Application of Customer Experience and Business Process Re-engineering in the Telecommunications Industry

by

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Executive summary

Within the telecommunications industry, there are vast management methods invested in order to provide a competitive edge and loyalty amongst customers. Customer satisfaction remains the primary goal as a happy customer ensures sustainable profitability and overall business success. Customer experience encompasses the customers' interaction with a company's service and/or process. Due to the growing realisation that customer-focus should form a large part of a business strategy, the concept of customer experience emerged as a performance management tool and means to improve business processes. However, many companies still fail to measure and improve business processes based on customer experience. This project shows how Business Process Re-engineering and Customer Experience can couple to bring about impactful change to a cellular network provider by providing customers with what they want. Five processes are analysed so as to find out what it is that customers require within these processes. A Quality Function Deployment model is used to perform calculations that reveal the cell phone repairs process as the one to give the most profitable return after process re-design. A conceptual repairs process model will thus reconcile customer requirements and the given business processes.

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Chapter 1: Introduction and background

1.1 Introduction

Customer experience summarises all the interactions the customer has through the entire process of service or product provision. Pine and Gilmore explored the concept of customer experience in their *Harvard Business Review* article. Here they stated that successful businesses influence people through engaging, authentic experiences that render personal value (Pine and Gilmore, 1998). According to Bell (1992), the core of service distinction is a human feeling. After a service has been delivered, the customer is not left with an object but with a memory of dazzlement, pleasure, satisfaction, disappointment or victimisation.

It can be concluded that customer experience can be a distinguishing factor between a successful product and/or service delivery and one where the company has failed dismally. This is because ultimately, customer satisfaction remains the primary goal of each business. Customer recruitment and customer loyalty are both determined by customer experience. Galbreath & Rogers (1999) define Customer Relations Management as "the activities a business performs to identify, qualify, acquire, develop and retain increasingly loyal and profitable customers by delivering the right product or service, to the right customer through the right channel at the right time and the right cost" (Galbreath & Rogers 1999:163).

The importance of customer experience is evident, yet there still remains a huge gap in the market for the study of customer experience and the subsequently adequate customer experience management and solutions. Academia and industry are aware of these concepts. It has also been debated whether Customer Relationship Management is a fad or a substantial contribution to management. Kotze, Prinsloo and du Plessis (2003) conclude that "relationship marketing has proven itself as an orientation founded on substance". In their *New service development* literature survey, Smit & du Plessis (2000) conclude that "customer orientation is a fundamental key success factor in service development". They continue to state that "Service quality is to adapt the process to the logic of the customer's behaviour and to achieve a satisfied customer experience". This study is centralised around the telecommunications industry. According to Lannon (1995), it is absolutely essential for cellular service providers to start learning about customer care. Cellular customers do not change carriers arbitrarily. Soon the day will come when all network services will have to

know as much about customer preferences as retailers or entertainment companies do today.

Slongo (1999) states: “In South Africa, the mobile telecommunications industry has, since its inception six years ago, primarily focused its strategies on customer acquisition in order to grow its customer base. However, as the South African customer becomes increasingly demanding, the industry will have to shift its strategic focus to encompass a retention strategy, particularly for its most valuable and profitable customers in order to prevent them from turning to the competition”.

1.2 Company background

The study at hand is on three companies that are amongst South Africa’s largest telecommunications companies. The companies in discussion will henceforth be referred to as Company A, Company B and Company C.

Company A has increased its bounds out of South Africa and is now competitive over Africa as a whole. Company A’s vision is “to become the leading provider of communication services on the African Continent, linking nations by providing an affordable, accessible and quality service that is a catalyst for economic development.” The company continues to state that “Company A’s leadership across African soil has earned it a formidable reputation for operational and service excellence, technological superiority and an ability to adapt and evolve to meet ever-changing needs.”

Company B is the largest communications network operator in South Africa. It has the largest customer base of the three networks and generates the highest revenues. The goal for Company B is to be the leading telecommunications service provider within Southern Africa.

Company C is the youngest and smallest of the three networks and makes a claim to providing above standard products and services to its customers.

This study on customer experience and business process re-engineering is thus relevant to these competing telecommunications companies that will be focused on.

1.3 Problem statement

As stated in section 1.2, “quality service” and “service excellence” are mentioned in the vision of Company A. Thus customer satisfaction should be expected from its customers. However, research from hellopeter.com proves that this is not necessarily a reality. Below are Company A’s customer complaints indicating dissatisfaction and poor customer experience:

“The gent who was assisting my husband and I was so impatient with us that we realised we were wasting our time there. We left the store frustrated and completely baffled by some of the info he had given us upon much prompting. It was almost as though we were taking up this person’s precious time as he was constantly walking away and busy on his cell phone whilst we were trying to talk to him. His manner of speaking was just so off hand.”

It is clear that this customer had a negative experience while visiting the store mainly due to the attitude of the consultant. Another customer had a similar experience:

“I would like to vent my disgust with the appalling service which I’ve been getting from Company A. I've been having problems with them since I signed on last September. Company A has competition and they should consider that a reminder. Their service is unacceptable; I wish those who still want to join read this.”

These are two of the many complaints from customers in telecommunications industry. This shows the urgency in which the reconciliation between customer requirements and expectations and business processes should be addressed.

1.4 Aim and objectives of study

The aim of this study is to design a conceptual model that will align customer requirements with business processes and reconcile the difference by improving business processes.

Listed below are the objectives of the study.

1. To compile an in-depth literature review on customer experience and business process engineering.
2. To highlight customer requirements in the telecommunications industry.
3. To analyse business processes within the telecommunications industry.

4. To research and identify different tools of measuring customer experience and subsequently applying the best method.
5. To identify the best tool for aligning customer experience with business processes.

1.5 Project scope

This project encompasses extensive research and model design leading to the above stated outcomes. The project scope outlines the deliverables and methodology involved.

1.5.1 Deliverables

The following main deliverables will be the outcome of this study.

- Literature study review
- Customer experience and business process re-engineering conceptual model
- Conclusions and recommendations

1.5.2 Research methodology

The project can be divided into six phases namely:

1. Customer data is to be collected and analysed to produce information on customer requirements directly from the customer's point of view. Data collection is to be done through surveys and interviews.
2. Current customer experience is to be analysed through the method of mystery shopping as well as onsite business process observation at the respective service centres.
3. Performance management tools are to be investigated to identify the best tool for relating customer requirements to internal business processes.
4. Using the information gathered as mentioned above, the actual business process performance is to be measured and areas of improvement identified.
5. A conceptual model is to be developed to improve customer experience through re-engineering the internal business processes.
6. Recommendations and means for continuous improvement and development of the model are to be provided.

1.6 Chapter summary

The top three telecommunications companies in South Africa are the basis of this study with the focal subject being Company A. Companies B and C will be viewed as secondary

subjects with the roles of competitors to Company A. Systematic steps are to be followed with the desired output of a literature study, business process re-engineering and customer experience conceptual model and lastly conclusions and recommendations to address the stated problem. The problem at hand is the need for reconciliation between customer needs and business processes.

Chapter 2: Literature review

2.1 Customer Experience

A customer always has a particular experience when acquiring a service or buying goods. The experience may be good, bad or indifferent. What is important is a how a company deals with the management of customer experience (Berry, Carbone & Haeckel, 2002). The customer's subjective view and reaction to contact with a company – directly or indirectly – is what makes up Customer Experience. Direct contact is the processes of sales and services while indirect contact with the company is made up of the representation of a company's offering. Customer Experience involves various segments of a business ranging from quality customer care to advertising, reliability and service and product quality. Unfortunately in some organisations not all these aspects are seen as contributing to Customer Experience (Meyer & Schwager, 2007). Meyer and Schwager emphasise how customer dissatisfaction is rife. This is a critical matter especially since the customer is becoming even more empowered. The empowerment of the customer is due to the fact that there is now a greater variety of alternatives available and customers are spoiled for choice in selecting the channels by which to attain them.

According to Kiska (2002), a CEO can lose up to 40% of its customer base in a year. The company and its CEO are thus faced with the crucial task of retaining customers and cultivating a relationship with them. The entire business should therefore be customer-focused with efforts made to provide the customer with what they want, how they want it and at a price they are prepared to buy it for (Kiska, 2002). Berry, Carbone & Haeckel (2002) describe this process as creating value for customers in the form of experience. Companies can reach this target by clearly comprehending the journey taken by the customer from their expectations before the experiment to the customers' response and analysis after the experience. With this understanding, companies are able to have a collection of "puzzle pieces" which, when assembled, result in a picture that satisfies the customer. The level of customer satisfaction could possibly be to an extent that differentiates the company from its competition should it be perceived as the preferred choice. The resulting picture makes up Customer Experience.

The puzzle pieces are made up of two aspects. The first one deals with the actual performance of a service or good provided by a company. This speaks to the brain or logical reasoning of the customer. An example of logical interpretation by a customer is whether the

customer received the correct service or whether the product works. The second aspect of Customer Experience addresses the emotions of the customer. All five senses are linked to the good or service provided. An example would be the tone of the assistant at the call centre. The heart of the customer is the aspect of customer service that caters to the emotional factor of the entire customer experience. Customer service can be defined as "the ability of knowledgeable, capable and enthusiastic employees to deliver products and services to their internal and external customers in a manner that satisfies identified and unidentified needs and ultimately results in word of mouth publicity and return business", Jooste (2003). Customers' memory of their experience is predominantly emotion-based. A customer may forget the name of the personnel, the location and even the details of the transaction, but the "feeling" of the experience will remain with them. Sherrie Sherrenie of Coca Cola Africa described this phenomenon saying "Coca cola does not sell the beverage to the customer, we sell refreshment." It is thus the feeling of refreshment that returns business to Coca Cola. Enthusiasm, passion, empathy, empowerment are examples of factors that win the heart of the customer (CCS workshop, University of Pretoria 2009). The emotional aspect comprises of two building blocks, the 'mechanics' (puzzle pieces from *things*) and 'humanics' (puzzle pieces from *people*). In business the mechanics are often given more attention than humanics but in truth they are of equal importance (Berry, Carbone & Haeckel, 2002).

Meyer and Schwager, in their business review *Understanding Customer Experience,* define the events where a customer interacts with a company's goods or services directly or indirectly as "touch points". Information about an experience is gathered at these touch points. For each touch point, the gap between the expectations of a customer and the actual experience of the customer defines the difference between customer satisfaction and the negative alternative. Expectations are accumulated through past experiences with a company. The customer naturally compares new experiences with past ones. Other feeders of expectations are the market, competition and personal circumstances of the customer (Meyer & Schwager, 2007). Companies ought to listen to the Voice of the Customer so as to know their expectations and reduce the risk of providing services and goods not needed in the market. According to Kiska (2002), the telecommunications industry would be far better off today, had customer feedback solutions been set in place in the past years. He believes that customer satisfaction measurement has to do with collecting data on the customer's view on the products or services they receive (Kiska, 2002).

Customer experience information is collected through three patterns: past patterns, present patterns and potential patterns. Past patterns try to attain information about the customer's experience right after the actual event. The most popular means of collecting data on past patterns is through surveys. Present patterns are analysed by investigating the customer's knowledge of alternatives, preferred features and competitiveness. This data is collected through surveys and interviews. Observing customer behaviour (body language, facial expression, etc.) reveals potential patterns as opportunities can be identified from there. The advantage of surveying is that it is low in cost. It is therefore very popular for past and present patterns. Electronic surveys via email are even more effective as they can be distributed easily and quickly. Surveys, however, do have limitations. These can be overcome through focus groups and blogs (Meyer & Schwager, 2007).

According to Meyer and Schwager (2007), many companies know a lot about the various characteristics by which customers can be classified. Where they lack insight is in the 'thoughts, emotions and states of mind that customers' interactions with products, services and brands induce'. Without adequate knowledge of Customer Experience the term "customer satisfaction" will be but a slogan in the organisation and not a reality.

2.2 Business Re-engineering

Business Process Re-engineering (BPR) is a buzzword in business talk. Some have defined it as restructuring, downsizing and strategic re-focussing of the organisation. The core of BPR is about redesigning processes. With increasing competitive pressure, organisations often feel pressured to work harder. The solution is in actual fact to work smarter (Balle, 1995).

The redesigning of processes in order to improve the performance of a business is a powerful technique for change. Currently, an organisation is comprised of various departments including Research & Development, Sales, Production, etc. Traditionally managers focussed on the functional hierarchy in the organisation as depicted below.

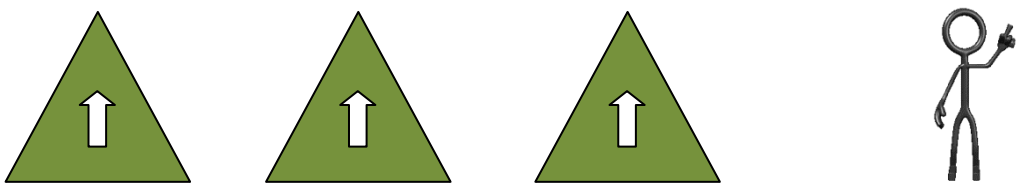


Figure 1: Traditional functional hierarchy focus. *Peppard & Rowland (1995)*

BPR challenges this way of thinking and instead focuses on a 'process' view leading to the customer. The ways in which a product is designed or an order filled are customer-centralised while disregarding functional boundaries (Peppard & Rowland, 1995).

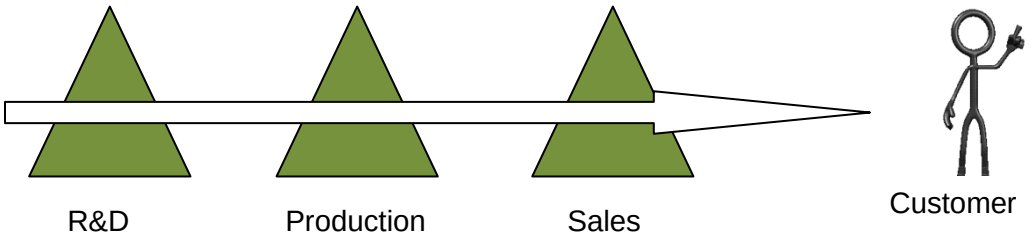


Figure 2: BPR organisation view. *Peppard & Rowland (1995)*

The *core focus* of BPR is on minimising the aspects of processes that are non value adding to a system. Another specific focus is on the process outcome. Organisations with operations as the basis of their offering have outcomes specifically for the customer. The customer focus of BPR can thus be said to be outcomes driven. BPR also has a *process focus.* The aim is to generate processes that are close to optimal either by starting afresh with a new design or by redesigning an existing process. According to Peppard & Rowland's business philosophy analysis, the *techniques* employed by BPR are Process Maps, Benchmarking, Information Systems/Information Technology and Creativity – out of the box thinking (Peppard & Rowland, 1995).

2.2.1 Process Maps

In order to fully understand a process, one can create a process map. This allows for easier readability and comprehension. With tasks plotted onto a map, the way things are done or the manner in which people work can be seen clearly. The value of process maps lies greatly in their usability and the actual process of creation. Since maps are graphical and not narrative, they give a clear view of the processes. Areas of improvement such as resource wasters are easier identified. The actual map-making process gives the map maker in depth knowledge of the process being worked on. Steps and tasks in the process that are unnecessary become evidently obvious to the map maker (Peppard & Rowland, 1995).

Process mapping can be done using Microsoft Visio or the Intergraded Definitions language (IDEF). Inputs and outputs of the process are defined together with the mechanism required and the controls under which the process functions.

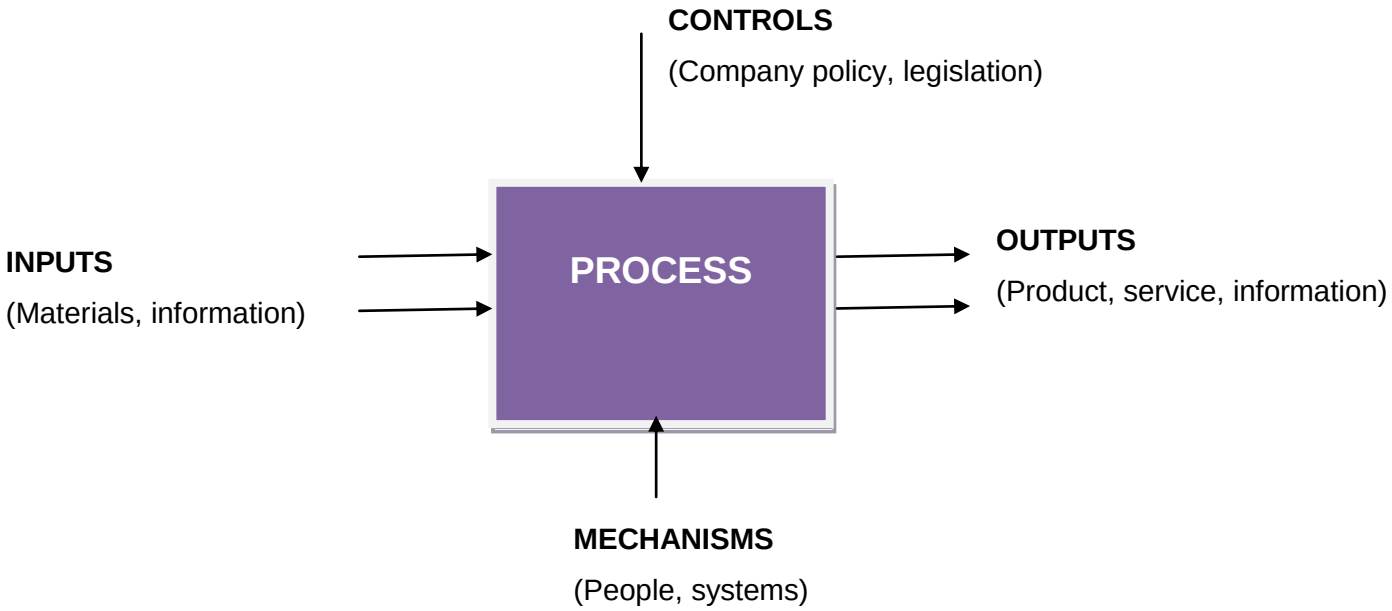


Figure 3: IDEF0 process map. ***Peppard & Rowland (1995)***

2.2.2 eTOM

Enhanced Telecom Operations Map ™ (eTOM) provides a business process framework in the form of a process model. The purpose hereof is to characterise business processes for service providers. The Operations processes are grouped into four sectors namely Fulfilment, Assurance, Billing, Customer Relationship Management and Operations Support & Readiness (Kelly, 2003). Following is a description of these sectors according to Kelly (2003).

- **Fulfilment**

This process deals with providing the customer with the right product, at the right time and in the right way. It provides a solution for the customer's need. Under fulfilment lies Customer Interface Management, Marketing fulfilment response, Selling, Order handling and Retention & loyalty processes (eTOM 6.0, 2006).

- **Assurance**

This process ensures that activities that are up to the agreed upon Quality of Service for the customer are performed. Continuous performance monitoring is undertaken to spot any failures. Data on performance is collected, analysed and the problem is solved as efficiently as possible. Under Assurance lies the Customer Interface management, Problem handling, Customer Quality of Service and Retention & loyalty processes (eTOM 6.0, 2006).

- **Billing**

Where the customer is to be billed, this process ensures that correct and timely billing is made. All information for the customer, payment processes and bill collecting is handled. Queries and problems regarding billing are resolved on time. The billing process includes Customer Interface Management, billing and collection management as well as the retention and loyalty process (eTOM 6.0, 2006).

- **Operations Support & Readiness**

This process caters for the fulfilment, Assurance and Billing processes. This is not a front-office process but handles the activities that will affect those that are. Operations support & readiness serves to support the Fulfilment, Assurance and Billing processes (Kelly, 2003).

- **Customer Relationship Management**

Customers as well as their needs need to be known. This is the responsibility of this process. The relationship a business has with the customer is of great worth and so the enhancement and retention of that relationship is the goal. Kelly (2003) explains that this process ‘is about customer service and support, whether storefront, telephone, web service’. The figure below shows the holistic picture of the eTOM Framework from Enterprise Management up to customer interface.

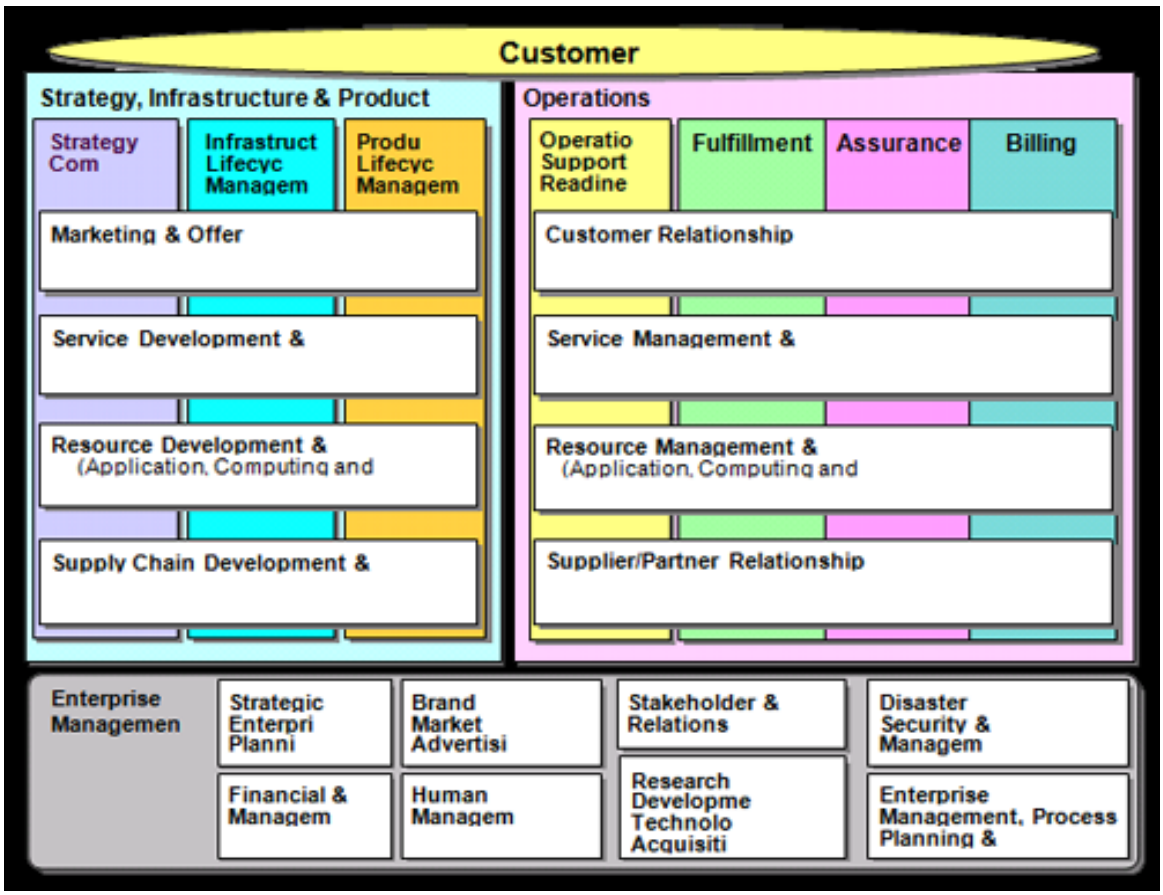


Figure 4: eTOM Framework (*Infratek 2007)*

2.2.3 Benchmarking

Benchmarking is how organisations grade themselves against other leaders. Self-assessment against competitors aids in gaining knowledge about a company's performance in the market, but, unlike with benchmarking, it does not give a thorough understanding of the processes that bring about these differences. In international business study, benchmarking is said to be a tool that 'improves a company's performance through the identification and application of the best practices within and across the company's various operations and sales activities' (Ball, Geringer, Minor & McNett, 2005). The figure below depicts the stages of benchmarking as stated by these authors.

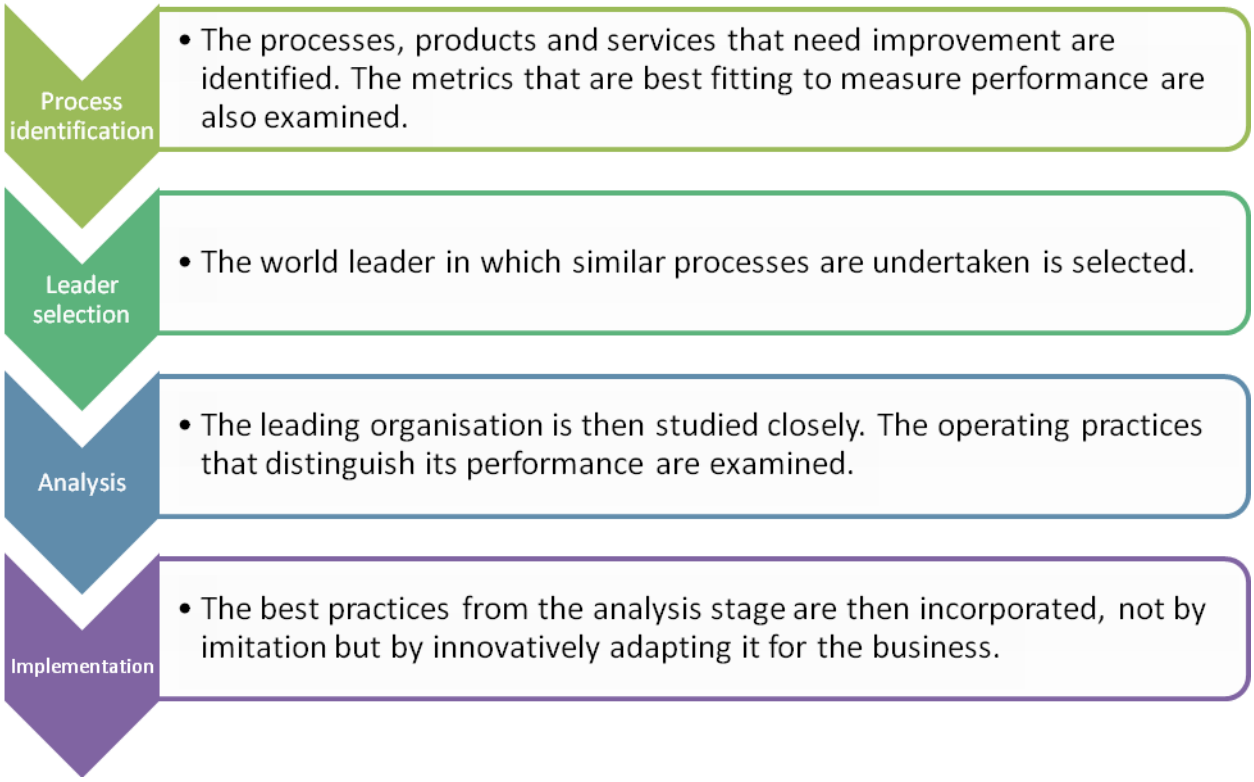


Figure 5: Benchmarking stages. Adapted from Ball, McCulloch, Geringer, Minor & McNett, 2005.

2.3 Quality Function Deployment (QFD)

2.3.1 Introduction

Quality Function Deployment (QFD) is a mechanism used to ensure that production design processes are driven by customer needs (Chan & Wu, 2004). QFD was birthed in Japan during the 1960's when the Japanese government recruited various universities to develop a system that would ensure that each stage of its construction processes was linked to satisfying some customer requirement. This tool is a means of listening to the customer to hear exactly what they want and using this information in a rational system to meet these requirements as closely as possible with the resources at hand. Through QFD, an organisation is able to find out what qualities customers desire, what functions are to be utilised by the organisation to deliver the service or product. Lastly, QFD helps to identify how to best provide what is required by the customer (Guinta & Praizler, 1993).

2.3.2 QFD and quality

Guinta and Praizler (1993) liken quality to beauty saying 'quality, like beauty, is in the eye of the beholder'. They describe quality as fulfilling requirements, on time delivery and delivery

within costs. It is acknowledged, however, that in product or service delivery, quality is that which the customer perceives it to be. QFD ensures that the customer's definition of quality is met. The tool amalgamates different forms of data including customer surveys, customer specific requirements and competitive market analysis. The data is captured and examined from a statistical approach and the outcome is used for decision making (Guinta & Praizler, 1993).

2.3.3 QFD and the customer

When an organisation applies QFD methodologies, it naturally shifts focus to be on the customer. Changes incorporated from the business decisions made will subsequently benefit the customer. Customer satisfaction is improved in this way. Thus, through QFD the company builds a reputation superior to its competitors in the mind of the customer. The use of QFD also benefits the organisation by providing customer feedback as surveys and market analyses reflect the level of satisfaction of the customer with regards to specific product or service characteristics. An additional company positive is that the company can rate their performance against competing companies from this information (Guinta &Praizler, 1995).

2.3.4 House of Quality

The QFD system is divided into four phases (Chan & Wu, 2004) namely

- Phase I: Translating customer needs into technical measures
- Phase II: Translating important technical measures into parts characteristics
- Phase III: Translating important part characteristics into process operations
- Phase IV: Translating key process operations into day to day production requirements

The first phase is of vital importance as it transforms the Voice of the Customer into the technical specifications required in producing and processing. This phase is also known as the House of Quality (HOQ). HOQ captures the needs of the customer as well as the relative importance of these needs according to the perception of the customer. The customer's view of the company's performance with regards to these identified needs is analysed concurrent with the performance of the respective company's competitors. The Voice of the Technician is also analysed. According to Chan and Wu, this includes 'the technical measures converted from the customer needs, technicians' evaluation on the relationship between each customer need and each technical measure, and the performance of the

relevant companies in terms of these technical measures.', (Chan & Wu, 2004). Below is a description of the elements involved in the HOQ as explained by Chan and Wu (2004).

2.3.4.1 Customer Needs

In the HOQ model, the customer needs are known as the WHATs. These are expressed by the customer in regular language. Face to face interviews with individuals are cost effective. Twenty to thirty individual interviews will produce 90-95% of the possible customer needs (Chan, Kao, NG and Wu, 1999).

2.3.4.2 Relative importance ratings of customer needs

The customer is then required to rate the level of importance of each of the customer needs under study. The company in question will place focus on the most important customer needs and invest less in the unimportant ones so as to use resources wisely (Chan, Kao, NG and Wu, 1999). The scale below is often used in measuring relative importance:

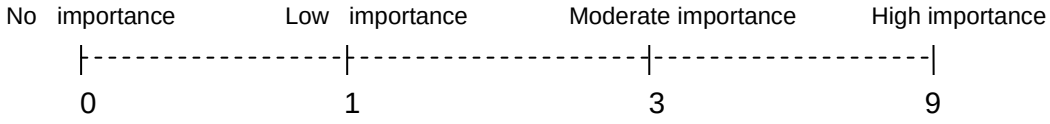


Figure 5: Relative importance scale. *Adapted from Chan & Wu (2004)*

2.3.4.3 Competitors

These are the various competing companies in the same industry or market under study. In the case of the telecommunications industry in South Africa these would be the companies possessing the largest market share in the telecom field.

2.3.4.4 Customer competitive analysis

The customer analyses the various competitors' performance in the identified customer's needs. For relative importance ratings and competitive ratings many customers need to be surveyed and only direct surveys should be utilised (Chan, Kao, NG and Wu, 1999). The scale below is used to measure the relevant performance:

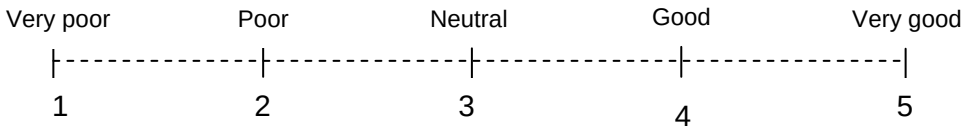


Figure 6: Customer competitive analysis. ***Adapted from Chan & Wu (2004)***

2.3.4.5 Technical measures

These are also known as the HOWs. These are the methods and technical specifications derived from the customer needs.

2.3.4.6 HOQ model

Chan & Wu (2004) further elaborate on the steps involved in the QFD model namely:

Step 1: Identify customers and collect their needs (WHATs)

The type of customers needs to be specified as there are internal customers (shareholders, etc) as well as the external customers (receiving service/product). Collection of customer needs is to be conducted through surveys, interviews and observation.

Step 2: Determine the relative importance ratings of customer needs

The identified customer needs have differing importance and the customer is given the platform of ranking them in order of importance. The average relative importance rating for that particular customer need is then calculated.

Step 3: Identify competitors and customer competitive analysis

It is important for any company wishing to improve to be aware of its competitor and the performance of the competitor relative to its own performance. Thus, customers are to rate the relative performance of the various competing companies in the same industry for each customer need.

Step 4: Determine final importance ratings of customer needs

The highest importance ratings are the most important and focus should be placed on these as the potential for business improvement lies therein.

Step 5: Generate technical measures (HOWs)

The WHATs are now generated into HOWs by the technical team. These are the customer needs translated into technical measures.

Step 6: Determine the relationships between HOWs and WHATs

The resulting HOWs are analysed to identify how they can be translated into WHATs.

Step 7: Determine initial technical ratings of HOWS

The final importance ratings of the WHATs and the relationship between the HOWs and the WHATs determine these ratings. These ratings determine the relative importance of the HOWs against the WHATs.

Step 8: Perform technical competitive analysis

This analysis is carried out through marketing and is important for the producing company.

Step 9: Obtain final technical ratings of the HOWs

The HOWs with the highest ratings make up the work focus for the company and indicates the areas with the largest market opportunities. Below is the representation of the QFD model according to the steps discussed by Chan and Wu (2004).

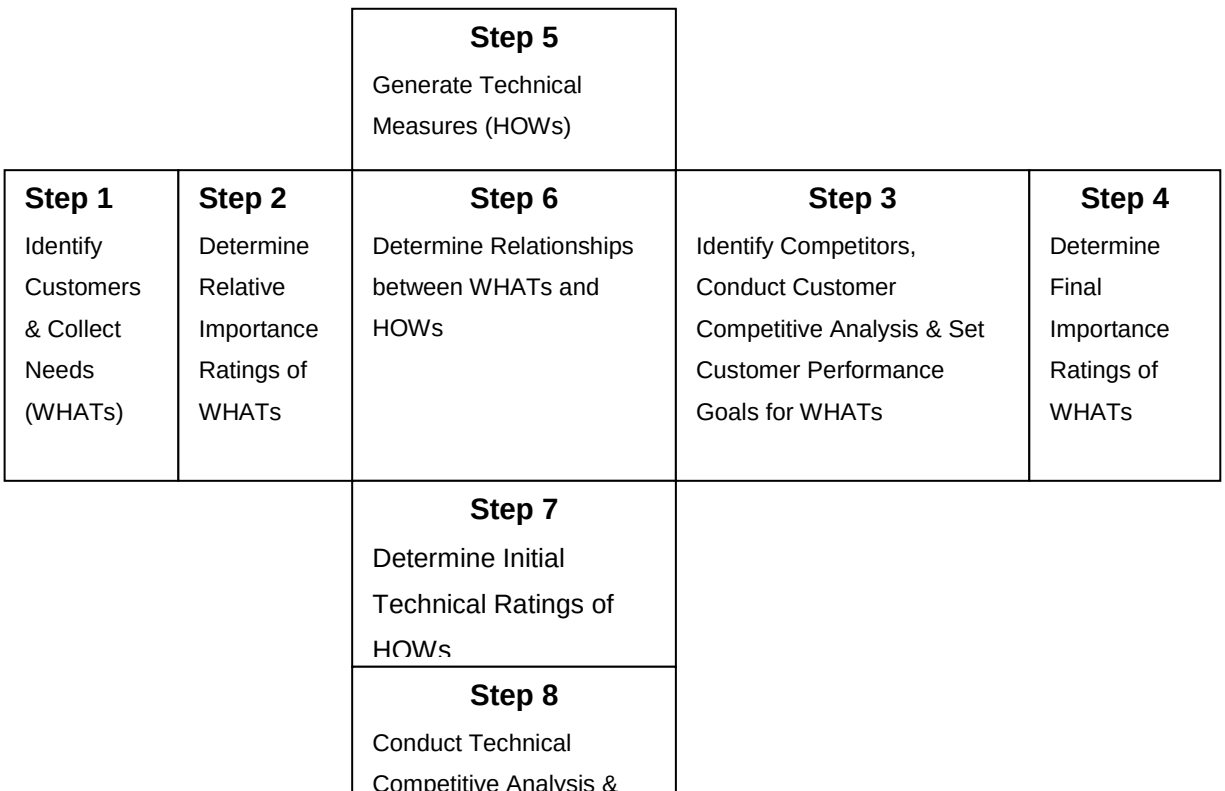


Figure 7: House of Quality - 9-step model (Chan & Wu, 2004)

2.4 Telecommunications industry in South Africa

South Africa has three major cellular networks which are referred to in this report as Company A, Company B and Company C. Other than these three cellular giants, there is one fixed line network. All four companies are competitors for voice traffic. Quality of service is thus all the more imperative in this industry as it serves as a differentiator (Bond, Pampallis and van der Wal, 2002).

Jain (1997) uses Porter's five force model to analyse the position of the telecommunications industry in South Africa. This model highlights five potential competitive forces:

1. The threat of new entrants
2. The threat of substitute goods or services
3. The bargaining power of customers
4. The bargaining power of suppliers
5. The degree of rivalry amongst existing competitors

The threat of potential entrants is the second largest competitive force in the South African telecommunications market. Company A and Company B were the only two established network operators for a long period of time. After the introduction of Company C in 2001, the market share was to be redistributed amongst the three network operators. In order to solidify substantial share in the market, each company has to invest greatly in delivering

quality service to its customers. The cellular networks traditionally deal through dealerships and retail stores. Ownership of these service providers is independent. However, since 2001, the companies have begun to buy out these distribution portals so as to be directly in charge of the customer. This is in line with the global trend of companies working towards being “customer-centric” organisations (Bond, Pampallis and van der Wal, 2002).

Lovelock (1999) states that high quality service is concurrent with profit, cost savings and market share. Quality service is, however, intangible and is hard to deliver consistently (Zeithaml and Bitner, 2000). Research to determine the quality of service in the cellular outlets in the South African telecommunications environment was conducted using a survey based on the SERVQUAL model. The model measured customer service according to the following categories:

1. **Tangibles** – This includes the physical décor, appearance of the staff and the communication media of the company.
2. **Reliability** – The ability for the service provider to provide accurate and dependable service as it has committed to do.
3. **Responsiveness** – The staff’s drive to assist customers and to serve them as quickly as possible.
4. **Assurance** – Staff knowledge and professionalism that ultimately generate trust and confidence within the customers.
5. **Empathy** – Personalised attentiveness for the customer by the service provider through care and friendliness.

According to Bond, Pampallis and van der Wal (2002) the results of the research revealed that in the customer’s mind, ‘tangibles’ and ‘reliability’ are two distinct factors but they perceive ‘assurance’, ‘responsiveness’ and ‘empathy’ as one dimension. Elements of the ‘tangibles’ are the range of handsets and accessories as well as the manner in which employees are dressed, pamphlets and in-store facility appearance. The remaining three categories see to the needs of the customer. The results communicated that less emphasis should be placed on the ‘tangibles’ and more on the categories that care for the customer needs. Thus, speedy service is mandatory for the ‘responsiveness’ factor and staff ought to be knowledgeable to provide ‘assurance’ to the customer. Customer expectations and perceptions need to be met through the five categories.

2.5 Chapter summary

In this chapter a more in-depth understanding of Customer Experience and Business Process Re-engineering was provided. Furthermore, the elements of BPR were discussed. Research proved Quality Function Deployment to be the tool of choice for this study. QFD methodology was thus elaborated upon. Lastly, the environment in which the above mentions subjects and tool are to be placed into context (South African telecommunications) was reviewed.

Chapter 3: Preliminary analysis of the telecommunications industry

The three largest cellular networks in South Africa, Company A, Company B and Company C were analysed. Company A is the subject of study with Company B and Company C serving as competitors of Company A. In this way, Company A's analysis will be centralised and relative.

3.1 Process identification

Five processes in the cellular environment were selected namely the Staff Training, Cell phone Repairs, New Contract Deals, Contract Upgrades and In-store Customer Service processes. These are amongst the highest most complained about processes and/or services in the cellular telecommunications environment (hellopeter.com, 2009). There is a need for improvement as customers have shown dissatisfaction in the above mentioned processes.

3.2 As-Is Review and process map analysis

Understanding the existing process in the organisation is of utmost importance prior to re-engineering. However, some authors such as Hammer & Champy (1993) believe that this will influence the creative process for the re-designer. They believe that for best results one should assume designing the new process immediately. Whichever approach is used, the results need to show significant improvement. With this goal in mind, reviewing proves to be the best starting point. Value-adding processes were identified and process maps created. The objective is to identify where the process does fail to produce desired results, i.e. disconnects. The As-Is process of Company A was analysed through observation, mystery shopping and face to face interviews with a dealerships and owned stores.

3.2.1 Staff training process

This deals with the training process of personnel such that they are well equipped to provide adequate service as desired by the customer. Training would fall under the Operations support and readiness within the eTOM framework as discussed in Chapter 2. Training of staff is divided into two sections namely in-store training and customer care training. Employees are trained online via the internet based training as well as a training program.

These are followed by testing in order to ensure knowledge of the course provided. Upon the introduction of new systems, the staff receives additional training. A training session can vary from 30 minutes long up to a full day's duration depending on the complexity of the system. Company A is responsible for the general training of its staff. However, should a dealer desire further training of his/her staff, more intricate training may be provided. The process map below shows the sequence of the training from appointment of a new employee until no further training is required.

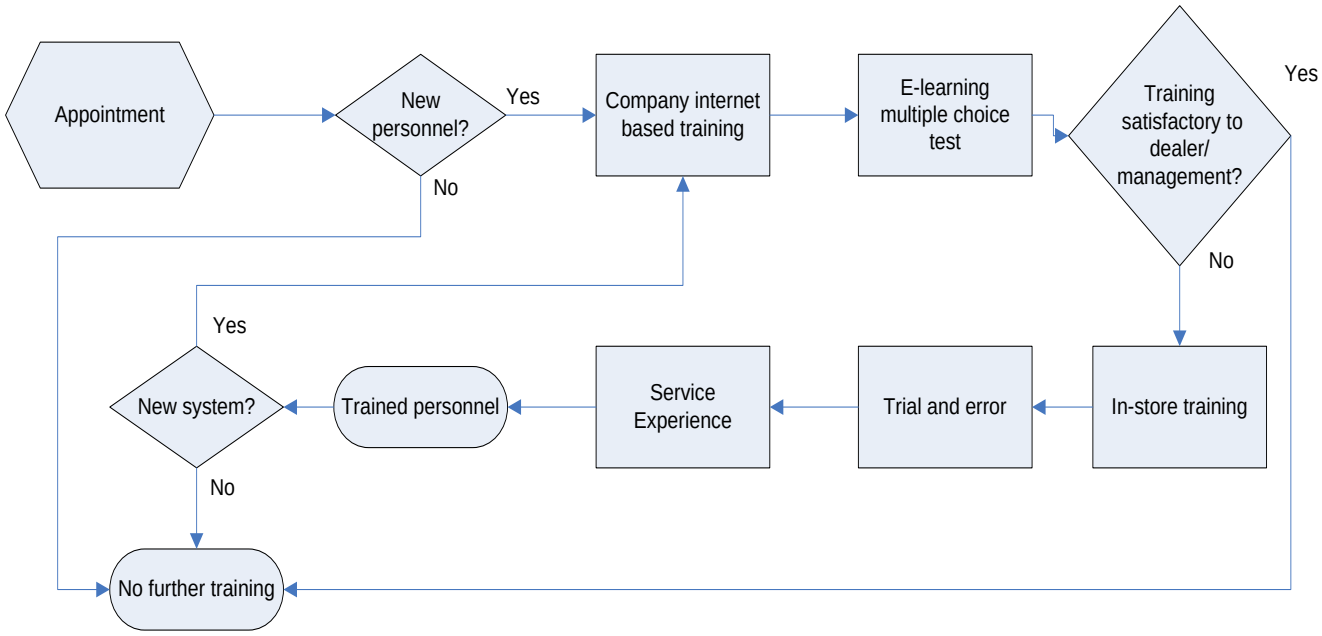


Figure 6: Staff training process map

3.2.2 Cell phone repairs process

The entire repairs process from handset handover by customer to the handing over of repaired items back to the customer is to be measured here. This process falls under the Assurance process in the eTOM framework. Repairing a handset may take a few minutes should there be an in-store technician available and provided the fault is of minor nature. However, on average repairing takes a total of 6 weeks. This is due to the fact that faulty cell phones are sent to the High Volume Repair Centre (HVRC) in order to be fixed. Every two days, the cellular store has repair phones couriered to the first centralised location and then to a secondary centralised location before finally being transported to the HVRC. Once a handset has been assessed and diagnosed, a quote is drawn up. This quote is to be accepted by the customer before repairing can commence. Customers who are still under

warrantee need not pay whereas those out of warrantee are required to settle the bill of repairs upon collection of a handset from the cellular store. The flow of activities of the repair process is shown below.

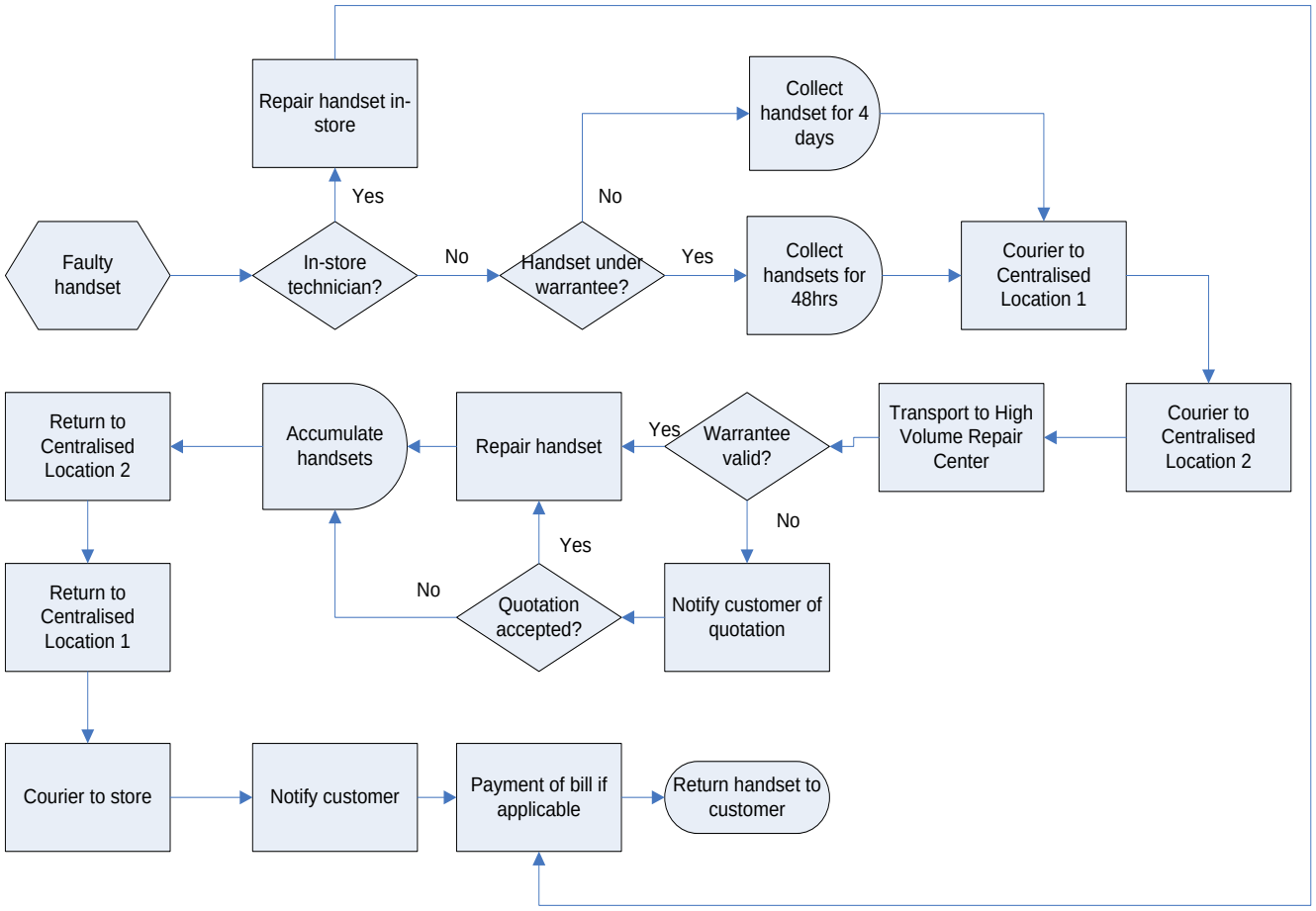


Figure 7: Cell phone repairs process map

3.2.3 New contract deals

This deals with sales and marketing in order to attain a growing customer base. The new deals process falls under the Selling process within the Fulfilment process. Upon application for a new cell phone contract, it is the store assistant's responsibility to determine the need of the customer. Customers do communicate what they want; however, professional and knowledgeable assistance ensures that the customer makes an informed contract package selection based on what the customer needs. Once the suitable package has been identified, the customer selects the desired handset. Should it not be available, an order will be placed at the warehouse. A cellular contract entails monthly billing of the customer. The preferred billing method is selected. The customer can be billed via email, fax or post. In

accordance with the law, credit vetting is mandatory prior activation of a new contract. Identification documents and payslips are to be presented upon application for a contract. Once the customer has been approved for credit, the new SIM card is activated. The new deals process is depicted below.

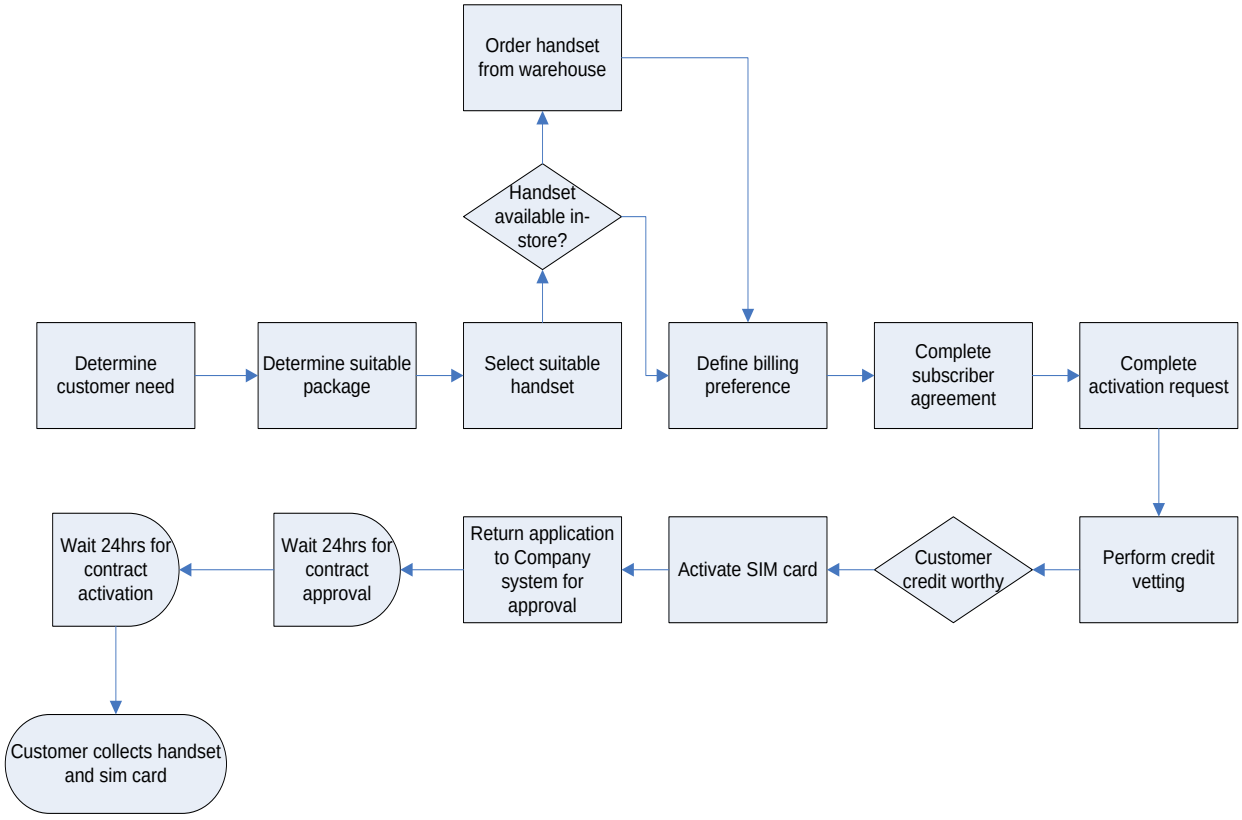


Figure 8: New contract deals process

3.2.4 Contract upgrades process

This process falls under the Customer Relationship Management category. An existing cellular contract holder is notified by the service provider of when the contract is due for an upgrade. This occurs 4 months prior the expiry date of the current contract. The account record of each customer is held by the service provider and this serves as a determinant of whether the customer is legible for an upgrade. In the case that monthly payments have been consistent and the account is up to date, the upgrades process will only entail updating the contract package and other relevant information. A customer that is found illegible for an upgrade will not be permitted to upgrade until cleared. Clearance occurs once account has been settled.

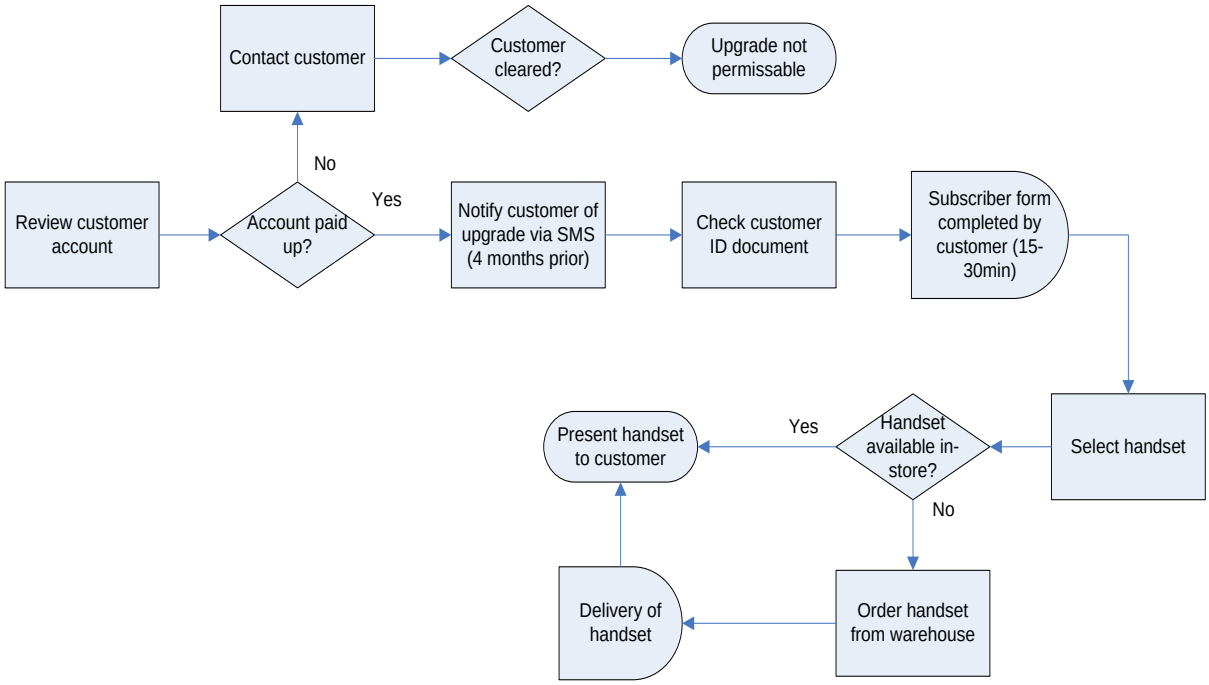


Figure 9: Contract upgrades process

3.2.5 In-store customer service process

Cellular stores are not all identical in architecture and operations but they do have core similarities. It is also important to note that the actual process of in-store customer service is dependant on different variables namely reason for customer visit, time of day, number of staff on duty, etc. The process defined here is generic. Upon entering the store, the customer sees two counters: the Enquiries and the Services counters. The Enquiries counter is a standing counter whereas customers are seated at the services counter. The entering customer is received by the Enquiries assistant. Should the customer desire to perform a service transaction they will be directed to the Services counter, otherwise they will be assisted at the Enquiries counter.

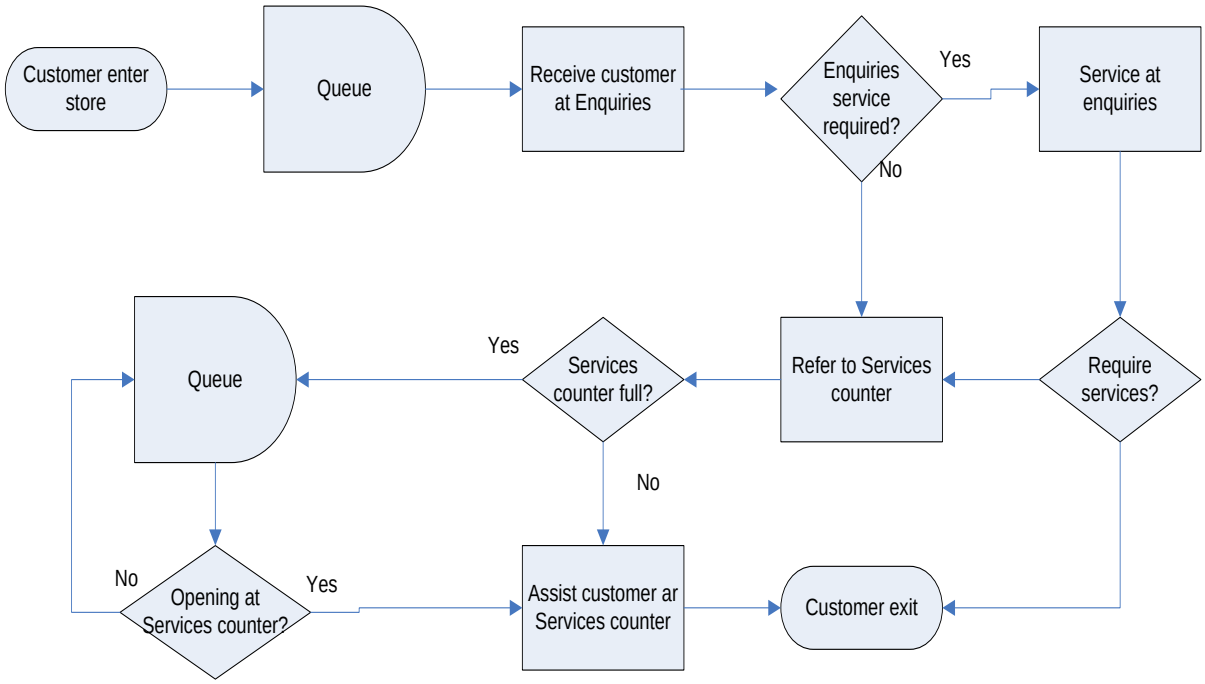


Figure 10: In-store customer service process

3.3 Customer experience analysis

The importance of customer experience has been highlighted in section 2.1. An analysis of customer experience of the processes discussed in section 3.2 was conducted.

3.3.1 Customer survey

A survey was conducted to collect data regarding the staff training process, cell phone repairs process, new contract deals process, contract upgrades process and in-store customer experience from the customer's perspective. The customer survey (see Appendix A) lists these processes. The customer was required to give an importance rating and a satisfaction rating for each customer requirement listed under the processes as explained in section 2.3.4.2 and section 2.3.4.3. Rating was applicable for the respective service provider. One hundred individuals were surveyed. The duration of survey completion was approximately 5 minutes. Of all the surveys completed, 98% were on hard copy with the remainder being electronically completed.

3.3.2 Descriptive research

The data collected was from customers of Company A, Company B and Company C. The objective of the research was to capture the voice of the customer, i.e. to identify customer expectations and perceptions of the service providers' offering. The collected data was

entered into a QFD model where calculations were made and information provided so as to attain the following research objectives:

- To identify those processes which are most important to customers and can thus provide greater profits to the company once improved.
- To analyse Company A's processes against that of its competitors and subsequently apply benchmarking where applicable.
- To rank the processes according to level of importance and performance.
- To identify the most crucial process in Company A, i.e. one that requires immediate attention in order to apply BPR.

3.3.3 Sampling method

Stratified random sampling was applied in the surveying. The population is taken as all network subscribers. The elements, being the customers, were divided into 3 groups called strata. The strata are subscribers to Company A, Company B and Company C respectively. The more alike the elements in each stratum are, the more accurate the results of the statistical analysis (Williams, Sweeny and Anderson, 2006). All elements, or customers, in question are subscribers to a service provider and can thus be considered to be alike. Simple random sampling was conducted for each stratum. The more homogeneous the elements within each stratum, the lower the variance will be. A small sample size can then provide good estimates. The chosen population size of 100 is small relative to the number of customers of the telecommunications industry. However, based on the above mentioned statistical principles, the results from this sample size can be regarded reliable (Williams, Sweeny and Anderson, 2006).

3.3.4 Sample distribution

The sample taken is an infinite sample. The population size (number of network subscribers) is very large so for practical purposes the sample is considered infinite. Therefore, a simple random sample of infinite population was taken. According to Williams, Sweeny and Anderson (2006), requirements for such a sample are that

1. Each selected element must come from the population.
2. Each element is to be selected independently.

The customer survey complies with these requirements as surveyed individuals were subscribers to service providers. Also, customers were selected independently. In other words, they were not asked to which network provider they belong to before being surveyed. In this way, biased selection was eliminated.

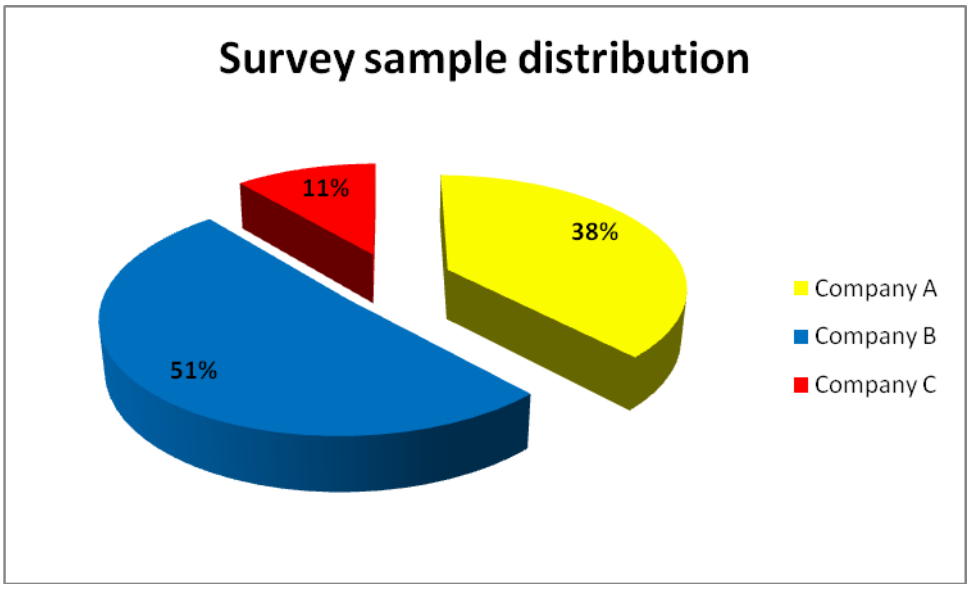


Figure 11: Sample distribution

Although 100 individuals were surveyed, 116 satisfaction ratings were given as some customers are subscribed to more than one service provider. The diagram above shows the distribution of the subscribers to Company A, Company B and Company C based on the sample taken. Of the 116 satisfaction ratings, 44 were of Company A, 59 of Company B and 13 of Company C. The sample may be small relative to reality, but it is representative of the actual market share between the 3 companies.

3.4 Chapter summary

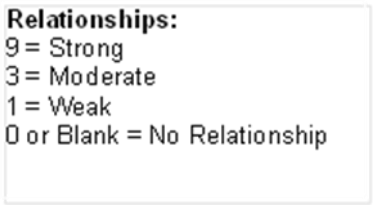
In this chapter, the five processes of staff training, cell phone repairs, new contract deals, contract upgrades and in-store customer service were discussed and represented through Microsoft Visio process maps. A customer survey to capture the voice of the customer was conducted. The research methodology and statistics of the survey were reviewed.

Chapter 4: Results and recommendations

Data collected from process analyses and customer surveys was used to investigate customer experience in the telecommunications industry in order to apply Business Process Re-engineering to Company A where applicable.

4.1 Quality Function Deployment (QFD) model results

As discussed in Chapter 2, the QFD is a tool to ensure that customer needs are the driver for the design of a company's processes. Data collected from customer survey was entered in the QFD model where calculations were performed to reveal the desired results.



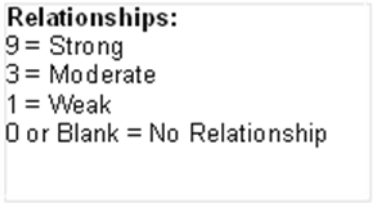


Table 1: QFD model

		Core Processes					Competitive Evaluation			
							Satisfaction rating			
Customer Requirements	**Importance Rating**	Staff training	Cell phone repairs	New contract deals	Contract upgrades	In-store customer service	Company A	Company B	Company C	Target
1 - Staff competency	7.53	9					65%	74%	66%	100%
2 - Staff efficiency	7.54	3					64%	69%	52%	100%
3 - Staff professionalism	7.43	1					71%	77%	66%	100%
4 - Repair service speed	7.66		3				69%	65%	52%	100%
5 - Repair quality	8.28		9				71%	71%	60%	100%
6 - Temporary handset	5.87		3				47%	48%	42%	100%
7 - New deals process speed	7.47			3			69%	72%	72%	100%
8 - New deals ease of transaction	7.60			1			69%	74%	56%	100%
9 - New deals handset availability	7.47			9			63%	70%	67%	100%
10 - Upgrades service speed	7.12				9		69%	76%	74%	100%
11 - No upgrade fee	7.17				3		67%	60%	72%	100%
12 - Upgrades ease of transaction	7.54				1		69%	67%	70%	100%
13 - Minimal queuing	7.05					1	61%	64%	69%	100%
14 - Speedy in-store service	7.81					9	66%	71%	62%	100%
15 - Staff friendliness	7.29					3	75%	71%	73%	100%
Raw score		97.8	115	97.2	93.1	99.2				
Relative %		19%	23%	19%	19%	20%				
Importance Rank		2	5	2	1	2				
Current score		63.8	77.04	63.06	63.83	67.09				
Target score		97.8	115	97.2	93.1	99.2				
Process performance		65%	67%	65%	69%	68%				
Technical benchmark	A	**70%**	**6**	**1**	**20**	**10**				
	B	**80%**	**0.002**	**0.5**	**15**	**5**				
	C	**85%**	**3**	**0.33**	**30**	**5**				
Key performance indicators		Staff efficiency (%)	Total repair time (weeks)	New deals process completion time (hours)	Upgrades process completion time (minutes)	Total duration of customer in system (minutes)				

4.1.1 Customer satisfaction results

The results reveal how satisfied Company A subscribers are with regards to their requirements. The three processes that showed the lowest satisfaction ratings are temporary handset availability during the repairs process, handset availability when new contract deals are being acquisitioned and minimal queuing during in-store customer service as depicted below.

Figure 12: Company A satisfaction ratings

4.1.2 Competitive evaluation results

All three service providers' satisfaction ratings were assessed and compared in order to see Company A's performance in comparison to Company B and Company C. These results are to be used for benchmarking purposes. The target for the telecommunications industry is shown so as to tell how far away each company is from reaching the customer satisfaction target.

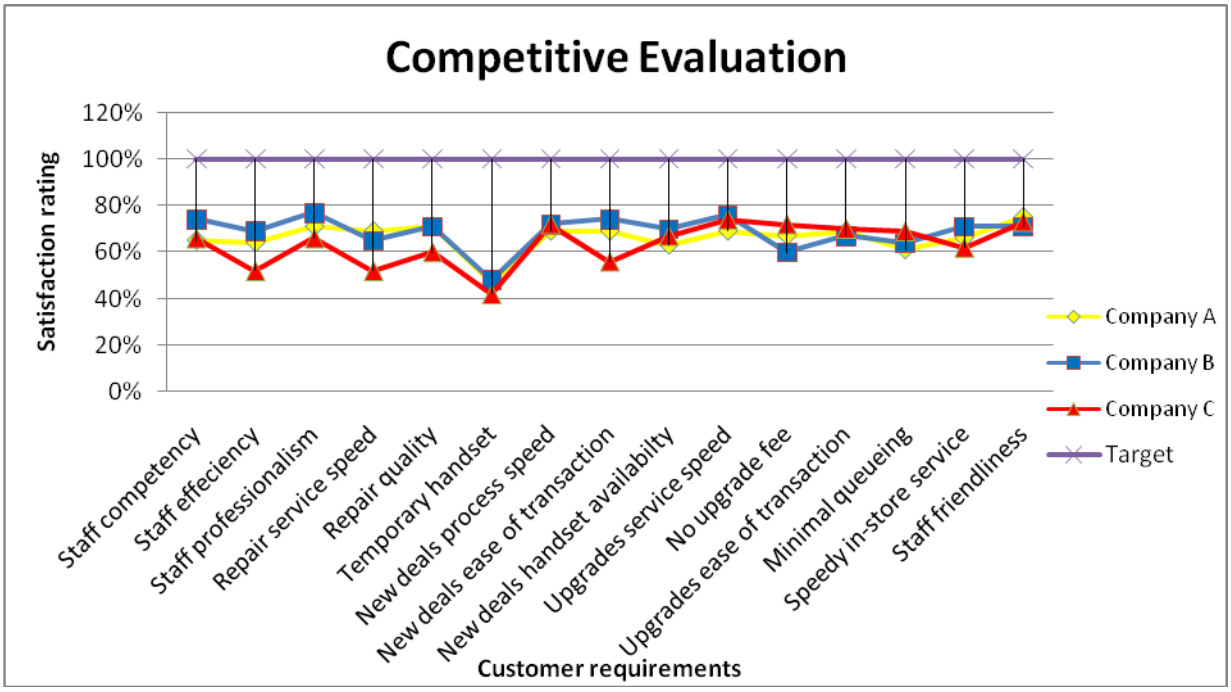


Figure 13: Customer satisfaction competitive evaluation

4.1.3 Raw score

The raw score is acquired by multiplying the importance rating of each customer requirement with the relationship value of each process. This result is representative of the process importance from the customer's perspective.

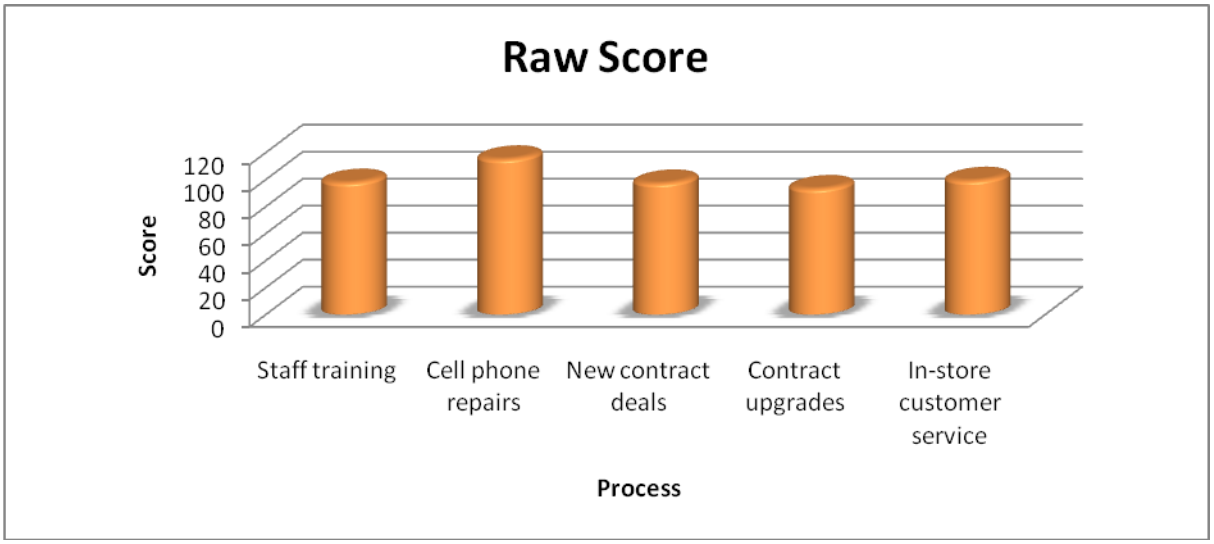


Figure 14: Process raw score

4.1.4 Process performance results

The satisfaction ratings interpret how each process is performing. The discrepancy between the current score and the industry target score also reveals relative process performance.

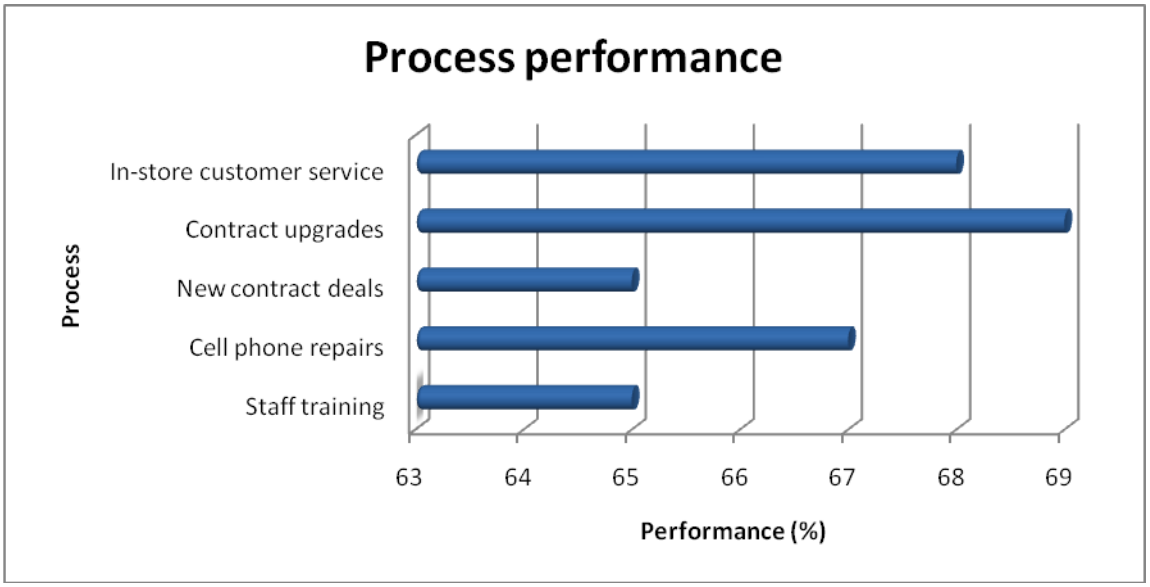


Figure 15: Process performance

It is important to note that a process with a high performance measurement does not necessarily mean that that process does not require improvement. For example, a process may show a relatively good performance rating but be unimportant to the customer. Improving this process would be an unwise use of resources.

4.1.3 Importance ranking results

Once all processes have been allocated a raw score, it is possible to rank the five processes under study according to importance. Importance interprets how customers value each of the processes. This rating can therefore not be ignored as it is in essence the voice of the customer. For Company A to pursue a customer-centric focus, it is in its best interest to note the process importance ratings and employ them in decision making. The cell phone repairs process is by far the most important process.

Figure 16: Importance rank

4.1.4 Process impact ranking

Importance ratings and performance rankings were cross analysed in order to rank the processes in order of their impact. Impact speaks on the magnitude of the positive effect the particular process can have on the business should it be improved. The importance ranking from highest to lowest is as follows:

1. Cell phone repairs process
2. In-store customer service process
3. Staff training and new contract deals processes
4. Contract upgrades processes

The cell phone repairs process will thus provide greater impact to the business through improved customer experience and subsequently business success.

4.2 Recommendations

The greatest dissatisfaction customers have in the repairs process is that temporary handsets are rarely available to them during the repairs process followed by the fact that they have to wait for long periods of time before receiving their repaired handset.

4.2.1 Handset availability

Currently, Company A only meets this customer requirement at 47%. Company B is the best performer of the three companies in this regard but is only better by a percentage. Benchmarking against Company B would thus not result in great improvement since all three companies are well below the target of 100%. The target value of 100% was chosen for superior customer experience. The reasons for not having sufficient temporary handsets available in-store at all times are that it is an additional cost and the number of repairs for a given period cannot be foreseen. This makes it difficult to measure a safe level of temporary handset inventory. The following are recommended to resolve this matter:

1. The repair log history is to be analysed so as to identify patterns of how often cell phones are brought in for repairs.
2. Once the repair frequency has been reviewed, a safety inventory level for temporary handsets can be determined.
3. Company A is then to provide this safety level to its dealerships and stores. Although expense will be higher, the cost will not be a waste since resource allocation would be based on a calculated customer need.

A customer with a temporary handset while his/her phone is being repaired will be inconvenienced to a lesser degree. Therefore, should the repair process be prolonged, the customer will be happier for longer and not as frustrated or impatient as he/she would be had a handset been available for use.

4.2.2 Reduced process time

The average duration of Company A's repairs process is currently 6 weeks. Company A customers prove less dissatisfied with the repairs duration than those of Company B and C. None the less, the process is 31% away from reaching the superior satisfaction target. The reasons for the long repair period are:

1. Repairs are being performed at the repair centre if there is no technical staff available in-store.
2. Repairs take place at centralised locations as shown in the repairs process map in Chapter 2. Centralising allows for more technical staff, technology and parts to be available for the handset repair, but this is at the cost of time and great inconvenience to the customer.

3. Shortage of cell phone spare parts. Where spares are short, they need to be ordered from the warehouse. Thus the repair process may encompass labour hours as well as waiting time while the required parts are being transported.
4. A lack of communication with the customer leaves the customer impatient and unsatisfied when the repair process is stretching beyond expectation. This alone is sufficient to lose customer base.

The matter of prolonged repairing is a serious one as, in worse cases the entire process may take as long as 12 weeks. A contract customer pays a monthly fee for 24 months. Should repairs take up to 3 months, the customer would have forfeited the 12.5% value of which they are entitled to outside of the warrantee.

4.2.2.1 Decentralisation

Centralising repairs at specific locations results in task-overloading. A decentralised repair system where faulty handsets need not be transported to the large but few locations will result in a more efficient repair service. The High Volume Repair Centre thus need not be the final destination of all handsets to be repaired. Technical staff as well as technology and software resources can be spread out in smaller quantities to more locations. This automatically decreases logistics cost and time – a fundamental contributor to a prolonged process. The conceptual re-engineered repairs process map with decentralisation is shown in the diagram below.

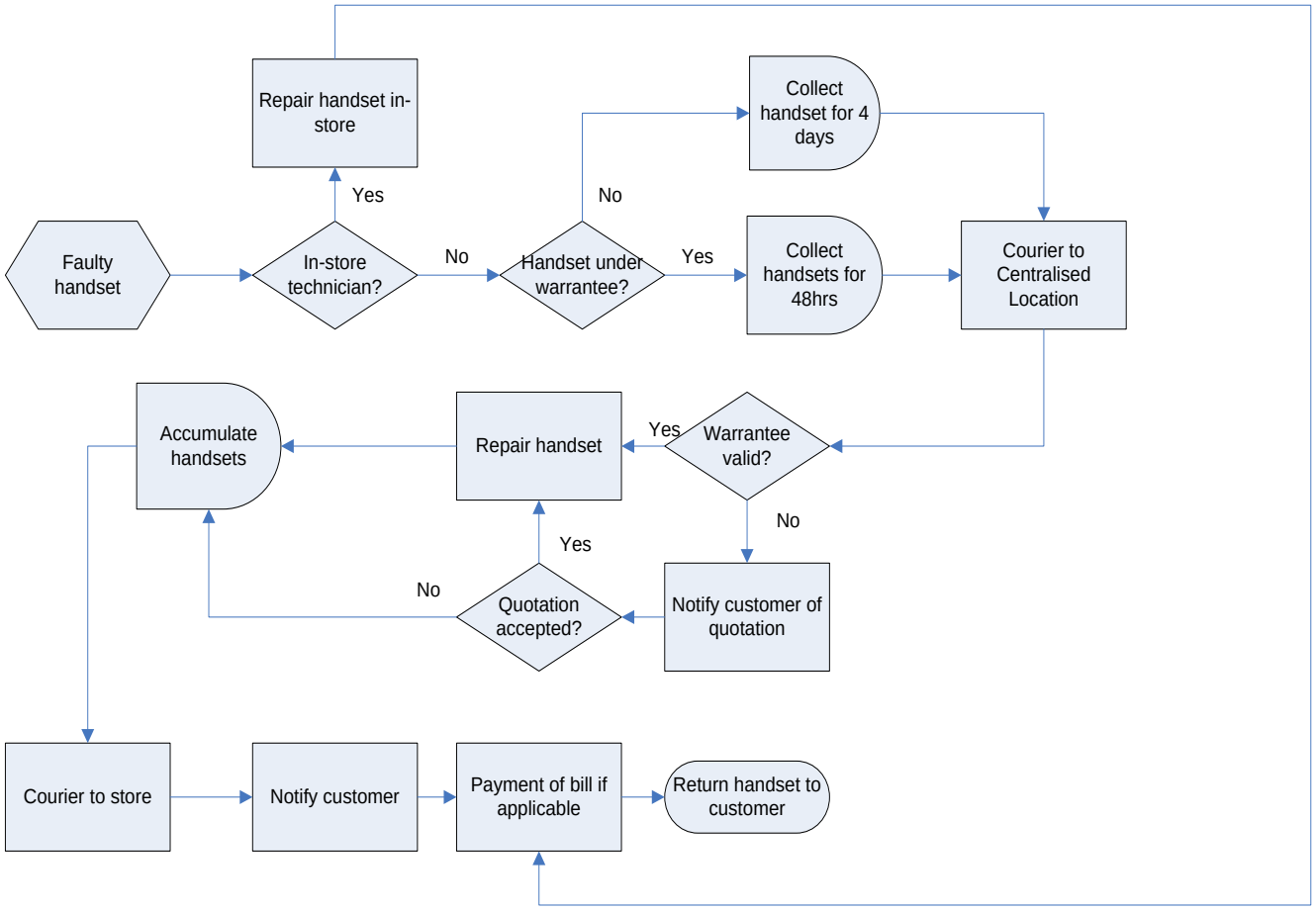


Figure 17: Repairs process map with decentralisation

4.2.2.2 Multi-level technical support

The repair process varies in complexity and therefore duration as handsets have faults of different depth of severity. Unfortunately if a technical team is not available in-store, all handsets submitted for repairs are sent to the repair centre. Handsets could thus be sent away for 6 weeks to repair a process that required far less time to fix. A recommendation is to have an in-store technician to assess a faulty handset before it is booked in for transportation. The in-store technician need not be an expert in the field as hiring highly skilled professionals for all cellular stores may be costly. The technician could be of a lower level of skill. Sufficient technical knowledge to diagnose a faulty handset is however a mandatory requirement. Should the fault be minor, the technician is able to operate on the handset in-store, thus cutting logistics cost and process time. An additional advantage to in-store assessment is that handsets can be sorted according o fault. This increases efficiency of the repairs process whether it takes place in-store or away.

4.2.2.3 Communication

An aggravator of the repairs process customer dissatisfaction is that customers are not aware of the steps involved in the process and are oblivious of the stage in which their handsets are at. Instead of waiting for the customer to contact the store complaining of the process duration, a customer liaison team is to be commissioned to keep track of the handset repair progress using a repair reference number and keeping the customer updated on regular intervals. For this to be efficient the communication between repair departments needs to be seamless. The call centre, dealership, service centre and the High Volume Repair Centre is to use an information system that will allow easy tracking of current handset location and the repair progress.

4.3 Re-engineered repairs process representation

The IDEF model below shows the activities of the repairs process with the respective inputs and outputs as explained in the recommendations in section 4.2. The mechanisms and controls required by the process have also been identified.

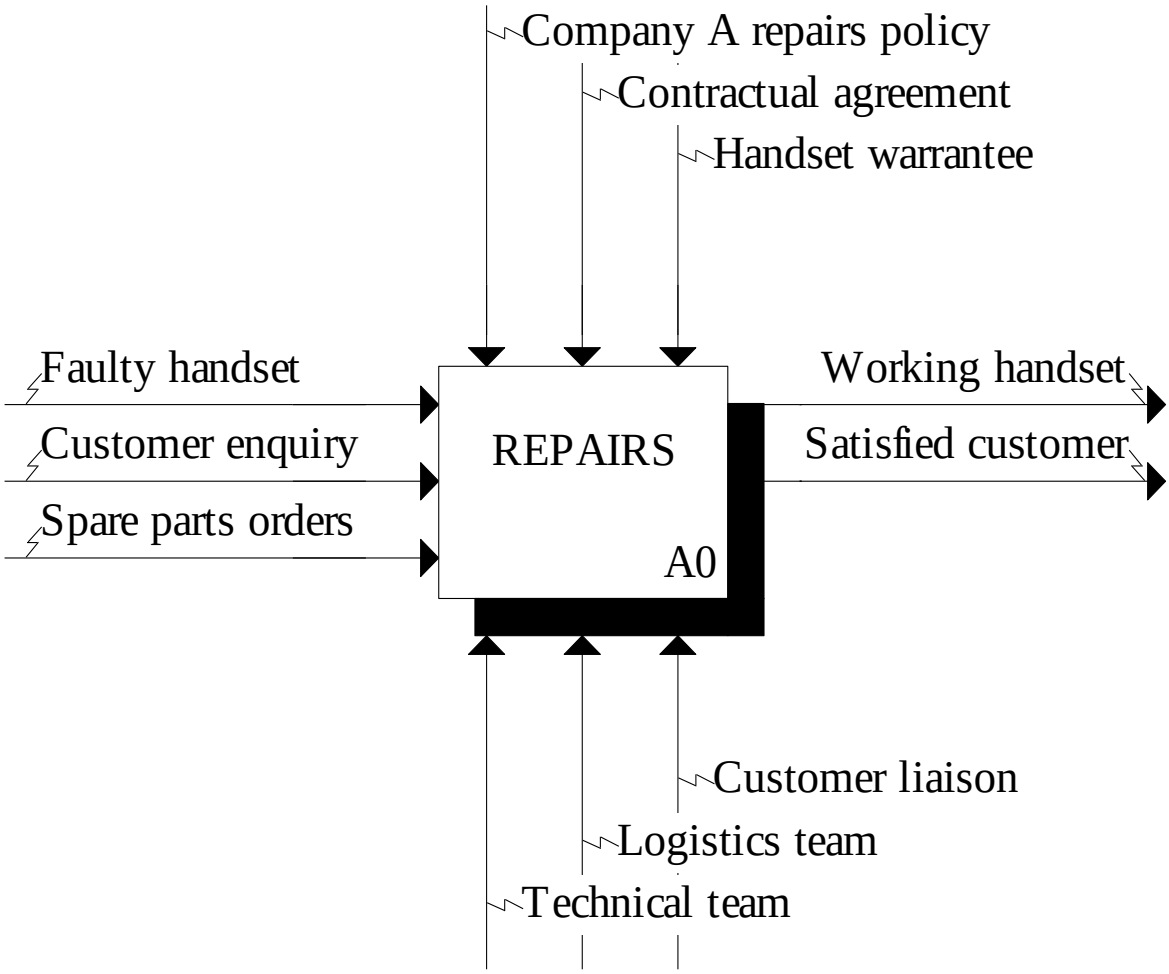


Figure 18: Repairs process parent diagram

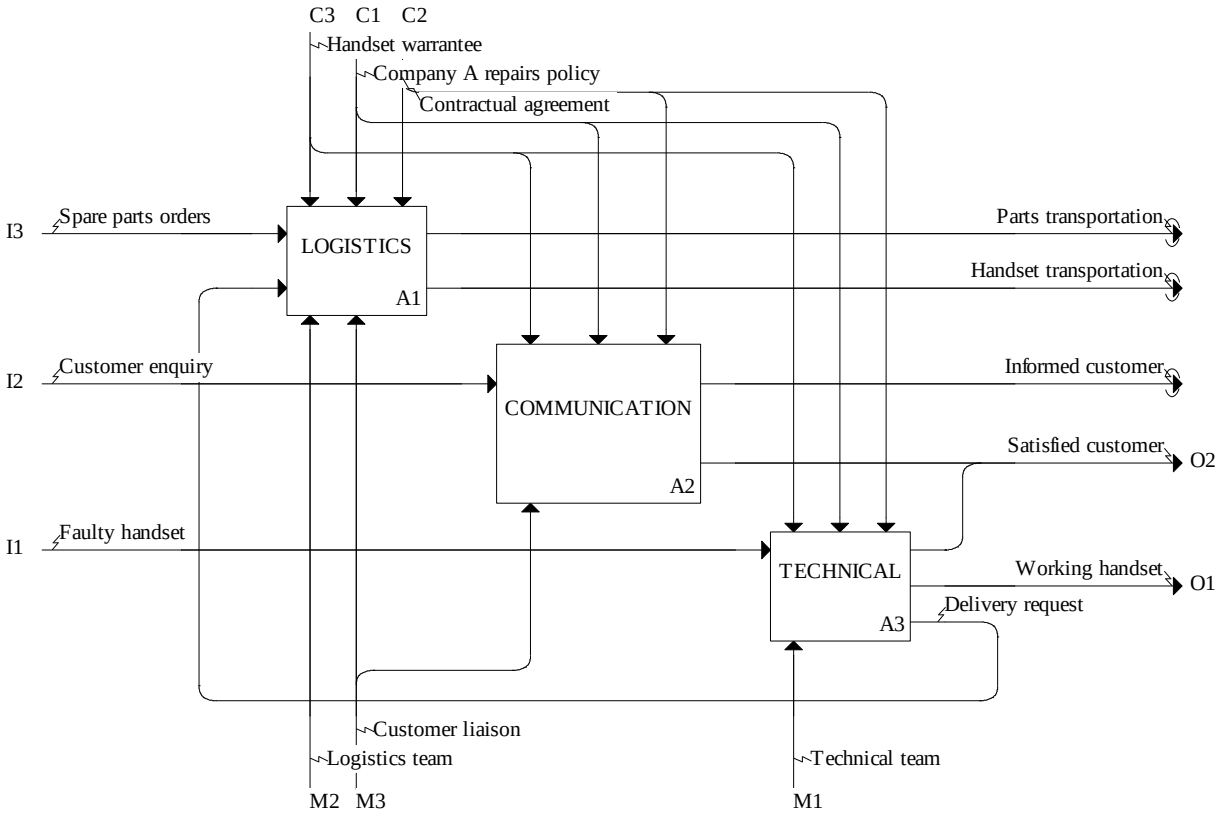


Figure 19: Repairs process child diagram

4.4 Chapter summary

The subjects of Customer Experience and Business Process Re-engineering have been applied to five business processes of telecommunications Company A. A customer survey served as input for a Quality Function Deployment model which produced results that identified the cell phone repairs process as one that would provide the greatest impact after improvement. It is thus concluded that implementing decentralisation, multi-level technical support and communication would reduce the repairs process time and cost. These recommendations are seen as alternatives but all can be implemented should resources be sufficient and available.

Chapter 5: Project summary and conclusion

The importance of customer experience is often underestimated. This project revealed how imperative this subject and full understanding thereof is for business success. Industries of high competition such as that of cellular telecommunications ought to have customer satisfaction as the skeleton around which business processes are built. This ensures happy and loyal customers with a sustainable customer-supplier relationship. It is important to note that the industry is dynamic, more so when there are other parties combating for a big piece of the market pie. In order to stay afloat, Business Process Re-engineering is often required to ensure relevance to the market.

This report tracks Company A's progress in the BPR process for improvement of the staff training, cell phone repairs, new contract deals, contract upgrades and in-store customer service processes. An As-Is analysis of these processes was done. Once the concepts of customer experience and BPR were reviewed a tool to provide strategic direction in the BPR process was identified and explained: the Quality Function Deployment tool. The building of the QFD model required data from customers of Company A. A customer survey was thus conducted. This survey revealed what customers want from the five processes, how important these requirements are to them as well as how satisfied they are with their service provider's respective performance. This data was entered into the QFD model and subsequent calculations ranked the five processes in order of impact based on importance and performance. The repairs process proved to be the one to produce greater impact once improved.

The As-Is repairs process was thus reassessed and a To-Be process concept model created. The outlined recommendations for the repairs process are

1. Decentralise repair centres so as to cut logistics cost and time. Decentralisation would also prevent process overloading and thus provide greater efficiency of operations.
2. Employ multi-level technical support for in-store servicing in order to by-pass the repairs logistics cycle where applicable.
3. Develop an information system and commission a customer liaison team that will use the information system to track the location and progress of a handset in repairs. The

customer liaison to team is to keep the customer informed and updated on regular intervals.

Implementation of BPR into Company A would not be an easy task as change is often resisted. But the pressure for differentiation within the industry outweighs the traditional comfort zone. Customer experience and BPR have shown how an organisation can be strategic about selecting areas of improvement and re-designing the business process to align with customer needs. In this way, the gap between business processes and customer requirements is closed.

6. References

1. Anderson, DR, Sweeney, DJ, Williams, TA, 2006, *Contemporary Business Statistics with Microsoft Excel,* Thomson South-Western, Ohio.
2. Ball, D, McCulloch, W, Geringer, J, Minor, M, McNett, J, 2005, *International Business. The challenge of global competition,* McGraw-Hill, Irwin.
3. Balle, M 1995, *The Business Process Re-engineering action kit,* Kogan Page Limited, London.
4. Berry, LL, Carbone, LP, Haeckel, SH, 2002, 'Managing the total customer experience', *MIT Sloan management review,* vol.43, no.3, MIT.
5. Bond, C, Pampallis, A, van der Wal, RWE, 2002, 'Service quality in a cellular telecommunications company: a South African experience', *Managing Service Quality,* vol. 12, no. 5, pp. 323-335.
6. Chan, L.K., Kao, H.P., NG, A and Wu, M.L., (1999). Rating the importance of customer needs in quality function deployment by fuzzy and entropy methods, int. J. Prod. Res., vol. 37, no. 11, 2449 */- 2518
7. Chan L.K. and Wu, M.L. (2004), *A systematic approach to quality function deployment with a full illustrative example.* Department of Management Sciences
8. Dube, K., 2009, [Personal communication], 20 May.
9. Enhanced Telecom Operations Map (eTOM) Business Process Framework Release 6.0 viewed 10 August, 2009, http://www.amdocs.com/public/etom6.pdf.
10. eTOM Framework viewed June, 2009, http://infratek.com.tr/en/images/etom-framework.pngJooste, CJ, 2003, *Product Management,* New Africa Books, SA.
11. Galbreath, J, Rogers, T, 1999, 'Customer relationship leadership: a leadership and motivation model for the twenty-first century business', *The TQM Magazine,* vol.11, no.3, pp. 161-171, MCB UP Ltd.
12. Guinta, L, Praizler, N, 1993, *The QFD Book. The team approach to solving problems and satisfying customers through Quality Function Deployment,* AMACOM Books, N.Y.
13. Hammer, M, Champy, J, 1993, *Reengineering the Corporation: A manifesto for Business Revolution*, Nicholas Brealey Publishing, NY.
14. Jain, SC, 1997, *Marketing Planning and Strategy,* 5th ed., South-Western College Publications, Cincinnati, OH.
15. Kelly, MB, 2003, 'The Telemanagements Forum's Enhanced Telecom Operations Map (eTOM)', *Journal of Network and Systems Management,* vol.11, no.1.

16.
17. Kiska, J, 2002, *Customer Experience management: Using technology to build an unshakable customer supplier relationship',* CMA.
18. Kotze, TG, Prinsloo, M, Du Plessis, PJ, 2003, *Customer Management: Fad or science?,* College of Economic and management Sciences, University of South Africa.
19. Lovelock, GH, 1996, *Services Marketing,* 3rd ed., Prentice-Hall, Upper Saddle River, NJ.
20. Makgato, NOT, 2009, [Personal communication], 24 May.
21. Meyer, C, Schwager, A, 2007, 'Understanding customer experience', *Harvard Business Review,* reprint R0702G, Garvard Business School Publishing Corporation.
22. MTN complaints, viewed May, 2009, http://www.hellopeter.com.
23. Peppard, J, Rowland, P, 1995, *The essence of Business Process Re-Engineering,* Prentice Hall, New York.
24. Pine, BJ, Gilmore, JH, 1998, 'Welcome to the experience economy', *Harvard Business Review,* Reprint 98407, Harvard.
25. Sherrenie, S, 2009, CCS Workshop, University of Pretoria.
26. Smit, DNE, Du Plessis, PJ, 2002, *New service development: a literature survey,* College of Economic and management Sciences, University of South Africa.
27. Zeithaml, VA, Bitner, MJ, 2000, *Services Marketing: Integrating Customer Focus across the firm,* 2nd ed., McGraw-Hill, NY.

Appendices

APPENDIX A

Table 2: Customer survey

Staff training

REQUIREMENT	IMPORTANCE RATING	SATISFACTION RATING		
		Company A	Company B	Company C
Staff knowledge				
Staff competency				
Staff efficiency				
Staff professionalism				

Cell phone repair process

REQUIREMENT	IMPORTANCE RATING	SATISFACTION RATING		
		Company A	Company B	Company C
Speed				
Quality				
Cost effectiveness				
In-store service				
Temporary handset				

New contract deals process

REQUIREMENT	IMPORTANCE RATING	SATISFACTION RATING		
		Company A	Company B	Company C
Speed				
Ease of transaction				
Handset availability				

Contract upgrades

REQUIREMENT	IMPORTANCE RATING	SATISFACTION RATING		
		Company A	Company B	Company C
Speed				
No upgrade fee				
Ease of transaction				

In-store customer service

REQUIREMENT	IMPORTANCE RATING	SATISFACTION RATING		
		Company A	Company B	Company C
No queues				
Quick service				
Knowledgeable assistance				
Professionalism				
Friendliness				

APPENDIX B

Table 3: Customer requirements importance ratings

No.	Staff competency	Staff efficiency	Staff professionalism	Speed of repairs	Quality of repairs	Temporary handset	New deals speed	New deals ease of transaction	Handset availability	Upgrade speed	No upgrade fee	Upgrade ease of transaction	No/short queues	Quick in-store service	Friendliness
1	9	9	9	9	9	5	9	5	5	9	9	5	5	9	9
2	9	3	3	9	9	9	3	3	9	3	9	3	1	3	9
3	3	9	9	9	9	3	9	9	9	9	3	9	0	9	3
4	6	9	9	9	9	5	7	9	9	9	7	9	7	7	9
5	9	9	9	9	8	3	7	3	9	8	9	8	9	7	8
6	6	8	8	7	9	0	8	6	2	3	8	9	3	7	4
7	9	9	3	3	9	9	3	9	9	3	3	9	3	9	3
8	4	9	9	9	9	3	9	9	9	9	3	9	0	9	3
9	3	3	5	5	5	5	5	5	5	5	5	5	4	5	5
10	9	7	7	7	9	6	7	9	9	9	9	9	7	8	9
11	3	9	9	9	9	3	9	9	3	9	9	3	9	9	9
12	7	6	8	8	7	8	6	8	8				5	6	6
13	7	8	8	9	8	4	8	8	8				9	9	7
14	9	7	6	8	9	5	7	8	5	8	8	7	6	7	7
15	8	8	8	6	8	5	7	6	8	8	7	6	4	6	5
16	9	9	3	9	9	9	9	9	9	9	9	7	9	7	9
17	8	6	9	9	9	5	5	7	9	9	7	6	8	9	8
18	7	9	5	9	9	7	4	9	9	9	9	9	9	9	9
19	9	9	9	9	9	9	3	9	9	3	3	3	9	9	9
20	7	8	8	8	9	6	7	9	8	5	6	8	4	6	9
21	7	6	9	5	4	8	7	6	8	7	7	8	8	8	7
22	5	5	5	9	9	9	9	9	9	1	1	1	9	9	9
23	9	9	7	8	9	4	8	9	9	9	1	9	3	7	9
24	8	7	8	7	8	8	9	8	9	9	8	9	7	8	8
25	7	6	5	9	7	6	9	7	8	9	9	7	9	8	6
26	7	9	5	8	9	5	7	5	8	6	5	8	7	6	5
27	9	9	9	9	9	7	9	9	9	9	4	9	6	9	9
28	9	9	7	7	9	8	9	9	9	9	5	9	7	7	9
29	9	9	9	9	9	3	9	9	9	3	3	9	9	9	9
30	8	8	9	6	9	6	7	8	8	7	8	8	8	8	9
31	3	0	1	1	9	0	1	9	3	1	3	9	0	3	3
32	3	3	5	7	9	5	9	9	9	6	7	8	5	8	9

33	9	9	9	9	9	5	9	9	5	9	9	9	9	9	9
34	5	6	7	5	5	7	9	7	8	7	6	4	7	9	5
35	8	8	8	5	6	7	9	9	9	8	9	9	7	8	9
36	5	5	5	9	9	9	5	5	5	5	5	5	6	7	8
37	8	9	5	9	9	6	8	9	9	9	9	9	9	9	9
38	9	8	9	9	9	9	9	9	9	9	9	9	9		
39	9	9	9	9	9	8	7	4	6	8	7	7	6	5	8
40	5	8	7	9	9	7	9	9	9	9	9	9	8	9	5
41	9	7	6	9	9	8							6	6	9
42	8	9	9	9	8	5	8	8	5	7	8	6	6	6	8
43	9	9	3	9	9	1	3	9	9	3	3	9	9	9	3
44	6	5	7	5	5	6	7	8	7	8	8	9	8	7	5
45	8	8	9	8	9	6	8	9	7	8	7	8	9	9	8
46	6	8	7	7	5	6	9	8	6	7	8	6	7	8	8
47	7	6	7	7	7	7	8	7	6	6	7	6	6	6	7
48	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
49	9	9	3	9	9	9	9	9	9	9	9	9	9	9	9
50	9	9	9	9	9	8	9	9	8	7	9	9	9	9	7
51	9	8	9	7	8	7	8	6	6	7	8	9	8	8	8
52	8	8	9	8	9	5	6	8	9	7	8	8	5	6	9
53	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
54	6	6	7	8	4	3	5	4	6	6	7	5	1	1	4
55	7	8	9	5	9	8	6	6	7	8	9	7	6	8	8
56	9	8	6	7	9	7	9	9	9	7	8	9	9	9	7
57	8	8	8	5	6	6	7	7	6	7	7	7	7	7	7
58	8	8	8	9	9	9	8	8	8	8	8	8	9	9	9
59	9	3	3	9	9	1	1	9	3	0	3	9	3	9	3
60	8	7	6	6	8	7	6	9	8	8	8	9	7	8	8
61	9	3	9	3	9	3	3	9	3	3	3	9	9	3	3
62	1	1	9	1	9	1	1	1	9	1	3	1	9	9	9
63	9	9	9	3	9	1	9	3	1	3	9	3	9	9	9
64	8	9	6	9	9	8	7	7	9	3	5	7	7	8	8
65	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
66	9	9	8	9	9	8	9	7	9	8	9	9	9	9	9
67	7	7	7	9	9	9	8	8	8	8	8	8	9	9	9
68	3	9	9	7	8	9	9	8	7	9	9	8	8	9	9
69	8	5	6	3	5	8	9	6	5	9	8	5	7	8	8
70	8	8	6	7	8	6	9	5	6	6	8	7	8	9	9
71	7	3	7	8	9	6	8	8	7	5	6	8	9	9	8
72	5	7	9	5	9	5	8	7	7	9	9	8	4	5	8
73	8	7	8	9	9	6	7	8	9	6	7	9	9	8	7
74	9	8	7	9	7	8							7	8	9
75	9	7	9	7	8	6	6	8	8	8	8	9	8	7	7
76	9	9	7	6	7	5	7	8	8	9	7	5	7	7	6
77	9	8	8	7	8	8	8	8	8	8	8	8	9	8	9

78	9	8	9	9	9	6	9	9	7	8	9	9	8	9	8
79	9	9	9	9	9	7	9	8	7	9	9	9	7	7	9
80	9	9	9	6	8	6	9	9	9	7	9	9	6	8	7
81	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
82	8	9	7	8	9	7	7	8	9	6	8	8	9	9	8
83	9	8	9	9	9	4	9	7	4	8	2	7	9	9	7
84	9	9	8	7	9	7	9	9	8	9	7	8	6	8	7
85	8	5	7	8	9	2	6	9	8	6	9	8	6	5	7
86	8	9	9	8	9	1	9	8	8	9	7	8	6	7	8
87	9	9	9	9	9	7	9	9	9	9	9	9	7	9	7
88	7	8	8	7	9	7	9	9	8	8	9	9	9	9	7
89	9	7	8	9	9	8	7	8	7	7	9	8	9	8	5
90	9	7	9	7	8	5	7	7	9	7	9	9	9	7	9
91	9	8	9	9	5	1	9	7	6	4	9	9	5	9	5
92	9	9	7	9	8	2	6	8	8	7	9	8	8	9	5
93	7	6	9	8	7	6							7	6	9
94	9	9	8	9	9	7	9	8	9	7	9	8	8	9	6
95	9	8	9	9	9	5	9	9	5	9	8	9	9	9	9
96	7	9	6	8	9	1	8	7	9	9	8	7	7	9	5
97	7	9	6	8	9	1	8	7	9	9	8	7	7	9	5
98	3	9	9	9	9	3	9	3	3	9	3	3	9	9	3
99	3	9	3	9	3	9	9	3	9	9	9	3	9	9	3
100	7	6	9	9	9	7	8	8	6	9	7	9	7	9	8
AVE	7.53	7.54	7.43	7.66	8.28	5.87	7.47	7.60	7.47	7.12	7.17	7.54	7.05	7.81	7.29

APPENDIX C

Table 4: Company A satisfaction ratings

No.	Staff competency	Staff efficiency	Staff professionalism	Speed of repairs	Quality of repairs	Temporary handset	New deals speed	New deals ease of transaction	Handset availability	Upgrade speed	No upgrade fee	Upgrade ease of transaction	No/short queues	Quick in-store service	Friendliness
1	2	3	5	3	5	4	2	3	3	4	5	4	3	4	4
2	4	3	4	4	4	4	3	3	3	5	5	5	4	4	5
3	4	5	5	4	5	5	3	4	4	5	4	4	2	3	5
4	3	3	3	4	4	3	4	3	3	4	3	3	3	4	4
5	3	4	1	5	4	2	1	3	2	1	6	6	4	4	4
6	2	5	3	5	4	4	3	4	4	3	3	4	4	4	5
7	3	3	3	3	3	1	3	3	2	3	2	2	3	3	5
8	4	3	4	3	3	3	4	3	3	3	3	3	4	4	4
9	3	1	5	5	3	1	2	1	3	2	1	4	1	3	5
10	2	3	2	2	1	1	3	2	2	3	2	3	3	2	3
11	3	3	5	4	5	1	3	4	3	3	4	5	5	4	1
12	4	3	4	2	3	2	4	3	2	3	4	3	3	4	3
13	4	4	4	4	4	3	4	4	4	4	3	4	5	4	4
14	4	3	2	5	4	3	5	4	3	4	3	3	3	4	4
15	3	2	3				2	2	2	2	3	3	1	1	4
16	3	3	2	3	4	2	2	2	3	3	4	2	1	3	3
17	3	5	5	4	4	1	5	4	2	4	3	4	3	4	5
18	3	4	4	4	4	4	4	4	4	4	3	4	4	4	4
19	3	3	4	4	3	1	4	4	4	4	2	4	3	3	3
20	5	3	3	5	5	5	5	3	3	3	5	3	1	2	5
21	4	3	4	2	4	1	3	3	3	2	4	1	2	2	3
22	3	3	4	4	3	1	4	4	5	4	2	4	3	3	3
23	5	5	5	5	5	4	5	5	3	5	4	5	5	4	3
24	4	4	5	3	3	3	5	4	3	5	3	4	3	5	4
25	3	3	3	2	1	1	2	3	4	1	4	3	4	4	4
26	4	4	4	3	2	1	2	3	1	3	2	1	2	3	4
27	3	4	3	3	4	3	3	4	3	4	3	3	3	3	3
28	3	3	2	4	3	1									
29	4	3	5	2	4	1	2	2	3	3	3	3	2	2	3
30	4	3	3	3	4	1	3	3	4	3	3	3	3	4	4

31	1	1	1	1	1	1	4	3	4	3	4	4	3	3	3
32	1	2	1	3	1	1	2	1	1	2	1	3	1	1	1
33	2	2	4	3	4	3									
34	3	1	2	2	3	1	3	3	3	4	1	1	1	1	3
35	3	1	5	3	4	2	3	3	4	2	1	3	1	2	4
36	5	5	5	4	4	4	5	5	5	5	5	5	5	4	3
37	2	3	3	3	4	3	5	5	3	4	4	4	4	4	3
38	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
39	4	5	4	4	5	3	5	5	4	5	5	4	5	4	4
40	2	2	4	3	4	1	4	3	2	3	4	2	2	2	3
41	3	3	3	1	1		3	3	3	3	3	3	4	1	4
42	1	2	3	3	3	3	3	4		3	4	4	3	3	4
43	5	4	3	4	5	3	4	5	4	4	3	2	4	5	5
44	5	3	4	5	4		4	5	3	4	5	5	4	5	4
Av	3.3	2.9	3.5	3	3.4	2.1	4	4	3.5	3.6	3.4	3.2	3.2	3.1	3.4

APPENDIX D

Table 5: Company B satisfaction ratings

No.	Staff competency	Staff efficiency	Staff professionalism	Speed of repairs	Quality of repairs	Temporary handset	New deals speed	New deals ease of transaction	Handset availability	Upgrade speed	No upgrade fee	Upgrade ease of transaction	No/short queues	Quick in-store service	Friendliness
1	3	3	3	2	3	2	3	3	3	3	3	3	3	3	3
2	3	3	3	4	3	3	4	4	3	4	3	4	3	3	3
3	2	2	4	5	4	2	4	5	1	4	3	2	5	4	2
4	3	3	4	4	5	1	3	2	2	3	3	2	1	1	2
5	5	4	4	4	3	5	3	3	2	5	2	3	1	3	5
6	3	2	1	2	4	1	3	5	2	3	3	2	2	3	2
7	5	4	4	4	4	1	5	5	5	5	3	4	4	4	4
8	2	2	2	2	2	2	2	2	3	1	1	2	2	4	2
9	3	4	3	4	2	1	3	4	4	3	2	2	3	3	2
10	4	4	5	5	4	4	4	4	3	4	5	4	5	4	5
11	4	3	3	3	3	3							3	3	1
12	3	3	4	4	4	3							2	4	5
13	4	4	5	5	4	3	3	5	4	5	4	3	5	4	3
14	4	4	5	4	4	3	4	3	4	5	3	5	5	3	5
15	5	5	4	3	3	2	4	4	3	4	2	3	4	3	2
16	3	4	5	4	5	4	5	4	5	5	4	5	3	4	4
17	3	3	4	2	2	3	4	3	2	3	2	3	3	3	2
18	4	3	5	1	2	2	4	4	3	4	5	3	3	2	4
19	4	4	4	2	4	1	4	4	4	4	2	3	2	3	5
20	3	3	3	4	2	2	3	4	2	5	5	4	3	4	1
21	3	3	4	2	4	2	4	4	4	4	3	5	3	3	4
22	3	4	5	4	5	1	5	4	4	5	5	5	4	4	5
23	4	4	4	3	5	4	3	4	3	3	3	3	3	4	4
24	3	3	4	2	3	4	2	4	3				3	3	4
25	3	2	4	1	2	1	4	4	5	4	4	2	4	4	3
26	4	4	4	5	5	2	5	5	5	4	4	4	4	4	4
27	3	4	4	2	1	1	4	1	3	4	4	2	4	4	4
28	3	3	3	4	4	3	3	3	3	4	3	4	3	4	4
29	4	3	5	2	3	1	4	3	3				2	3	2
30	4	3	5	3	4	1	2	4	3	4	2	4	2	2	3
31	4	4	4	3	4	1	3	4	4	3	3	3	3	4	4

32	3	4	3	4	5	3	5	4	4	5	1	3	3	4	3
33	4	3	3	2	4		4	5	3	4	2	4	4	3	2
34	5	5	5	4	4	4							4	4	5
35	4	4	4	3	4	2							4	4	4
36	3	4	3	1	3	1	5	4	4	3	3	4	4	5	4
37	4	4	4	5	4								1	3	4
38	3	4	3	2	3	1	1	2	1	2	2	1	5	5	5
39	4	4	4	3	4	4	4	4	4	3	2	3	2	4	3
40	4	5	4	4	5	4	3	4	4	4	4	4	4	4	5
41	5	4	5	3	2	1	3	4	4	4	3	4	4	5	4
42	5	4	4	3	4	4	3	3	4	4	3	3	1	3	2
43	4	2	4	5	5	1	2	1	4	2	1	4	2	4	4
44	4	5	5	3	3	1	5	5	5	5	4	5	3	3	3
45	4	4	4	2	3	3	5	5	5	5	3	4	2	3	3
46	3	4	5	4	3	3	4	3	4	3	2	4	1	2	5
47	3	3	4	4	4	2	2	3	2	3	3	3	2	4	4
48	5	5	4	2	4	3	5	5	5	5	4	3	2	4	5
49	3	2	4	3	3	1	4	4	4	4	3	4	4	4	3
50	4	3	3	3	3	1	4	4	2	3	1	2	4	3	3
51	5	5	5	5	5	4	5	5	5	4	4	4	5	5	4
52	2	1	1	1	1	3	2	1	5	3	3	3	1	1	4
53	3	3	3	3	2	1									
54	5	3	4	5	5	5							5	5	5
55	4	4	4	5	4	1	4	5	5	2	3	4	5	4	2
56	4	4	4	4	5	2	4	4	2	4	3	5	4	5	4
57	5	1	3	3	4	3	4		3	3	4	4	3	3	4
58	4	2	2	2	4	5	3	4	3	4	5	4	5	4	5
59	5	4	4	5	3	4	5	3	4	5	5	4	5	4	5
Av	3.71	3.46	3.83	3.25	3.56	2.39	3.62	3.70	3.49	3.80	2.98	3.36	3.21	3.55	3.57
%	74	69	77	65	71	48	72	74	70	76	60	67	64	71	71

APPENDIX E

Table 6: Company C satisfaction ratings

No.	Staff competency	Staff efficiency	Staff professionalism	Speed of repairs	Quality of repairs	Temporary handset	New deals speed	New deals ease of transaction	Handset availability	Upgrade speed	No upgrade fee	Upgrade ease of transaction	No/short queues	Quick in-store service	Friendliness
1	3	3	2												
2	4	4	4	2	1	1	3	2	1	4	4	4	4	4	4
3	3	2	3	2	3	2	4	3	3	3	4	2	3	3	4
3	3	1	2	3	1										
5	3	3	3	3	3	1	3	3	3	3	3	3	4	3	3
6	4	4	5	5	5	3	5	5	5	5	5	5	3	3	5
7	3	2	4	1	2	1	5	3	4	3	3	5	4	3	2
8	2	1	3	1	4		4	3	2	4	2	3	5	3	4
9	3	3	4	1	4	1	3	4	3	3	3	4	4	2	4
10	3	2	5	4	4	1	2	1	4	4	3	5	2	1	5
11	5	3	3	3	3	3							3	4	1
12	3	4	3	3	2	3	3	1		3	5	1	3	3	4
13	4	2	2	3	4	5	4	3	5	5	4	3	3	5	4
Av	3.31	2.62	3.31	2.58	3.00	2.10	3.60	2.80	3.33	3.70	3.60	3.50	3.45	3.09	3.64
%	66%	52%	66%	52%	60%	42%	72%	56%	67%	74%	72%	70%	69%	62%	73%