

Quality as a Strategy to Improve Customer Satisfaction:
A Six Sigma Approach

By

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Submitted in partial fulfilment of the requirements for the degree of
MASTERS IN BUSINESS ADMINISTRATION

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September 2003

CONFIDENTIALITY CLAUSE

September 2003

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Due to the Strategic importance of this research it would be appreciated if the contents remain confidential and not be circulated for a period of five years

Sincerely

P. Naicker

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DECLARATION

This research has not been previously accepted for any degree and is not being currently submitted in candidature for any degree.

Signed *Ravinder*

Date *05/09/2003*

ACKNOWLEDGEMENTS

I am most grateful to all who assisted in this dissertation and its presentation, especially to the following:

- My supervisor Professor Elza Thomson for her guidance and encouragement.
- Mr Salim Aziz for his encouragement and assistance with material for my Literature Review
- My fellow group members for their support and encouragement.
- Staff at Business Connexion, especially the KZN Regional Director, Mr Tim Genders for assistance with the subject matter.

ABSTRACT

In the face of increased competition compounded by globalisation, the challenge facing many South African companies is the need to develop a competitive advantage that will secure and grow its market share. This study explores the concept of customer satisfaction as the means to create that competitive advantage. Customers today are more demanding and are exposed to wider choices. The challenge facing management is to define strategies to “delight customers” – customers do not just want to be pleased they want to be delighted, they want to feel that the company exists to ensure that their expectations are not only met, but exceeded. This study further explores quality as a strategy to enhance customer satisfaction. The Six Sigma approach to quality management has been chosen as the focus.

This study has been based on a medium sized South African Information Technology (IT) company, called Business Connexion. The IT industry is characterised by many challenges, the most significant being that it is currently in a slow growth phase after being in a boom in the late 1990s. The management of IT companies, today need to develop strategies to retain their customers and to attract new ones. The challenge facing Business Connexion, who is a relatively new entrant to the market, is to develop a competitive advantage that will put it ahead of its competitors who come in the form of large internationally listed companies. This study explores the option of Business Connexion defining its differentiator based on the capacity to offer its customers a superior quality service at a price lower than that of its competitors. The Six Sigma approach is suggested because it focuses on the elements such as: defining customer needs, creating processes to meet and exceed customer expectations, investigating methods to reduce costs and creating a quality-focused culture within the company. These elements are critical to achieving competitive advantage.

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CHAPTER ONE - INTRODUCTION

1.1 INTRODUCTION

“Organisations are constantly on the alert to gain a competitive edge, using the many tools that have long been touted as a way to beat the competition. Yet, despite the focus on innovative ways of making products and providing services, there remains one constant: organisations that produce better quality products and services than their rivals beat the competition time and again” (Eckes. 1:2001).

Quality is essential to the success of any business. To make a difference, good quality practice must be embraced by senior management and instilled within an organisation's culture. Quality is not just about implementing a system or working towards a set standard. It is an attitude, a way of working, which not only improves businesses but the way people work and live.

In order to be successful it is essential for companies to differentiate themselves from their competitors. Customers make decisions on the question of value for money – so companies can differentiate themselves on price or on benefits conveyed (or both). Companies need to persuade their customers that they are offering them the best solution tailored to fit their needs, at a fair price.

This study explores the use of quality as a strategy as the means to enhance customer satisfaction.

1.2 PROBLEM STATEMENT

Will the implementation of quality management systems improve customer satisfaction in the Information Technology (IT) industry?

1.3 AIM OF THIS STUDY

This study will focus on the application of the Six Sigma Quality improvement methodology to a medium-sized information technology company.

The specific objectives of this study will be as follows:

1. Explore the role of strategy as the “game plan” of the company.
2. Discuss customer satisfaction as a means to achieve competitive advantage.
3. Discuss the basic principles of customer satisfaction.
4. Explore the role played by quality in improving customer satisfaction.
5. Identify and discuss the main elements of Six Sigma, as the ‘breakthrough’ quality management strategy.
6. Evaluate the current strategy in Business Connexion, specifically in terms of its quality and customer-satisfaction focus.
7. Develop recommendations that will create competitive advantage in the IT industry.

1.4 LITERATURE REVIEW

Most available literature points toward the fact that customer service can prove to be the differentiator that companies are looking for, to set them apart from the competition. Setting up processes that ensure that their products and services are of the highest quality, as measured in terms of what the customer wants, should be an integral part of any company’s strategic planning.

1.4.1 Customer Satisfaction

“Customers today expect nothing short of superior service and products tailored to their specific needs” (Internet 1). It is therefore necessary for companies to understand their customers, they need to study their customer’s needs closely and customize their products and services to suit these needs. Companies need to widen their definition of customer service: “if you hold the common idea that service is only giving customers what they want, you may well paint yourself into a corner every time a customer asks for something that is impossible for you to provide. If on the other hand, you expand your definition of service to include fulfilling the multitude of less obvious customer needs, you will never encounter a time when you can’t provide your customers with some level of service”. By

addressing less obvious customer needs you widen the gap between you and your competitors” (Leland.1995: 6).

Companies should strive to keep their customers – they should aim to prevent customer defections. According to Reicheld and Sasser (2000) customer defections have a powerful impact on the company’s bottom line. Customer defections can have more to do with a service company’s profits than scale, market share, unit costs, and many other factors usually associated with competitive advantage. Companies can boost profits by almost 100% by retaining just 5% more of their customers. If companies knew how much it really costs to lose a customer, they would be able to make accurate evaluations of investments designed to retain customers. Unfortunately, today’s accounting systems do not capture the value of a loyal customer. Most systems focus on current period costs and revenues and ignore expected cash flows over a customer’s life time. Served correctly, customers generate increasingly more profits each year they stay with a company. Across a wide range of companies the pattern is the same: the longer a company keeps a customer the more money it stands to make. When customers defect, they take all the profit-making potential with them. (Reicheld and Sasser. 2000:42)

According to Hart (2000) companies may not always be able to prevent all problems, they can learn to recover from them. A good recovery can turn angry, frustrated customers into loyal ones. It can, in fact create more goodwill than if things had gone smoothly in the first place. Every customer’s problem is an opportunity for the company to prove its commitment to service.

1.4.2 Quality

The quality of goods and services are measured by the extent to which it meets the expectations of the customer.

“To effectively compete locally and internationally, any supplier of products or services must distinguish an organisation through quality and visually demonstrate his commitment to quality. For customers who are users of intermediate goods, the quality of products or services or both is not negotiable.

The modern supplier must live quality and make it a strategic tool if he wishes to survive, maintain or expand his market share or increase his competitive edge, or both, while ensuring maximum profitability" (Internet 2).

Edward Deming has been hailed as the leader of the quality initiative in the United States. The following points are from his book "Out of the Crisis". These points lay the basis for initiatives that companies can undertake to improve the quality of their products and services and thus set themselves apart from the competition.

1. Create constancy of purpose toward improvement of product and service, with the aim to become competitive and to stay in business, and to provide jobs.
2. Adopt the new philosophy. We are in a new economic age. Western management must awaken to the challenge, must learn their responsibilities, and take on leadership for change.
3. Cease dependence on inspection to achieve quality. Eliminate the need for inspection on a mass basis by building quality into the product in the first place.
4. End the practice of awarding business on the basis of price tag. Instead, minimize total cost. Move toward a single supplier for any one item, on a long-term relationship of loyalty and trust.
5. Improve constantly and forever the system of production and service, to improve quality and productivity, and thus constantly decrease costs.
6. Institute training on the job.
7. Institute leadership. The aim of supervision should be to help people and machines and gadgets to do a better job. Supervision of management is in need of overhaul as well as supervision of production workers.
8. Drive out fear, so that everyone may work effectively for the company.
9. Break down barriers between departments. People in research, design, sales, and production must work as a team, to foresee problems of

production and in use that may be encountered with the product or service. (Internet 3)

Joseph M. Juran made many contributions to the field of quality management in his 70+ active working years. His book, the "Quality Control Handbook", is a classic reference for quality engineers. He revolutionized the Japanese philosophy on quality management and in no small way worked to help shape their economy into the industrial leader it is today. Dr. Juran was the first to incorporate the human aspect of quality management which is referred to as Total Quality Management. (Internet 10)

He emphasised worker empowerment through learning by developing materials for learning about quality. He founded the Juran Institute - a training consultancy and promoted ideas relating to the following:

- integration of quality improvement into corporate plans
- quality as being fitness for purpose - more than conformance to specification
- team-work
- delighting internal customers
- problem-solving

Phil Crosby excelled in finding a terminology for quality that mere mortals could understand. His books, "Quality without Tears" and "Quality is Free" were easy to read, so people read them. He popularized the idea of the "cost of poor quality", that is, figuring out how much it really costs to do things badly. (Internet 10)

Mr. Crosby defined quality as conformity to certain specifications set forth by management and not some vague concept of "goodness." These specifications are not arbitrary either; they must be set according to customer needs and wants. He defined the Four Absolutes of Quality Management as follows:

1. Quality is defined as conformance to requirements, not as 'goodness' or 'elegance'.
2. The system for causing quality is prevention, not appraisal.

3. The performance standard must be Zero Defects, not "that's close enough".
4. The measurement of quality is the Price of Non-conformance, not indices.

(Internet 10)

Kaoru Ishikawa wanted to change the way people think about work. He urged managers to resist becoming content with merely improving a product's quality, insisting that quality improvement can always go one step further. His notion of company-wide quality control called for continued customer service. This meant that a customer would continue receiving service even after receiving the product. This service would extend across the company itself in all levels of management, and even beyond the company to the everyday lives of those involved. According to Ishikawa, quality improvement is a continuous process, and it can always be taken one step further. (Internet 6)

Any quality improvement effort must include management. To do this the quality effort must be seen as the vehicle toward achieving the business objectives of the company. The goal of a quality initiative is to improve the effectiveness and efficiency of an organization. Effectiveness is meeting and exceeding the needs and requirements of the customer. Efficiency is the time, cost, or value of the activities that lead to customer satisfaction. The guiding principle at any company should be to develop systems to economically produce goods or services that satisfy customer requirements. To carry this out effectively and efficiently requires a companywide quality management system.

1.4.3 Six Sigma

Six Sigma is a rigorous and disciplined methodology that uses data and statistical analysis to measure and improve a company's operational performance by identifying and eliminating "defects" in manufacturing and service-related processes. "Six Sigma is a quality initiative which focuses on

defects per million--at the Six Sigma level the expectation is a mere 3.4 defects per million. (Internet 1)

Six Sigma is more than just numbers—it's a statement of an organization's determination to pursue a standard of excellence using every tool at its disposal and never hesitating to reinvent the way they do things. Six Sigma requires a continuous effort to measure business performance against dynamic customer requirements and to respond to changing marketplace conditions. (Internet 4)

The Six Sigma initiative at a company is based on the concept of Business Process Management as detailed by the following steps:

1. Creation and agreement of strategic business objectives
2. Creation of core, key sub and enabling processes
3. Identification of process owners
4. Creation and validation of the key measures of effectiveness and efficiency for each process (also known as measurement "dashboards")
5. Collection of data on agreed dashboards
6. Creation of project selection criteria
7. Using the project selection criteria for project selection
8. Continual management of the processes to achieve the strategic objectives of the organisation. (Eckes. 9: 2001)

Six Sigma emphasises the point that customers travel through a company through a series of processes, not through the functions or departments of the company. Therefore it is necessary to measure the efficiency and effectiveness of each process. Projects to improve quality should then be selected on the basis of their impact on the business objectives of the company.

The benefits of Six Sigma are that it:

- Generates sustained success.
- Sets a performance goal for everyone.
- Enhances value to customers.
- Accelerates the rate of improvement.
- Promotes learning and "cross-pollination."
- Executes strategic change. (Internet 4)

These benefits can be used to enhance the competitive advantage of the company.

1.5 BACKGROUND AND CONTEXT

In order to understand the context within which Business Connexion operates, it is necessary to explore the characteristics of the Information Technology (IT) industry and the critical elements of the company.

1.5.1 Characteristics of the IT Industry

There are many challenges that face the IT industry:

- The IT industry in South Africa is a dynamic one, marked by change in both products and resources.
- Managers are often young and not necessarily trained in management.
- Management needs to cope with growth that often occurs in spikes rather than at a constant pace.
- Currently the industry is in a slow growth phase.
- Competition is strong – especially from strong established companies – many of which are international listed companies.

In the environment marked by the above challenges, management needs to develop processes to be able to deliver good customer service effectively and efficiently. Companies need to be able to reduce costs without compromising the quality of the services they offer. “By becoming more effective and efficient, an organisation can achieve its business objectives without the wholesale destruction of the company’s most important asset, its human resources” (Eckes. 15: 2001)

1.5.2 Background of Business Connexion

Business Connexion is a medium sized IT Company, with 150 staff members and offices based in Kwa-Zulu Natal, Pretoria, Johannesburg, Port Elizabeth and Western Cape. It enjoys the status of being a Microsoft Gold Partner which means that its business is focussed completely around Microsoft services and products. This company has four core offerings:

- Managed Support
- Licensing
- Enterprise Consulting Services
- .Net Technology Development

This study will focus on the Managed Support offering. This division is responsible for providing 1st and 2nd level IT support (software and hardware) to customers. Large companies, like Dow Chemicals SA and Sapref outsource their IT support to this division. The main elements of this division's structure are a Help Desk and a team of Field Services Engineers. These two elements need to work in synergy to provide the service to customers. Herein lies the management challenge.

1.6 RESEARCH METHODOLOGY

This study will be carried out in terms of the following detailed actions:

1.6.1 Stage One: Theoretical Background

A comprehensive review and evaluation of pertinent literature in the subject areas of customer satisfaction, quality and Six Sigma will be performed in order to establish a firm basis for research. The sources will include books, journals and Internet websites.

1.6.2 Stage Two: Case Study

Business Connexion a medium sized IT company will be used as a case study. The following aspects of the company will be detailed:

Services

The service provided by Managed Support to a customer is detailed in a document called a Service Level Agreement. This document dictates the following aspects of the Service:

Response Times

- After Hours Services
- Resources

- Management
- Nature of the service

The challenge facing the Managed Support team is to deliver this service as expected by the customer, whilst maintaining profitability.

Interviews will also be conducted with customers to determine what they regard as critical to quality.

Current Processes

An **analysis of the processes** used by Managed Support will then be detailed. An evaluation of to what extent these process are customer and quality focused with then be conducted.

1.6.3 Stage Three: Gap Analysis

A gap analysis will be then be undertaken to determine to what extent the company is maximising its competitive advantage.

Based on the Gap Analysis results, recommendations will be made on how the company can improve its competitive advantage. Adopting Six Sigma as a quality management system will form the basis of the recommendations.

1.7 STRUCTURE OF THE DISSERTATION

The dissertation is presented in a number of chapters, which logically develop the issues being addressed in this study.

Chapter 2 reviews literature, which is aimed at developing the theory of strategy as a game plan to ensure the development of the company's competitive advantage. The elements of customer satisfaction and quality are also explored. Six Sigma as an appropriate quality management system is analysed.

Chapter 3 presents a case study on Business Connexion. Firstly an analysis of the South African IT industry is conducted with the aim of describing the context within which the company operates. The company is then detailed in terms of, business strategy, long-term prospects, processes and competitors. In addition the Six Sigma Projects that were undertaken by the company are then described.

Chapter 4 evaluates, the current situation of the company, using the following tools: Porter's Five Forces, SWOT Analysis and PEST Analysis. Thereafter the generic strategy that should create competitive advantage for the company will be explored. In addition an analysis of the current processes will be conducted to determine to what extent these processes enhance quality and customer satisfaction. Then a gap analysis will be conducted to determine to what extent the company's processes is enhancing its competitive advantage

Chapter 5 presents recommendations to narrow the gap identified in Chapter 4. The recommendations will be based on the implementation of Six Sigma as a quality management system.

1.8 LIMITATIONS

One of the limitations of this study is that no financial figures were available. Also the study has been more focused on the Kwa Zulu Natal Branch of the company and primarily on one division.

1.9 CONCLUSION

This study will "conclude" whether quality management systems will improve customer satisfaction thereby enhancing the company's competitive advantage. Six Sigma will be the focus because the growing adoption of Six Sigma methodologies is proving that it can be a powerful strategy to improve processes and create substantial cost savings.

"Today's performance challenges demand outcomes – both financial and non-financial – that must simultaneously benefit customers, shareholders, employees and management" (Smith. P: 1999). This study will examine the role that quality as a strategy can play in meeting these challenges.

CHAPTER TWO - Literature Review

2.1 INTRODUCTION

The challenge facing companies today is how to obtain and maintain market share in the face of increased competition at both a domestic and global level. Companies are forced to define themselves in terms of competitive advantage. "Sustainable competitive advantage allows the maintenance and improvement of the enterprise's competitive position in the market. It is an advantage that enables business to survive against its competition over a long period of time" (Internet 5).

Business Research has indicated that one way of achieving competitive advantage is by placing emphasis on customer satisfaction – that is providing high quality goods or services, as defined by the customer, at competitive prices. To this end companies need to focus on issues such as reduction of cycle-time, continuous improvement in quality and cost control as a means of creating competitive advantage. The importance of quality has been emphasized by Hamel and Prahalad (1994) in their assertion, quality will no longer be a competitive advantage; it will be the price of market entry.

In order for a company to gain competitive advantage, it needs to have a game plan. This paper explores the use of strategic management as the means to define the game plan that will create competitive advantage for Business Connexion. Elements that define good customer satisfaction are then identified. Then quality, as a means to enhance customer satisfaction, is explored. Thereafter Six Sigma is identified as a model that addresses the critical elements identified in customer satisfaction and quality. It is then proposed as the quality management system to be considered as the means to determine competitive advantage, by using quality as a strategy to improve customer satisfaction.

2.2 WHAT IS STRATEGY?

Johnson and Scholes (1997) define strategy as the direction and scope of an organization over the long term: which achieves advantage for the organization through its configuration of resources within a changing environment, to meet the needs of markets and to fulfill stakeholder expectations.

Johnson and Scholes (1997) also assert that strategies exist at a number of levels in an organization.

First, there is the corporate level – the main issues here are about overall purpose and scope of the organization; this may involve consideration of diversification and acquisition, but also how the organization is to be run in structural and financial terms; and how resources are to be allocated within the organization.

The second level can be thought of in terms of competitive or business unit strategy. Here strategy is about how to compete successfully in a particular market: the concerns therefore are about how advantage over competitors can be achieved; what new opportunities can be identified or created in markets; which products or services should be developed in which markets; and the extent to which these meet customer needs in such a way as to achieve the objectives of the organization – perhaps long-term profitability, market growth or measures of efficiency. So, whereas corporate strategy involves decisions about the organization as a whole, strategic decisions here need to be related to a strategic business unit (SBU).

The third level of strategy is at the operating end of the organization. Here there are operational strategies which are concerned with how the component parts of the organization in terms of resources, processes, people and their skills are pulled together to form a strategic architecture which will effectively deliver the overall strategic direction. In most businesses, successful business strategies depend to a large extent on decisions which are taken, or activities which occur at the operational level. The integration of operations and strategy is therefore of great importance (Johnson and Scholes. 1997).

Lynch (2000) describes strategy as an organization's sense of purpose. Purpose alone, however is not a strategy. Plans and actions need to be developed to put the purpose into practice.

Corporate strategy is the pattern of major objectives, purposes or goals and essential policies or plans for achieving those goals, stated in such a way as to define what business the company is in or is to be in and the kind of company it is or is to be.

Every organization has to manage its strategies in three main areas:

- The organization's internal resources
- The external environment within which the organization operates
- The organization's ability to add value to what it does

Lynch (2000) thus asserts that corporate strategy can be seen as the linking process between the management of the organization's internal resources and its external relationships with its customers, suppliers, competitors and the economic and social environment in which it exists.

Mintzberg (1991), defines strategy as a plan – some sort of consciously intended course of action, a guideline (set of guidelines) to deal with the situation. By this definition, strategies have two essential characteristics: they are made in advance of the actions to which they apply, and they are developed consciously and purposefully. As plans strategies, may be general or they can be specific.

Pearce and Robinson (1985) define strategy as a company's large-scale, future-oriented plans for interacting with the competitive environment to optimize achievement of organization objectives. They describe strategy as a company's game plan. A strategy reflects a company's awareness of how to compete, against whom, when, where and for what.

In addition, Pearce and Robinson have identified the following as the dimensions of strategic issues:

- Strategic Issues require top-management decisions

- Strategic issues involve the allocation of large amounts of company resources
- Strategic issues are likely to have a significant impact on the long term prosperity of the firm
- Strategic issues are future oriented
- Strategic issues usually have major multifunctional or multi-business consequences
- Strategic issues necessitate considering factors in the firm's external environment

According to Thompson and Strickland (2000), a company's strategy is the game plan management is using to stake out a market position, conduct its operations, attract and please customers, compete successfully, and achieve organizational objectives. A strategy entails managerial choices among alternatives and signals organizational commitment to specific markets, competitive approaches, and ways of operating.

There is no one universal definition of strategy, however there are definite commonalities between the definitions offered by the experts. In the study of strategy it is therefore necessary to focus on the following:

- Strategy is a game plan
- Strategy involves an analysis of the external environment within which the company operates
- Strategy involves an analysis of the company's internal resources and capabilities
- Strategy is used to define the company's competitive advantage.

2.3 STRATEGIC MANAGEMENT

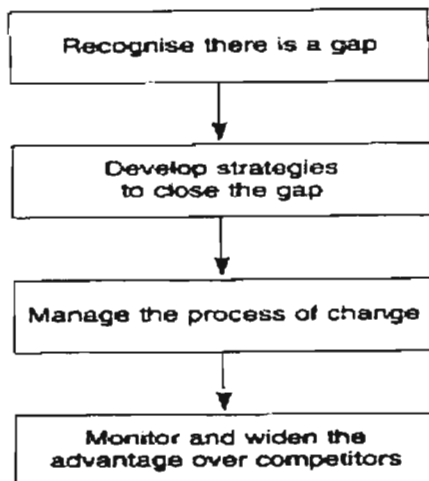
2.3.1 Gap Analysis

A gap is sometimes spoken of as "the space between where we are and where we want to be." Gap analysis is undertaken as a means of bridging that space. According to Billsberry (1994), the approach to gap analysis centres around three questions:

1. Where are we now?
2. Where do we want to get to?
3. How can we get there? (Ambrosini. 1998)

The figure below illustrates how a simple gap analysis can be conducted.

Figure 2.1 Gap Analysis



Source: Ambrosini .1998.

Used in this manner, the three questions have relevance to almost every planning and forecasting scenario. Their usage allows the application of other strategic planning tools, such as PEST analysis, SWOT analysis to be applied with a sense of purpose and direction.

Performance gaps consist of the following three segments:

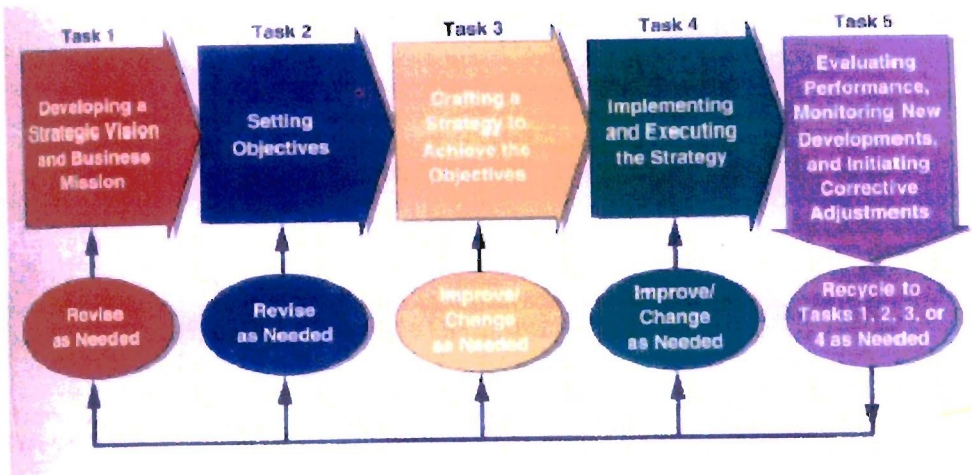
- Improvement gaps – these are gaps which can be narrowed by internal changes to improve the efficiency and effectiveness of existing operations: How can we do what we already do better?
- Expansion gaps – these are gaps which can be narrowed by internal strategies that increase growth, such as increasing market penetration, product development and targeting new markets
- Diversification gaps – When improvement and expansion strategies have been considered and found not to close the gap fully, the manager has to conclude that the objective cannot be met from existing businesses and therefore must consider strategies of organizational-level growth. These strategies include growth strategies of both diversification and integration, the stability strategy of harvesting, and the defence strategies of divestment and liquidation (Ambrosini. 1998).

2.3.2 The 5 Tasks of Strategic Management

Thompson & Strickland describe the strategy-making/strategy implementing processes as consisting of five interrelated managerial tasks:

1. Forming a strategic vision of where the organization is headed – so as to provide long-term direction
2. Setting objectives – converting the strategic vision into specific performance outcomes for the company to achieve
3. Crafting a strategy to achieve the desired outcomes
4. Implementing and executing the chosen strategy efficiently and effectively
5. Evaluating performance and initiating corrective adjustments in vision, long-term direction, objectives, strategy, or execution in light of actual experience, changing conditions, new ideas, and new opportunities.

Figure 2.2: The Five Tasks of Strategic Management



Source: Thompson and Strickland. 2000

2.4 COMPETITIVE ADVANTAGE

A company's competitive advantage largely determines its ability to generate excess returns on capital and links the business strategy with fundamental finance and capital markets. In the end, it is a company's competitive advantage that allows it to earn excess returns for its shareholders. Without a competitive advantage, a company has limited economic reason to exist—its competitive advantage is its staff of life. Creating a sustainable competitive advantage may be the single most important goal of any company and may be the most important single attribute on which each corporation must place its most focus. (Internet 6)

According to Thompson and Strickland (2000), winning business strategies are grounded in sustainable competitive advantage. A Company has competitive advantage whenever it has an edge over rivals in attracting customers and defending against competitive forces. There are many routes to competitive advantage, but the most basic is to provide buyers with what they perceive as superior value – a good product at a low price, a superior product that is worth paying more for, or a best-value offering that represents an attractive combination of price, features, quality, service, and other attributes buyers find attractive.

Michael Porter (1980) identified two basic types of competitive advantage:

- cost advantage
- differentiation advantage

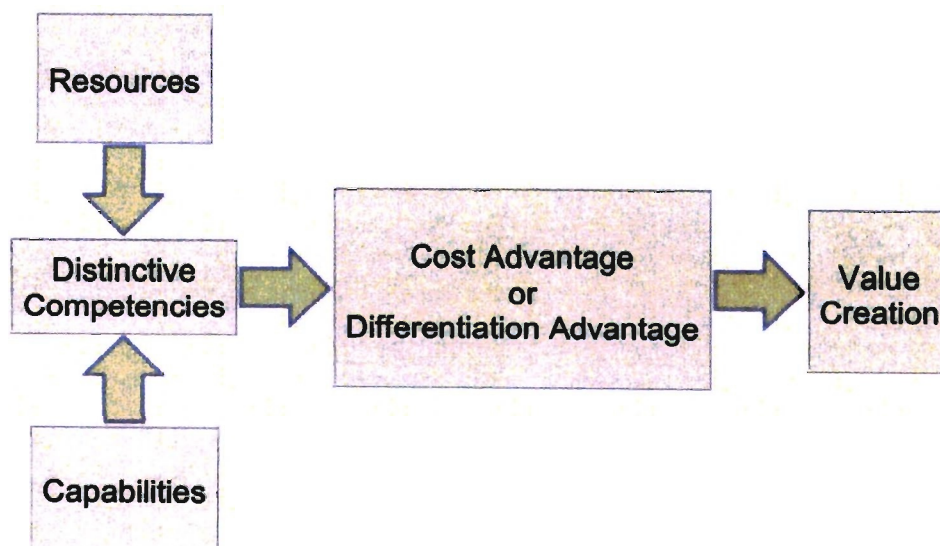
A competitive advantage exists when the firm is able to deliver the same benefits as competitors but at a lower cost (cost advantage), or deliver benefits that exceed those of competing products (differentiation advantage). Thus, a competitive advantage enables the firm to create superior value for its customers and superior profits for itself.

Cost and differentiation advantages are known as *positional advantages* since they describe the firm's position in the industry as a leader in either cost or differentiation.

A *resource-based view* emphasizes that a firm utilizes its resources and capabilities to create a competitive advantage that ultimately results in superior value creation. (Porter. 1980)

The following diagram combines the resource-based and positioning views to illustrate the concept of competitive advantage:

Figure 2.3: Model of Competitive Advantage



Source: Internet 7

2.4.1 Generic Competitive Strategies

Porter has described competitive strategy as taking offensive or defensive actions to create a defensible position in an industry, and thereby yield a superior return on investment for the firm. Firms have discovered many different approaches to this end, and the best strategy for a given firm is ultimately a unique construction reflecting its own particular circumstances. However, at the broadest level, Porter has identified three internally consistent generic strategies (which can be used singly or in combination) for creating a defensible position in the long run and outperforming competitors in an industry.

The three generic strategies identified by Porter are as follows:

1. **Overall Cost Leadership:** This strategy is aimed at achieving overall cost leadership in an industry through a set of functional policies aimed at this basic objective. Cost Leadership requires aggressive construction of efficient-scale facilities, vigorous pursuit of cost reductions from experience, tight cost and overhead control, avoidance of marginal customer accounts and cost minimization in areas like R&D, service, sales force, advertising and so on. A great deal of managerial attention to cost control is necessary to achieve these aims
2. **Differentiation:** This strategy is aimed at differentiating the product or service offering of the firm, creating something that is perceived industry-wide as being unique. Approaches to differentiating can take many forms: design or brand image, technology, features, customer service, dealer network or other dimensions.
3. **Focus:** This strategy is focusing on a particular buyer group, segment of the product line, or geographic market. The focus strategy is built around serving a particular target very well, and each functional policy is developed with this in mind. The strategy rests on the premise that the firm is thus able to serve its narrow strategic target more effectively or efficiently than competitors who are competing more broadly. As a result, the firm achieves either differentiation from better meeting the needs of

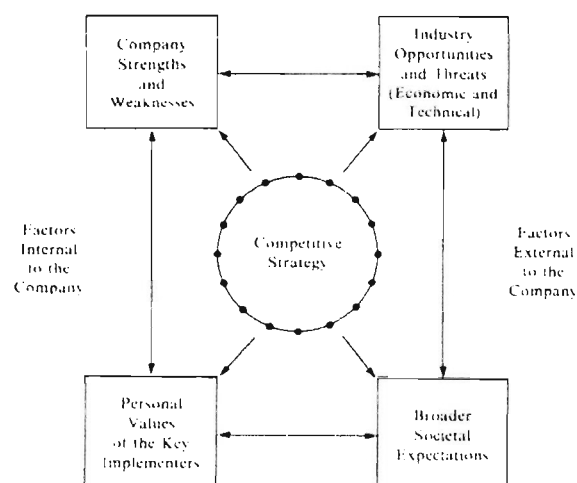
the particular target, or lower costs in serving this target, or both. (Porter. 1980)

2.4.2 Competitive Strategy Formulation

According to Porter (1980), formulating competitive strategy involves the consideration of four key factors that determine the limits of what a company can successfully accomplish. These four factors are outlined in the Figure 2.4 below. The company's strengths and weaknesses are its profile of assets and skills relative to competitors, including financial resources, technological posture, brand identification, and so on. The personal values of the organization are the motivations and needs of the key executives and other personnel who must implement the chosen strategy. Strengths and weaknesses combined with values determine the internal (to the company) limits to the competitive strategy a company can successfully adopt.

The external limits are determined by its industry and broader environment. Industry opportunities and threats define the competitive environment, with its attendant risks and potential rewards. Societal expectations reflect the impact on the company of such things as government policy, social concerns, evolving mores, and many others. These four factors must be considered before a business can develop a realistic and implementable set of goals and policies. (Porter. 1980)

Figure 2.4 Key Factors of Competitive Strategy Formulation



Source: Porter (1980)

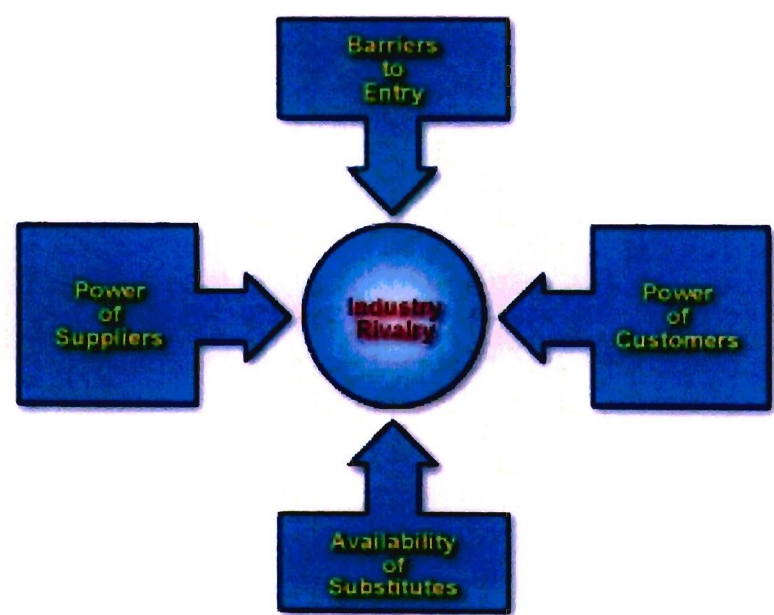
2.5 STRATEGIC TOOLS

When conducting a strategic analysis the following tools can be used:

2.5.1 Industry Analysis: Porter's Five Forces

Porter asserts that the essence of formulating competitive strategy is relating a company to its environment. He identifies the key aspect of the company's environment as the industry or industries in which it competes. Industry structure has a strong influence in determining the competitive rules of the game as well as the strategies potentially available to the firm. The state of competition in an industry depends on five basic competitive forces, which are shown in the following figure:

Figure 2.5: Porter's Five Forces



Source: Internet 8

Threat of Entry

The threat of entry into an industry depends on the barriers to entry that are present, coupled with the reaction from existing competitors that the entrant can expect. If barriers are high and/or the newcomer can expect sharp retaliation

from entrenched competitors, the threat of entry is low. Porter identifies six major sources of barriers to entry:

- Economies of Scale – this refers to declines in units costs of a product/service as the absolute volume per period increases. Economies of scale deter entry by forcing the entrant to come in at large scale and risk strong reaction from the existing firms or come in at a small scale and accept a cost disadvantage
- Product differentiation – this means that established firms have brand identification and customer loyalties, which stem from past advertising, customer service, product differences, or simply being first in the industry. Differentiation creates a barrier to entry by forcing entrants to spend heavily to overcome existing customer loyalties
- Capital requirements – the need to invest large financial resources in order to compete creates a barrier to entry, particularly if the capital is required for risky or unrecoverable costs.
- Switching costs – that is one-time costs facing the buyer of switching from one supplier's product/service to another's. If these switching costs are high, then new entrants must offer a major improvement in cost or performance in order for the buyer to switch from an incumbent
- Access to distribution Channels – this is the new entrants need to secure distribution for its product. The more limited the channels are and the more the existing competitors have these tied up, the tougher the entry into the industry
- Cost advantages independent of Scale – established firms may have cost advantages not replicable by potential entrants no matter what their size and attained economies of scale e.g. propriety product technology, favourable access to raw materials, government subsidies etc.

Intensity of Rivalry of Among Existing Competitors

Rivalry among existing competitors takes the familiar form of jockeying for position – using tactics like, price competition, advertising battles, product

introductions and increased customer service or warranties. Intensity of rivalry is influenced by:

- Numerous or equally balanced competitors
- Slow Industry growth
- High fixed or storage costs
- Lack of differentiation or Switching costs
- Diverse competitors

Pressure from Substitute products

All firms in an industry are competing, in a broad sense, with industries producing substitute products. Substitutes limit the potential returns of an industry by placing a ceiling on the prices firms in that industry can profitably charge. The more attractive the price-performance alternative offered by substitutes, the firmer the lid on industry profits. Substitute products are other products that can perform the same function as the product of the industry.

Bargaining Power of Buyers

Buyers compete with the industry by forcing down prices, bargaining for higher quality or more services, and playing competitors against each other - all at the expense of industry profitability. A buyer group is powerful in the following circumstances:

- It is concentrated or purchases large volumes relative to the seller sales
- It faces few switching costs
- Buyers pose a credible threat of backward integration
- The product is purchases from the industry are standard or undifferentiated
- The product is unimportant to the quality of the buyers' product or service

Bargaining power of suppliers

Supplier can exert bargaining power over participants in an industry by threatening to raise prices or reduce the quality of purchased goods and

services. Bargaining power of suppliers are strong in the following circumstances:

- The supplier product/service is an important input to the buyer's business
- The industry is not an important customer of the supplier
- It is not obliged to contend with other substitute products for sale to the industry
- The supplier group's products are differentiated or it has built up switching costs
- The supplier group poses a credible threat of forward integration

The collective strength of these forces determines the ultimate profit potential in the industry, where profit potential is measured in terms of long run return on invested capital.

Once the forces affecting competition in an industry and their underlying causes have been diagnosed, the firm is in a position to identify its strengths and weaknesses relative to the industry.

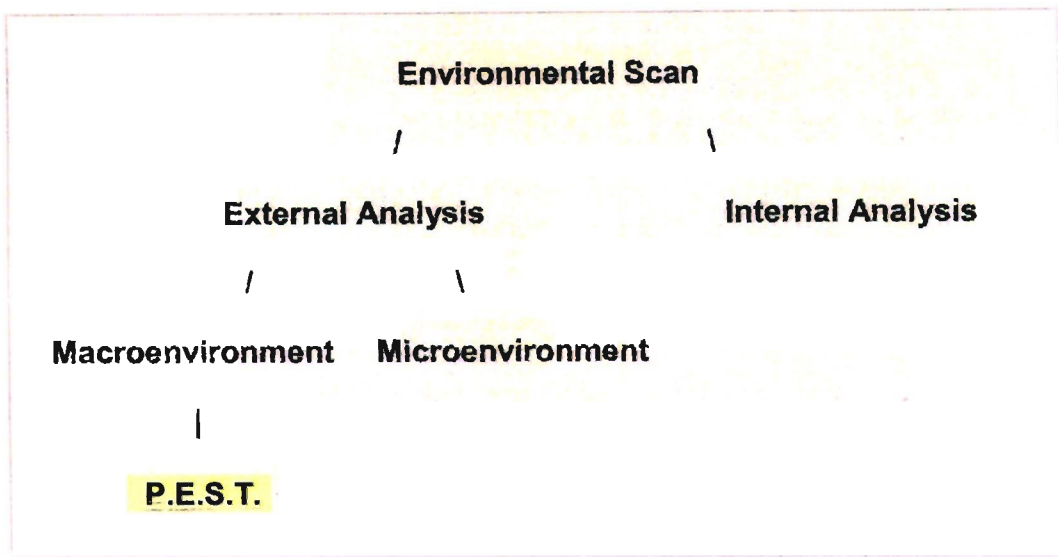
2.5.2 PEST Analysis

A scan of the external macro-environment in which the firm operates can be expressed in terms of the following factors:

- Political
- Economic
- Social
- Technological

A PEST analysis fits into an overall environmental scan as shown in the following diagram:

Figure: 2.6 PEST Analysis



Source: Internet 7

Political Factors

Political factors include government regulations and legal issues and define both formal and informal rules under which the firm must operate. Some examples include:

- tax policy
- employment laws
- environmental regulations
- trade restrictions and tariffs
- political stability

Economic Factors

Economic factors affect the purchasing power of potential customers and the firm's cost of capital. The following are examples of factors in the macroeconomy:

- economic growth
- interest rates
- exchange rates
- inflation rate

Social Factors

Social factors include the demographic and cultural aspects of the external macroenvironment. These factors affect customer needs and the size of potential markets. Some social factors include:

- health consciousness
- population growth rate
- age distribution
- career attitudes
- emphasis on safety

Technological Factors

Technological factors can lower barriers to entry, reduce minimum efficient production levels, and influence outsourcing decisions. Some technological factors include:

- R&D activity
- automation
- technology incentives
- rate of technological change

(Internet 7)

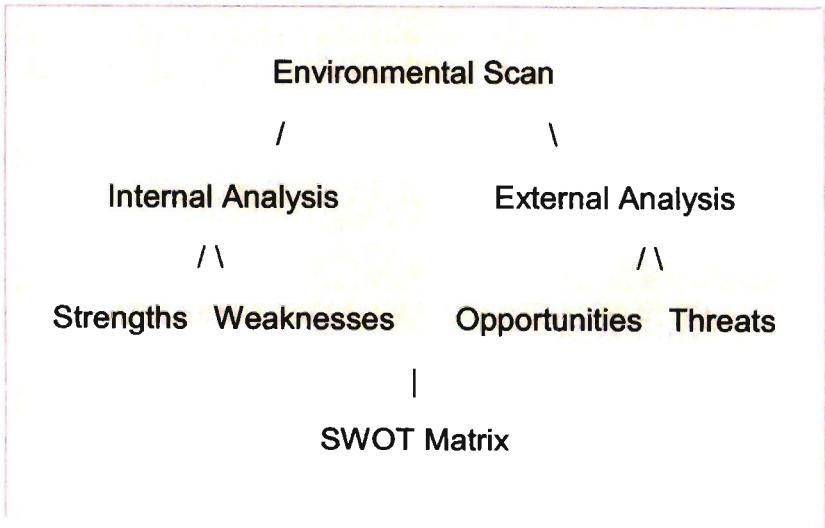
2.5.3 SWOT Analysis

A scan of the internal and external environment is an important part of the strategic planning process. Environmental factors internal to the firm usually can be classified as strengths (S) or weaknesses (W), and those external to the firm can be classified as opportunities (O) or threats (T). Such an analysis of the strategic environment is referred to as a SWOT analysis.

The SWOT analysis provides information that is helpful in matching the firm's resources and capabilities to the competitive environment in which it operates. As such, it is instrumental in strategy formulation and selection. The firm's resources and capabilities together form its distinctive competencies. These competencies enable innovation, efficiency, quality, and customer responsiveness, all of which can be leveraged to create a cost advantage or a differentiation advantage.

The following diagram shows how a SWOT analysis fits into an environmental scan:

Figure 2.7: SWOT Analysis Framework



Source: Internet 7

Strengths

A firm's strengths are its resources and capabilities that can be used as a basis for developing a competitive advantage. Examples of such strengths include:

- patents
- strong brand names
- good reputation among customers
- cost advantages from proprietary know-how
- exclusive access to high grade natural resources
- favourable access to distribution networks

Weaknesses

The absence of certain strengths may be viewed as a weakness. For example, each of the following may be considered weaknesses:

- lack of patent protection
- a weak brand name
- poor reputation among customers
- high cost structure
- lack of access to the best natural resources
- lack of access to key distribution channels

In some cases, a weakness may be the flip side of strength. Take the case in which a firm has a large amount of manufacturing capacity. While this capacity may be considered a strength that competitors do not share, it also may be considered a weakness if the large investment in manufacturing capacity prevents the firm from reacting quickly to changes in the strategic environment.

Opportunities

The external environmental analysis may reveal certain new opportunities for profit and growth. Some examples of such opportunities include:

- an unfulfilled customer need
- arrival of new technologies

- loosening of regulations
- removal of international trade barriers

Threats

Changes in the external environmental also may present threats to the firm.

Some examples of such threats include:

- shifts in consumer tastes away from the firm's products
- emergence of substitute products
- new regulations
- increased trade barriers

The SWOT Matrix

A firm should not necessarily pursue the more lucrative opportunities. Rather, it may have a better chance at developing a competitive advantage by identifying a fit between the firm's strengths and upcoming opportunities. In some cases, the firm can overcome a weakness in order to prepare itself to pursue a compelling opportunity.

To develop strategies that take into account the SWOT profile, a matrix of these factors can be constructed. The SWOT matrix (also known as a **TOWS Matrix**) is shown below:

Figure 2.8: SWOT / TOWS Matrix

	Strengths	Weaknesses
Opportunities	S-O strategies	W-O strategies
Threats	S-T strategies	W-T strategies

Source: Internet 7

- **S-O strategies** pursue opportunities that are a good fit to the company's strengths.
- **W-O strategies** overcome weaknesses to pursue opportunities.
- **S-T strategies** identify ways that the firm can use its strengths to reduce its vulnerability to external threats.
- **W-T strategies** establish a defensive plan to prevent the firm's weaknesses from making it highly susceptible to external threats (Internet 7).

2.6 STRATEGY IN THE SERVICE INDUSTRY

Are there actually meaningful differences between goods and services that, in turn, should lead to different management practices in one setting versus the other? In 1988, David Bowen and Ben Schneider added their voice to others, primarily those in the discipline of marketing, in describing services, relative to goods, as relatively intangible, tending to be produced and consumed simultaneously, and tending to involve the consumer in production and delivery. They suggested that these unique service attributes posed organizing contingencies that should then shape organizational and management practice. What are the strategy, operations management, and marketing issues unique to service organizations? For example, how does competing on service differ from competing on goods; what are the implications for strategic management? What are the quality-assurance issues in service? In determining strategy in the service industry the above questions need to be considered.

2.7 CUSTOMER SATISFACTION

According to Jones (2000), Customers are more knowledgeable and demanding than ever before. To ensure that an organization can meet new challenges, the entire organization should be "customer-centred". Customers do not want to be merely "satisfied." They want the feeling that the organization considers their business to be important, essential, and vital to its operation. The past decade or

so has seen increased emphasis on customer satisfaction, driven by forces such as the quality improvement initiatives and heightened global competition.

2.7.1 Customer Satisfaction and Strategy

Being proactive is essential to continuous high-quality customer service. Quality does not just happen; it must be planned. Customer service must be part of the vision of the company, not some add-on or afterthought.

2.7.1.1 Building Customer Relationships

Shifting a company's central focus to customers means that extraordinary customer relations and service will become a natural operating procedure for the company.

One of the primary decisions to be made in the planning process is the choice customer. Customers are not all equally desirable. Often, there are customers who cost more to service than their business merits. Then the question becomes whether the cost of service outweighs the benefits of their purchases. The company as a whole must know who the customers are and which ones are the most profitable.

According to Jones (2000), one of the critical success factors of providing good customer service is people.

Making customer satisfaction a primary goal focuses a company's people, on the customer. Human resource planning is, therefore an essential part of successful customer service, because to a customer anyone working for the company represents that company. A company needs to be fully aware of the impression that is received by someone who contacts the company. The impression made on the customer depends primarily upon how the company's employees interact with the customer. Therefore, each employee is a potential customer service representative.

People, therefore, are critical success factors to ensuring customer satisfaction. However, without a strategy to recruit and select the best personnel and to retain

them, customer service plans will fail. Continuous planning for the best people for the job reflects concern for customers.

Additionally, diversity within a company is important; the diversity of the service provider should match that of the community the company serves. This diversity matching enhances the probability that a company will address the concerns of all its customers.

A host of Human Resource Management questions surround what are “best practices” for customer-contact employees. For example: How do companies help employees cope with the demands of constant customer contact? What are the advantages and disadvantages of empowerment in service effectiveness? Service firms often claim to hire on attitude and train on skill. What are the valid “best practices” for this approach? What types of economic, status, and job-content rewards best facilitate the delivery of service quality—how do you make customer satisfaction-based employee pay plans work? How important are workplace fun and employee celebrations to excellent customer service?

2.7.1.2 Customer Complaints

Managing complaints well and recovering customers, i.e., dealing with them after a service failure and (usually) a complaint, should be the cornerstone of an organization's customer-satisfaction strategy. Recent empirically based research has demonstrated strong links between effective service recovery and not only customer satisfaction but also repurchase intentions, customer trust and commitment, and long-term relationships. Further, it has been shown that good recovery and complaint management have a positive impact on staff attitude and staff retention, process improvement and, arguably more importantly, on profit. Based on research by Johnson et al (2000) the following best practices to manage customer complaints are recommended:

1. It is well accepted that speed of response is vital. However, organizations should also use rapid responses as an opportunity to demonstrate the

human face of the organization through personal contact rather than pro forma acknowledgments.

2. Many organizations already accept that complaints are the tip of the iceberg but are reluctant to look below the surface. It is critical that organizations not only encourage complaints but also choose appropriate methods of doing so.
3. Rewarding staff to encourage or collect complaints is not necessary but requires a 'no-blame' culture that accepts mistakes and makes complaints a normal but positive part of organizational life.
4. While many organizations recognize the value of follow-ups, closure is a different matter. Closure is concerned with the process and its outcomes for both the customer and the organization. Closure is the opportunity to ensure that the customer is, in fact, happy with the outcome and also that the organization has made changes, where appropriate, to its systems or procedures to ensure that the problem does not recur.
5. The need for top-level support of complaint management is not a surprising finding, but top-level proactive involvement in a variety of aspects of complaint management presents a challenge to many senior managers. Day-to-day support of and involvement in front-line issues not only demonstrates real concern to both staff and customers but provides the impetus to make changes that will make a difference.
6. Complaints are not always concerned with operational issues. Many of them expose cross-functional and strategic issues that can be dealt with only at a senior organizational level. Information from complaints needs to be incorporated into strategic planning systems.
7. Excellent complaints management requires both a centralized and decentralized approach, though the allocation of tasks may vary. At the minimum, decentralized units should be used to collect information and deal with customers and problems where they can, and centralized departments/teams/individuals should be responsible for analysis of trends with overall responsibility for policies and overseeing improvements.
8. Reports of complaint issues and learning points need to be widely circulated throughout an organization. The first step, in being able to use

complaint data to drive improvement, is having a common understanding of the issues and problems.

9. Customer complaints should not be the only source of information to help drive improvements. Employees should be used as a major source of ideas. Their suggestions, issues, and 'complaints' should be logged and tracked, indeed treated as seriously and systematically as customer complaints.
10. Satisfaction surveys should not shy away from directly seeking information about problems and their resolution. One might argue that obtaining such information is more important than collecting traditional satisfaction data.
11. The acid test that should be applied to all complaint-management systems is whether or not they result in action and lead to improvements for the financial benefit of the organization (for example, through the reduction of costs and time spent dealing with problems) and for the benefit of customers (for example, by preventing dissatisfaction from recurring). Knowledge of these benefits provides the motivation for staff to deal with complaints in a positive manner.
12. Motivation for senior management should be provided by information about the financial costs and benefits of complaints, so it is important that organizations are able to develop means of assessing the financial impact of complaints and the value of improvements that should result from them. (Jones. 2000).

2.7.2 Importance of Customer Satisfaction

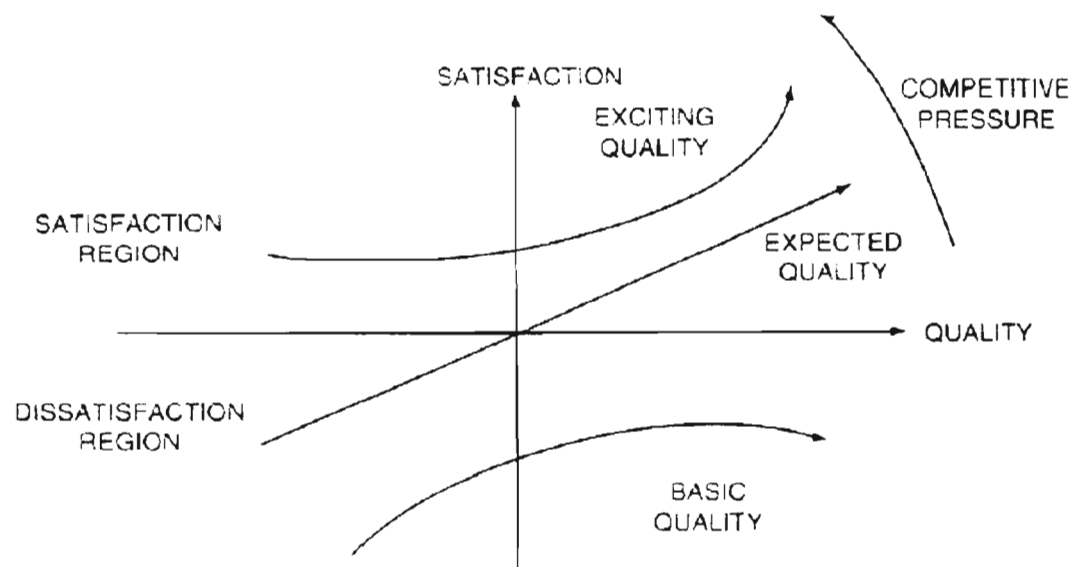
Until relatively recently marketing strategy was designed almost exclusively to "get" customers. "Keeping" customers was largely neglected, suggesting that marketers' behaviours have been indicative of the implicit belief that customers can be easily replaced. Focusing on relationships has helped to supplant this notion with a belief that customers are valuable "assets" that can be managed and whose value can be enhanced through relationship building. This approach implies that the customer is viewed as a long-term annuity or stream of revenue receipts rather than a single "accounts receivable" waiting to be collected. Building strong relationships with customers can help reduce customer turnover

rates, and thereby increase profitability due, in part, to the fact that retaining customers is significantly less costly than acquiring new customers. (Brown.2002)

2.8 QUALITY

Quality is defined by the customer. Conformance to company specifications is not quality; conformance to the customer's specifications is. Spending wisely to improve service comes from continuous learning about the expectations and perceptions of customers and non-customers. Pyzdek (2001) asserts that even though customers seldom spark true innovation (for example they are usually unaware of state-of-the art developments), their input is extremely valuable. Obtaining valid customer input is a science in itself. Market research firms use scientific methods such as critical incident analysis, focus groups, content analysis and surveys to identify the “voice of the customer.” Noritaki Kano (1993) developed the following model (Figure 2.9) of the relationship between customer satisfaction and quality.

Figure 2.9: Customer Satisfaction and Quality



Source: Pyzdek: 2001

The Kano model shows that there is a basic level of quality that customers assume the product will have. If asked, customers don't even mention the basic quality items, they take them for granted. However, if this quality level isn't met the customer will be dissatisfied; note that the entire "Basic Quality" curve lies in the lower half of the chart representing dissatisfaction. However, providing basic quality isn't enough to create a satisfied customer.

The expected quality line represents those expectations which customers explicitly consider, for example, the length of time spent waiting in line at a checkout counter. The model shows that customer's will be dissatisfied if their quality expectation is not met; satisfaction increases as more expectations are met.

The exciting quality curve lies entirely in the satisfaction region. This is the effect of innovation. Exciting quality represents unexpected quality items; the customer receives more than expected.

Competitive pressure will constantly raise customer expectations. Today's exciting quality is tomorrow's basic quality. Firms that seek to lead the market must innovate constantly. Conversely, firms that seek to offer standard quality must constantly research customer expectations to determine the current accepted quality levels. (Pyzdek .2001:144)

2.8.1 The Quality Gurus

Omachonu and Ross (1994) analysed the work of the Gurus of quality, Juran, Deming, Crosby and Feigenbaum. Their impressions are outlined below.

Deming, the best known of the "early" pioneers, is credited with popularizing quality control in Japan in the early 1950s. Today he is regarded as a national hero in that country and is the father of the world-famous Deming Prize for Quality. He is best known for developing a system of statistical quality control, although his contribution goes substantially beyond those techniques. His

philosophy begins with top management but maintains that a company must adopt the fourteen points of his system at all levels.

Deming's (1986) universal fourteen points for management are summarized as follows:

1. Create consistency of purpose with a plan.
2. Adopt the new philosophy of quality
3. Cease dependence on mass inspection
4. End the practice of choosing suppliers based solely on price.
5. Identify problems and work continuously to improve the system .
6. Adopt modern methods of training on the job
7. Change the focus from production numbers(quantity) to quality.
8. Drive out fear
9. Break down barriers between departments
10. Stop requesting improved productivity without providing methods to achieve it.
11. Eliminate work standards that prescribe numerical quotas
12. Remove barriers to pride of workmanship
13. Institute vigorous education and retraining
14. Create a structure in top management that will emphasize the preceding thirteen points every day.

He also believes that quality must be built into the product at all stages in order to achieve a high level of excellence. Deming (1986) defines quality as a predictable degree of uniformity and dependability at low cost and suited to the market. Deming teaches that 96 percent of variations have common causes and 4 percent have special causes. He views statistics as a management tool and relies on statistical process control as a means of managing variations in a process.

Deming (1986) developed what is known as the Deming chain reaction; as quality improves, costs will decrease and productivity will increase, resulting in more jobs, greater market share, and long-term survival. Although it is the worker who ultimately produce quality products, Deming stresses worker pride and

satisfaction rather than the establishment of quantifiable goals. His overall approach focuses on improvement of the process, in that the system, rather than the worker, is the cause of process variation. (Omachonu and Ross. 1994)

Juran, like Deming, was invited to Japan in 1954 by the Union of Japanese Scientists and Engineers (JUSE). His lectures introduced the managerial dimensions of planning, organizing, and controlling and focused on the responsibility of management to achieve quality and the need for setting goals. Juran (1994) defines quality as fitness for use in terms of design, conformance, availability, safety, and field use. Thus, his concept more closely incorporates the point of view of the customer. He is prepared to measure everything and relies on systems and problem-solving techniques. Unlike Deming, he focuses on top-down management and technical methods rather than worker pride and satisfaction.

The following table outlines the major points of Juran's quality management ideas:

Table 2.1: Dr Juran’s Major points on Quality

Quality Trilogy:	
Quality Planning	• Identify who are the customers.
	• Determine the needs of those customers.
	• Translate those needs into our language.
	• Develop a product that can respond to those needs.
	• Optimise the product features so as to meet our needs and customer needs.
Quality Improvement	• Develop a process which is able to produce the product.
	• Optimise the process.
Quality Control	• Prove that the process can produce the product under operating conditions with minimal inspection.
	• Transfer the process to Operations.

Source: Internet 10

Armand Feigenbaum, like Deming and Juran, achieved visibility through his work with the Japanese. Unlike the latter two, he used a total quality control approach that may very well be the forerunner of today's TQM. He promoted a system for integrating efforts to develop, maintain, and improve quality by the various groups in an organization. To do otherwise, according to Feigenbaum, would be to inspect for and control quality after the fact rather than build it in at an earlier stage of the process (Omachonu and Ross. 1994).

Philip Crosby, author of the popular book *Quality is Free*, may have achieved the greatest commercial success by promoting his views and founding the Quality College in Winter Park, Florida. He argues that poor quality in the average firm costs about 20 percent of revenues, most of which could be avoided by adopting good quality practices. His "absolutes" of quality are

1. Quality is defined as conformance to requirements, not "goodness."
2. The system for achieving quality is prevention, not appraisal.
3. The performance standard is zero defects, not "that's close enough."
4. The measurement of quality is the price of non-conformance, not indexes.

Crosby (1979) stresses motivation and planning and does not dwell on statistical process control and the several problem-solving techniques of Deming and Juran. He states that quality is free because the small costs of prevention will always be lower than the costs of detection, correction, and failure.

Like Deming, Crosby (1979) has his own fourteen points:

1. Management commitment. Top management must become convinced of the need for quality and must clearly communicate this to the entire company by written policy, stating that each person is expected to perform according to the requirement or cause the requirement to be officially changed to what the company and the customers really need.

2. Quality improvement teams. Form a team composed of department heads to oversee improvements in their departments and in the company as a whole.
3. Quality measurement. Establish measurements appropriate to every activity in order to identify areas in need of improvements.
4. Cost of quality. Estimate the costs of quality in order to identify areas where improvements would be profitable.
5. Quality awareness. Raise quality awareness among employees. They must understand the importance of product conformance and the costs of non-conformance.
6. Corrective action. Take corrective action as a result of step 3 and 4.
7. Zero defects planning. Form a committee to plan a program appropriate to the company and its culture.
8. Supervisor training. All levels of management must be trained in how to implement their part of the quality improvement program.
9. Zero defects day. Schedule a day to signal to employees that the company has a new standard.
10. Goal setting. Individuals must establish improvement goals for themselves and their groups.
11. Error cause removal. Employees should be encouraged to inform management of any problems that prevent them from performing error-free work.
12. Recognition. Give public, non-financial appreciation to those who meet their quality goals or perform outstandingly.
13. Quality councils. Composed of quality professional and team chairperson, quality councils should meet regularly to share experiences, problems, and ideas.
14. Do it all over again. Repeat steps 1 to 13 in order to emphasise the never-ending process of quality improvement (Omachonu and Ross. 1994).

All these pioneers believe that management and the system, rather than the workers, are the cause of poor quality. These and other trailblazers have largely absorbed and synthesized each other's idea, but generally speaking they belong to two schools of thought: those who focus on technical processes and tools and those who focus on the managerial dimensions. Deming provides manufacturers with methods to measure the variations in a production process in order to determine the causes of poor quality. Juran emphasizes setting specific annual goals and establishing teams to work on them. Crosby stresses a program of zero defects. Feigenbaum teaches total quality control aimed at managing by applying statistical and engineering methods throughout the company.

Despite the differences among the experts, a number of common themes arise:

1. Inspection is never the answer to quality improvement, nor is "policing"
2. Involvement of and leadership by top management are essential to the necessary culture of commitment to quality.
3. A program for quality requires organization-wide efforts and long-term commitment, accompanied by the necessary investment in training.
4. Quality is first and schedules are secondary (Ross and Omachonu. 2000).

2.8.2 Quality Management as a Strategy

Quality is a strategy. It addresses two interlocked questions: Are we doing the right things and are we doing things right? It's possible to do the wrong thing right and the right thing wrong.

The mission of the quality management function is to educate top management about the long-range effects of total quality performance on the profits and quality reputation of the company. Management must understand that strategic planning for quality is as important as strategic planning for any other functional area.

"Quality means redefining corporate culture so that everyone from manager to worker to supplier is equally committed to producing and delivering grade A products and services. According to, Edgar S. Woolard Jr., chairman and CEO of

Du Pont in Wilmington, quality is integrating excellence into marketing, manufacturing, planning, research and development and into relationships with customers, suppliers and amongst company staff ourselves, says, Del" (Brown. 2000).

The guiding principle at most companies today is to develop systems to economically produce goods or services that satisfy customer requirements. To carry this out effectively requires a companywide quality improvement program.

2.8.3 Quality Management in the Service Industry

As the global economy becomes more knowledge-based than manufacturing, quality initiatives need to focus on the service industry. However, service quality improvement does pose special challenges. The physical nature of products in manufacturing allows quality standards to be precisely defined, conformance to standards to be evaluated, defects to be accurately determined, and methods of improvement to be explored. Services, on the other hand, cannot be defined and measured in such precise terms. Quality can really only be assessed by the recipient of the service making its measurement more subjective than exact.

What are the characteristics of services that make them so much more difficult to deal with than products? Three distinctive ones have been suggested: intangibility, heterogeneity, and inseparability.

First, services are intangible. They are activities rather than physical objects and generally cannot be measured, tested, or verified before they are consumed.

Second, services are heterogeneous, especially those with a high labour content. The consistency of the service can vary depending on the performer, the customer, and the environment.

Third, production and consumption of services often occurs simultaneously, making them inseparable. This is especially true where the service involves a high labour content and there is a great deal of interaction between the customer and the service provider (Cavaness and Manoochehri. 1993).

It is important to understand that the line between services and manufacturing is not always clear. Back office functions, also referred to as quasi manufacturing, are services performed without direct interaction with the customer. The processing of life insurance forms and credit card payments are examples of back office activities. Since these are similar to manufacturing activities and do not necessarily fit the characteristics listed above, they can often be managed with the same quality control concepts and techniques applied to manufacturing. Front office functions, on the other hand, generally involve direct interaction with the customer. Anyone giving a haircut, serving a meal, or selling a product is engaged in a front office activity. It is this high level of contact with the customer that makes these "pure service" functions so unpredictable and difficult to manage. In fact, it is the unpredictability of these service interactions that distinguishes quality in services from quality in manufacturing.

According to Cavaness and Manoochchhri (1993), the following five suggestions should improve the quality of front office activities in services. Each is made with the understanding that the unique characteristics of services - intangibility, heterogeneity, and inseparability - can present special challenges to quality improvement and, therefore, require special attention:

1. Understand Your Customers' Needs and Expectations

Defining customer needs is more complex in services than manufacturing because of the involvement of customers in the production process. Many dimensions of service quality, such as the impact of physical facilities and interactions with personnel, might be irrelevant in manufacturing.

On the other hand, customer involvement provides an opportunity for service companies to get direct and immediate feedback on quality. Employees must be trained and directed to listen carefully to customers to find out what they are thinking. While listening is essential, it isn't enough. Customers are often unable or unwilling to articulate their expectations and may not always know exactly what they need or want. Employees must be encouraged to solicit customers' feedback. They must be willing to ask open-ended questions, and listen not only to what the customer is saying, but also to what the customer is implying. A great

deal of information can be gathered on your customers' needs, your service capability to meet those needs, and the gap between the two. Such information will give clear direction to your quality improvement efforts.

When you really understand the needs and expectations of your customers, you can more easily make strategies for meeting them. Of course, you can also go further and turn customer service into a competitive advantage by offering "expectation-plus" service.

2. Define and Communicate Company Goals and Service Standards

Once an organization understands the needs and expectations of its customers, organizational goals and performance standards must be defined and shared with employees. The employees will then know what they and the organization are striving for. Researchers have suggested that service standards help to clarify work rules and communicate the organization's priorities. Unfortunately, since services are intangible and heterogeneous, many organizations find it very difficult to define service standards and to measure performance. But it must be done.

3. Improve Your Human Resource Management Practices

The intangible nature of services often makes it difficult for customers to judge service quality in precise terms. Because they are actually involved in the production process, customers' perceptions of service quality can be greatly affected by the nature of their interactions with employees. Since the quality of service depends heavily on the quality of employees, employees in services have an expanded and important role to play. Jan Carlzon of SAS emphasized this point when he pointed out that every time a customer interacts with an employee is a moment of truth that can leave a lasting impression. It is critical, therefore, that service organizations place a strong emphasis on human resource management (HRM) practices. In particular, services should make sure they have effective practices for hiring, training, motivating, and compensating their employees.

The significance of training as an individual factor asserted for critical impact on effective quality management practices is continually emphasized in the literature. Ishikawa (1985) argued that total quality begins and ends with workforce training. Training required to develop and enhance employee skills is addressed by quality management pioneer Deming (1986) in several of his famous 14 points.

4. Handle Dissatisfied Customers Effectively

The first step in handling service problems understands the cost of ignoring them. Industry experts agree that it costs five times more to replace a customer than it does to retain one, and it has been estimated that companies can increase profits by almost 100% by retaining an additional 5% of their customers. These figures are not surprising when you consider that satisfied customers tend to produce more profit each year they do business with a company, and that dissatisfied customers usually express their feelings to about ten other people.

The next step is to make it easy for the customer to complain. This is especially important when you consider that only 4% of dissatisfied customers ever inform the company of their complaints. Naturally, the employees who deal directly with customers probably hear complaints first. Not only should these employees be willing to listen to customers' complaints, they should encourage them. It has been suggested that listening, showing empathy, and demonstrating a genuine understanding of the problem provides the customer with "psychological" restitution. In addition, as mentioned previously, listening to customers' complaints will give companies valuable information on their service deficiencies and allow them to further refine their service standards.

Naturally, there are limits to how far you want to go and how much you want to spend to resolve service problems. However, being responsive to service problems gives you a chance to impress your customers and can turn good customers into great ones. This is an area where an innovative and proactive approach can make a powerful impression.

5. Build a Culture of Quality

One of the characteristics of services is that they are intangible and thus difficult to measure. You cannot verify the quality of a service interaction before it is delivered to the customer; production and consumption occur simultaneously. The skills, judgment, and performance of the front-line employees will ultimately determine the quality of service. In the absence of precise measurements, it is important to build a culture, or mindset, of quality throughout a company. To achieve a true culture of quality it is necessary to obtain top management commitment and adopt continuous improvement as a normal way of doing business. Quality experts such as Deming, Juran, and Crosby do not always agree on the best way to achieve genuine quality improvement. However, they all agree that top management commitment to quality improvement as a corporate way of life is a prerequisite to success. Top management is defined here as not only the president and CEO, but also all managers who have the authority to establish and enforce policies and guidelines within the organization (Cavaness and Manoochehri. 1993).

Table 2.2 : Criteria used to judge service quality

Reliability	The ability to perform the promised service dependably and accurately
Responsiveness	The willingness to help customers and provide prompt service
Assurance	The knowledge and courtesy of employees and their ability to convey trust and confidence
Empathy	The caring, individualized attention provided to customers
Tangibles	The appearance of physical facilities

Source: Berry and Parasuraman, 1994

2.8.4 Quality and Continuous improvement

A strategy for building a culture of quality is the concept of continuous improvement. The fifth of Deming's 14 points is to, "improve constantly and forever the system of production and service." He promotes this idea through the use of the Deming Circle. This concept, originally developed by Walter Shewhart, suggests that a company should engage in a repeating cycle of plan-do-check-

act (PDCA) to improve work processes and customer satisfaction. Juran, on the other hand, suggests that management pursue continuous improvement by creating an annual quality improvement program that identifies specific projects and establishes clear responsibility for action.

The underlying theme behind each of these methods is to look for ways to improve each facet of the business, and once something is improved, try to improve it again. However, regardless of the method used to pursue continuous improvement, the key point is to pursue it. "No matter how well a company does something, someone will find a way to do it better. No matter how well a company satisfies their customers, someone will find a way to satisfy them more. Committing to continuous improvement is the best way to make sure your company is that "someone" (Pyzdek. 2001).

2.9 SIX SIGMA: A QUALITY MANAGEMENT STRATEGY

2.9.1 Origins

The sigma concept of measuring defects was created in the early 1980s as a way to develop a universal quality metric that applied regardless of product complexity or dissimilarities between different products. Higher sigma values indicate better products and lower sigma values represent less desirable products, regardless of what the product is. In short, the higher the sigma level, the fewer the number of defects per unit of product or service. The lower the sigma level the greater the number of defects per unit. Products produced at a six sigma level of quality operate virtually defect-free – by definition, with only 3.4 defects per million opportunities (DPMO). As such Six Sigma has become recognized as the standard for product and service excellence.

The quest to achieve Six Sigma had its birth at Motorola in 1979 when executive Art Sundry stood up at management meeting and proclaimed, "The real problem at Motorola is that our quality stinks!" Sundry's proclamation sparked a new era within Motorola and led to the discovery of the crucial correlation between higher quality and lower development costs in manufacturing products of all kinds.

At a time when most American companies believed that quality cost money, Motorola realized that done right, improving quality would actually reduce costs. They believed that high-quality products should cost less to produce, not more. They reasoned that the highest quality producer should be the lowest-cost producer. At the time Motorola, was spending 5 to 10 percent of annual revenues, and in some cases as much as 20 percent of revenues, correcting poor quality. That translated into \$800 million to 900 million each year, money that, with higher-quality processes, could be returned directly to the bottom line.

As Motorola's executives began looking for ways to cut waste, Bill Smith, an engineer at Motorola's Communications Sector, was quietly working behind the scenes studying the correlation between a product's field life and how often that product had been repaired during the manufacturing process. In 1985, Smith presented a paper that concluded that if a product was found defective and corrected during the production process, other defects are bound to be missed and found later by the customer during early use of the product. However, when the product was manufactured error-free, it rarely failed during early use by the consumer.

Although Smith's findings were initially greeted with scepticism, customer dissatisfaction with a product that failed shortly after it had been purchased was very real. As a result, Smith's finding ignited a fierce debate within Motorola. Was the effort to achieve quality dependent on detecting and fixing defects? Or could quality be achieved by preventing defects in the first place through manufacturing controls and product design? Later data would show that a concerted effort at detecting and fixing defects would lead Motorola only to four sigma – placing it only slightly ahead of the average American company. At the same time, the company was finding that foreign competitors were making products that required no repair or rework during the manufacturing process. Others at Motorola began to take a second look at Smith's work. If hidden defects caused a product to fail shortly after the customer began using it, something needed to be done to improve the manufacturing process. As a result, Motorola began its

quest to improve quality, and simultaneously reduce production time and costs, by focusing on how the product was designed and made.

It was this link between higher quality and lower cost that led to the development of Six Sigma – an initiative that at first focused on improving quality through the use of exact measurements to anticipate problem areas, not just react to them. In other words, Six Sigma would allow a business leader to be proactive, rather than reactive, to quality issues.

The difference between previous quality approaches and the Six Sigma concept was a matter of focus. Total quality management (TQM) programs focus on improvements in individual operations with unrelated processes. The consequence is that with many quality programs, regardless of how comprehensive they are, it takes many years before all the operations within a given process (a process is a series of activities or steps that create a product or service) are improved. The Six Sigma architects at Motorola focused on making improvements in all operations within a process, producing results far more rapidly and effectively. (Harry. 2000: 54)

2.9.2 Definition

According to Harry (2000), Six Sigma is a business process that allows companies to drastically improve their bottom line by designing and monitoring everyday business activities in ways that minimize waste and resources while increasing customer satisfaction. Six Sigma guides companies into making fewer mistakes in everything they do – from filling out a purchase order to manufacturing airplane engines – eliminating lapses in quality at the earliest possible occurrence. Six Sigma provided specific methods to re-create the process so that defects and errors never arise in the first place.

The Juran Institute defines Six Sigma as a management strategy that maximizes customer satisfaction and minimizes the defects that create dissatisfaction. The basic principle of Six Sigma is that the output (Y) of a process is dependent on the inputs (X's) to the process. What comes out of a process is a result of what goes in. We can say that an output (Y) is a function of inputs (X's). Stated

mathematically, this reads $Y=f(X)$, or, more precisely, $Y = f(X_1 + X_2 + \dots X_n)$. The job of a Six Sigma Breakthrough improvement team is to discover the X's (inputs or causes) of a serious quality problem (a "bad" Y), remove the X's, and put into place new controls so the X's and Y can't return. (Juran Training Manual)

Pyzdek (2001), describes Six Sigma as being significantly different from the classical process control approach. Six Sigma, as applied and developed by Motorola, is such a drastic extension of the old idea of statistical control of manufacturing processes as to qualify as an entirely different subject. The statistical difference between the two is staggering. A six-sigma process will produce failures as a parts-per-million (PPM) or even parts per billion (PPB) levels. This contrasts with the old three sigma process which produces parts-per-thousand failures. This difference of three to six orders of magnitude qualifies a subject as a new science. In short, Six Sigma was not just a modification of the old idea of three sigma quality levels, it was an entirely new thing. Motorola's senior executives saw that achieving such high levels of quality enabled their company to use quality as a strategic weapon, rather than as simply a cost control device. However, to make that happen they had to extend the idea beyond manufacturing. Six Sigma had to become a way of doing things throughout the entire organization. This task is far more difficult than simply improving the control of a machine or assembly process. It requires nothing short of a transformation in the way an organization perceives its environment and its role in that environment. The organization that embraces Six Sigma is, at a fundamental level, different than a traditional organization. It responds differently to the same stimulus, becomes concerned about things that other organizations ignore, and ignores things that other organizations become concerned with. Six Sigma is in essence, a new way to manage the enterprise. Although Six Sigma has a strong technical component, it is not primarily a technical program. It is a management program. Any organization that fails to keep this foremost in mind is doomed to fail in their efforts to become a world-class organization (Pyzdek. 2001).

2.9.3 Six Sigma and Training

Quality improvement requires change and change starts with people. People change when they understand why they must change and how they must change to meet their own personal goals. People join organizations because doing so helps them meet certain of their own goals. Conversely, organizations hire people to help achieve the organization's goals. When organizations set new goals they are, in effect, asking their employees to think differently, to perform new tasks, and to engage in new behaviours. Organizations must be prepared to help employees acquire the knowledge, skills, and abilities (KSAs) required by these new expectations. Training and education are the means by which these new KSA's are acquired.

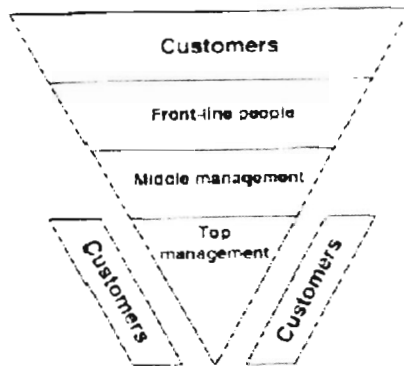
Six Sigma organizations place great emphasis on training. According to Pyzdek (2001), the training plans of these organizations are tied directly to the current and future needs of external customers. These needs are, in turn, the driver behind the organization's strategic plan. The people who develop the strategic plan also develop the strategic training plan. The strategic training plan provides the means of developing the knowledge, skills, and abilities that will be needed by employees in the organization in the future.

2.9.4 Principles of Six Sigma

According to Harry (2000) the heart of Six Sigma lies in improving products and services that will benefit the customer. Companies need to understand how their customers measure quality and to create products and services that meet their expectations. Six Sigma translates issues critical to customers' satisfaction to what is critical to a products or service's quality. Companies that improve their ability to consistently meet their customers' needs will produce positive bottom-line business results.

Kotler (1991) sees the proper place of the customer in the organization's hierarchy as illustrated in Figure 2.10 below. This is the perspective adopted by Six Sigma organizations.

Figure 2.10: Role of the Customer



Source: Pyzdek. 2001

The importance of the quality activity within the organization has been evolving along with that of the importance of the customer. A customer and market driven enterprise is one that is committed to providing excellent quality and competitive products and services to satisfy the needs and wants of a well-defined market segment (Pyzdek. 2001:134).

2.9.5 Six Sigma Projects

Although truly dramatic improvement in quality often requires transforming the management philosophy and organization culture, the fact is that, sooner or later, projects must be undertaken to make things happen. Projects are the means through which things are systematically changed; projects are the bridge between planning and the doing.

While the overall goal of any Six Sigma breakthrough projects is to improve customer satisfaction and profitability, some projects will focus on industrial processes, and others will focus on commercial processes. Six Sigma projects must be linked to the highest levels of strategy in the organization and be in direct support of specific business objectives. The projects selected to improve business productivity must be agreed upon by both business and operational leadership, and someone must be assigned to "own" or be accountable for the project, as well as someone to execute it.

Projects designed to improve processes should be limited to processes that are important. Important processes impact such things as product cost, delivery schedules and product features, things that customers notice. Customers cannot help identify these processes because they aren't familiar with your internal operations. However, customers can help identify what's important to them; then this must be related to the processes. Also projects must be undertaken only when success is feasible. Feasibility is determined by considering the scope and cost of a project and the support it is likely to receive from the process owner. (Pyzdek. 2001:227)

2.9.6 Six Sigma Organizational Performance Goals

Management of Quality Costs

The fundamental principle of the cost of quality is that any cost that would not have been expended if quality were perfect is a cost of quality. Quality costs are a measure of the costs specifically associated with the achievement or non-achievement of product or service quality – including all product or service requirements established by the company and its contracts with customers and society. Requirements include marketing specifications, end-product and process specifications, purchase orders, engineering drawings, company procedures, operating instructions, professional or industry standards, government regulations and any other document or customer needs that can affect the definition of the product or service.

For most organizations, quality costs are hidden costs. Unless specific quality cost identification efforts have been undertaken, few accounting systems include provision for identifying quality costs. Because of this, unmeasured quality costs tend to increase. Poor quality impacts companies in two ways: higher costs and lower customer satisfaction. The lower satisfaction creates price pressure and lost sales, which results in lower revenues. The combination of higher cost and lower revenues eventually brings on a crisis that may threaten the very existence of the company.

As a general rule, quality costs increase as the detection point moves further up the production and distribution chain. The lowest cost is generally obtained when non-conformances are prevented in the first place. If non-conformances occur, it is generally least expensive to detect them as soon as possible after their occurrence. The most expensive quality costs are from non-conformances detected by customers. Another advantage of early detection is that it provides more meaningful feedback to help identify root causes. The time lag between production and field failure makes it very difficult to trace the occurrence back to the process state that produced it.

The support of the Accounting department is vital whenever financial and accounting matters are involved. The ideal cost of quality accounting system will simply aggregate quality costs to enhance their visibility to management and facilitate efforts to reduce them.

The purpose of measuring quality costs is to provide broad guidelines for management decision-making and action. Quality cost management helps firms establish priorities for corrective action.

Effective cost of quality programs consist of taking the following steps

- Establish a quality cost measurement system
- Develop a suitable long-range trend analysis
- Establish annual improvement goals
- Develop short-range trend analyses with individual targets which, when combined meet the annual improvement goal
- Monitor progress towards the goals and take action when progress falls short of targets (Campanella.1990:34).

Calculating the value of retention of customers

Customers have value. This simple fact is obvious when one looks at a customer making a single purchase. The transaction provides revenue and profit to the firm. However, it is important to understand that customer value must not be viewed on a short-term transaction-by-transaction. Customer value must be measured over the lifetime of the relationship. One method of

calculating the lifetime value of a loyal customer, based on work by Frederick Reicheld of Bain and Co. and the University of Michigan's Claes Fornell, is as follows:

- Decide on a meaningful period of time over which to do the calculations.
- Calculate the profit (net cash flow) customers generate each year. Track several samples – some newcomers, some old-timers – to find out how much business they gave you each year, and how it cost to serve them.
- Chart the customer “life expectancy”, using the samples to find out how much your customer base erodes each year.
- Once you know the profit per customer per year and the customer-retention figures, it's simple to calculate net present value. Pick a discount rate – if you want a 15 % annual return on assets, use that. In year one, the NPV will be profit divided by 1.15. Next year the NPV = (year two profit X retention rate) divided by 1.15^2 . In year n, the last year in your figures, the NPV is the n year's adjusted profit divided by 1.15^n . The sum of the years one through n is how much your customer is worth – the net present value of all the profits you can expect from his tenure (Pyzdek. 2001).

This information is valuable. It can be used to find out how much to spend to attract new customers, and which ones.

Complaint Handling

When a customer complaint has been received it represents an opportunity to increase customer loyalty or risk losing a customer. The way the complaint is handled is crucial. The decision as to whether a customer who complains plans to repurchase is highly dependent on how well they felt their complaint was handled. Add to this the fact that customers who complain are likely to tell as many as 14 others of their experience, and the importance of complaint handling

in customer relations becomes obvious. Research also indicates that 96% of unhappy customers never tell the company. This is especially unfortunate since it has shown that customer loyalty is increased by proper resolution of complaints. Given the dramatic impact of a lost customer, it makes sense to maximize the opportunity of the customer to complain. Complaints should be actively sought, an activity decidedly against human nature. This suggests that a system must be developed and implemented to force employees to seek out customer complaints. In addition to actively soliciting customer complaints, the system should also provide very conceivable way for an unhappy customer to contact the company on their own, including toll-free hotlines, e-mail, comment cards etc (Pyzdek. 2001).

2.9.7 Six Sigma Principles of Measurement and Data

Only when quality is quantified can meaningful discussion about improvement begin.

"We don't know what we don't know.

We can't act on what we don't know.

We won't know until we search.

We won't search for what we don't question.

We don't question what we don't measure." (Harry.2000:69)

Companies cannot improve quality and customer satisfaction without the right measurements to tell them where they are and whether they are making progress. Companies that can't describe their processes in the form of numbers can't understand their processes. And if they don't understand their processes, they can't control them. Improvements cannot be made without product data. Product and services "talk" in the form of data. Data, properly assembled and summarized with the aid of statistics, creates a "tool" for understanding defects. Statistics provide insights into what the data says about a product or service

Since companies don't know what they don't know, asking new questions is an integral part of Six Sigma. The success of Six Sigma depends on creating new knowledge by asking new questions. This focus drives new measurements.

Companies that measure the customer opinions, and then link those measurements to their processes, are more likely to come out with successful products or services that satisfy the customer. Companies that measure quality and efficiency of their processes will be able to produce higher quality products and services at lower costs (Harry. 2000:71).

All products and services are the results of processes, which is why Six Sigma monitors the processes not the outcomes. When the process isn't right, the final product or service won't be right. It's by testing and inspecting the process that creates the product or service that companies circumvent problems before they appear. Process inspection includes not only equipment by such things as procedures and employee skill levels.

Companies that measure employee satisfaction (and take action as a result) are more likely to have higher employee retention rates.

2.9.8 Six Sigma and Benchmarking

Six Sigma companies view benchmarking as an essential tool and use it as a stepping-stone toward Six Sigma. AlliedSignal CEO Lawrence A Bossidy tells his employees that they must work under the assumption that every one of their competitors does at least one thing better than Allied. To Bossidy, benchmarking means looking at specific practices, getting the benefit of other companies' expertise, and bringing the best practices back to one's own company without having inhibitions about adopting a better practice from the outside. Bossidy does not believe that you have to go into competitor's factories to benchmark effectively:

"In industries where performance is relatively mediocre, you don't want to benchmark, anyway. I've heard, for example, that receivables at one of the largest credit companies are managed extraordinarily well – so that's the place to benchmark receivables. Go to the world-class computer and peripherals

companies to look at new-product development. Go to people in any and every industry who, you have reason to believe, are better at some processes than you are. And bring back what you can. There's no company in the world you can benchmark to learn everything. The trick is to look at a lot of good processes in multiple companies, then select from those, bring them back and implement them." (Lawrence A. Bossidy) (Harry. 2000:65).

Benchmarking is a popular method for developing requirements and setting goals. In more conventional terms, benchmarking can be defined as measuring your performance against that of best-in-class companies, determining how the best-in-class achieve those performance levels, and using the information as the basis for your own company's targets, strategies, and implementation. Benchmarking involves research into the best practices at the industry, firm or process level. Benchmarking goes beyond a determination of the "industry standard"; it breaks the firm's activities down to process operation and looks for the best-in-class for a particular operation.

Benchmarking goes beyond the mere setting of goals. It focuses on practices that produce superior performance. Benchmarking involves setting up partnerships that allow both parties to learn from one another.

Benchmarking must have a structured methodology to ensure successful completion of thorough and accurate investigations. However, it must be flexible to incorporate new and innovative ways of assembling difficult-to-obtain information. It is a discovery process and a learning experience. It forces the organization to take an external view, to look beyond itself.

Camp (1989) lists the following steps for the benchmarking process:

1. Planning

- Identify what is to be benchmarked
- Identify comparative companies
- Determine data collection method and collect data

2. Analysis

- Determine current performance “gap”
- Project the future performance levels

3. Integration

- Communicate benchmark findings and gain acceptance
- Establish functional goals

4. Action

- Develop action plans
- Implement specific actions and monitor progress
- Recalibrate benchmarks

5. Maturity

- Leadership position attained
- Practices fully integrated into process

The first step in benchmarking is determining what to benchmark. To focus the benchmarking initiative on critical issues, begin by identifying the process outputs most important to the customers of that process (Pyzdek, 2001:89).

2.9.9 Basic Six Sigma Methods

The Breakthrough Strategy

There are six fundamental steps or stages involved in applying the Six Sigma in a division or company. These six stages are Define, Measure, Analyze, Improve, Control and Replicate. Each stage is designed to ensure (1) that companies apply Six Sigma in a methodical and disciplined way; (2) that Six Sigma projects are correctly defined and executed; and (3) that the results of these projects are incorporated into running the day-to-day business.

The approach consists of six consecutive phases, each one a prerequisite for performing the next:

- Define – a serious problem is identified and a project team is formed and given the responsibility and resources for solving the problem.
- Measure – data is gathered and analyzed that describes with precision an accuracy what is happening – what is the current, or baseline, level of performance of the process that creates the problem. The measure phase also produces some preliminary ideas of possible causes of the problem
- Analyze – theories are generated as to what may cause the problem, and by means of testing theories, root causes are identified.
- Improve – root causes are removed by means of designing and implementing changes to the process that has been producing the problem
- Control – new controls are designed and implemented, which prevent the original problem from returning and which hold the gains made by the improvement
- Replicate – the knowledge, insights and know-how acquired by the team are used to correct other quality problems and to identify new quality improvement projects (Juran Training Manual).

Problem-solving tools

Process Mapping

A process map is a graphic representation of a process, showing the sequence of tasks using a modified version of standard flowcharting symbols. A map of a work process is a picture of how people do their work. By creating a process map, the various alternatives are displayed and effective planning is facilitated.

The steps involved are as follows:

1. Select a process to be mapped
2. Define the process
3. Map the primary process
4. Map alternative paths

5. Map inspection points

6. Use the map to improve the process (Galloway. 1994)

Flow Charts

A process flow chart is simply a tool that graphically shows the inputs, actions, and outputs of a given system: These terms are defined as follows:

Inputs – the factors of production: land, materials, labour, equipment, and management

Actions – the way in which the inputs are combined and manipulated in order to add value. Actions include procedures, handling, storage, transportation, and processing.

Outputs – the products or services created by acting on the inputs. Outputs are delivered to the customer or other user. Outputs also include unplanned and undesirable results, such as scrap, rework, pollution etc.

Determine the Root Cause: The 5 Whys

The 5 Whys is a technique used in the Analyze phase of the Six Sigma DMAIC methodology. The 5 Whys is a great Six Sigma tool that doesn't involve a statistical hypothesis and in many cases can be completed without a data collection plan. By repeatedly asking the question "Why" (five is a good rule of thumb), the layers of symptoms can be peeled away and the root cause of the problem can be identified. The benefits of the 5 Whys are as follows:

- Helps identify the root cause of the problem
- Determines the relationship between different root causes of the problem
- It is one of the simplest tools; easy to complete without statistical analysis

Example:

Problem Statement: Customers are unhappy because they are being shipped products that don't meet their specifications.

1. **Why** are customers being shipped bad products?

- Because manufacturing built the products to a specification that is different

from what the customer and the sales person agreed to.

2. Why did manufacturing build the products to a different specification than that of sales?

- Because the sales person expedites work on the shop floor by calling the head of manufacturing directly to begin work. An error happened when the specifications were being communicated or written down.

3. Why does the sales person call the head of manufacturing directly to start work instead of following the procedure established in the company?

- Because the "start work" form requires the sales director's approval before work can begin and slows the manufacturing process (or stops it when the director is out of the office).

4. Why does the form contain an approval for the sales director?

- Because the sales director needs to be continually updated on sales for discussions with the CEO.

In this case only four Whys were required to find out that a non-value added signature authority is helping to cause a process breakdown. (Internet 9)

Cause and Effect Diagrams

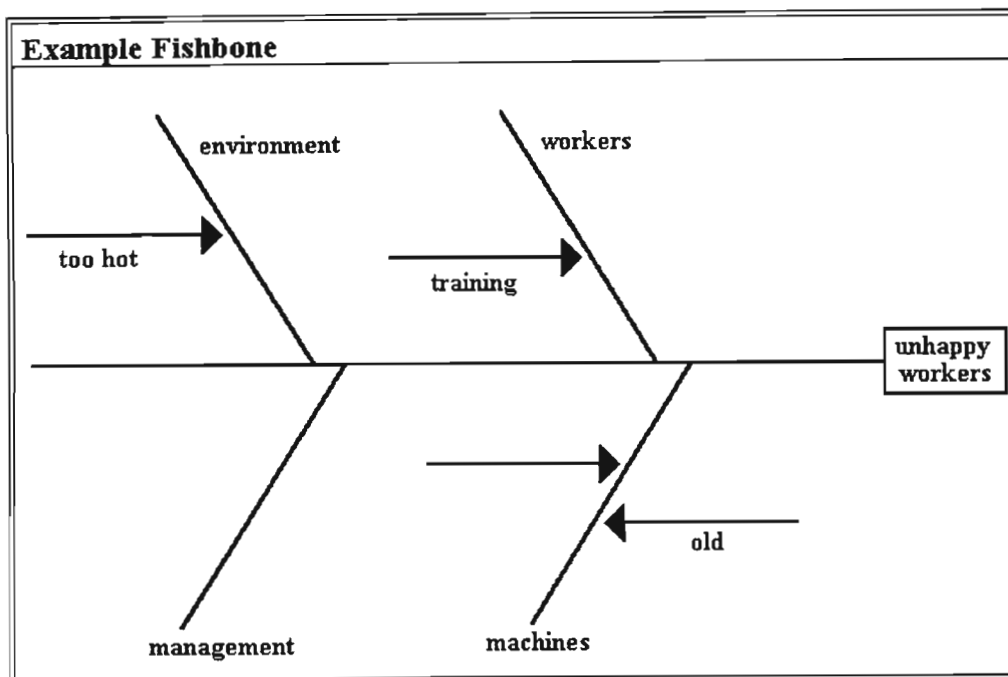
The cause & effect diagram is the brainchild of Kaoru Ishikawa, who pioneered quality management processes in the Kawasaki shipyards, and in the process became one of the founding fathers of modern management. The cause and effect diagram is used to explore all the potential or real causes (or inputs) that result in a single effect (or output). Causes are arranged according to their level of importance or detail, resulting in a depiction of relationships and hierarchy of events. This can help search for root causes, identify areas where there may be problems, and compare the relative importance of different causes.

Causes in a cause & effect diagram are frequently arranged into four major categories. While these categories can be anything, you will often see:

- manpower, methods, materials, and machinery (recommended for manufacturing)
- equipment, policies, procedures, and people (recommended for administration and service).

These guidelines can be helpful but should not be used if they limit the diagram or are inappropriate. The categories used should suit the needs of the company.

Figure 2.11: Example of a Fishbone Diagram



Source: Internet 10

Consider this figure. The basic concept in the fishbone diagram is that the name of a basic problem is entered at the right of the diagram at the end of the main 'bone.' This is the problem of interest. At an angle to this main bone are located typically three to six sub-bones which are the contributing general causes to the problem under consideration. Associated with each of the sub-bones are the causes which are responsible for the problem designated. This subdivision into ever increasing specificity continues as long as the problem areas can be further subdivided. The practical maximum depth of this tree is usually about four or five

levels. When the fishbone is complete, one has a rather complete picture of all the possibilities about what could be the root cause for the designated problem.

Pareto Charts

Vilfredo Pareto, a turn-of-the-century Italian economist, studied the distributions of wealth in different countries, concluding that a fairly consistent minority – about 20% – of people controlled the large majority – about 80% – of a society's wealth. This same distribution has been observed in other areas and has been termed the Pareto effect.

The Pareto effect even operates in quality improvement: 80% of problems usually stem from 20% of the causes. Pareto charts are used to display the Pareto principle in action, arranging data so that the few vital factors that are causing most of the problems reveal themselves. Concentrating improvement efforts on these few will have a greater impact and be more cost-effective than undirected efforts.

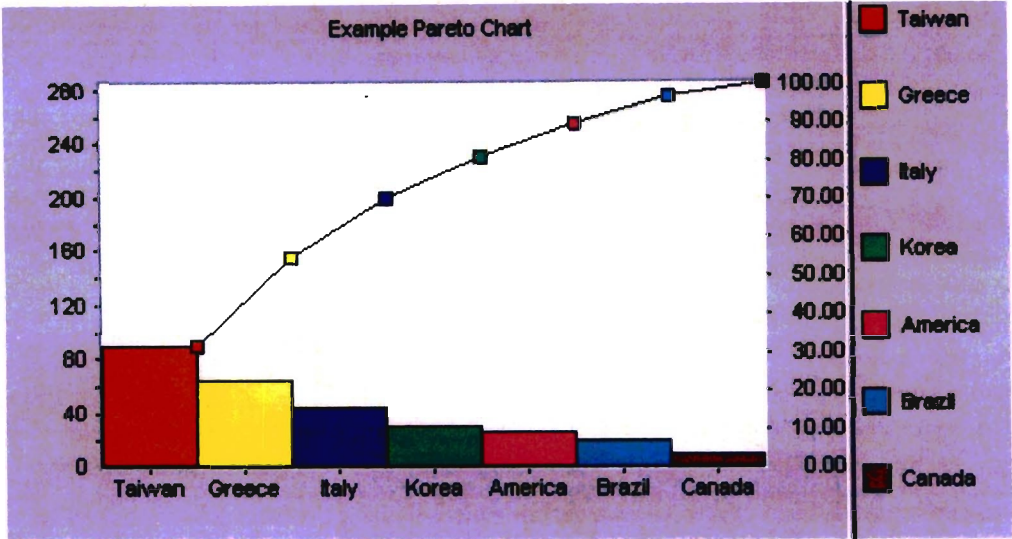
In most cases, two or three categories will tower above the others. These few categories which account for the bulk of the problem will be the high-impact points on which to focus. The following guidelines should be used:

- Look for a break point in the cumulative percentage line. This point occurs where the slope of the line begins to flatten out. The factors under the steepest part of the curve are the most important.
- If there is not a fairly clear change in the slope of the line, look for the factors that make up at least 60% of the problem. You can always improve these few, redo the Pareto analysis, and discover the factors that have risen to the top now that the biggest ones have been improved.
- If the bars are all similar sizes or more than half of the categories are needed to make up the needed 60%, try a different breakdown of categories that might be more appropriate.

Often, one Pareto chart will lead to another:

- before and after charts
- charts that break down the most important factors discovered in an earlier chart
- charts that use different scales, such as number of complaints and the cost to respond, with the same categories.

Figure 2.12: Example of a Pareto Chart



Source: Internet 10

2.10 CONCLUSION

In the face of globalisation, companies are being forced to define their competitive advantage in order to remain a player in international markets.

Ensuring customer satisfaction is by far the most strongly recommended way of ensuring competitive advantage. Customer satisfaction is important because it plays an important role in customer retention, which is of strategic importance to the company as it costs less to keep customers than to find new ones.

Quality is identified as a means of achieving customer satisfaction. Emphasis on quality was what gave the Japanese the competitive edge over the Americans. Soon enough to counter the threat posed by the Japanese products, the Americans began to take quality seriously. They now listened to the Deming,

Crosby, Feigenbaum and Juran – christened the Gurus of Quality. This emphasis on quality has spread beyond the borders of America and Japan. For any company to be a player in the global market it needs to produce goods and services of the highest quality. It must be noted however that quality is defined by the customer and not the company.

Six Sigma is identified as a quality management system that is designed to ensure maximum customer satisfaction. It proposes methods to re-design processes based on customer needs and quality. Implementing Six Sigma could give a company the differentiator it needs to be a strong player in the market.

CHAPTER 3 - Business Connexion: A Case Study

3.1 INTRODUCTION

This chapter presents the case study. Firstly an analysis of the South African IT industry is conducted, followed by a description of current trends within the industry. Then a description of the profile of Business Connexion is detailed. Key elements, such as its mission, vision, origins, customer base and working philosophy are discussed. This is followed by an account of its key competitors. In addition the processes around the delivery model of the Managed Support Division, are reviewed. To conclude, two examples of Six Sigma projects undertaken by the business are described.

3.2 INFORMATION TECHNOLOGY INDUSTRY IN SOUTH AFRICA

3.1.1 South African IT Market Overview

Global Context

The sudden and largely unexpected downturn in the US economy, which began to materialize in the final months of 2000, had a significant impact on the IT industry. Technology suppliers that had grown accustomed to continual patterns of growth in a stable economic environment were faced with shrinking margins and external pressures beyond their direct control. Competition intensified, and this had obvious effects on pricing strategies as suppliers fought to maintain their share of the diminishing pie.

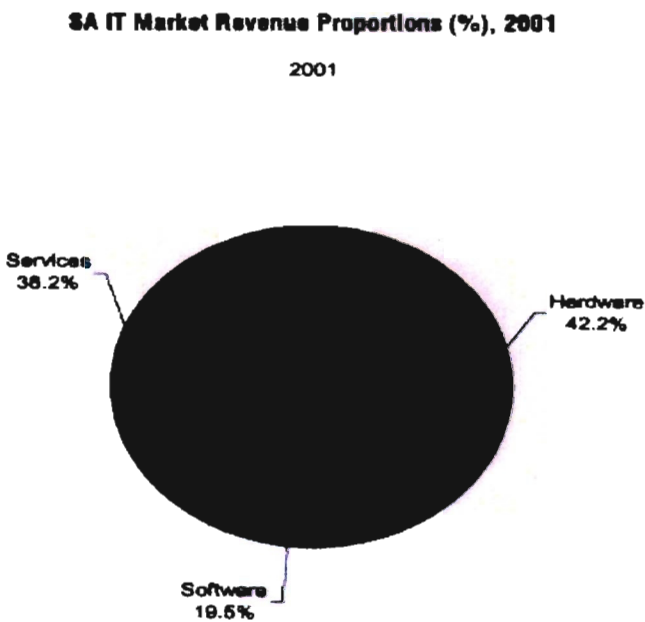
Level of IT spending by Industry Sector

Hardware vs. Software: During 2001, total IT hardware revenues recorded an increase of 7.9%, reaching R14.5 billion (this includes revenues earned in the data communications market. The software market recorded the strongest growth of 14.2% during 2001, bringing software spend up to R6.7 billion. By 2006, software revenues are expected to total R13.4 billion.

IT Services: In 2001, the IT services market in South Africa reached R13.1 billion, representing a growth of 11.5% year-on-year. By 2006, services revenues are expected to total R24.2 billion (De Kock and Moller. 2002).

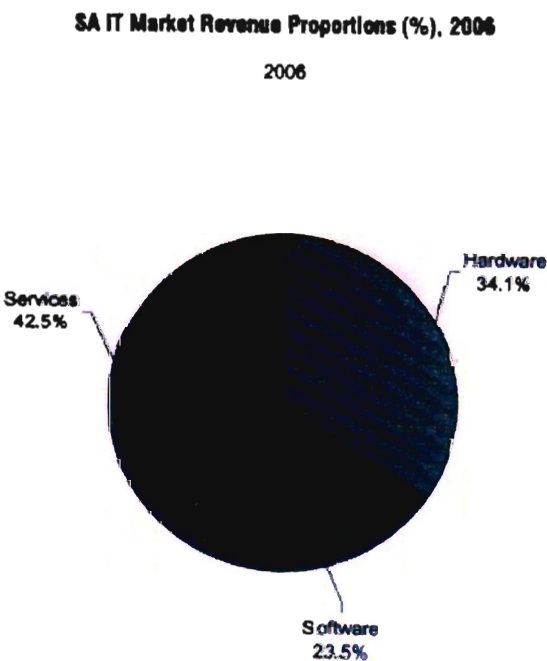
The figures below indicate the expected growth trends of the IT from 2001 to 2006. The Software and Services markets are expected to grow by 2006

Figure 3.1:



Source: De Kock and Moller. 2002

Figure 3.2:



Source: De Kock and Moller. 2002

3.1.2 IT Hardware Market Overview

Overall IT spend on Hardware recovered somewhat in 2001, due to strong sales from the storage sector and a slight resurgence in PC revenues. Despite this, the hardware sector continued to decline to less than half of the total IT spend in South Africa. Where hardware was once the driver for IT market growth, advances in software and services now occupy this role. By 2006, hardware will account for only 34.1 % of total IT spending in South Africa, a percentage portion that will continue to decline (De Kock and Moller. 2002).

3.1.3 Software Market Overview

Software has been a solid past performer in the South African IT market, and has remained reasonably consistent even in recessionary times. The market grew 14.2% in 2001 and is forecast to increase consistently. Key growth areas are application tools and systems infrastructure software. It is anticipated that OSS/BSS, Middleware, Business Intelligence will be areas that show the strongest growth (De Kock and Moller. 2002).

3.1.4 Services Market Overview

The anticipated growth for 2001 in the services market did not materialize. However, it is primed to emerge as the star performer in the future. Key growth areas are operations management, specifically outsourcing, managed services and application outsourcing.

The services market is characterized by a continuous demand for IT services, which is one of the traits of a mature market. There is also an increased shift towards higher value added offerings e.g. business solutions.

Companies are always looking for the most effective and efficient way to run a business. It can choose to focus on core competencies, and then outsource non-strategic functions. Consequently, IT departments are becoming thinner, and specific IT functions are being outsourced to external providers. There are two basic reasons for outsourcing:

- Strategic reasons: Users of services need a measurable quality of service at a pre-determined price, with superior technology and service in return. Their payback is that they can concentrate on their core competencies.
- Cost-cutting reasons: user companies are becoming leaner as they learn how to run their businesses effectively. Salaries of IT professionals are going up, as are the costs of running IT departments.

Services are increasingly being marketed, purchased and delivered as a solution for a particular business problem. This characteristic sets them apart from other means of procuring services, such as traditional integration projects or IT consulting activities. The delivery of a business solution is measured on the achievement of a goal or performance of specific business processes (De Kock and Moller. 2002).

3.1.5 Drivers in the SA IT Market

The South African IT market will continue its shift from a basic hardware support focus to software and services focus. Traditional support services (hardware support and in particular, software support) will not disappear, but their delivery models will fundamentally change. Growth in the software and services industry is being driven by a number of factors:

The Internet: E-business and e-commerce are fuelling significant investments in ERP systems as well as collaborative and e-business applications.

Data Management: More companies are becoming aware of the need to manage their data better. The new horizon will be for solutions providers to develop this arena into user-friendly tools.

Business processes and reengineering: This will help companies to network with partners and suppliers better and drive the need for a more consistent application usage. Key growth areas will include ERP and e-procurement applications.

Business automation: The limited availability of skilled business staff continues to drive the adoption of technology to improve efficiencies and reduce labour and

associated costs. Areas of growth are packaged accounting and business solutions.

Increased need for collaboration & communication: The increased need for collaboration and communication at high levels of complexity and at high speed and availability on a global scale is fuelling the adoption of collaborative applications.

Security: Increased awareness of security is driving significant investment in security software. Areas growth is anti-viral software, firewalls and more advanced data encryption and certification options.

Networks: The anticipated recovery in growth in networking (seen especially in LAN and WAN implementations) as well as very real convergence as the IT and telecoms sectors begin to merge will drive considerable growth in networking software, specifically network management software.

Regional IT hubs: South Africa's strong position as a technology hub for the region means that international vendors maintain a high focus on the local market

Increase in IT spending by key verticals: IDC/BMI T research indicates that key vertical markets (notably the financial services industry and public sector) increased their IT budgets in 2001. Moreover, IT usage is high across all corporate sectors. More and more companies in the public and banking sectors are shifting their local-currency IT budgets towards external spending. Government and utilities industries will continue to contribute the greatest share of their IT budgets to external IT products and services in 2001.

Efforts to attract foreign IT experts: New immigration laws were in place by the end of 2001 in a bid to attract foreign workers, especially in the IT sector. India will be used as a recruiting ground for IT staff and Russia for the scientific industries (De Kock and Moller. 2002).

3.1.6 Inhibitors in South African Market

Economic problems: The uneven distribution of wealth means that many sectors of the South African market cannot afford to invest in IT

Setbacks in privatization: Key sectors (such as telecommunications) have seen further delays in planned privatization.

IT budgets flat: In certain industries (notably industrial/manufacturing and retail) a slowdown in IT budget growth is expected, as companies that may have seen much activity in the past years reassess spending. This is partly linked to negative sentiment about the slowing economy on a global basis.

Brain drain: According to a recent survey, more than 50 % of young IT experts in South Africa want to leave the country. South African IT experts are seeking to address the chronic shortage of expertise in the industry through new staff-retention strategies, while the government is relaxing immigration controls to allow skilled technologists from India to enter the country. Meanwhile, IT specialists in South Africa continue to earn phenomenally high salaries and thousands are poached between local and international companies every year (De Kock and Moller. 2002).

3.1.7 Current IT Trends

According to Ivo Vegter (Deputy Editor of IT Web Brainstorm), the technology industry isn't what it used to be. No longer are customers dazzled by the stuff, forking out obscene amounts of cash to get some. None but a few remaining investors with either smarts or guts will touch it with a bargepole. The thrill has gone.

David Shapiro (2002), analyst from Corpcapital says the IT sector will continue to lag behind the rest of the market. He remains, positive about IT and the services that IT companies provide, but believes that the damage done in the form of excess capacity, and the huge amounts of money spent on projects that shouldn't have been, will take some time to work out of the system.

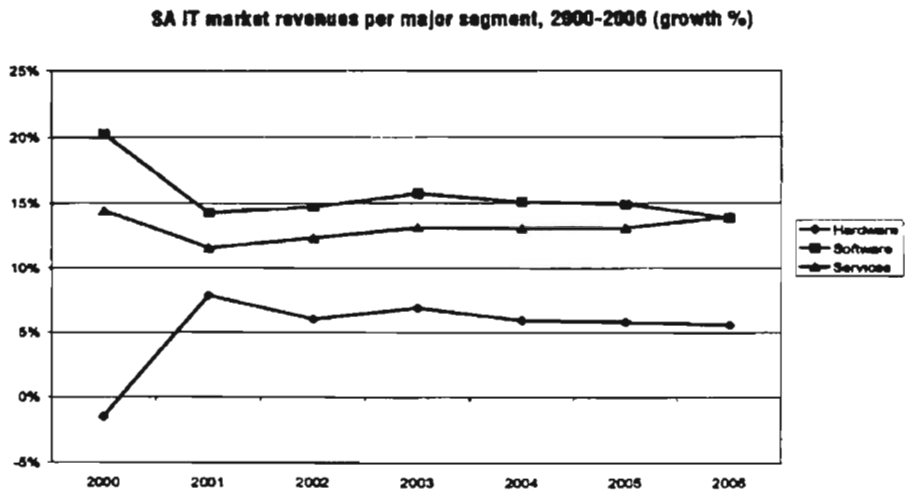
Duarte da Silva (2002) of J&J Financial Services believes that the market has bottomed out. He does not think that it will recover in 2003. The better year will

be 2004. This time around, the winners will focus on cost rather than growth. Da Silva says that although many companies have embarked on cost-cutting exercises, he still believes that there is a lot of fat from the “age of excess”. Da Silva proposes that organizations procuring IT will contract with companies that are “safe bets”, are likely to be around for a long time, and have a strong balance sheet or strong overseas principals.

Piet Viljoen (2002) from Investec also believes that the outlook for the sector remains poor, but is improving at the margin. He says that a major constraining factor is the fact that most management teams in the industry do not understand how to create value for shareholders, and have no concept of the cost of capital or how to generate a return on it. He also raises concerns about the corporate governance of companies, that in his view are run by, and on behalf of, their management teams. He believes that until this changes, the outlook for the entire industry as a home for serious investors remains clouded.

So, generally analysts remain wary of the IT sector, which is likely to remain depressed throughout 2003. They agree that the survivors are stronger for it, but will still need to cut costs and resolve corporate governance concerns. Figure 3.3 indicates the expected growth trends.

Figure:



Source: De Kock and Moller. 2002

The experts propose that consolidation is the way to go. "We need to see more competition taken out of the market – either by bankruptcies or via mergers and acquisitions," proposes Viljoen (Vegter. 2002:24-25).

However, consolidation is more difficult than it looks on paper, as the issue of black empowerment will need to be a key factor featured in the road map.

The experts differ in their opinion on the issue of black empowerment.

Viljoen and Shapiro, believe that the industry should focus on growth and then on transformation, rather than the other way around. "I do believe that we need to empower people, but do it by passing on skills, mentoring, and so on," says Viljoen (Vegter. 2002:24-25).

Da Silva on the other hand, is quite keen on the empowerment issues. He believes, that "IT companies that do BEE deals that 'go the whole hog' will be real commercial beneficiaries. By 'the whole hog' I mean: equity, active BEE participation, employment equity, commitment to transformation, commitment to training and procurement policies" (Vegter. 2002:24-25).

Despite differing opinions on the empowerment issue, it has to happen, if not voluntarily, the government has shown that it will force the issue sooner rather than later.

3.2. BUSINESS CONNEXION: PROFILE

3.2.1 Origins

Business Connexion has positioned itself as a truly South African I.T. company and as such has been awarded the prestigious 'Proudly South African' accolade. It was founded in November 2001 through a merger of two of South Africa's leading Microsoft partner-companies, Business Connection and Seattle Solutions.

The original Business Connection was established in 1996 by twin brothers Benjamin and Isaac Mophatlane as a black empowerment I.T. Company backed by the Connection Group. It was initially a general computer reseller serving government departments and parastatals. However, it rapidly developed into a

provider of integrated business solutions driven by leading-edge technologies, with special focus on Microsoft products and practices.

In 1999, the Dutch multinational Getronics bought half the company. Two years later on the exit of Getronics from the SA-market the opportunity arose to create a completely South African business focused on the Microsoft space.

Seattle Solutions, the other party to the merger, was launched in 1999 and rapidly built a reputation in the realms of I.T. development and support, winning numerous customers among leading private sector players.

The backing of BOE Investment Partners enabled strong growth and by 2000 Seattle Solutions had established itself as the most innovative and proactive solution provider focused on delivering business value-add solutions to Microsoft users.

The merger capitalised on an almost exact 'fit' between the two businesses. Both have a base in Microsoft licensing while Business Connection's strengths in consultancy and infrastructure dovetailed with Seattle Solution's national reputation in the fields of support and desktop and application development. At the same time, its direct representation in major coastal centres matched Business Connection's strong position in the Gauteng market. Both companies were Microsoft Gold Certified Partners.

The original Business Connection was the first and (as at mid-2002) the only Microsoft Gold Certified Partner in the realm of Microsoft Enterprise Systems. Seattle Solutions achieved Gold Certified Partner accreditation in the area of e-commerce solutions. Both were driven by a self-image emphasizing technical skill and resourcefulness; solution-finding and tangible business results that hold value and meaning for clients. At launch, 51% of equity was held by the original Business Connection, 28% by BOE and 21% by the shareholders of the original Seattle Solutions.

The merged company is today represented in Gauteng (Pretoria and Rivonia), Durban, Cape Town and Port Elizabeth. Currently, staff numbers approach 130. The merger was achieved without redundancies as the transaction was a springboard to further growth.

3.2.2 Mission and Vision

The vision of Business Connexion is as follows:

To be the most skilled, experienced and innovated Microsoft Certified Solution provider in Southern Africa.

The mission of Business Connexion is as follows:

To help customers maximise their return on investment in Microsoft Technology through designing, building and managing solutions to enable business value.

3.2.3 Core Business and Working Philosophy

The work philosophy of Business Connexion is driven by needs analysis and close relationships. These enable a good understanding of a client's business or organization.

Technology is a tool and will work hard for a client at ever more affordable cost if correctly selected and properly integrated into the business. Therefore the challenge for a technology and business consulting company is to develop intimate understanding of a client organization, its current position and future goals. Trust comes first; then technology and technical skill.

The core business centres around Microsoft licensing, the roll-out of Microsoft Infrastructure, the deployment of Microsoft technology to facilitate the design and construction of business solutions and the ongoing managed support of the Microsoft elements in the business.

3.2.4 Customer Base

A constantly growing client-list is underpinned by established relationships with such organisations as Telkom, the Post Office, Multichoice, Old Mutual, Anglo Vaal, ABSA, Investec, Momentum, AngloGold, Gold Fields, Toyota SA, DOW Chemicals, Tiger Brands, Sapref, DOW Chemicals, NCP Alcohols, NCS Resins and Edcon.

3.2.5 Company Case Studies

Business Connexion has a proven track-record of success on some of the most challenging I.T. projects yet implemented in South Africa. It works to improve organisational efficiency (and profit) in the private sector. It also works to close the 'digital divide' that has been identified by the planners of national strategy as an impediment to the future prosperity and development of South Africa (and the region as a whole).

The Citizen's Post Office (CPO) was architected for the Post Office by consultants and engineers from Business Connexion. We designed the CPO environment using Windows 2000, Exchange 2000, the SQL 2000 database and Windows 2000 Terminal Server. Thin Client technology provides end-user access across thin terminals. The solution addresses the affordability divide as well as the digital divide, allowing the Post Office to roll out I.T. services to poor rural communities. Built-in simplicity facilitates the e-mail and software training of the entry generation of low-income rural Net users.

Business Connexion employed the Microsoft Solutions Framework to ensure the success of one of the most extensive upgrades to date in SA - creation of the Post Office's state-of-the-art Enterprise messaging and collaboration system on Microsoft Exchange. Deployment was co-ordinated nationally by Business Connexion and involved seven regions, eight main sites and about 3000 clients. The mailing system was revolutionised and the operating platform upgraded to Microsoft NT Server. E-mail delivery times collapsed from a four-hour average to a few minutes while file-sharing and group scheduling were enabled. Network performance rocketed. Total cost of ownership plummeted.

Banking giant ABSA came to Business Connexion for comprehensive volume and software licensing services. The two-year contract entails the analysis of ABSA's purchasing forecasts, scrutiny of existing volume licence agreements and desktop standards along with best-option recommendations on future software purchases.

When the CSIR migrated to Microsoft Office 2000 at eight locations nationwide (2400 seats) it entrusted Business Connexion with the licensing contract and the job of rolling out a system that would leverage off existing technology while ensuring simpler, more effective communication.

The Department of Education set a stiff test for Business Connexion: an upgrade from Windows NT to Windows 2000 and from Microsoft Exchange 5.0 to Exchange 2000 inside a month, without disrupting current services to 600 users while addressing technical problems caused by pre-existing multiple domains, security concerns and excessive calls on bandwidth. We passed the test to the client's entire satisfaction.

Unitrans commissioned Business Connexion to migrate its total I.T. infrastructure from Novell and Groupwise to Windows 2000 with Active Directory and Exchange 2000. The entire project was completed within five weeks, with the switchover taking place over a single weekend. The result was zero inconvenience to any of the 3000 users

Toyota South Africa, users of SAP, required a "universal inbox" to display both e-mail and SAP-generated mail in Microsoft Outlook. In addition, the customer was looking for a cost-effective method of deploying workflow functionality that would interface with the SAP applications. By leveraging off the powerful workflow capabilities within Exchange 2000, Business Connexion was able to design and build workflow applications that used standard Exchange functionality yet interfaced with all the relevant SAP applications.

Business Connexion was chosen as the Microsoft Software Advisor by Edcon to ensure that the company was not only fully and legally licensed, but that the license procurement model selected provided Edcon with the most cost effective amount and future access to Microsoft Technology. (Internet 11)

3.2.6 People at Business Connexion

A cadre of certificated engineers, system designers and consultants with full Microsoft, Gartner and Citrix accreditations forms the skills base of Business Connexion. Many are authorities in their areas of specialisation who contribute to industry publications.

Part of the people strategy of Business Connexion is an emphasis on skills development. The company subscribes to the view of national strategists that South Africa has to nurture high-tech skills or risk marginalization. The company trains primarily for its internal needs, but Business Connexion 'graduates' also add to the national pool of I.T. skills. Earn-as-you-learn opportunities are afforded young people from previously disadvantaged backgrounds. In all cases to date, they have achieved the desired level of Microsoft and Cisco accreditation, qualifying these junior engineers for employment in the I.T. sector.

The 'payroll profile' of Business Connexion is fully representative of South African diversity. Staffs are selected for skill and dedication. This is a black empowerment company in terms of both equity structure and management structure. Black executives contribute to performance at junior, middle and senior management levels.

3.2.7 Divisions

The business is driven by four operational divisions, representing four areas of core competence. They are:

3.2.7.1 Microsoft Licensing

Business Connexion takes technology licensing beyond the procurement of rights to intellectual property. A suite of services creates an A-Z licensing offering. A client's business needs are scrutinized to ensure the right licensing structure is put in place and properly managed to maximize total value of ownership. Services cover agreement consulting (the right deal at the right price), Web-based agreement management, license document management, CD distribution, software asset management, audits and compliance with legislation, education and training, best practice deployment consulting, license strategy

workshops and proactive Microsoft direction analysis (early alerts to new opportunities).

3.2.7.2 Managed Support.

Business Connexion Managed Support services focus on the on going administration, service, maintenance and management of a Microsoft distributed computing environment. The most effective business practices from Gartner and global experience are deployed to ensure a world class service. Desktops, servers and networks are managed to detailed, customer focused service level agreements. Management and measurement of proactive and reactive services is done through a highly skilled (24x7) service centre. Web transparency of all calls, status tracking and performance measurement is provided to customers. The objective is to provide the most effective outsource solution to meet customers cost, quality and performance to resolution time requirements

3.2.7.3 Enterprise Consulting Services.

The menu here covers back office reviews, Windows platform planning and migration, Novell and Lotus Notes migration to Microsoft, Messaging and collaboration, Thin Client solutions and Microsoft technical support. The relevant Microsoft technologies include Application Centre, Windows Server SQL, SharePoint portal server, Biztalk, Content Management Server, Internet Security and Acceleration Server, Host Integration Server, Mobile Information Server, Office and Visual Studio. Services include pre-sale needs assessment workshops, supportability and design reviews and product envisioning workshops. Business Connexion only recommends environmental changes that conform to best practice. Our Technology Justification Offering validates the implementation of technology by reference to business drivers and principles while our methodology ensures global best practice is harnessed. The Microsoft Readiness Framework, the MS Solutions Framework and MS Operations Framework are rigorously applied along with Microsoft Enterprise Risk Management protocols. The result is a world-class enterprise system that is

entirely customised to an organisation's needs; with built-in potential for growth and adaptation.

3.2.7.4 Microsoft .NET Solutioning.

Microsoft .NET technology enables business processes on the Web. Business process orchestration through .NET includes rapid development of XML (eXtensible Markup Language) Web services and native XML. Adherence to open standards allows agile businesses to operate and access data with different devices even though they may use different applications and store data in different databases. Web services or programmable applications accessible by standard Web protocols can live inside the firewall at a company or can be hosted remotely and accessed via the Internet. The .NET vision enables huge leaps in productivity through new interfaces and devices (including handheld tools). Solutioning typically covers document and content management, workflow, data warehousing, the digital dashboard, application and business process orchestration, B2B and e-procurement.

Figure 3.4: Divisions at Business Connexion



Source: Internet 11

3.2.8 Competitors

AST Group

AST is a fast-growing, solid, responsibly managed company. Its IT services and solutions are offered mostly to large corporate and government clients throughout Southern Africa, including Botswana and Namibia. Internationally the group is established in Australia and the United Kingdom. AST, which listed in 1998, is a broad-based information and communications technology (ICT) company. With its specialized knowledge of a selection of industries like financial services, manufacturing, telecommunications, government, mining, healthcare and “emerging sectors, it provides comprehensive integrated solutions to its clients in those markets. AST’s clients include large corporations and growing number of small and medium enterprises. Its strategy revolves around client care and the plan-build-run-leverage cycle of technological solutions.

AST’s services are taken to the market through a complementary matrix that focuses on six industries and an emerging markets division, while the delivery component is broken down into five delivery vehicles: consulting; IT services/systems integration, Distributed Technology Services, hosting and products. In the current dynamic but volatile IT market, the company prides itself on reengineering itself every six months or so in order to re-evaluate the way it goes to market. Also AST’s collaborative win-win approach to doing business has led to strategic partnerships that have secured a strong annuity revenue stream.

Dimension Data

Dimension Data was founded in 1983, and was listed on the JSE in 1987 and moved its primary listing to the London Stock Exchange in July 2000. The business focuses on connecting and integrating applications to provide a total solution for specialist vertical markets, incorporating customer relationship management, telecommunications companies, financial services organizations, contact centres, integration and supply chain management. Dimension Data has done well in a tough trading environment over the past couple of years, by

understanding its value proposition, which is to deliver what has been promised. The company encompasses two primary divisions – Global services and iCommerce. Change is not really regarded as an issue for Dimension Data because its business and the opportunities it chases are always changing. The company constantly questions where it is and whether its models are working

EDS South Africa

EDS South Africa, one of the country's leading IT services firms, is a major player helping the banking, insurance, mining and manufacturing sectors become globally competitive, by using the power of information technology. The company has targeted the government, financial services and manufacturing industries as key areas for future growth. It has extensive experience in the application of IT in organizations to make them more effective, efficient and competitive.

Comparexafrica

Comparex is one of Africa's leading integrator of competitive, innovative and practical business solutions based on Information and Communication Technology (ICT). With over 3500 highly competent and motivated employees, the company has 20-year track record in designing and implementing customer-centric IT business solutions for many of the continent's most successful public and private sector organisations.

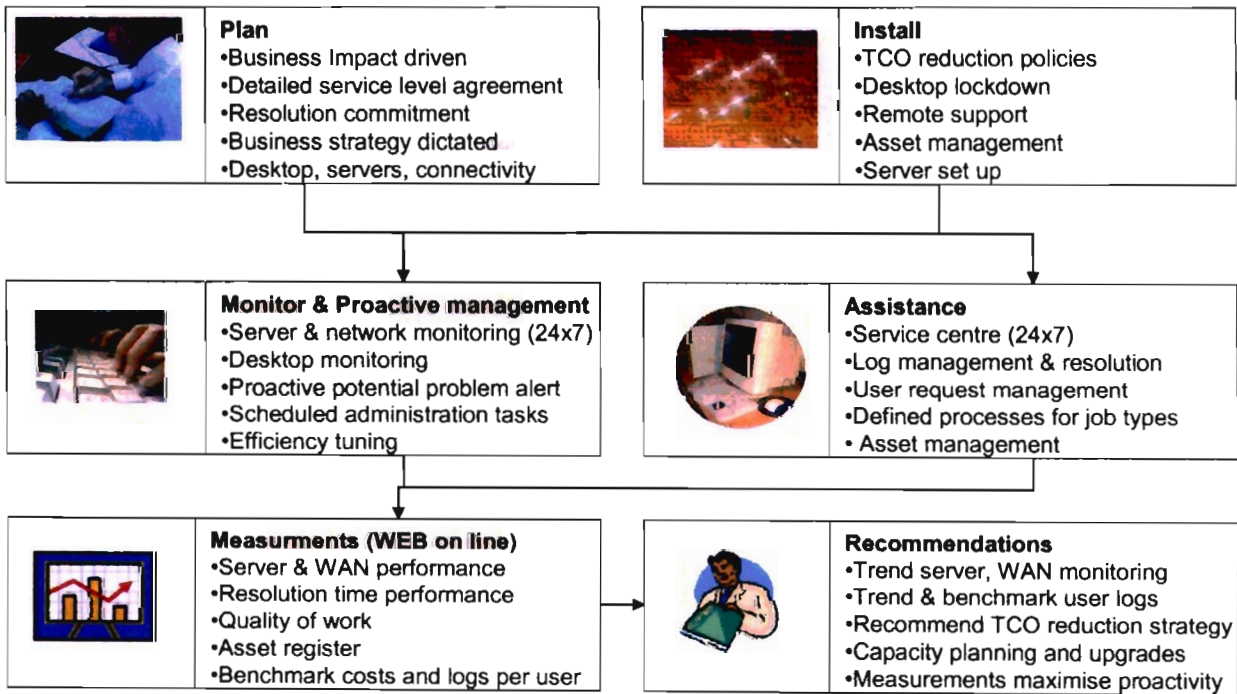
As the continent's leading provider of outsourced ICT business solutions, Comparex Africa has offices spanning the length and breadth of South Africa and has launched successful growth initiatives in ICT markets to the north, including Malawi, Tanzania and Ethiopia. The company aims to play a significant role in spanning the digital divide in Africa. (Internet 12)

3.3 MANAGED SUPPORT

3.3.1 Role

Business Connexion Managed Support services focus on the on going administration, service, maintenance and management of a Microsoft distributed computing environment. The most effective business practices from Gartner and global experience are deployed to ensure a world class service. Desktops, servers and networks are managed to detailed, customer focused service level agreements. Management and measurement of proactive and reactive services is done through a highly skilled (24x7) service centre. Web transparency of all calls, status tracking and performance measurement is provided to customers. The objective is to provide the most effective outsource solution to meet customers cost, quality and performance to resolution time requirements. The process by which the managed support division is run is given below:

Figure: 3.5 Managed Support Processes



Source: Genders. 2002

Managed Support Services include:

- Microsoft desktop management
- Microsoft server management
- Network management
- Gartner TCO analysis for distributed computing
- Asset audits
- Service Centre

3.3.2 Service Level Agreements

The Service Level agreement (SLA) is the contract signed between Business Connexion and the customer. This document details the service that is to be provided by the company – it is the “promise” made by Business Connexion. This is the document on which Business Connexion can be measured in term of its ability to provide quality service.

3.3.3 Structure

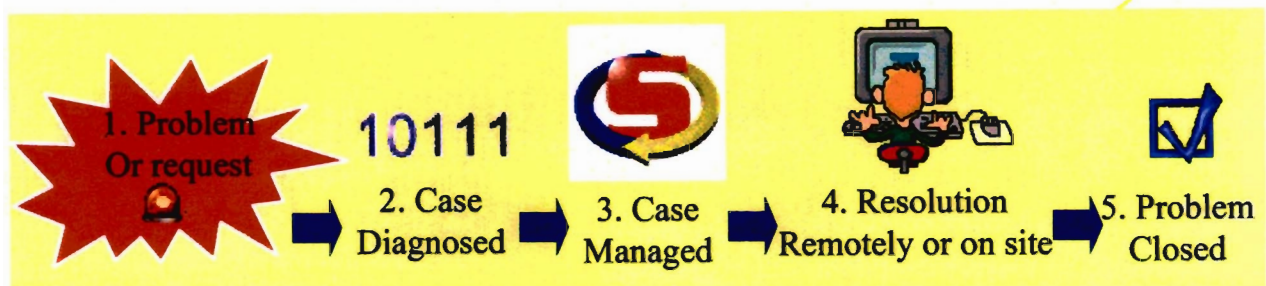
There are two critical components of the Managed Support Division, that is the Help Desk and Field Services Engineers (Desktop Management).

3.3.3.1 Helpdesk

Business Connexion have placed significant importance on the help desk as the most critical function for successful support of a distributed computing environment. The objective of the help desk is to provide a central point of communication for users and technicians where problems and requests are managed to resolution in a manner that is consistent, professional and with increasing speed. It is critical for every user to be confident that when they log a call, the call will be handled and managed in a way that exceeds their expectation.

The Business Connexion help desk process is depicted in Figure 3.6 below.

Figure: 3.6: Helpdesk Process



Source: Genders. 2002

Each call once logged is available for viewing over the Internet by the IT manager or designated person responsible for IT. This level of transparency is critical for the success of Business Connexion and the managed support customers. The viewing tool allows for drill down on any case so the full detail of activity can be viewed

The backbone of the Help Desk is specialized software (HEAT) that has been customized to suit the customer base. This software is used to manage and track customer calls logged at the Help Desk. In addition the data from this software is used to analyse trends and determine benchmarks for customers.

The responsibility of the Help Desk is to ensure that customer calls are logged and managed with the aim of resolving the problem. The Help Desk operators can provide remote-support if possible, if not a field services technician will be dispatched to provide on-site support. The help desk is responsible for the scheduling of the field services engineers.

Call Logging

A client calls the helpdesk and describes his problem to the helpdesk operator. The helpdesk operator then logs the call in the customized software – see below:

Figure 3.7: HEAT Call Log Screen

The screenshot displays the HEAT Call Log Screen with the following details:

- Call ID:** 00040854
- Stopwatch:** 0:02:30
- Count:** 1
- Status:** Open
- Customer ID:** VCP-A
- Company:** NCP Alcohols
- Case No.:** [Empty]
- Address:** [Empty]
- Service Class:** GOLD
- IS:** [Empty]
- Region:** KZN
- Recharge No./Cost Center:** NA
- Contact:** Lee Kotze
- E-mail:** leek@ncpalcohols.com
- Caller Cel:** () -
- Fax:** 0
- Phone, Ext.:** (031) 560-1223
- User Name:** Lee Kotze
- User Email:** leek@ncpalcohols.com
- Phone, Ext.:** (031) 560-1223
- Cell:** () -
- Call Record Status:** Open
- Call Description:** Client cannot access the K:Drive. Please assist.
- Support Type:** Support
- Request on Business:** Single User
- Priority:** 2
- 1 Bus. Day:** [Empty]
- Scheduled / Project Date:** / /
- SLA Status:** [Empty]
- Owner:** Melanie
- Source:** Phone
- Equipment Affected:** [Empty]
- Chronology:**
 - Received by: Melanie
 - 01/31/03 10: [Empty]
 - Last Update: [Empty]
- Close Information:** [Empty]
- Solution:** [Empty]
- Buttons:** Call Log, Detail, Assignment, Journal
- Customer ID:** [Empty]
- Taskbar:** Start, Inbox - Microsoft Outlook, Background.doc - Micros..., Call Logging - [DHILL...], 9:43 AM

In this screen the client's details are entered: company, name, address, phone number and e-mail address. Then a brief description of the client's problem is entered in the call description tab. The help desk operator has to then determine the time frame with in which this call has to be resolved, that is the priority of the call has to be determined. Based on this description the call is assigned a priority as per the SLA.

Figure 3.8: HEAT Detail Screen

Call ID: 00040854 Stopwatch: 0:02:30 Count: 1 Status: Open

Customer ID: NCP-A Company: NCP Alcohols Case No.: Address:

Service Class: GOLD IS Regions: KZN Recharge No./Cost Center: NA

Contacts Details

Contact: Lee Kotze

E-mail: leek@ncpalcohols.com CallerCel: () -

Fax: 0 Phone, Ext.: (031) 560-1223

User Details

User Name: Lee Kotze

UserEmail: leek@ncpalcohols.com

Phone, Ext.: (031) 560-1223 Call: () -

Expenses

Travelltime: 0.0 Parking and Toll: 0.00

Mileage: 0 Meals: 0.00

Miscellaneous: 0.00 Description:

Miscellaneous: 0.00 Description:

Billable

Billable Hours: 0.0 Quote Fee: 0.00

Billable Travel Time: 0.0 Add Charge: 0.00

Billable Mileage: 0 Discount: 0.00

Motivation: Problem Issue: Network Franchised Service: Data Access

Assets

Call Log Detail Assignment Journal

Start [Taskbar icons: Microsoft Outlook, Background.doc - Micros..., Call Logging - [Dhlan...]] 9:52 AM

In this screen the help desk operator logs the detail of the call in terms of billing information and the type of call. The data in this screen is critical because it is used to generate invoices to customers. In addition the information from the Franchised Service tab is used to track trends and determine benchmarks.

Figure 3.9: HEAT Assignment Screen

Call Logging - [Dhilen Open Calls: 8 of 8]

File Edit View Group Customer Solution Accessory Report AutoTask Window Help

Call ID: 00040854 Stopwatch: 0:02:30 Count: 1 Status: Open

Customer ID: NCP-A Company: NCP Alcohols Case No.: Address:

Service Class: GOLD IS: Regions: KZN Recharge No./Cost Center: NA

Contacts Details

Contact: Lee Kotze User Details

E-mail: leek@ncpalcohols.com CallerCell: () - User Name: Lee Kotze

Fax: 0 Phone, Ext.: (031) 560-1223 UserEmail: leek@ncpalcohols.com

Phone, Ext.: (031) 560-1223 Cell: () -

Group: Managed Support Type of Support: Other

Vendor / Assignee: Dhilen Kelyan Ref. No.:

Phone, Ext.: (031) 266-0810 Cell: 0835499582

E-mail ID: dhilenk@busconnex.co.za

Miscellaneous: 0.00 Description:

Miscellaneous 2: 0.00 Description 2:

Overtime (1.5 Hrs): 0.00

Overtime (2.0 Hrs): 0.00

Assigned by: Melanie 01/31/03 10:54:05am

Acknowledged: //

Resolved: //

Travel Mileage: 0

Travel Time: 0.00

Group for this assignment:

Start Internet Explorer Outlook Background.doc - Micros... Call Logging - [Dhilen... 9:58 AM

In this screen the Help Desk operator assigns the call to the relevant Field Services Engineer. The time spent and mileage travelled is recorded here.

Figure 3.10: HEAT Journals

The screenshot displays the 'Call Logging' application window. At the top, the title bar reads 'Call Logging [Dhillan Open Calls: 8 of 8]'. The menu bar includes 'File', 'Edit', 'View', 'Group', 'Customer', 'Solution', 'Accessory', 'Report', 'AutoTask', 'Window', and 'Help'. A toolbar with various icons is located below the menu. The main data area shows 'Call ID: 00040854', 'Stopwatch: 0:03:07', 'Count: 1', and 'Status: Open'. Below this, the 'Customer ID' is 'NCP-A' and the 'Company' is 'NCP Alcohols'. The 'Service Class' is 'GOLD' and the 'Region' is 'KZN'. The 'Contacts Details' section lists 'Contact: Lee Kotze', 'E-mail: leek@ncpalcohols.com', and 'Phone, Ext: (031) 560-1223'. The 'User Details' section lists 'User Name: Lee Kotze', 'User Email: leek@ncpalcohols.com', and 'Phone, Ext: (031) 560-1223'. The 'Journal Entry' section shows 'Entered by: prebesh' on '02/01/03' at '10:04:29am'. The 'Journal Type/Quick Journal' is set to 'Case Update'. The journal text area contains the entry: 'Dhillan tried contacting user - user unavailable - to try again tomorrow.' At the bottom, there is a 'Full description of the call/problem' field and a taskbar with icons for 'Start', 'Inbox - Microsoft Outlook', 'Background.doc - Micros...', and 'Call Logging - [Dhill...]'.

Call ID: 00040854 Stopwatch: 0:03:07 Count: 1 Status: Open

Customer ID: NCP-A Company: NCP Alcohols Case No.: Address:

Service Class: GOLD IS Regions: KZN Recharge No./Cost Center: NA

Contacts Details

Contact: Lee Kotze User Details: Lee Kotze

E-mail: leek@ncpalcohols.com CallerCel: () - User Email: leek@ncpalcohols.com

Fax: 0 Phone, Ext: (031) 560-1223 Phone, Ext: (031) 560-1223 Cell: () -

Journal Entry

Entered by: prebesh 02/01/03 10:04:29am

Journal Type/Quick Journal: Case Update Pick a journal type to activate Quick Journal

Dhillan tried contacting user - user unavailable - to try again tomorrow.

Full description of the call/problem

This screen is used for case updates. The help desk operator uses this screen to track progress on the case.

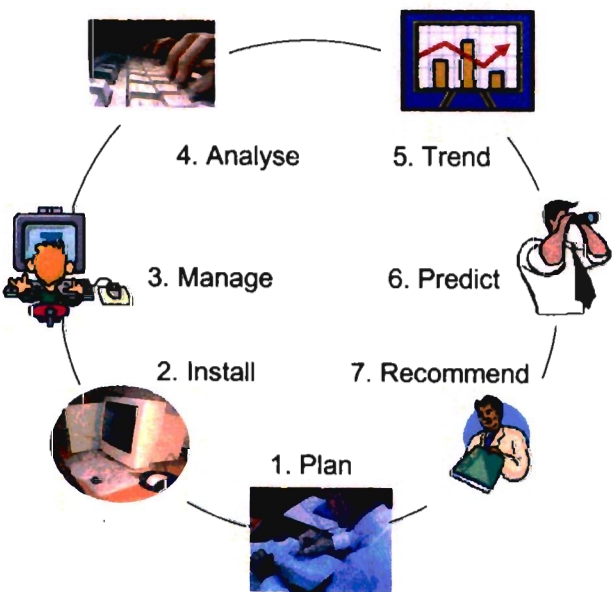
3.3.3.2 Field Services Engineers (Desktop Management)

Business Connexion managed support of desktops has been shown in global benchmarking tests to be one of the best offerings in the world. The service is focused around the user and service level requirements to meet the needs of the user.

The desktop is the interface with technology and people. This is where business value from IT investment is made. It is critical that the users are supported and assisted to leverage maximum return from the investment. Field service engineers and help desk support staff are trained specifically to provide this assistance.

Desktop management and analysis of calls around the desktop can be a key indicator to the overall health of the IT infrastructure.

Figure 3.11: Desktop Management



Source: Genders. 2002

Plan

The desktop management is run strictly to detailed service level agreements for both problem resolution and requests for changes or new hardware. The service level agreement is worked out with each customer from an SLA library. Each customer has an SLA tailor made to suit their needs and response time requirements.

Install

Prior to taking over an environment there will usually be a desktop roll out project. This allows desktops to be locked down with an image providing key tools for asset management, license control, software management and remote management. It also dramatically reduces problems associated with the desktop because the environment becomes controlled.

Manage

The desktop management is done centrally through the help desk. Each problem or request is logged and available to view and track on the web site. Resolution times are within SLA with a goal to always achieve 95% compliance on both problems or user requests.

Analyse

The help desk data is analysed to understand where each site has problems. This is mapped against Business Connexion benchmark data to see if there is any unusually high occurrence of job types. For example if printer repairs are unusually high it may be because local printers are deployed rather than network printers. In this case the true cost of this decision can be tracked and a return on investment in network printers can be developed.

Predict

From the analysis Business Connexion is able to predict total costs over 3 years of the set up in an organisation.

Recommend

Recommendations regarding technology deployment, processes and user training benefits are given on a monthly basis.

3.3.4 Measurement

All data that is entered into the HEAT system is stored in a database. This database is linked to a web application which measures critical data. The data displayed in Figure 3.12 is used as the management tool by the Helpdesk operators. The colour coding is based on the time-period for compliancy that is left for resolution of the call.

Figure 3.12: Web Management Tool

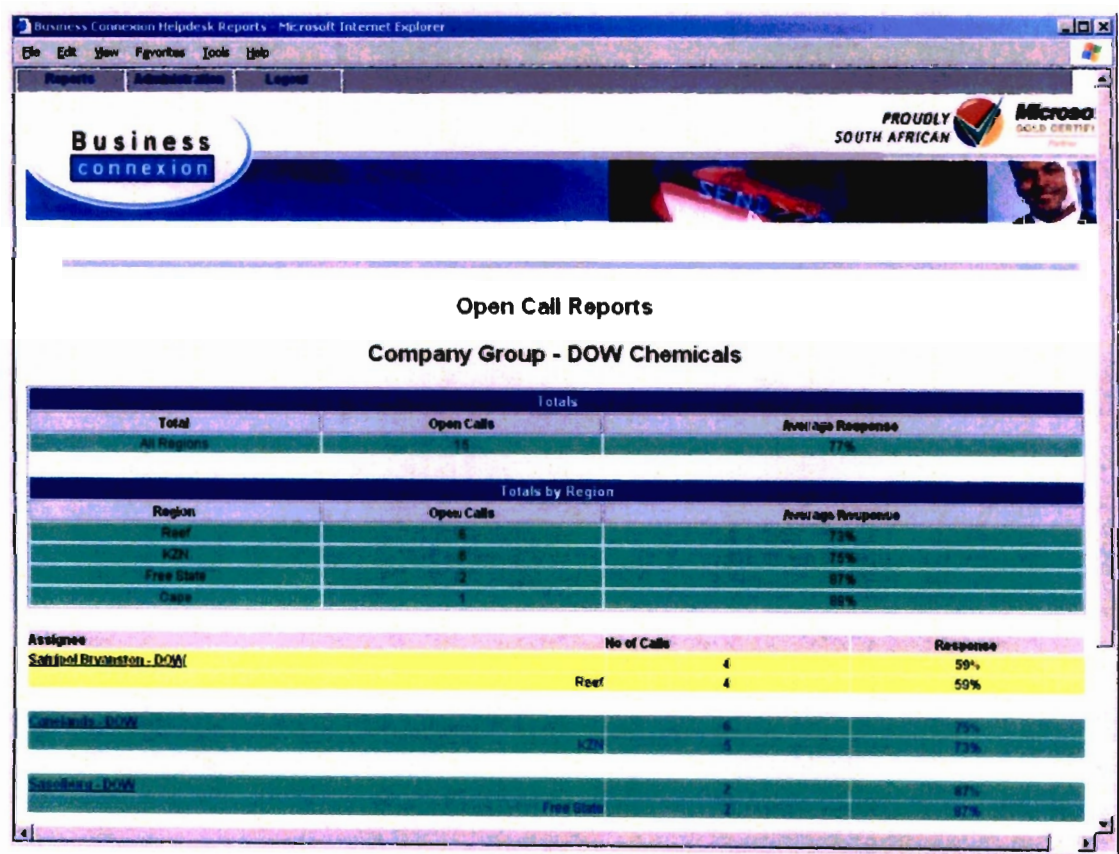
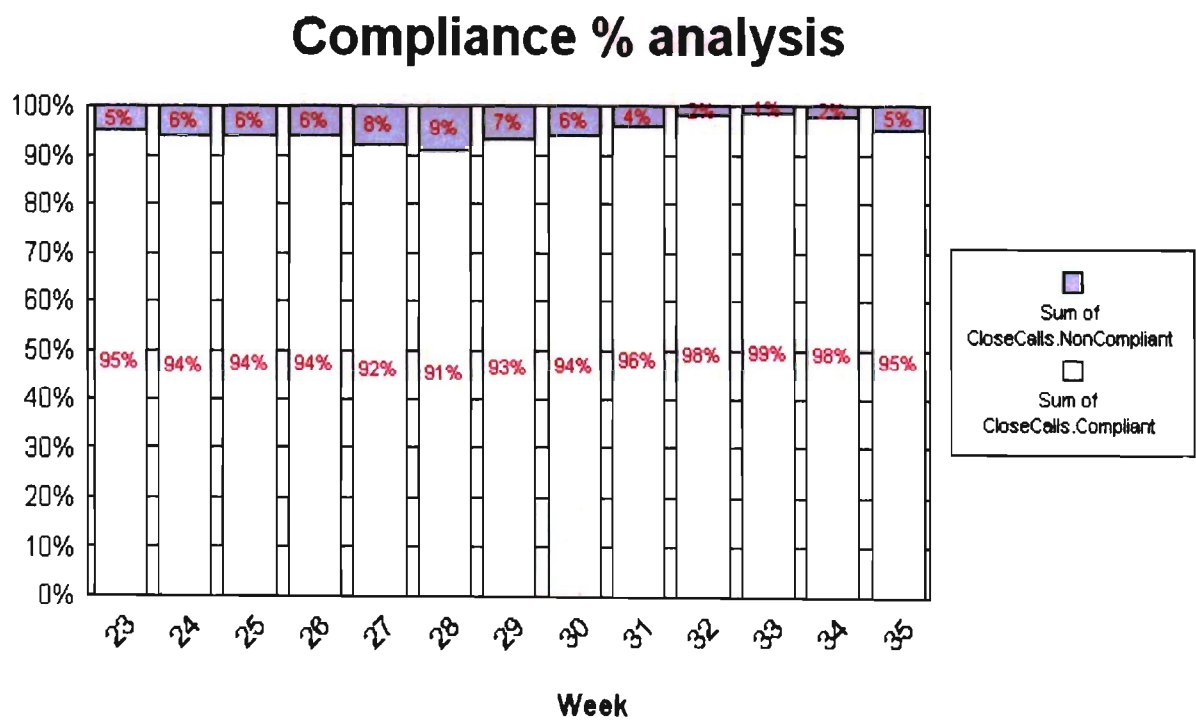


Figure 3.13 tracks the compliancy of the calls over per week over a period of three months. It measures the average compliancy rate. This is used by management for planning purposes e.g. if the average compliancy drops it might be necessary to hire more resources either on the Helpdesk or as Field Services Engineers, if the cause of the drop is bottlenecking of calls.

Figure 3.13: Compliancy Measurement Chart



3.3.5 Six Sigma Projects

Two six sigma projects have been undertaken within the managed support division. These are detailed below.

3.3.5.1 Project One: Compliancy

Of primary importance is ensuring compliancy of the calls, that is that the problem is resolved within the timeframe as stipulated in the Service Level Agreements. The data entered into Heat, which feeds into a web application

that tracks compliancy. This is a live website that is updated at five minute intervals. Compliancy of calls is measured per week.

The average compliancy for the months January to March 2002 has been 87 %. The compliancy as agreed in the SLA is an average of 95%.

Problem

The average compliancy is lower than the customer requires. In an attempt to ensure that quality service is given to customers, the compliancy has to be increased to at least an average of 95%. A team was set up to investigate this, using the principles of six sigma quality improvement methods.

Measure

The sigma level was determined to be at 2.4 sigma.

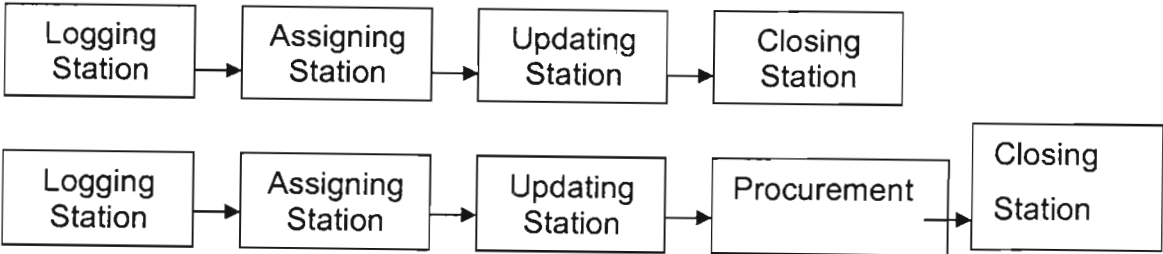
Analyse

The team used the method of brainstorming to determine possible causes. The following were identified:

- Lack of total ownership of call
- Responsibility passed along the different roles
- Lack of understanding of the total picture
- Between 4 to 5 possible points of failure as call passes through the various stations due to:
 - Miscommunication
 - Lack of information

The reason for this was seen as the current structure of the helpdesk.

Figure 13.14: Structure of the Helpdesk



The roles promoted differences rather than synergy. The fact that the same call had to be passed through at least 4 people created more opportunities for defects. Therefore the solution would need to be based on ways to reduce these opportunities. The team therefore decided that the solution should be determined by the following principles:

- Promote total contact ownership
- Reduce possible points to failure
- Create a cohesive structure

Solution

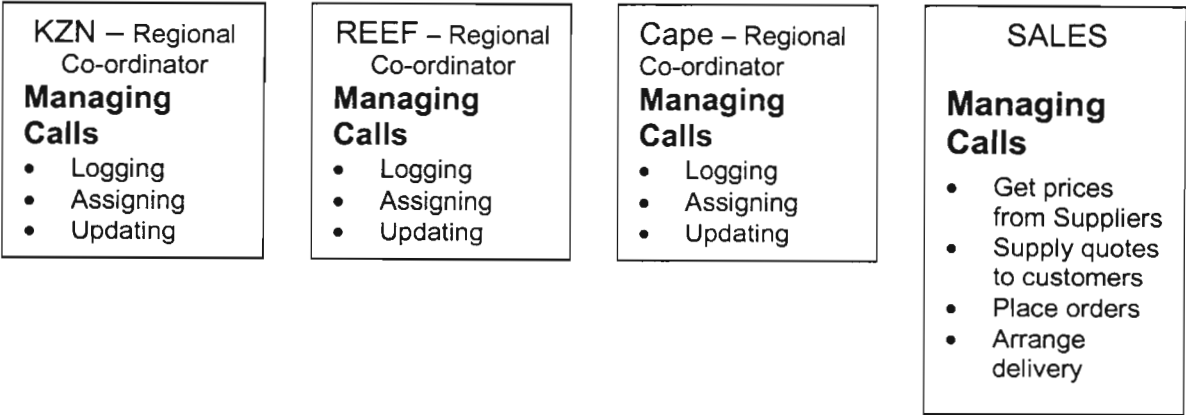
Since the problem was identified as the structure of the helpdesk, the solution would therefore be based on restructuring.

Plan of Action

Step 1: Change Help Desk Structure

The new structure is to be based on a regional model. All customers are to be allocated to a region. A Regional Co-ordinator will be appointed for each region. This person will be responsible for the call from logging to closing.

Figure 13.15: Revised Structure of the Helpdesk

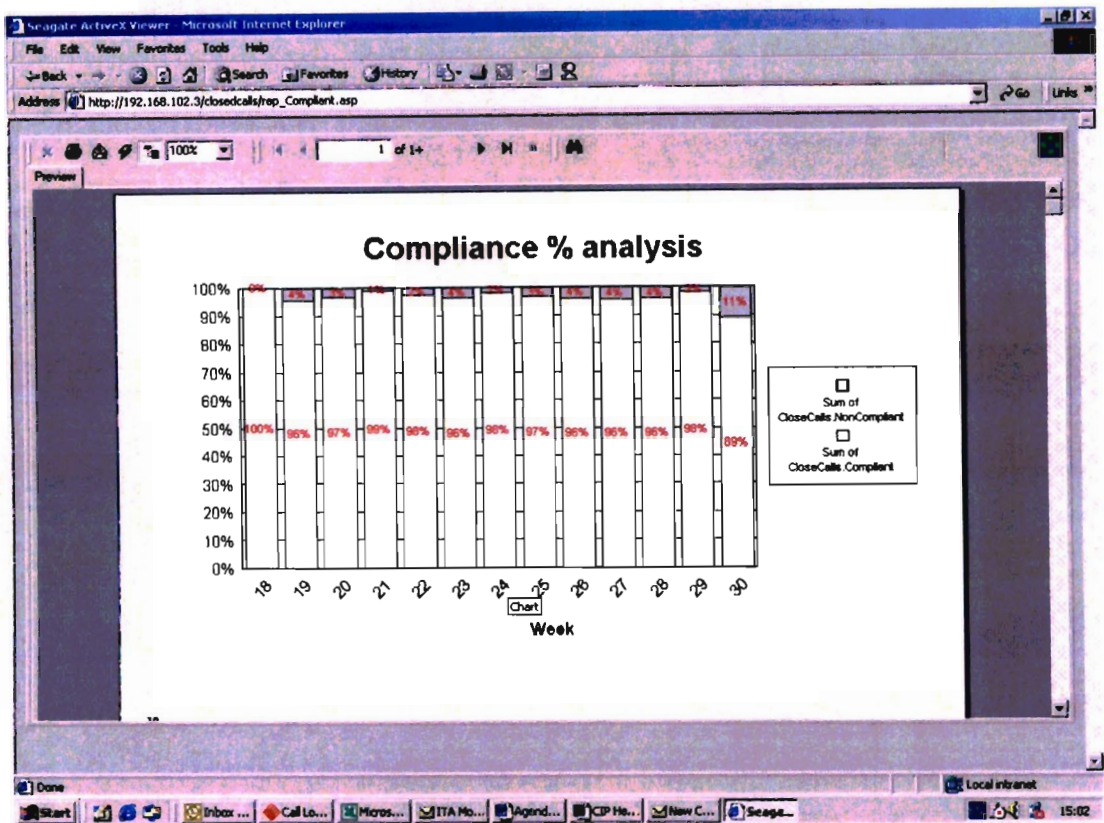


Step 2: Regional Co-ordinators were appointed. Training on the new roles was carried out. The new model went live in the first week of May.

Monitor Performance

The Compliancy % was monitored on a weekly basis. An average of 95% compliancy was recorded thereafter – see Figure 13.16.

Figure 13.16: Compliancy Chart



3.3.5.2 Project Two: Data

Data forms the basis of any quality improvement initiative. Data is used to develop knowledge of where the problem areas are so that the initiatives are targeted appropriately. The consequence of incorrect data is that problems areas may not be identified and could result in poor customer service. It was therefore decided to apply six sigma principles to the issue of data entry and control.

Problem

It was determined that much of the data entered into the help desk system was incorrect. All calls logged at the Helpdesk must be defined within the categories detailed in Table 3.1. A Six Sigma Project team was set up to focus on this.

Table 3.1: List of Franchised Jobs

Franchised Jobs
Cellphone
Connectivity: Cables/Hub/Network point
Documentation
Hardware: Install
Hardware: Move
Hardware: New
Hardware: Repair
Hardware: Swop
Other: Details
Printer: Install
Printer: Move
Printer: Repair
RAS
Request: Assist
Restage
Server: Administration
Server: Backup
Server: Maintenance
Server: Restore
Software (BS) Support
Software: Install
WAN
Software: Install
Software: Office

Measure

A report was drawn from the system and analysed. The sigma level on the franchised job was calculated to be at 1 sigma. This meant the most calls were categorised incorrectly.

Analyse

The team discussed possible reasons:

- Lack of training
- Inadequate franchised job definitions.

Implement

Training was identified as the main reason for defects. Operations manager was commissioned to give training to the helpdesk team on franchised jobs.

The list of franchised jobs was modified to include more options based on a needs analysis.

3.4 CONCLUSION

Business Connexion operates within a dynamic and volatile industry. The IT industry is currently in a slow growth phase. It is a shrinking market with many strong players. Business Connexion needs to develop a competitive advantage that would set it apart from the rest of the players. It does currently have a strong emphasis on customer satisfaction and quality. It needs to further develop these elements as a strategic basis. The Managed Support Division has already engaged in basic Six Sigma initiatives. It might prove beneficial for the company to further develop this as a company-wide initiative. In order to make a decision on the strategy the company should follow, it is necessary to evaluate where it currently is and where it wants to be. This will be explored in Chapter 4.

CHAPTER 4 - Evaluation

4.1 INTRODUCTION

Business Connexion as a company is a relatively new entrant into the South African IT market. It is a market that is characterized by slow growth and strong competition. In order to ensure sustainability, Business Connexion has to ensure that its strategy has been carefully and systematically planned and executed. The company has to identify where it currently is and where it wants to be. This chapter evaluates the Managed Support Division of the company in particular. An environmental and industry analysis is conducted to establish the division's position – is it where it wants to – is there a gap? Customer satisfaction and quality initiatives of the company are also evaluated as these are critical to Business Connexion defining its competitive advantage in the market place.

4.2 INDUSTRY ANALYSIS: PORTER'S FIVE FORCES

Threat of Entry

The threat of entry into an industry depends on the barriers to entry that are present, coupled with the reaction from existing competitors that the entrant can expect.

- Economies of Scale – this refers to declines in units costs of a product/service as the absolute volume per period increases. The current IT industry has many large players, who have captured market segments that give them economies of scale. Examples are Dimension Data and EDS with their overseas operations and Comparex Africa with their large government tenders.
- Product differentiation – this means that established firms have brand identification and customer loyalties, which stem from past advertising, customer service, product differences, or simply being first in the industry. There are many recognized companies in the IT market who have built up their brand image, whose names are synonymous with IT, example, Dimension Data, Arrivia.com and EDS.

- Capital requirements – the need to invest large financial resources in order to compete creates a barrier to entry, particularly if the capital is required for risky or unrecoverable costs. The IT industry does require large financial investments, as both hardware and software are expensive and are often impacted on by the dollar-exchange rate. The fluctuation of the rand, does then pose a risk. In addition, training costs will be high as the company needs to have the skill level to support the latest technology.
- Switching costs – that is one-time costs facing the buyer of switching from one supplier's product/service to another's. If these switching costs are high, then new entrants must offer a major improvement in cost or performance in order for the buyer to switch from an incumbent. Switching costs in the IT industry is high. Companies are often not willing to take the risk of switching suppliers as IT often is critical to the day-to-day functioning of their business.
- Cost advantages independent of Scale – established firms may have cost advantages not replicable by potential entrants no matter what their size and attained economies of scale e.g. propriety product technology, favourable access to raw materials, government subsidies etc. Existing companies in the IT industry will enjoy cost advantages, especially in terms of intellectual property already developed and marketed.

Based on the above analysis, it is clear that Business Connexion faces more threat from existing competitors rather than potential new entrants. Business Connexion is a fairly new company as opposed to companies like Dimension Data, Comparex Africa, EDS who have been established in the industry for many years now.

Intensity of Rivalry of Among Existing Competitors

Rivalry among existing competitors takes the familiar form of jockeying for position – using tactics like, price competition, advertising battles, product introductions and increased customer service or warranties. Intensity of rivalry is influenced by:

- Numerous or equally balanced competitors
- Slow Industry growth
- High fixed or storage costs
- Lack of differentiation or Switching costs
- Diverse competitors

The South African IT market is definitely one that is characterized by intense rivalry among existing competitors. The market has to be shared by many strong competitors. In addition, the IT industry has entered a slow growth phase.

Pressure from Substitute products

All firms in an industry are competing, in a broad sense, with industries producing substitute products. Substitutes limit the potential returns of an industry by placing a ceiling on the prices firms in that industry can profitably charge. The more attractive the price-performance alternative offered by substitutes, the firmer the lid on industry profits. Substitute products are other products that can perform the same function as the product of the industry.

Business Connexion faces the possibility that companies could prefer to develop and promote in-house IT departments. This would put the software development and managed support divisions of Business Connexion, at risk.

Bargaining Power of Buyers

Buyers compete with the industry by forcing down prices, bargaining for higher quality or more services, and playing competitors against each other - all at the expense of industry profitability. Buyers in the IT industry enjoy bargaining power as they have a wide choice of companies to choose from.

Bargaining power of suppliers

Supplier can exert bargaining power over participants in an industry by threatening to raise prices or reduce the quality of purchased goods and services.

Suppliers in the IT industry can exercise considerable power over IT companies because there are not many suppliers of hardware and software in South Africa.

For an example, Dell products have to be purchased directly from Dell South Africa, allowing Dell to dictate prices and delivery periods. Microsoft products can be purchased only through few companies established by Microsoft as accredited large account resellers.

Business Connexion is in a strong position with regards to Microsoft products as it is an accredited large account reseller. However, it is not in a strong position with regards hardware, as it does not buy enough to qualify for preferential treatment from suppliers, so is therefore subject to the power of the suppliers.

The collective strength of these forces determines the ultimate profit potential in the industry, where profit potential is measured in terms of long run return on invested capital. In terms of the nature of the IT industry in South Africa the following issues are critical:

- Existing companies pose the greatest threat, as they enjoy advantages such as economies of scale, existing brand image and loyalties.
- Switching costs are high
- High Financial Investment is required
- The industry is in a slow growth phase
- Power of suppliers is high

When crafting strategy the above factors must be taken into account.

4.3 PEST ANALYSIS

An understanding of the environment within which the firm operates can be achieved by conducting a PEST analysis:

Political Factors

Political factors include government regulations and legal issues and define both formal and informal rules under which the firm must operate. The political factors that will impact on Business Connexion are as follows:

- Employment Equity Laws - The company has to ensure that its staff complement represents the diversity of the country

- Black Empowerment - Black ownership of the company will influence the eligibility of the company for public sector business and tenders
- NEPAD – pressure from the President's Office to bridge the technological divide in Africa
- Skills development – adherence to legislation aimed at developing the skills base in the country, especially amongst the unemployed.

Economic Factors

Economic factors affect the purchasing power of potential customers and the firm's cost of capital. Business Connexion will be affected by the following:

- Slow global economic growth, especially in Europe and the United States of America
- Current drop in interest rates
- Fluctuating exchange rate of the Rand to the Dollar
- Inflation rate

Social Factors

Social factors include the demographic and cultural aspects of the external macro-environment. These factors affect customer needs and the size of potential markets. Business Connexion will feel the impact of the following:

- HIV/AIDS virus affecting a large percentage of the South African Population
- Large percentage of the population is uneducated and unskilled

Technological Factors

Technological factors can lower barriers to entry, reduce minimum efficient production levels, and influence outsourcing decisions. Some technological factors include:

- Information Technology is an industry that is characterized by changes at unprecedented rates
- R&D activity – Business Connexion has to keep abreast with changing technology that can be used to create value for the business of the customer

4.4 SWOT

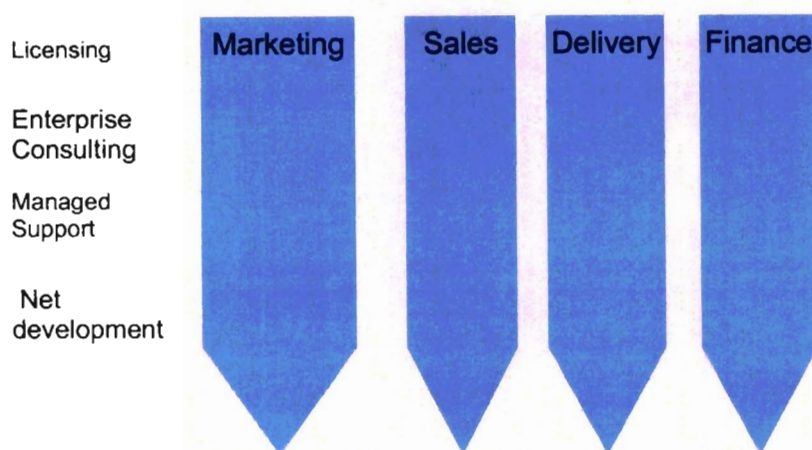
Table 4.1 SWOT Analysis of Business Connexion

Strengths <ul style="list-style-type: none"> • Truly Black owned • Diversity of Staff • Intellectual Property • Partners with Microsoft • Participation in skills development of the unemployed 	Weaknesses <ul style="list-style-type: none"> • Lack of organized and co-ordinated training program to ensure sustainability of skills base • Divisions exist in silos • No clear differentiator from competitors • Lack of quality management systems • Relatively recent entrant to the market
Opportunities <ul style="list-style-type: none"> • Public sector market • Potential partnerships – promoting backward or forward integration • Diversification in related IT services and products 	Threats <ul style="list-style-type: none"> • Increasing intensity of competition amongst other IT companies • Slowdown in market growth • Fluctuation of the rand/dollar exchange rate • Rapidly changing technology • Increased competition from global companies

Business Connexion has many strengths that it needs to capitalize on in order to improve its market share for an example the diversity of its staff can be used to ensure that all segments of the South African market are tapped on. The company has also formed many strategic partnerships which places it in a favourable standing in the IT industry. However, there are weaknesses that hamper its ability to gain competitive advantage. The weaknesses are found in its lack of company-wide processes that are aimed at quality and customer

satisfaction. Its present structure is not conducive to a company-wide customer focused operation (see Figure 4.2 below). The company is structured around skills sets, which promotes the mentality of divisions operating as silos.

Figure 4.2 Structure of Business Connexion



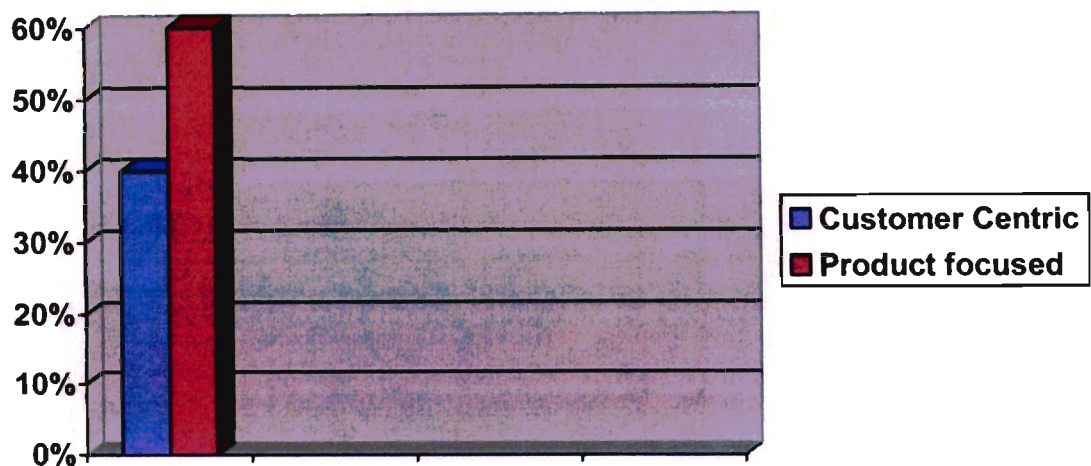
Its threats come from existing companies who have had first-mover advantage and who have developed strong brand names e.g. EDS (SA), Dimension Data etc. Business Connexion does have the opportunity to move into public sector markets. Its equity structure and diverse staff complements, puts it in a favourable position for government tenders.

An overall SWOT analysis places Business Connexion in a fairly strong positron, in that its weaknesses can easily be turned to strengths, by re-structuring and re-defining processes.

4.5 CURRENT CUSTOMER PERCEPTIONS

Customers interviewed were asked to rate the company as customer-centric or product/service focused. Their opinions are reflected in the figure below:

Figure 4.2: Customer Perceptions



Most customers believed that the company was more product focussed than customer focussed. They felt that not enough effort was put into defining customized solutions aimed at meeting their business needs. They believed that there was no facility available to ensure that the levels of service could be changed often enough to match changing needs in their business.

Customers were also asked to identify the issues that they thought were critical to quality. The following list was compiled from their responses:

- Speed of resolution
- First time resolution
- User-friendly interaction
- Meaningful data analysis

4.6 EVALUATION OF CUSTOMER SATISFACTION STRATEGY

Business Connexion has given attention to customer satisfaction. However, there are some areas that still require greater focus.

Business Connexion has success in the following areas of customer service:

- Attracting people with the right attitude for the job
- Ensuring diversity of staff so that it enhances the probability that the company can address the concern of all its customers
- Promoting compliancy to the time-frames determined by the customer for problem resolution
- Implementing processes to determine the root causes of customer complaints
- Measurement of data is used to initiate improvement projects

The following areas are lacking

- An understanding that customer complaints are not always concerned with operational issues. There needs to be an understanding that many complaints can expose cross-functional and strategic issues as being the cause.
- Lack of structured methods to determine what customer satisfaction levels are on an on-going basis
- Lack of a company-wide, need to be customer-focussed, specifically across support departments e.g. finance department.
- Although complaints are followed up there is lack of closure. Closure is concerned with the process and its outcomes for both the customer and the organization. Closure is the opportunity to ensure that the customer is, in fact, happy with the outcome and also that the organization has made changes, where appropriate, to its systems or procedures to ensure that the problem does not recur.

4.7 EVALUATION OF QUALITY STRATEGY

The company has embarked on quality initiatives over the last year, however it has not adopted a structured quality management system that promotes quality as a strategy to enhance customer satisfaction.

The following initiatives have been undertaken and have had a positive impact on service delivery:

- A general acceptance for the need for continuous improvement is encouraged within the company
- The managed support team was given basic training in continuous improvement processes
- Two Six Sigma projects were undertaken

The following areas however need attention:

- There is no company-wide structured approach to quality
- Lack of systems to afford customers the opportunity to provide feedback on their definition of quality
- There is no mechanism in place to measure the changing expectations of customers, which is necessary as competitive pressure is likely to raise the customer's expectations of quality on an on-going basis
- Results of quality initiatives are not measured in financial terms
- Lack of cross-functional teams aimed at improving quality across the company
- No benchmarking projects were undertaken

4.8 GAP ANALYSIS

Business Connexion is a company that strives to deliver superior quality, value-added services and products to its customer as outlined in its mission and vision.

The Managed Support Division of the company had outlined the following objectives aimed at achieving the mission and vision of the company:

- Define and implement effective and efficient processes to ensure the smooth operation of the division

- Ensure that quality improvement projects are undertaken
- Implement processes that promote seamless interaction with other divisions
- Ensure that processes are based on the needs of the customer

However, all of these objectives have not been met to its optimum. There is a “gap” between where the division is and where it wants to be. It has not yet achieved the levels of quality and customer satisfaction that will set it apart from the other players in the industry. It needs to develop quality as the differentiator. Business Connexion thus falls within the improvement gap segment. It needs to answer the question: How can we do what we already do better? It needs to develop a strategy that will close the gap and improve its competitive position in the industry.

4.9 FORMULATION OF COMPETITIVE STRATEGY

A competitive advantage exists when the firm is able to deliver the same benefits as competitors but at a lower cost (cost advantage), or deliver benefits that exceed those of competing products (differentiation advantage). Thus, a competitive advantage enables the firm to create superior value for its customers and superior profits for itself.

In order for Business Connexion to achieve competitive advantage it needs to focus its strategy on cost leadership as well as offering the customer a differentiated service based on quality.

4.10 CONCLUSION

Based on an analysis of the current situation of Business Connexion, there is a gap between where it is and where it wants to be. It wants to be a cost leader with a differentiated service. Its service would be differentiated on the basis of quality and customer focus. In order to do this the company needs to make certain strategic interventions. Management needs to re-define its strategy to narrow the gap identified. A possible strategic option is to focus on quality as a means of enhancing customer satisfaction. This option will be detailed in Chapter 5.

CHAPTER 5 – Conclusion and Recommendations

5.1 INTRODUCTION

This chapter details the recommendations available to Business Connexion to close the gap identified in Chapter 4. The gap falls within the improvement segment and therefore the recommended strategy should focus on answering the question: How can we do what we do better? This chapter firstly describes the 5 tasks of strategic management to be undertaken by the company. Thereafter the Six Sigma model is defined as the basis for the strategy to be adopted. The steps the company should take to implement Six Sigma as a company-wide quality management system is then detailed. This chapter is concluded with a list of benefits the company can expect to gain.

5.2 TASKS OF STRATEGIC MANAGEMENT

Task One: Developing a Strategic Vision and Business Mission

Vision: To be the most skilled, experienced and innovated Microsoft Certified Solution provider in Southern Africa.

Mission: To help customers maximise their return on investment in Microsoft Technology through designing, building and managing solutions to enable business value.

Task Two: Setting objectives

- Define and implement effective and efficient processes to ensure the smooth operation of the division
- Ensure that quality improvement projects are undertaken
- Implement processes that promote seamless interaction with other divisions
- Ensure that processes are based on the needs of the customer

Task Three: Crafting a Strategy to achieve objectives

The gap identified falls within the improvement segment. Therefore, the strategy should focus on quality as a means of promoting improvement.

Task Four: Implementing and Executing the Strategy

The Six Sigma Quality Management system should be implemented company-wide as this model addresses quality and customer satisfaction – the critical elements identified to create competitive advantage for the company.

Task Five: Evaluating Performance, Monitoring new developments and Initiating Corrective Adjustments

The Six Sigma system places strong emphasis on measurement. This approach is therefore conducive to evaluating and monitoring performance. The results of the measurements conducted can be used as a basis for corrective action.

5.3 RECOMMENDATIONS

Business Connexion should implement Six Sigma as a company-wide quality management system. The entire business should be driven by continuous improvement initiatives aimed at improving quality to enhance customer satisfaction.

5.3.1 Implementation of Six Sigma

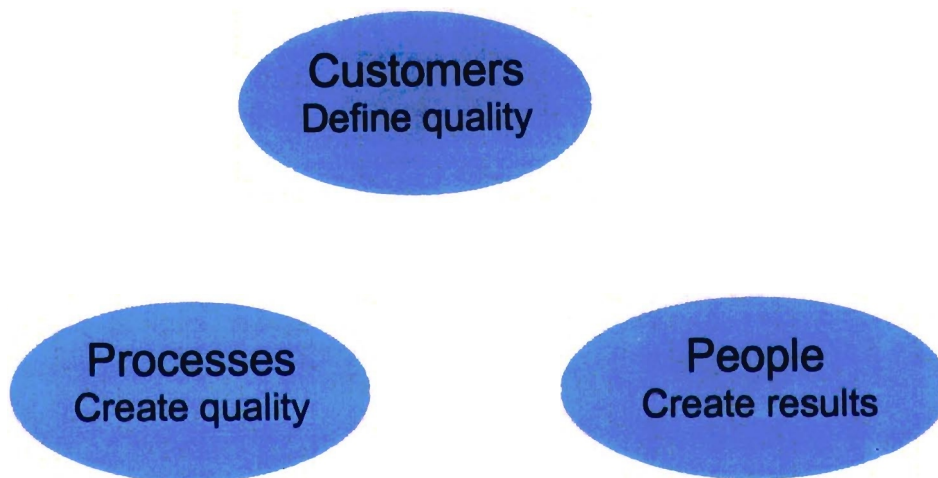
Step One: Redefine the company

The Company should be defined in terms of the following critical elements:

- Customers
- People
- Processes

These elements form the cornerstones of the company. Its success is dependent on the positive interaction of its people, processes and customers (see Fig. 5.1). Meeting customer expectations should define the company's processes and its people are critical to the successful implementation of these processes.

Figure 5.1: Critical Elements of Quality



Source: Eckes. 2001

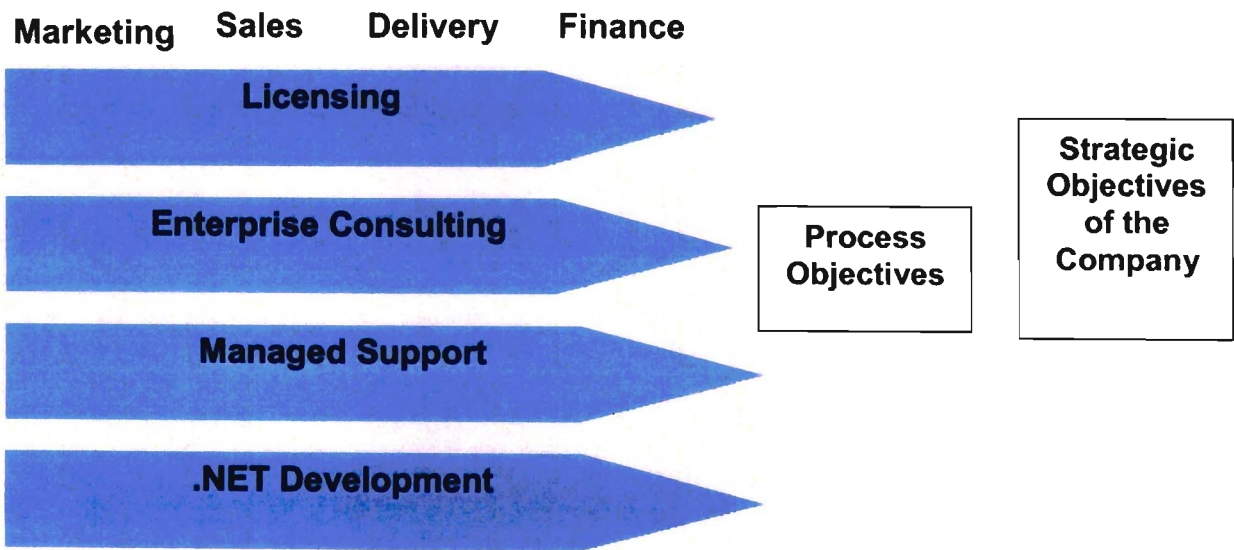
For a quality initiative to work in a company there needs to be an overriding focus on the customer. However being customer focused without being process focussed means lost profitability and ultimately lost business. Also not having the right people to define and implement the processes can impact of the success of the company.

Making customer satisfaction a primary goal focuses a company's people, on the customer. Human resource planning is, therefore an essential part of successful customer service, because to a customer anyone working for the company represents that company. The impression made on the customer depends primarily upon how the company's employees interact with the customer. Therefore, each employee is a potential customer service representative. It is therefore imperative that the human resource recruitment and selection strategy of the company is structured around attracting the right kind of people and that there are measures instituted to ensure that they stay with the company.

At Business Connexion the Divisions in the company should not exist as silos, but should all work towards the common goal of customer satisfaction: The existing structure of the company is organised by function (see Figure 4.2). This

approach often results in thinking and acting toward maximisation of the sub-goals and objectives of the function which may be at odds with the larger goals of the organisation. Another problem of thinking functionally is that it affects customers. The major goal of increasing productivity is based on an overriding focus on the customer, process and employee. A customer travels through a series or processes through the company. It is therefore necessary to define the organisation around processes rather than functions – see Figure 5.2.

Figure 5.2: Proposed Structure for Business Connexion
Customer / Process focused Structure



Step Two: Preparing the Business

The major three principles underlying Six Sigma initiatives are Customer Focus, Data driven and Robust Methodology. The principles described in Table 5.1 below must be communicated to the entire company as a simple way of preparing the company of the implementation of Six Sigma.

Table 5.1: Principles of Six Sigma

1	2	3
Customer Focus	Data Driven	Robust Methodology
Ensuring all outputs meet customer specifications. This is very intuitive for manufacturing and industrial businesses; potentially a new concept for transactional businesses. Customer needs must be understood down to the tolerance level. In addition, new products and services should be conceived to meet the needs of customers not currently serviced.	Data is necessary to identify input, process and output areas for improvement. Quality improvements are not haphazardly implemented. Instead, resources are assigned to projects when it can be shown through data analysis that a difference will be felt by the customer.	Data alone cannot solve all your customer or business issues. A methodology for defect definition, measurement, analysis, improvement and control must be utilized to standardize improvement processes and maximize business productivity. Business processes should be structured around the customer's ideal experience.

Internet 9

Step 3: Create a customer-focused Company

The following points should permeate all aspects Business Connexion:

- Think and talk about customers a lot
- Keep assessing customers' perceptions
- Resolve priority issues in favour of which profit the customer the most
- Give in to the customer where value of goodwill exceeds economic stake
- Recover conscientiously from blunders
- "What ever it takes" policy to remedy a dissatisfied customer or one with special need
- Redesign processes when they get in the way of customer service

Step 4: Create Strategic Business Objectives

- Create an objective for IT support
 - What is the vision?
 - What is the goal?
- Does everyone in the team know and share this vision?

Step 5: Define Processes

Redefine processes according to the following principles:

- Define each core process

- Define sub-processes under each core process
- Process owners should have the following core competences:
 - Subject matter expert
 - Leadership skills
 - Understand business process management
 - Team worker
 - Experience pain of processes not functioning well

Step 6: Set up Measurement processes

Redefine and evaluate data measured based on answers to the following questions:

- Who is your customer?
- What do they define as quality?
- How are we measuring against the customers' definition of quality?
- Are we collecting the right data?
- Are we collecting too much data?

Step 7: Set up Projects

Choose Six Sigma projects based on answers to the following questions:

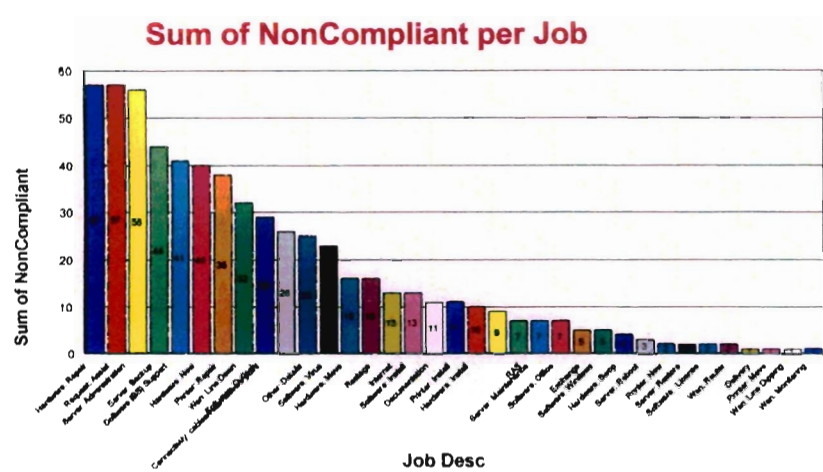
- Which process is hurting our customer services the most?
- Which project will give us the most benefit?
- How do we prioritise?

Example of Project Selection Criteria

- The 80/20 Principle
- Separate the vital few from the useful many
- A Pareto Chart

In a project aimed at improving the compliancy of calls i.e. resolving the calls within the time period specified in the contract with the customer, address the call type that is most non-compliant. This is identified in the first three columns of the graph (See Figure 5.3). Setting up a project to resolve the lack of speed in resolving hardware repair calls will improve compliancy.

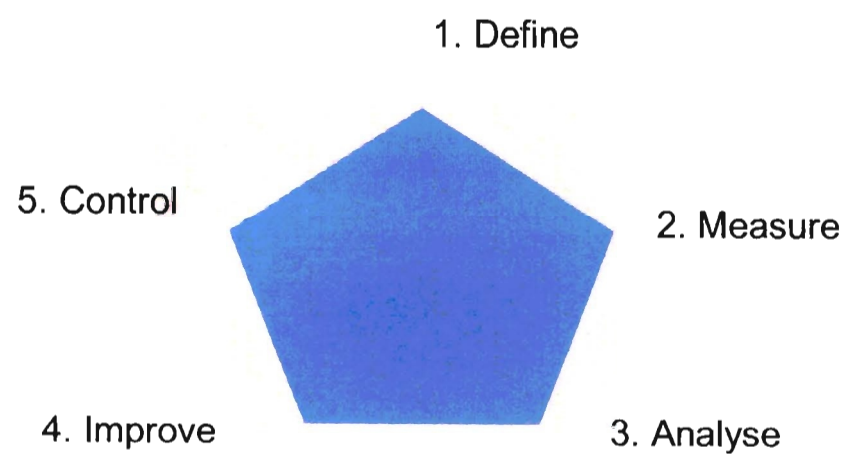
Figure 5.3: Pareto Chart: Non-compliant calls



Step 8: Project Implementation

The implementation of Six Sigma projects should be based on the process as outlined in the figure 5.3 below.

Figure 5.3: DMAIC Process



Source: Eckes. 2001

- **Define – Phase One**
 - Identify the Business Case by answering the following question:
 - How much will solving this problem financially impact the company?
 - Structure the Problem statement
 - Define exactly what the problem is
 - Work out the Project Scope
 - What is in?
 - What is out?
 - Define Goals and objectives
 - Set Milestones
 - Define Roles and responsibilities
 - Who is in the team?
- **Define – Phase Two**
 - Identify the customer
 - Identify the customers need
 - Identify the first set of requirements of their need by using the following options:
 - Customer one on one interviews
 - Surveys
 - Being the customer / observing the customer
 - Customer Complaints
- **Measure** – Gather and analyze data – work out what is the current, or baseline level of performance of the process that creates the problem. This phase also produces some preliminary ideas of possible causes of the problem
- **Analyze** – theories are generated as to what may cause the problem, and by means of testing theories, root causes are identified.
 - Root cause analysis

- Get to the cause of the problem
- Do not just stop at treating the symptoms
- Keep asking why
 - The 5 why's analysis process
- **Improve** – root causes are removed by means of designing and implementing changes to the process that has been producing the problem
- **Control** – new controls are designed and implemented, which prevent the original problem from returning and which hold the gains made by the improvement
- **Replicate** – the knowledge, insights and know-how acquired by the team are used to correct other quality problems and to identify new quality improvement projects. (Juran training manual)

Step 9: Six Sigma Tools

The following Six Sigma tools are recommended for use as problem-solving techniques:

- Flow Charts
- Process Mapping
- Fishbone diagram
- Pareto Charts
- Brainstorming

Step 10: Benchmarking

Six Sigma companies view benchmarking as an essential tool. This is based on the belief that people must work under the assumption that there is always somebody else that can do at least one thing better. Exploring customer service practices of world-class companies provides insight into customer satisfaction

assurance and measurement, as well as how to establish a customer service culture among employees. The benefits of benchmarking are as follows:

Benchmarking can yield great benefits in the education of managers and the performance improvements of operations. In addition, benchmarking can be used to determine strategic areas of opportunity. Any identified gaps are improvement areas. These would form the basis for continuous improvement initiatives.

5.4 CONCLUSION

One key to success is to fill the gap between what customers see as good service and what competitors think it is. To this end a tightly focused service strategy is essential. Without a strategy companies cannot develop a concept of service to rally employees or catch conflicts between corporate strategy and customer service or develop processes to measure service performance and perceived quality. Developing an appropriate strategy is an essential step towards choosing an optimal mix and level of service for different customer sets. This is important because quality is defined by the customer – providing too little service or the wrong kind can cause customers to leave or providing too much, even of the right kind and the company could go broke or price itself out of the market. Successful companies inform customers about what to expect then exceed the promise. Not all customers want or deserve high levels of service, but they are entitled to what they have been promised, explicitly or implicitly.

Globalization and instant access to information, products and services have changed the way customers conduct business. Today's competitive environment leaves no room for error. Customers want to be "delighted". To remain competitive companies need to relentlessly look for new ways to exceed customer expectations. This is why Six Sigma Quality should become a part of the culture of the company.

Companies who adopt Six Sigma can expect the following benefits:

- A defect-free environment
- Customer focused company – seamless integration between divisions of the companies
- A culture of continuous improvement
- Capacity to deliver a superior product/service
- Capacity to develop processes defined to meet and exceed customer expectations while keeping costs down
- Capacity to develop processes to manage customer complaints effectively
- Reap the rewards of customer retention rather than focussing on looking for new customers

These benefits are sure to give the company the competitive edge in the market as they would have developed the capacity to best meet and exceed customer expectations. The implementation of Six Sigma will give companies the capacity to persuade their customers that they are offering them the best solution tailored to fit their needs, at a fair price.

For Business Connexion the benefit is not necessarily in achieving the level of Six Sigma as much as it is in creating a culture of continuous improvement aimed at enhancing customer satisfaction amongst all members of staff. It is this culture that will give the company its competitive advantage. The company will develop the capacity to offer its customers a superior service at a cost lower than that of its competitors.

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