankings. It can be seen as a non-parametric alternative to the well-known Pearson correlation coefficient, which measures the degree of linear relationship between two sets of measurements. Since only the rank orders are used, the Spearman rank correlation coefficient measures the degree of monotone relationship between two sets of values. In the present situation, the value was found to be 0.775, which indicates a fairly strong relationship between the two sets of rankings.

Table 5.33

Comparison of two sets of rank orders

	Critical Success Factors	Section C Rank Order	Section B Rank Order
1	Targeting the right customers	2	3
2	Involve all stakeholders in the venture	13	5,5
3	Provide online access to all customer information	16	17
4	A user-friendly web design	1	8
5	Let customers help themselves	14	9.5
6	Online and offline customer assistance	9	13.5
7	Offering personalized service	15	16
8	Fostering community	17	15
9	Top management support	4	1
10	A scaleable technical infrastructure	7	7

11	A secure infrastructure	6	5.5
12	Promotion of site	3	2
13	Financial planning and control of initiative	12	13.5
14	Loyalty of customers	11	9.5
15	Development of a business plan	5	4
16	Branding of site	8	11.5
17	Shipping and fulfilment	10	11.5

Source: Rank order based on results from Sections B and C from questionnaire

The results of the two sets of rank orders are depicted in Table 5.33, which reflects a strong relationship between the two sets of rank orders. It is significant to note that branding the web site is the only CSF that was ranked in the top eight CSFs in response to Section C of the survey questionnaire that does not appear in the list of top eight CSFs in response to Section B of the survey questionnaire. Similarly, the involvement of all stakeholders in the firm is ranked as a one of the top eight CSFs in response to Section B of the survey questionnaire, but does not appear in the list of top eight CSFs in response to Section C of the survey questionnaire.

To determine the final rank order of the CSF's, the mean value of each of pair of rankings reflected in Table 5.33 was calculated and the results are depicted in Table 5.44.

Table 5.34
Rank order of CSFs

Critical Success Factors	Section C Rank Order	Section B Rank Order	Mean C and B
Targeting the right customers	2	3	2.5
Promotion of site	3	2	2.5
Top management support	4	1	2.5
Development of a business plan	5	4	4.5
A user-friendly web design	1	8	4.5
A secure infrastructure	6	5.5	5.75
A scaleable technical infrastructure	7	7	7
Involve all stakeholders in the venture	13	5.5	9.25
Branding of site	8	11.5	9.75
Loyalty of customers	11	9.5	10.25
Shipping and fulfilment	10	11.5	10.75
Online and offline customer assistance	9	13.5	11.25
Let customers help themselves	14	9.5	11.75
Financial planning and control of initiative	12	13.5	12.75
Offering personalized service	15	16	15.25
Fostering community	17	15	16
Provide online access to all customer information	16	17	16.5

Source: Rank order based on results from Sections B and C of the questionnaire

Table 5.34 shows that the eight CSFs in e-commerce ranked as the most critical from the empirical study are the following:

- Targeting the right customers
- Promotion of site
- Top management support
- Development of a business plan
- A user-friendly web design
- A secure infrastructure
- A scaleable technical infrastructure
- Involve all stakeholders in the venture
- Branding of site

Table 5.34 reflects the provision of online access to customer information as the lowest ranked CSF.

That concludes the quantitative analysis of the data from Sections B and C of the survey questionnaire. A discussion to correlate the results of the empirical study with the findings of the literature study follows next.

5.7 AN INTERPRETATION OF THE RESEARCH FINDINGS

To draw conclusions from the findings of the empirical study, the results must be interpreted in terms of the literature study discussed in Chapters Two, Three and Four.

According to Table 5.34, *targeting the right customers* was ranked as one of the three most critical issues in e-commerce. However, the findings depicted in Table 5.2 indicate that 56 percent of the respondents do not have a clearly defined target market. The findings seem to support Moolman's (1992: 657) view that the identification of a niche market is often neglected (See paragraph 4.2). Moolman suggests that SMEs generally place a greater emphasis on the product and product development and fail to analyse market demand. Hence, it appears that although the respondents recognise the importance of a target market selection, it is not always applied and target market selection may be based on instinct and personal judgement, rather than on facts.

Although *the promotion of the e-commerce venture* is ranked as one of the most critical CSFs (See Table 5.34), only 18 percent of the respondents hold the belief that organizations in e-commerce employ sufficient resources to

promote their ventures (See Table 5.19). Additionally, Table 5.20 shows that 75 percent of the respondents' organizations do not have a formal promotion plan. It seems to indicate that although the promotion of the online venture is recognised as the most critical issue in e-commerce, the majority of the respondent organizations fail to apply it. This correlates with the finding of Moolman (1992: 654), who found that SME owner/managers are often so involved with the daily problems of the firm that the marketing function is neglected, with little or no budgetary allocation for publicity, promotion and other marketing expenditure (See paragraph 4.2).

Top management support is also ranked as one of the most critical CSFs in e-commerce (See Table 5.34), and Table 5.14 shows that the e-commerce efforts of the majority of the organizations (75%) represented in the study have the support of top management. The high percentage management support may be explained by the findings depicted in Chart 5.8, which shows that in 68,75 percent of the responding organizations, the e-commerce activities are managed by the general manager.

The respondents also ranked *the development of a business plan* as one of the most critical factors in e-commerce (See Table 5.34), despite the fact that Table 5.34 shows that 75 percent of the respondents do not have a formal, written planning document. Research by Dunn and Bradstreet (1979: 3) shows the importance of formal planning and indicates that a lack of formal planning accounts for almost half of SME failures (See paragraph 3.3.3). Once again the results reflect that although the respondents recognise the

importance of a formal business plan, it is not always applied in their own organizations.

Table 5.3 shows that the majority of the respondents (62.5%) *involve all stakeholders* in the management of their e-commerce activities. This correlates with the findings of Chappell and Feindt (1999: 19) (See paragraph 4.2), who note that the flatter hierarchies and loosely defined competencies in SMEs tend to facilitate the involvement of all staff members in business processes.

Developing customer loyalty is not ranked in the top eight critical success factors (See Table 5.34). From the literature study (See paragraph 4.2), Porter (2001: 69) suggests that loyalty in the Internet environment is difficult to attain, as buyers can switch from one online firm to another with just a few mouse clicks. It is for this reason that Reichheld and Scheffer (2000:105) posit that customer retention has a significant impact on the profitability of a firm, and that the implementation of loyalty programmes raises the proclivity of customers to pursue future transactions with a particular firm. They note that at the beginning of a relationship, the outlay needed to acquire a customer is often considerably higher in e-commerce than in traditional retail channels. One of the reasons why the development of loyalty programmes may have been overlooked as one of the eight highest ranked CSFs may be due to ignorance on the part of the organizations and the indirect manner in which it impacts on the profitability of the organization. Additionally, the absence of a strong commitment to planning (Table 5.26) and financial planning and control

(Table 5.30), may be indicative of an absence of the consideration of the financial implications of a customer loyalty programme.

Table 5.34 shows that *allowing customers to help themselves* is not ranked in the top half of the issues regarded as the most critical in e-commerce. Timmers (2000: 26) suggests that customer loyalty, which adds to the overall profitability of the venture, is inadvertently developed when the customers invest their own time and effort in the self-service facility (See paragraph 4.2). Table 5.6 shows, however, that 75 percent of the respondent organizations do not allow customers to place and track orders. This may be explained by the fact that almost 70 percent of the respondents have the most elementary web presence (Level 1) and use their Internet presence merely as a brochure, with no interactive mechanisms (See Chart 5.7).

Financial planning and control is ranked thirteenth (See Table 5.34) and is not regarded as one of the most critical aspects in an e-commerce venture. Additionally, Table 5.22 shows that 56 percent of the respondents do not measure the performance of their e-commerce initiatives against a projected return on investment. When compared to the literature study, it is significant to note that Moolman (1992: 654) suggests that a lack of financial management and control is a major contributor to the failure of SMEs (See paragraph 3.3.3), and that the majority of SMEs have no policies and procedures in place for the planning and management of their finances.

The fact that the *offering of a personalised service* is not ranked as one of the most critical issues in e-commerce (See Table 5.34), may firstly be explained by the fact that the majority of the respondents have the most elementary web presence (Level 1) and use their Internet presence merely as a brochure (See Chart 5.7). Secondly, Turban, Lee, Kind and Chung (1999: 311) point out that personalization requires the integration of the e-commerce applications with existing legacy systems for seamless database operation, queries and transaction processing (See paragraph 4.2), which may preclude SMEs from readily embracing the concept.

Fostering an online community is ranked second last as a CSF in e-commerce (See Table 5.34), despite the fact that the development of an online community may offer a strategic advantage and raise customer loyalty (Riggins,1999: 306) (See paragraph 4.2). The low ranking may be due to the fact that none (0%) of the respondents use any features to build an online community. The fact that most of the respondents have an elementary web presence, the relatively low affinity for financial planning and the indirect manner in which an online community benefits the organization, may have contributed to the low ranking.

Table 5.34 shows that the *provision of access to all customer information* is ranked the lowest of the CSFs, while Table 5.4 shows that the majority of the respondents do not offer access to customer information. Chappel and Feindt (1999: 26) suggest that the absence of access to customer information may not impact negatively on the e-commerce activities of an organization while volumes are small (See paragraph 4.2), which may explain the low ranking by

the respondents. Additionally, the provision of access to all customer information requires a more sophisticated technical infrastructure, which excludes the majority of the respondent organizations due to the generally low level of e-commerce at which the majority of the respondents operate.

That concludes the interpretation of the research results. They have shown that a number of the CSFs identified by the respondents are neglected in their own organization, while the absence of formal financial planning may have caused the respondents to overlook the indirect financial implications of a number of the CSFs not ranked in the top eight CSFs in e-commerce.

5.8 SUMMARY

The objective of this chapter was to present the research method and design employed and to reflect the results of the empirical research. The research population was identified and the survey method and the rationale for its choice discussed. The questionnaire and the accompanying cover letter was developed based on information gleaned from the literature study. A small but satisfactory response rate was achieved through this method.

The results of the empirical study was analysed and interpreted to ascertain the extent to which the findings of the empirical study correlate with the literature study.

The following summarized conclusions can be formulated from the empirical survey:

- The qualitative analysis revealed eight factors ranked by the respondents as the most critical issues facing SMEs in e-commerce
- The results reflect that a number of the issues ranked in the top eight CSFs by the respondents, are not always applied in the respondents' organizations
- A number of the issues that contribute to the failure of SMEs were not ranked in the top eight CSFs by the respondents

In the next chapter, the final chapter of the study, a summary of the approach followed and the findings of the study, along with conclusions and recommendations, will be presented.

Chapter 6

Summary, Conclusion and Recommendations

6.1 INTRODUCTION

The main objective of this study was to determine the critical success factors that impact on the survival and growth of SMEs in e-commerce. The chapter briefly discusses the research method, the main findings, problems and limitations associated with the research process and finally, recommendations for the application of the findings are presented.

6.2 SUMMARY

The motivation behind the study was that many on-line vendors have failed to turn a profit and have discovered that they have not been prepared for the complexities of business-to-consumer e-commerce, despite the increase in the overall number of on-line transactions and sales revenues (Janko,1998: 5).

To address the main problem, the following sub-problems had to be addressed:

- (d) What, according to the literature, are the factors critical to the success of an e-commerce venture?
- (e) What are the critical success factors according to SMEs that have adopted e-commerce applications?
- (f) How can the above be integrated into a generic checklist for SMEs that wish to adopt e-commerce applications?

To address the main problem and the sub-problems, the following issues had to be resolved:

- To define and establish the criteria for the determination of CSFs based on a review of the current literature.
- To analyse the literature to determine the unique characteristics of SMEs that may be construed as CSFs.
- On the basis of the literature review, to identify the CSF that are critical to the survival and growth of SMEs in e-commerce.

- To reduce the CSFs identified in the literature search to the eight most important CSFs through an empirical survey.

6.2.1 Results of the literature study

The results of the literature study are briefly discussed in terms of the issues resolved in the study.

From the analysis of the literature, CSFs can be defined as the limited, controllable activities, conditions, events and/or characteristics that are linked to strategies that result in a sustained, measurable competitive advantage. CSF are linked to results that ensure a competitive advantage. In order to gain a competitive advantage, organizations pursue a particular strategy. In their definition of strategy, Johnson and Scholes (1999: 10) refer to “the direction and scope of the business ... which achieves an advantage for the organization...” From this definition one can conclude that strategy represents the plan that management has to position the organization to gain a competitive advantage. Hence, strategy is developed to gain a competitive advantage, and once the competitive strategy has been selected, the CSFs can be determined. An environmental analysis provides the groundwork for matching the organization strategy with the external market conditions and its internal resources and competitive ability. Once strategy has been established, the associated CSFs can be determined. Thomson and Strickland (1998: 99) point out, however, that analysing a firm’s environment is not a mechanical, formula-like exercise where facts and data are plugged in

and definite strategies and CSF come pouring out. The process does leave room for differences in opinions and interpretations as to what the industry and the future competitive environment will be like.

The findings of Claessens (1982), Birley (1989), Moolman (1992) and Dunn and Bradstreet ((1979) were presented to show that that SMEs are not merely miniature versions of large organizations and they differ in a number of respects from their larger counterparts. The informal communication and organization structure in SMEs facilitate faster decision making and open communication. However, these benefits can be offset by the absence of specialised technical skills and limitations in the owner's skills and perceptions. SMEs generally resort to short term reactive planning practices.

The study has shown that a number of the differences that exist between SMEs and large organizations are the primary causes of SME failures. It leads one to the conclusion that the failure of SMEs could stem from the inherent differences that exist between SMEs and large organizations, particularly in the field of planning, feedback, control and the availability of specialized skills. As per the definition of CSFs, these are areas of activities that should receive constant and careful attention from management in SMES. These differences may therefore be sources of CSFs in SMEs, and special attention focused on these critical areas could attribute to the survival and growth of SMEs.

The findings of Seybold (1998), Turban, Lee, King & Chung (1999) and Jones and Field (2000) were presented to compile the following integrated list of CSFs that are applicable to SMEs in e-commerce:

- Target the right customers
- Involve all stakeholders
- Provide access to all customer information
- User-friendly web design
- Let customers help themselves
- Offer online and offline assistance to customer enquiries
- Deliver personalized service
- Foster online community
- Top management support
- Technical infrastructure
- Security and control of the e-commerce system

- Promotion of site
- Financial management and control of project
- Loyalty
- Business Plan
- Branding
- Shipping and fulfilment

The next step in the study was to identify the eight most important CSF from the above list through an empirical survey, which is described next.

6.2.2 Scope of the empirical study and results

In order to determine the eight most important CSFs for SMEs in e-commerce, a survey was conducted amongst the SMEs that are members of the Port Elizabeth Chamber of Commerce and Industry, have a website and comply with the criteria for SMEs (See paragraph 1.5.3). The questionnaire was drawn up using the integrated list of CSFs as a basis for the questions. The questionnaire was designed using a Likert-type scale so that the responses could be statistically analysed.

The data obtained was subjected to a quantitative and qualitative analysis and the eight most important CSFs for SMEs in e-commerce were identified. This means that the objective of the study was met and the study completed.

6.3 SUMMARY OF EMPIRICAL FINDINGS

This summary details the results and the final outcome of the study.

The eight most important CSF in e-commerce identified by the respondents are the following (the mean value is shown in brackets):

- Targeting the right customers (2.5)
- Promotion of site (2.5)

- Top management support (2.5)

- Development of a business plan (4.5)

- A user-friendly web design (4.5)

- A secure infrastructure (5.75)

- A scaleable technical infrastructure (7)

- Involve all stakeholders in the venture (9.25)

- Branding of site (9.25)

Although *targeting the right customers* was ranked as one of the three most critical issues in e-commerce, the findings indicate that 56 percent of the respondents do not have a clearly defined target market. The findings seem to support Moolman's (1992: 657) view that the identification of a niche market is often neglected and has led to the demise of a number of SMEs.

While *the promotion of the e-commerce venture* is ranked as one of the most critical CSFs, only 18 percent of the respondents hold the belief that organizations in e-commerce employ sufficient resources to promote their ventures, while 75 percent of the respondents' organizations do not have a formal promotion plan. It seems to indicate that although the promotion of an online venture is recognised as the most critical issue in e-commerce, the majority of the respondent organizations fail to apply it.

Top management support is also ranked as one of the most critical CSFs in e-commerce and the findings show that the e-commerce efforts of the majority of the organizations (75%) represented in the study, have the support of top management. The high percentage management support may be explained by the fact that in 68,75 percent of the responding organizations, the e-commerce activities are managed by the general manager.

The respondents ranked *the development of a business plan* as one of the most critical factors in e-commerce, despite the fact that 75 percent of the

respondents do not have a formal, written planning document. Once again the results reflect that although the respondents recognise the importance of a formal business plan, it is not always applied in their own organizations. Additionally, a lack of formal planning is one of the primary reasons for SME failures, which casts doubt over the ability of the respondent SMEs to survive and grow in the long term.

The results show that the majority of the respondents (62.5%) *involve all stakeholders* in the management of their e-commerce activities. This correlates with the findings of Chappell and Feindt (1999: 19), who note that the flatter hierarchies and loosely defined competencies in SMEs tend to facilitate the involvement of all staff members in business processes, which makes skills integration in the re-engineering process easier that may be the case in large organizations.

Financial planning and control is ranked thirteenth and one can therefore assume that it is not generally regarded as one of the most critical aspects in an e-commerce venture. Additionally, 56 percent of the respondents do not measure the performance of their e-commerce initiatives against a projected return on investment. When compared to the literature study, it is significant to note that Moolman (1992: 654) suggests that a lack of financial management and control is a major contributor to the failure of SMEs. Additionally, the absence of *building an online community* and *the introduction of loyalty programmes* amongst the top eight most important CSFs, may indirectly be due to the general lack of financial planning and control amongst the

respondents, which may preclude them from realizing the indirect financial implications of community building and loyalty programmes.

That concludes the interpretation of the research results. The above paragraphs have shown that a number of the CSFs identified by the respondents are neglected in their own organization, while the general lack of formal financial planning in SMEs may have caused the respondents to overlook the indirect financial implications of a number of the CSFs not ranked in the top eight CSFs in e-commerce. These conclusions have created certain opportunities for recommending how the results of this study can be applied. Furthermore, certain recommendations can be made to overcome some of the possible limitations of this study, should the study be replicated.

6.4 RECOMMENDATIONS

The results of this study have identified certain factors that need particular attention. These factors are discussed in the following paragraphs.

The empirical findings of this study show that although the respondents recognise certain issues as being one of the eight most critical issues in e-commerce, they fail to apply them in their own organizations. This seems to suggest that all SMEs should include training courses to assist them with the introduction of a CSF based management and control system in their own organizations. However, unlike large organizations, SMEs often lack the resources to resort to training. It is recommended, therefore, that business

associations and government organizations apply their infrastructure to develop SME e-commerce assistance programmes. The CSFs identified in this study can be used as the basis of such interventions. Each CSF identified in this study and its impact on the firm's strategy, structure and performance, should be included in the programme.

The empirical survey revealed that the respondents ranked financial planning and control as the thirteenth most important CSF. The secondary sources consulted in the study revealed that there is a strong correlation between a lack of financial planning and control in SMEs and their proclivity to fail. It is recommended, therefore, that the training and development interventions should include financial management principles and particular emphasis should be placed on the implications of a lack of financial planning and control.

Finally, the findings of this study can serve as benchmark for South African SMEs that wish to adopt e-commerce applications and raise their successful participation in the national and global online economies.

6.5 LIMITATIONS OF THE STUDY

A number of problems and limitations were experienced in the study and will be discussed in the following paragraphs.

The first problem experienced in the study was the general lack availability of literature. Although there appears to be a dearth of general material and

articles on e-commerce and the Internet economy, there is a general lack of availability and access to empirical sources. The cost to access empirical sources from Internet based research organizations, proved to be prohibitive and beyond the means of the researcher.

The small population size and the limited number of respondents precluded the researcher from using correlation statistics. Additionally, the wording of a number of questions in the questionnaire may have been too technical for some of the respondents, particularly those not well versed in information technology terminology. It is therefore suggested that should a study similar to this one be conducted to investigate the degree of concurrence with the findings of this study, that a qualitative study be undertaken to obtain a greater indication of the respondents' own views regarding the applicability and the degree of application of the CSFs in their own organizations.

Finally, similar research can be conducted at chambers of commerce in other major centres in South Africa in order to identify CSFs for SMES in e-commerce in those areas and to compare the results with those obtained for the Port Elizabeth Regional Chamber of Commerce and Industry.

6.6 CONCLUSION

To conclude, it appears as if there is a divide between the recognition and its application of CSFs in SMEs in e-commerce. To ensure the survival and growth of SMEs in e-commerce, government organizations and trade

associations need to sensitise SME owner/managers to the importance and benefits of a CSF based management control system. The CSFs identified in the literature study should be included in such a system. Additionally, the implications of a lack of financial planning and control on the survival and growth of SMEs in e-commerce should be emphasised.

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