Developing a Knowledge based Strategy for improving Customer Satisfaction at Metrorail

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Assignment presented in partial fulfillment of the requirements for the degree of Masters of Philosophy (Information and Knowledge Management) at Stellenbosch University

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Declaration

I, the undersigned, hereby declare that the work contained in this assignment is my own original work and that I have not previously in its entirety or in part submitted it at any university for a degree.

Date: 1 Dec 2006
Opsomming

Oplossings uit die industriële era is nie meer relevant tot die kennisekonomie nie en verandering is nou die enigste onverandelike in vandag se wêreld.

Globalisering se effek tref ook besighede soos Metrorail, wat ‘n opdraande stryd voer om die persepsies van kliente positief te beinvloed en dit by hulle tuis te bring dat daar ten spyte van beperkinge die bes moontlike diens aan hulle gelewer word.

Die grootste uitdaging is om die menings van kliente en werknemers positief te verander en spesiale aandag moet gewy word aan persepsie en verhoudingsbestuur.

Die toepassings moet geïntegreer word en raakpunte met bestaande besigheidsprosesse gekry word eerder as die ontwikkeling van ‘n besigheidsmodel en strategie wat parallel teenoor die huidige staan.

Aangesien alle waarde in kennisverhoudings neerslag vind, is die sakefilosofie om waarde toe te voeg - die uitdaging is om besighede hierdie deuntjie te laat sing in ‘n wêreld vol uitdaging.
Abstract

The solutions of the industrial era are no longer relevant to the knowledge economy and change is now the only constant in the world today.

The effect of globalisation is also felt in businesses such as Metrorail, who are struggling to change the perceptions of customers in order for them to realise that the best service is rendered to them within the constraints of the company.

Changing the mindsets of customers and employees are regarded as the main challenge and special consideration must be given to perception and relationship management. This however is not the solution as the business still has an obligation to improve the product and services it produced: doing this without managing perceptions will not produce the desired outcomes.

The solution should be integrated and linkages should be established with existing business processes as opposed to developing a solution parallel to the current business model and strategy.

As all value lies in knowledge and relationships: the business mantra is to add value and the challenge is to exploit these attributes in a make or break world.

Keywords:

Communication−Change−Customer−Leadership−Mental Model−Perception−Relationship−Values−Value chain−Knowledge Management−Information Management−Technology
Dedication

To our Lord and Saviour Jesus Christ, for the strength, wisdom and grace to be able to complete this thesis: I could not have done it without God’s help on this long and winding road.

A big thanks to my family: my wife Renee, children Lauren and Luke of whom I am very proud (I promise to be a better dad after this long walk to freedom).

My parents, Arnold and Mavis Weideman who have been my family’s support system through all the years, even though we did not always have the time to acknowledge it.

My extended family (many who have passed on). They spoke wisdom into my life and had a hand in bringing up this township boy.
Acknowledgements

In the words of Sir Isaac Newton “If I have seen further it is by standing on the shoulders of giants”

I first have to start with the people at USB who have put me on this road - not forgetting the librarians at the Bellville campus who have given me outstanding customer service.

SARCC Metrorail management and employees for allowing me to grow and expand my own knowledge in this exciting and dynamic field. A special thank you to my colleagues Leroy Constance and Eric Reinke, who were always ready to add value during my deliberations.

Glen Sampson as well as Andre Bain Harrison (who is COO of Metrorail): both are very passionate about Information and Knowledge Management. Three colleagues that helped me shape my thinking are Sisa Mtwa, Louis Beukes and the late Raki Matshoge.

Last but not least, the few that were prepared to listen to me in spite of whatever they were doing, to allow me to test my ideas. Your approval has given me the confidence that there is light at the end of the tunnel.
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<td>MWC</td>
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<td>SECI</td>
<td>Socialization, Externalization, Combination and Internalisation</td>
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<td>SQ</td>
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Chapter 1: Introduction

1.1 Metrorail’s ongoing battle to satisfy customers

The commuter rail company, Metrorail, has been battling for a number of years to win over the confidence of the rail commuters that are being transported on a daily basis as well as the public at large.

Very little success has been achieved in spite of a number of business initiatives that were introduced to improve the Customer Satisfaction Index (CSI). These initiatives included: the establishment of company values and the implementation of the prestigious ISO 9000 based Quality Management System (QMS).

The situation is therefore leaving management perplexed as to whether further business initiatives would be worth the effort invested. This stands to reason why it is stated that Metrorail will not survive business challenges unless the customers are won over (MWC, 2006).

1.2 Negative media reports

Metrorail has not been a darling of the wider public and has in the last few years received a fair amount of negative publicity from the media and this has damaged the company’s image in various business and governmental circles.

It is also not uncommon to see reports with headings in the daily newspapers as below. These reports are contributing to the negative public perception in the wider community, including people that do not use the train service. This interesting phenomenon is observed by the Finnish Railways, where non-commuters also have an opinion about train delays (Gartner, 2005:25).
1.3 Problem Statement

The problem statement has been formulated based on the definition of a problem which is a deviation between what should be happening and what is actually happening (Kepner and Tregoe, 1965:18).

Metrorail Western Cape has a problem with the low assessment of the CSI by the commuters as the goal is 70%, but the latest CSI score stands at 56%. The highest score to-date of 64% was achieved in August 2004, but the score has regressed over time.

There is great concern about the low CSI and the purpose of this paper is to investigate the validity of the quarterly assessments and to identify improvements required.

It appears that changing the mindset of the commuters and stakeholders is a big challenge as the South African Bureau of Standards (SABS) has acknowledged Metrorail’s service improvement, whilst the CSI score is now less than 60% as per a recent assessment.

There is a tendency to favour objective measures which are easier to obtain as opposed to subjective measures which are difficult to measure.
1.4 **Perception Management**

A purely quantitative approach is used for determining the level of the CSI. One of the objectives of this paper is to review the methodology used to determine the reliability of using this approach.

There is a realization that perception management is more important than what most people believe. This issue has also moved into the realm of Information and Knowledge Management as informing public perception is key to the job of the CIO (Gartner, 2005:9).

Marketeers are also encouraged to see the importance of perception management, hence Ries and Trout (1994:18) state “The law of Perception: Marketing is not a battle of product, it's a battle of perceptions.”

The rector of Stellenbosch University in responding to the issue of transformation at the University in the media, also commented on the perception aspects of the issue. He was quoted by Botha (2005) as saying that “a study last year of the public perception of Stellenbosch University, with particular reference to perceptions regarding transformation”.

This underpins the fact that both the world of business and the world of academia acknowledge the importance of perception management which will further be explored in this paper.

1.5 **Multi-disciplinary solutions**

Solutions for knowledge based problems are not restricted to any discipline any longer and a multi-disciplinary approach now follows which creates new opportunities for creative solutions. The discussion on knowledges in Drucker (2001:294) suggests that answers will not only be found in specialization, but rather in cross-disciplinary solutions.

This view is also supported by Despres and Chauvel (2000:21) when they state “The changes to manage knowledge explicitly and in detail place great demands on supporting disciplines. They range from cognitive sciences and educational methods to management sciences and
economics to artificial intelligence and information management and technology. Enterprises pay new attention to maintaining and enhancing the competitive power of their IC”.

Van Dyk and Herholdt (2004:32) state that “behavioural models may be the dominant theories for studying branding effects and brand value, but there are others. ... The sociological, anthropological and biological sciences all provide useful perspectives”.

The value chain concept stated in Porter (1990) ensures that business processes adds value to customers needs and are integrated. To advance the cause of KM, Normann & Ramirez (1993) state “Knowledge and relationships are where almost all value resides in today’s economy. Together they are the only true sources of sustainable competitive advantage.”

1.6 Complexity in business

There is a realisation that the problem identified above is a challenging one and the solutions must cater for a world which is defined as a complex world. This fact is borne out by the statement “The new world is a complex one of interdependencies and interrelationships” (Lissack & Roos, 1999:1).

Knowledge Management is now in its third generation with the first being the oversimplification of turning data into information into knowledge. The second generation focused on the SECI model of Takeuchi and Nonaka. The third generation and current thinking, is based on the Cynefin model which has four spaces or areas of focus, namely: known, knowable, complex and chaotic. The need to deal with a complex and chaotic world is a key requirement of the Cynefin model (Snowden, 2002).

1.7 Changes in the internal and external business environment

The axiom, “change has become the only constant in the world today” is almost a proverb. Change must therefore always be considered as it affects both the internal and external environment of an organization, especially when a solution is sought for improving customer relationship and satisfaction.
Globalisation has been a large influence of the change which resulted in, amongst others, increased production and sophisticated customers (Wiig, K.M. as quoted in Despres and Chauvel, 2000:10). There is a theory espoused by Covey (2004:3-4) that when the Berlin Wall came down in 1989, it led to the beginning of the Information Age.

Many changes have been experienced in the world towards the end of the last century. It came as a surprise to most people, but it was predicted by Alvin Toffler as stated in the quote below.

"In the three short decades between now and the twenty first century, millions of ordinary, psychologically normal people will face an abrupt collision with the future."

Alvin Toffler in 1970

A major change that occurred in South Africa that cannot be ignored, is the election of a democratic leadership 1994. Whilst this brought new hope for all the inhabitants in South Africa, there is a huge expectation for a significant improvement in service delivery. One aspect of the need for improved service is public transport, as South Africa will be hosting the soccer World Cup in 2010.
Chapter 2: Research Methodology

2.1 Hypothesis

Perception plays a very significant role with respect to customer satisfaction levels, and if the management of perception is improved, an improved rating for customer satisfaction can be expected.

2.2 Objectives of study

The overall goal is to develop frameworks that will assist in changing the mindsets of staff and customers to improve the perceived customer satisfaction levels of the company. Proposals will also be made to close the gap between expected and actual service delivery.

The sub goals are as follows:

2.2.1 Establish the level of the current service offered

2.2.2 To identify a framework that can provide context to a long term change initiative

2.2.3 Identify gaps in the business relating to customer service

2.2.4 Propose a business model to be to facilitate business planning and execution

2.2.5 Propose a framework for introducing KM into the business

2.2.6 Establish what would be required to bring about a mind shift: inside and outside the organization to ensure the improvement of the CSI

2.2.7 Review the processes in the business that deal with Customer Services, Communication, Marketing and Information and Knowledge Management

2.2.8 Discuss the use of technology for service improvement
2.3 Non-empirical research method used

The largest portion of the study will be a literature review which Mouton (2002:179) defines as “Studies that provide an overview of scholarship in a certain discipline through an analysis of trends and debates”.

The study of theory-building or model-building will also make up a large component of the research as the objective is to propose some frameworks to contribute to solving the problem. Mouton (2002:176) defines this approach as “studies aimed at developing new models and theories to explain particular phenomena”. Graphically-based models are easy to understand as a picture is worth a thousand words.

The importance of this approach is highlighted by Mouton (2002:176) when he states that “...science cannot make progress without theories and models. Through the construction of theories and models we attempt to explain phenomena in the world.”

The research will primarily be confined to a non-empirical study, which, according to Mouton (2002:53), is “...largely based on an analysis of the body of scientific knowledge”. Empirical research according to Mouton (2002:53) is “collecting new data ... or we have to analyse existing data”.

2.4 Empirical research

There will however be some minor empirical research done as the results of the CSI will be used as input to the study which was obtained during an empirical research project. These results can now be classified as Secondary Data as it consists of existing data put to use (Mouton, 2002:164).

There will also be very minor surveying done of customers to test one or two minor hypothesis during the study which might influence the direction of the work done.
2.5 Existing quarterly CSI Research Methodology

A quarterly CSI report is produced by an external research company on behalf of Metrorail. Commuters in the major six cities in which Metrorail operates, are interviewed. The research is quantitative in nature and a rating for each of the questions is obtained on a scale of zero to ten.

Three hundred randomly selected commuters in every city are interviewed. An equal number of commuters for every market segment identified within a region are sampled. The interviewees have to be daily users of the service.

The interviews takes place at the homes of commuters as there is not enough time to complete the surveys during a journey which takes on average 30 minutes. The location of the interview is however a factor in the rating as the interviewees has to rely on their memory as they will not be doing the survey in full view of the trains and stations. There is a high potential for interviewer bias which could also impact on the ratings according to Cant (2005:101).

The survey does not provide the customer to state any preferences for the various criteria. This has been identified as an improvement area for future CSI surveys, as two scales must be developed for each question (Bicheno and Catherwood, 2005:119). One scale to cover satisfaction and one scale to cover importance: both to get a rating from zero to five.

One of the aims of this report is to identify any further improvement areas in the methodology used, to make proposals where the current measurement system can be enhanced. A copy of the summary the report can be found attached as Appendix B.

2.6 Quantitative and Qualitative study

The gaps in the data collected during the Research Design and Methodology phase has to be pointed out according to Mouton (2002:124). Ironically, further research will have to be undertaken as contents of Mouton (2002) do not describe quantitative and qualitative research in sufficient detail.
The current CSI methodology research is therefore quantitative in nature, and a gap has been identified to do qualitative research to probe the subjective issues around customer care.

2.7 Evidence based research

A key principle for the research is based on the philosophy of ISO 9000 as stated by Peach (1997:38) “say what you do, do what you say, record what you did, check the results, and act on the difference” as well as English and Baker (2006:173) who state the ISO 9000 matra[sic] as: “Say what you do; do what you say; prove it.”

The ISO 9000 standard will be used as a backdrop for creating a flow to the discussion, as it is process based and will ensure that the “magic thread” is maintained throughout the thesis.

2.8 Impact of the study

This study could lead to the development of a Customer Relationship Management (CRM) strategy for Metrorail based on the findings of the report. Metrorail’s customer services strategy does not include CRM as its viability has not been proven to the top management.

Proposals to enhance the current business strategy would also be made in the process. Kinghorn (2005) state that “academic work makes sense only if it impacts on the ‘real’ world... hence for this research work to add value, the recommendations produced should be implemented”.

2.9 Limitations of the study

Solving the problem in its entirety is outside the scope of this paper as it is the opinion of the author that a detailed empirical study will have to be undertaken. This would preferably have to be done at a PHD level to do justice to the complexity of this problem which existed for a number of years. The study is restricted to Metrorail Western Cape.
Chapter 3: Models and theories

3.1 Bukowitz and Williams: Knowledge Management Process Framework

The model that is proposed by Bukowitz and Williams (2000) is depicted in the diagram above. The model suggests that KM embraces a process approach which fits well with a systems approach to business management.

3.1.2 The model

The model however only covers the KM processes for the tactical and strategic levels.

The first being tactical processes: Get, Use, Learn and Contribute; whereas the second level covers the strategic processes: Asses, Build / Sustain and Divest.
The model suggests a process approach to KM: the operational level is missing and should be included if this model is to be used as a legitimate framework.

It holds a huge amount of value due to its simplicity which is regarded as a large benefit to simplify business.

3.1.3 Summary

This model will be used to develop a KM model that could be used to support the operational, tactical and strategic KM processes in the business in the discussion section.
3.2 Choo: Organizational Intelligence/Learning Cycle

**Figure 3.2 Organizational Intelligence/Learning Cycle**

Source: Choo, 2001:18
The adapted model is in line with the model: Ladder of Inference. Senge (1995) shows the process organizations go through in taking in information, process it and then make decisions and act upon it.

This model is similar to the ladder of inference found in Senge (1995) and demonstrates consistent processes to information management. It demonstrates the iterative processes which results finally in the change of behaviour.
3.3 De Bono: The six value medals

Six medals are proposed by de Bono (2005) with the objective of assisting an organization to reach a new level of performance; this new level takes an organization beyond the traditional problem solving, to a level of innovation.

These materials have been chosen to provide a relevant metaphor, and de Bono (2005:36) states that “each of the six medals is ‘made’ of a different material. The material brings to mind an association between the medal and the values it indicates”.

![Figure 3.3 Six Values Medals](source: de Bono 2005:36-37)
3.3.1 **Synopsis of six medals**

A synopsis of the six values medals is provided below:

**Human values (Gold medal):** This medal deals with the values that affect people. Gold is a superior material and human values are the most important values of all in the end.

**Organizational values (Silver medal):** Values related to the purpose of the organization (in business this would be profitability). Silver is associated with money.

**Environmental values (Wood medal):** These are the environmental values in the broadest sense.

**Innovation, simplicity and creativity (Glass medal):** This medal covers a number of associated values. Glass is a very simple material originating in sand. With glass you can use your creativity to do a lot of things.

**TQM values (Steel medal):** Steel should be strong.

**Perceptual values (Brass medal):** This medal deals explicitly with: How does this appear? How might it be seen? Perception is real even when it is not reality. Brass looks like gold.

Source: De Bono (2005:36-37)

3.3.2 **Summary**

The Six Values Medals framework according to de Bono (2005:162) demonstrates how the invisible can be made visible using a metaphor: the metaphor is a medal in this model.

There is also strong correlation between the human values and the aspects covered in the Maslow model covered in section 3.5.
The medals proposed in the framework have strong correlation with the solutions covered in this paper. Innovation, simplicity and creativity are covered by the introduction of the Balanced Scorecard (see section 3.4) in the company. There is however an ongoing focus on TQM through the ISO 9000:2000 process at Metrorail and the system implemented 5 years ago, is now reaching maturity.

The perceptual values have up to now received limited focus in Metrorail's business strategy, but is being addressed through this study.

3.4 Kaplan and Norton: Balanced Scorecard

The Balanced Scorecard tool was originally developed by Kaplan and Norton in 1992 and it has now become the industry standard to report on organizational performance. The Balanced Scorecard illustrated below, has in a sense ushered in the information age with one chapter of the book titled "The Balanced Scorecard" appropriately named Measurement and Management in the Information Age.

![Balanced Scorecard Diagram](image)

**Figure 3.4 The Balanced Scorecard**

Source: Kaplan and Norton, 1996:9
The ideas of the Balanced Scorecard is in line with that of the thinking on strategy by Michael Porter as per Kaplan and Norton (1996:37) which implies the learning curve is not too high for managers to be introduced to the Balanced Scorecard. The principle of working from the known to the unknown espoused by Kagan and Bohmert (2005:21) can save time in the learning process.

3.4.1 Beyond financial figures

The primary use of financial measures to determine the performance of a company has been found to represent an incomplete view of the business. Three other measures, namely customer, process and innovation/learning are also reported on now and a high level sample is shown in the diagram below. This is a radical departure from only reporting on financial measures in the past for business reporting.

3.4.2 The “Balanced” Scorecard

Kaplan and Norton (1996:viii) places emphasis on the balance aspect of the Balanced Scorecard and state that “[t]he name reflected the balance provided between short- and long-term objectives, between financial and non-financial measures, between lagging and leading indicators, and between external and internal performance perspectives”.

17
Figure 3.4.2 Human capital value related to market value

This challenges management into making decisions where trade-offs are made, hence the reference to strategy as a tradeoff. A forward-looking approach (looking in through the front mirror as opposed to the rearview mirror) to reporting is now made possible as both leading and lagging indicators are now reported. Reporting on lagging indicators is the standard with pure financial reporting.

3.4.4 Customer measurements

Reporting on the customer is one of the four headings in the Balanced Scorecard and is discussed as one of the key tools in solving the problem stated. An investigation will be made into the issues by studying information and tools available as well as provide a more balanced view of the customer aspects.
3.4.5 Critical internal processes

Kaplan and Norton (1996:26) state that “[i]n the internal-process perspective, executives identify the critical internal processes in which the organization must excel”.

![Diagram of the internal-business-process value-chain perspective](https://scholar.sun.ac.za)

**Figure 3.4.5 The Internal-Business-Process Value-Chain Perspective**
Source: Kaplan and Norton, 1996:26
3.4.6 New strategy map

One of the versions of the balanced scorecard that has emerged is the strategy map with certain enhancements to the original balanced scorecard model: it has now migrated to a revised model which is aligned to the Intellectual Capital framework.

It is however acknowledged that strategy maps are not easily understood by everyone, an opinion supported by Buytendijk (2004) when he states that strategy maps are widely misunderstood.

The strategy map is also a tool used to show the linkages between the various criteria of the Balanced Scorecard per item of the balance scorecard. The measurements proposed in the model below make reference to Intellectual Capital related measurements which clearly indicate the purpose of this performance tool.

Figure 3.4.6 Generic Strategy Map Framework
Source: Buytendijk (2004:2)
3.5 Maslow’s hierarchy of needs

Professor Abraham Maslow’s classic theory on motivation is depicted by Groff and Jones (2003:62) as shown above. It shows individual motivational levels in a hierarchy of needs and is important in business as it can help determine what motivates people.

3.5.1 Introduction

The levels have the following descriptions:

**Physiological Needs**: Relates to basic needs such as food and clothing; access to finances would be key here as food and clothing cannot be obtained without money.

**Safety Needs**: This relates to both job security and physical security. Passenger safety is therefore a factor as there is always a need for physical safety.

**Belonging Needs**: The need for persons to belong to a group.
Esteem Needs: The need to stand out from the crowd and pursue exclusivity. The search for wealth could see people go beyond the belonging needs level to fulfil a career ambition and be cut off from the crowd.

Self-actualization: This level is reached when people have become satisfied with themselves and in a sense have seen the bigger picture of life. Painters and missionaries are examples where people have reach a level which a very few people reach in life, hence the chasm in the diagram.

The motivation of staff, commuters and contract staff is a huge factor as staff and customers will be motivated by different factors.

In the analysis of our customers, staff and security contractors in particular, a very interesting picture emerged. Many of our customers are beyond the Physiological Needs level, whilst the bulk of the security staff is on the Physiological Needs level. The effect of this could mean a lowering of morale amongst security staff which would create tension between them and the customers.

Earning a living wage satisfies level one on the hierarchy as the issues of food and clothing are covered by this level. It is unlikely that security guards not satisfied by level one would be interested in their safety and the safety of others.

Customers look down on train guards due to the status they have in society (Mudie & Cottam, 1999:103). This is another dynamic to be considered which relates to where people are on “the food chain”.

3.5.3 Summary

It is therefore critical that people issues be seen as a priority in improving the CSI. The question “what’s in it for me?” is often raised by staff members when a change initiative is introduced and accompanied by the question of how the change will affect them.
There is also a linkage between Maslow’s hierarchy of needs and a quality initiative. This is confirmed by Kinghorn (2005) which states that “standards force us to think about ... Measurement, comparison, achievement, self-esteem, failure, trust and self-knowledge”.

Achievement, Self-esteem, Failure, Trust and Self-knowledge are covered in this model, whereas, measurement and comparison will be dealt with in greater detail in this paper.
3.6 Parasuraman: Gap Model

A number of potential service delivery gaps have been identified by Parasuraman et al (1985) as illustrated in the diagram above. It could therefore be expected that these gaps would result in service deficiencies and that preventative action must be taken to circumvent them.
The gaps identified are enumerated in the table below.

<table>
<thead>
<tr>
<th>No</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>The gap between customer expectations and management perception of these expectations</td>
</tr>
<tr>
<td>2.</td>
<td>The gap between management perception of customer expectations and the ability to translate these into service quality standards</td>
</tr>
<tr>
<td>3.</td>
<td>The gap between service quality specifications and the actual service delivery</td>
</tr>
<tr>
<td>4.</td>
<td>The gap between service delivery and external communications</td>
</tr>
<tr>
<td>5.</td>
<td>The gap between the quality a customer perceives in a service and his expectations</td>
</tr>
</tbody>
</table>

Source: Parasuraman et al, 1985

Customers' perceptions depend on comparing prior expectations of the service to what they receive, hence Perceived Service Quality = Perceptions – Expectations

Each of these potential gaps is closed by the controls found in the processes in organizations.

3.6.2 Summary

There is however great similarity between the Parasuraman gap model and clause 7 of ISO 9001:2000. The Parasuraman gap model has not been introduced by Metrorail yet, but the gaps have been covered via controls identified by the ISO 9001:2000 system.

With the shift to increased use of technology, word of mouth now also becomes word of mouse.
Chapter 4: Developing a high level strategic framework

4.1 Where are we now?

A strategic framework is proposed and depicted below. This model is used as a guide to inform the strategic management processes which are expanded in the section below. The knowledge-based strategy must also be integrated into the current business strategy so that the two compliment each other.

![Strategic Management Processes Diagram]

**Figure 4.1 Strategic management processes**
Source: Coveney et al, 2003:14

"I know six honest serving men, they taught me all I knew; their names are what and why and when and where and how and who".

R Kipling
4.1.1 Drivers that changed the business world

It is important to provide context to solutions applied in industry over the last few decades, as this shaped business into its current form. The drivers are indicated by the diagram shown below. The drivers for the 80s and 90s have also been confirmed by Champy (1995) when he stated that "'Reengineering' is to the 1990s what 'Quality' was to the 1980s".

<table>
<thead>
<tr>
<th>Era</th>
<th>Emergent Forces</th>
</tr>
</thead>
<tbody>
<tr>
<td>1980s</td>
<td>Total Quality Management</td>
</tr>
<tr>
<td>1990s</td>
<td>Business Process Reengineering, Relationship Management and one-to-one Marketing</td>
</tr>
<tr>
<td>2000s</td>
<td>Knowledge-enabled relationship management and e-business</td>
</tr>
</tbody>
</table>


"Toto, I've a feeling that we're not in Kansas anymore."

Dorothy from The Wizard of Oz

4.1.2 Quality as a stage of the journey

It would be necessary to prepare an organization for the change to becoming world class in the information age. As a rule, the change will take the organization through certain stages. Quality is one such critical stage: Wilson (1999:4) state that "[t]he TQM organization is a half-way house from the industrial age organization to the information age organization."

Jack Welch regards quality as one of the most significant initiatives in business. Whilst he made special reference to Six Sigma, quality systems have a common objective and the
mechanisms are aligned. Jack Welch (as quoted by Slater, 1999:15) says "Six Sigma is the most important management training thing we’ve ever had. It’s better than going to Harvard Business School. … It teaches you to think differently.”

Six Sigma is also endorsed by Dawson (2005:83) as having as its foundations the necessary ingredients as a quality methodology to identify critical success factors for achieving company objectives across many major corporations.

The value of quality is also underpinned by Kinghorn (2005) who states that quality is the necessary foundation for sustained competitive ability and contextual significance.

TQM will also promote training in Statistical Process Control and Scientific Analysis to analyse problems (Grant, as quoted in Despres and Chauvel, 2000:28).

4.1.2.1 Path for quality

The path for quality as a journey and the stages is shown in Table 4.1.2.1 below, with managing customer perceptions as the final stage.

<table>
<thead>
<tr>
<th>Stage</th>
<th>Quality Objective</th>
<th>Measurement Approach</th>
<th>Employment Empowerment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Managing Risks (Defensive)</td>
<td>Observing</td>
<td>Behaviours</td>
</tr>
<tr>
<td>2.</td>
<td>Managing Resources</td>
<td>Auditing</td>
<td>Procedures</td>
</tr>
<tr>
<td>3.</td>
<td>Managing Customer Tangibles</td>
<td>Score-keeping</td>
<td>Standards</td>
</tr>
</tbody>
</table>

Source: Albrecht (1993:197)
It would also be a given that stages should not be skipped and if gaps are identified during the study proposals will be made for the gaps to be closed. The implementation of ISO 9000 would have advanced the requirement in terms of items such as auditing, procedures, score-keeping via the Balanced Scorecard as well as standards.

Confirmation that stage 1 is complete could be confirmed via reports on staff behaviour from the Customer Complaints System as well as the CSI report.

Whilst ISO 9000 certification will go a long way in moving the organization forward in terms of a knowledge initiative such as that of English and Baker (2006), it is not as comprehensive as a full TQM standard such as that of Baldrige (Cobb, 2003:30).

4.1.2.2 PDCA

The Plan-Do-Check-Act (PDCA) cycle for learning and improvement was developed by Shewhart to show how improvement takes place. It was subsequently popularized and renamed the Plan-Do-Study-Act (PDSA) cycle by Deming (quoted in ASQ, 1999:310).

The PDCA however emphasizes a doing and action orientation, which will drive role players beyond a plan, plan and plan mindset.

The Deming cycle in various settings diagrams below, demonstrates that the Deming Plan-Do-Check-Act cycle, can be found in various settings. This would also include the Kolb learning cycle where learning is the process whereby knowledge is created through the transformation of experience (Kim, 1993).
Plan, Do, Check, Act
Source: ASQ, 1999:310

Document Control
Source: ISO, 2000

The Kolb Learning Cycle
Source: Wilson, 1999:54

Ideas Management
Source: Author's own conceptualisation

Figure 4.1.2.2 Deming cycle in various settings
Source: Author's own conceptualisation
4.1.2.3 Baldrige National Quality Program (BNQP)

![Baldrige National Quality Program (BNQP) Diagram](image)

**Figure 4.1.2.3 Baldrige National Quality Program (BNQP)**
Source: BNQP (2006)

4.1.2.3.1 What is the Baldrige National Quality Award?

“The Baldrige Award is given by the President of the United States to businesses—manufacturing and service, small and large—and to education and health care organizations that apply and are judged to be outstanding in seven areas:…

A company obtaining the Baldrige award in America would usually signify that this company has reached the highest level of performance and is widely accepted not only in the United States but also around the world, as the standard for performance excellence.”

BNQP (2006)

4.1.2.3.2 Comparison to ISO 9000 and Excellence models

The Baldrige National Quality Program is a QMS: much like ISO 9000, although far more extensive. Two very similar models exist, namely European Excellence Quality Framework which is used in Europe as well as the South African Excellence Model adapted for South African conditions.
These models are however excluded from this study as limited progress was made on developing Knowledge Management (KM) criteria whereas the Baldrige award has made KM a key component of the model.

4.1.2.3.3 Summary

The inclusion of KM in the Baldrige Award, has demonstrated the critical importance of KM which can no longer be regarded as a fad. It is also stated by Cobb and Charles (2003:160) that if Knowledge Management is applied correctly, is not another fad: the requirement however for implementing KM would be to implement it correctly.
4.1.2.4 ISO 9000

The ISO 9000 model is depicted in the diagram above which uses the process approach represented in the form of a system linked via flows and feedback loops between inputs, processes and outputs. Most of the systems based methodologies such as ISO 9001:2000 and Baldrige have the process and systems approach embedded in it.

4.1.2.4.2 Vastly improved standard

ISO 9000:2000 is a vast improvement on the previous ISO 9000 version, published 1994. This version had 20 inflexible elements and Hoyle (2003:xi) states that these requirements were borne out of poor product quality and “ISO 9000:2000 focuses on eight quality management principles, which, if applied effectively, lead to the satisfaction of all interested parties”.

Fig. 1 Model of the Process Approach
4.1.2.4.3 Eight management principles

- Customer focused organization
- Involvement of people
- System approach to management
- Factual approach to decision making
- Leadership
- Process approach
- Continual improvement
- Mutually beneficial supplier relationships

The eight management principles were not available in previous versions and are listed below.

4.1.2.4.4 Dealing with criticism that ISO 9000 is too paper intensive

Previous versions of the ISO 9000 standard were at times criticized for their extensive requirement for paper documents at the expense of products and services, as stated in the quote below:

"With ISO 9000 you can still have terrible processes and products. You can certify a manufacturer that makes life jackets from concrete, as long as those jackets are made according to the documented procedures and the company provides next of kin with instructions on how to complain about defects. That's absurd."

Richard Buetow, director of corporate quality for business systems, Motorola
Source: Peters, 1998:307

The previous requirement for twenty compulsory procedures is now replaced with only six compulsory procedures in the ISO 9000:2000 version. This new standard is in line with the thinking of Hoyle (1998:15) that "...quality systems are not a collection of procedures but an interconnection of processes that deliver desired output".

4.1.2.4.5 Strengths and Weaknesses

The key shortcoming of ISO 9000 is that the model does not stress business results or outcomes, unlike the other quality models such as the Baldrige and Excellence models.
ISO 9000 is however very strong on document and record management which is lacking in the other QMSs.

4.1.2.4.6 Customer perception as a measure

The management of customer satisfaction is key to the ISO 9000 standard which is stated in ISO (2000) as below:

8.2 Customer satisfaction
As one of the measurements of the performance of the QMS, the organization shall monitor information relating to customer perception as to whether the organization has met customer requirements.

4.1.2.4.7 Summary

ISO 9000 is therefore key to the company’s strategic response to improving the CSI. The implementation of such a QMS will go a long way in improving customer satisfaction levels as keeping a customer focus is now at the heart of the standard.
4.1.3 BPR as a stage of the journey

Metrorail went through a major Business Process Reengineering exercise between 1997 and 1999 as indicated in the Change Management Context diagram: however, the description of this project is beyond the scope of this paper.

BPR has to be revisited as this project was done before the ISO 9000 project; hence the business processes were not well defined at the time.

“More than any other time in history, mankind faces a crossroad: One path leads to despair and hopelessness, and the other to total extinction. Let us pray we have the wisdom to choose correctly.”

WOODY ALLEN

4.2 Where do we want to be?

In defining where the organization wants to be, the core identity has to be established. Identity tells us who we are, which consists of mission, vision and values (Francis and Woodcock, 2004:222).

4.2.1 Mission, vision and values

You need to propose a mission that is, at one level, a dream but it must also be achievable. Too much emphasis on survival and they will not accept the sacrifices (Intesa, quoted in Ghislanzoni and Shearn, 2000).
4.2.1.2 Vision

"Where there is no vision, the people perish"
Proverbs 29:18

Developing a vision by the leadership of an organization is key to a business strategy. This is however not a task that must be done by top management alone as it is proposed by Covey (2004:195) that a shared vision be created.

Hammer and Champy (2001:159) state: "The vision statement... is the way a company’s management communicates a sense of the kind of organization the company needs to become. ... It is both a qualitative and a quantitative statement, which a company can use again and again before and during reengineering, as a reminder of reengineering’s object, as a yardstick for measuring progress, and as a prod to keep the reengineering action going."

4.2.1.3 Values

The discussion of values might even appear to be a little odd as organizations are not as clinical and objective as they are managed by people who are influenced by values (Davenport and Prusak, 1998:11). The discussion on values are however pertinent to the discussion on strategy as it relates to the change management aspects of people.

Metrorail values are stated below and expanded in appendix D.

Ubuntu
People Development
Community Involvement
Participative Co-determination
Customer Service
Health and Safety
Communication
Continuous improvement, recognition and reward
Values are meanings. They tell what is important and what is unimportant and shape our actions in many ways. Values also reflect “the best we are now” and with strategic intent “to become what we need to become” (Francis and Woodcock, 2004:239). Values are the underlying drivers that bring about our emotions. (De Bono, 2005:30).

It is therefore proposed that regular values audits be done to see if the organization lives the values it espouses, as stakeholders will hold the company accountable for it.

SERENITY PRAYER

“God, Grant me the serenity to accept the things I cannot change, the courage to change the things I can, and the wisdom to know the difference”
4.2.2 Change management in context

A strategic change management programme was launched in Metrorail during 1995 and has a 15 year horizon. The program uses the S-Curve philosophy as stated by Manning (2001:19):
“The only way to do this is to continually reinvent your organization so it ‘fits’ the emerging conditions around it. To create new ”S-curves” that keep your sales and profits on an upward path…”

The program is also influenced by the Deming Cycle which shows upward moving spirals of the PDCA cycle (Bicheno and Catherwood, 2005:90). The programme is represented by the Change management context diagram and is depicted below.

Figure 4.2.2 Change management context diagram
Source: MWV (2006)
4.3 What are the gaps?

4.3.1 Linking strategic, knowledge, and relationship gaps

The knowledge-based solution requires that there is somewhat of a reliance on strategic gap models that are applicable to the problem at hand. The model selected is found in Tiwana (2001:88) and covers three gaps with respect to customers and suppliers, namely: strategic, knowledge and relationship.

The model by Tiwana (2001) expands on the gap analysis model found in Zak (1999:136) that covers two of the three gaps: strategy and knowledge. The old adage, “it is not what you know but who you know” is depicted in the model. It would be expected of the leadership to manage these gaps and to develop plans to offset them.
There is also a linkage to market segmentation as stated by Tiwana (2001:88) who ascertains that by evaluating these gaps, good opportunity is provided to develop an accurate picture of market segments. It must however be noted that not all customer segments respond profitably to relationship management (Kotler, 2003:344). It would therefore be useful to determine which of the company products respond positively to a relationship management program.

4.3.2 Developing knowledge maps

Developing knowledge maps is recommended by Tissen et al (2000) and would result in the following benefits being realised:

- Translating the business strategy into key knowledge areas
- A tool for managing knowledge
- Help to focus with knowledge creation
- Identify maximum value impact
- A blueprint for Intranet is developed
- The responsibilities for managing knowledge is identified
- Competency centres or centres of excellence can be identified
- Assist with the development of a competency profile

4.3.3 Alignment

Coherence is described by Lissack and Roos (1999:2) as an alignment of context, viewpoint, purpose and action that enables further purposive(sic) action, hence the vision and mission for the contributing agencies for a knowledge strategy has been compiled below and the alignment is visible.
<table>
<thead>
<tr>
<th>Mission</th>
<th>Vision</th>
</tr>
</thead>
<tbody>
<tr>
<td>MetroRail</td>
<td>We render a safe, effective, efficient and affordable rail commuter service and operate the public metropolitan rail system in partnership with all stakeholders, with a total journey focus, based on commuter needs.</td>
</tr>
<tr>
<td>Knowledge Management</td>
<td>Connecting people with people and people with information</td>
</tr>
<tr>
<td>Information Management</td>
<td>Putting measurables in place for daily decision making in support of Plan, Lead, Organize and Control.</td>
</tr>
<tr>
<td>Information Technology</td>
<td>To enable business to perform</td>
</tr>
</tbody>
</table>

Source: MWC, 2006
4.3.4 CSI Assessment

CSI which measures Metrorail’s performance in terms of satisfying customer satisfaction currently stands at 56%, as mentioned in the introduction. The CSI Report has however been supplemented with the CSI Proposed Improvement Report and CSI Executive Crime report below.

<table>
<thead>
<tr>
<th>Table 4.3.4a</th>
<th>CSI Proposed Improvement Report</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improvement needed</td>
<td>% of people</td>
</tr>
<tr>
<td>Security</td>
<td>70</td>
</tr>
<tr>
<td>Repairs</td>
<td>15</td>
</tr>
<tr>
<td>Overcrowding</td>
<td>14</td>
</tr>
<tr>
<td>Additional trains</td>
<td>10</td>
</tr>
<tr>
<td>Cleanliness</td>
<td>10</td>
</tr>
<tr>
<td>Reliability</td>
<td>8</td>
</tr>
<tr>
<td>Source: CSI Report</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Table 4.3.4b</th>
<th>CSI Executive Crime report</th>
</tr>
</thead>
<tbody>
<tr>
<td>Category</td>
<td>% of people</td>
</tr>
<tr>
<td>Never witnessed crime</td>
<td>67</td>
</tr>
<tr>
<td>Saw a single occurrence of crime</td>
<td>15</td>
</tr>
<tr>
<td>Saw crime on a couple of occasions</td>
<td>10</td>
</tr>
<tr>
<td>See crime quite frequently</td>
<td>5</td>
</tr>
<tr>
<td>Source: CSI Report</td>
<td></td>
</tr>
</tbody>
</table>

This report shows that a very high percentage of people never witnessed crime which shows an anomaly when one considers the CSI for Safety and Security shows a figure of 51%. This anomaly suggests a challenge for Metrorail to change the mindset of customers. The media would have played a major negative role, and whilst many of the customers are not leaving the service, they do travel in fear.
4.3.5 Human misunderstanding of risk

To understand the customer rating of safety, Cochrane (2004:132) points out that the human race seems to pay attention to security and risk in inverse proportions to the true value [sic] of the risk involved. One example given is provided of UK death as a result of cancer which is by far the largest cause of deaths, at 2500 / 1M of the population, while cancer is not something the UK public worries about.

The opposite is true about rail travel where the cause for deaths stand at 0.011 / 1M of the population, but where rail travel is the second highest "fear factor" after flying.

4.3.6 ISO 9001:2000 Audits

It was mentioned in the introduction that SABS has awarded Metrorail Western Cape in 2002 with ISO 9001:2000 registration and have subsequently done six bi-annual follow-up audits and the company has retained their certification with ease.

4.3.7 Inspections

Inspections are done at all 110 stations on the region on a monthly basis by Metrorail inspectors. No correlation has however been done to-date to establish the gap between the CSI report and the one completed by inspectors. The inspector report is available as Appendix C and the average score for inspections of the regions is 86%.

The discrepancy between the CSI index of 56% and the score of the inspections which amount to 86% poses a challenge in terms of alignment. It is understood however that CSI is done by an external party, whereas the inspections are done internally.

Another observation is that the inspection reports need to be aligned to customer facing measures as this is the case with the CSI.
4.3.8 Summary

To validate Metrorail’s decision to close the gaps that exist, it was found that companies opted for Quality and Reengineering projects as the second best choice of projects. The first being the systematising of knowledge-based systems using tools such as Lotus Notes and Intranets (Davenport and Prusak, 1998:167).

4.4 How will we get there?

4.4.1 Leadership

Leadership is a key ingredient for the changes required for a business to become world class.

This fact is underpinned in the ISO 9000 standard and ISO (2000) state

5.1 General guidance

Leadership, commitment and the active involvement of the top management are essential for developing and maintaining an effective and efficient QMS.

There is however very little place for a command and control management style, when one considers the statement by Jack Welch (as quoted by Slater, 1999:15):

...the command-and-control structures that were built after the war practically sunk American business in the ‘70s and ‘80s and had to be decimated.
4.4.1.1 Leadership vs Management

There is also a difference between leadership and management as indicated in the summary below:

<table>
<thead>
<tr>
<th>Leadership</th>
<th>Management</th>
<th>Author</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leaders are people who do the right thing</td>
<td>Managers are people who do things right</td>
<td>Warren Bennis</td>
</tr>
<tr>
<td>Leadership is about coping with change</td>
<td>Management is about coping with complexity</td>
<td>John Kotter</td>
</tr>
</tbody>
</table>

Source: Covey, 2004:100

The Chinese saying that a fish rots from the head is very relevant on the aspect of leadership as the responsibility for providing strong leadership in a KM initiative is critical.
4.4.1.2 Covey's seven habits

The seven habits from Covey (2004) are depicted in the figure below and each habit is also tabulated with the corresponding principle and paradigm below.

Figure 4.4.1.2 Covey's seven habits
Source: Covey, 1989:53

Table 4.4.1.2 Principles and paradigms embodied in the 7 habits

<table>
<thead>
<tr>
<th>Habit</th>
<th>Principle</th>
<th>Paradigm</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Be proactive</td>
<td>Responsibility/initiative</td>
<td>Self-determination</td>
</tr>
<tr>
<td>2. Begin with the end in mind</td>
<td>Vision/Values</td>
<td>Focus</td>
</tr>
<tr>
<td>3. Put first things first</td>
<td>Integrity/Execution</td>
<td>Priority/Action</td>
</tr>
<tr>
<td>4. Think Win-Win</td>
<td>Mutual Respect/benefit</td>
<td>Abundance</td>
</tr>
<tr>
<td>5. Seek first to understand, then to be understood</td>
<td>Mutual Understanding</td>
<td>Consideration</td>
</tr>
<tr>
<td>6. Synergize</td>
<td>Creative Cooperation</td>
<td>Value Differences</td>
</tr>
<tr>
<td>7. Sharpen the Saw</td>
<td>Renewal</td>
<td>Whole Person</td>
</tr>
</tbody>
</table>

Source: Covey, 2004:154
The relevance of the seven habits that are proposed in Covey (2004:100) is easily identifiable. These habits could therefore be applied to organizations which could perhaps give way to a future book titled "The seven habits of highly effective organizations" following on the success of "The seven habits of highly effective people" also written by Steven Covey.

The first three habits relate to achieving a "private victory" and move the individual from dependence to independence, whereas practising habits four to six results in a "public victory" and moves the individual from independence to interdependence.

The last habit: sharpen the saw, is practiced in an ongoing fashion and relates to training and development where knowledge and skills of employees are kept up-to-date.

The literature presented suggests that Metrorail is enjoying a "private victory" but must now strive for a "public victory" as the organization works on business improvements from the inside out.

4.4.2 SQ, EQ and IQ

The leadership must be competent in the areas of SQ (Spiritual Quotient), EQ (Emotional Quotient) and IQ (Intellectual Quotient). Leaders must not only provide intelligent solutions but also ensure that they have empathy and that they can identify with the statement by Covey (2004:129): "we do feel our neighbours' pain".

The Greek philosophy which encapsulates SQ, EQ and IQ is presented by Covey (2004:129) and proposed as follows:

**Spiritual Quotient (SQ)**

*Ethos* basically means your ethical nature, your personal credibility, the amount of trust or confidence others have in your integrity and competence. When people consistently come through in a principle-centred way on those things they have promised and what is expected of them, they have ethos.
Emotional Quotient (EQ)

Pathos is empathy - it's the feeling side. It means you understand how another person feels, what his needs are, how she sees things, and what he is trying to communicate - and she feels it.

Intellectual Quotient (IQ)

Logos basically stands for logic. It has to do with the power and persuasion of your own presentation: your own thinking.

Whilst keeping in mind the importance of SQ, EQ and IQ and in that order. To move to logos before people feel understood is futile; to try to create understanding when there is no faith in your character is likewise futile.

Having a top management team without the necessary blend of SQ, EQ and IQ would therefore be a recipe for disaster. It is proposed that teams are assessed to ensure that they are composed of people with the right mix. IQ only matters if EQ has been dealt with successfully.

A high IQ is not the only requirement for leaders, as a high EQ is required for making effective use of technology: Research has shown at Bell labs that the ingredients for making systems work is 5% IT and 95% psychology as IT is merely an enabler (Peters, 1998:289).

A key ingredient of leadership is not only to "talk the walk" but also to "walk the talk": starting with the CEO (English and Baker, 2006:325).
4.4.3 System model

“A system as a perceived whole whose elements ‘hang together’ because they continually affect each other over time and operate towards a common purpose. Examples of systems include biological organisms (including human bodies), the atmosphere, diseases, ecological niches.”

(Senge et al, 1994,90)

The importance of systems is highlighted by Senge (1990:12) where it is stated: “This is why systems thinking is the fifth discipline”. The groundbreaking book hence established its hallmark on systems thinking. The world renowned author, Peter Senge named the book and the subsequent Fieldbook after it.

The five disciplines according to Senge (1994:6) are listed below and have complete relevance to the problem that is to be solved:

2. Mental Models – reflecting and clarifying our internal picture of the world.
3. Personal Mastery – Learning to expand our personal capacity.
4. Team Learning – transformational and collective thinking and creating ability greater than the sum of the parts.
5. Systems Thinking – A way of thinking about, and a language for describing and understanding. The forces and interrelationships that shape the behaviour of systems. This discipline helps us see how to change systems effectively, and to act in tune with the larger processes of the natural and economic world.

Systems are key to the solving of problems in organizations. Edward Deming (as quoted in Covey, 2004:235) stated that 90 percent of all organizational problems are systemic and the problems arise between systems or structures and are not caused by people.
There is however a unique challenge in managing systems according to Albrecht (1993:164) in that a well-functioning system is often invisible to the customers. The challenge therefore would be to make the results and outcomes visible to give the customers the confidence that the management of the business processes is taken care of.

![Diagram: A Model of Intellectual Capital Management](image)

**Figure 3.16** A Model of Intellectual Capital Management (Adapted from Van Buren, 1999, pp. 71–78)

**Figure 4.4.3 Intellectual Capital management mode**

Source: Despres and Chauvel, 2000:75

A very basic principle in the systems approach is the Input, Process and Output concept as illustrated by Despres & Chauvel (2000:75) in the model above.

The feedback loop indicated as strategy above runs between outputs and inputs. This feedback loop must be closed when dealing with processes such as customer complaints or the reporting of faults within a system.

This feedback loop concept is endorsed by Kirkby et al (2003:21) where there are linkages to the Balanced Scorecard and also the future: feedback loops will be built into the organization’s metrics systems.
"Feedback is the breakfast of champions"
Kenneth Blanchard, author of One Minute Manager

4.4.4 Building a business systems model

The business model depicted below is in use at Metrorail and is a good example of a reference model. The model was developed by Adrian Hulbert and Associates and adapted by Metrorail.

It is of utmost importance to have a business model in the organization as the business model will ensure that everyone has the same frame of reference. All the key aspects of the Business Systems Model are expounded below in summarized form.

<table>
<thead>
<tr>
<th>MISSION</th>
<th>VISION</th>
<th>VALUES</th>
</tr>
</thead>
</table>

Figure 4.4.4 Business Systems Model
Source: Hulbert and Associates
This model which will be used for all new business initiatives has been developed with the following criteria in mind.

1. Represent three levels: Processes within a business should operate at three levels and would be as follows: strategic, tactical and operational. (Groff and Jones, 2003:129)

2. Double loops which incorporate double-loop learning made famous by Chris Argyris.


3. Aligned with a Systems Approach

4. To become a standard reference model to the business. The role of a reference model is to logically and consistently describe the interrelationships between the high-level processes or entities: it is for this reason that it would not be uncommon for their reference models to be adopted by the International Standards Organization (Botha and Fouche, 2002).

An alternative model for developing strategy is presented by Ilbury and Sunter (2005:41) which has been dubbed the Conversation Model. The model combines elements of Game Theory, Chaos Theory and Systems Thinking as referred to by Ilbury and Sunter (2005) as plain common sense.

Ilbury and Sunter (2005) stated that there is no other business systems model that is so extensive. This is not entirely correct as the unpublished Hulbert business model is an example and a similar model is found in Hoyle (1998).
4.4.4.1 Developing objectives

The criteria for setting such objectives are indicated as SMART- specific, measurable, action-oriented, relevant and timely (Maurer et al, 2004).

A product is an objective, tangible outcome and the service is intangible – a subjective outcome. This poses a unique challenge with the traditional Western management approach which is best suited to objective outcomes; it is notoriously poor at managing subjective outcomes.

Albrecht, 1993:24

Whilst there should be an acceptance that there will be subjective measures, it is essential that the measurements should be as objective as possible.

The measurement equation is further complicated by Galloway and Ho (1996:21) as they broke measurements down into objective and subjective, within hard and soft and then finally between process and outcome objectives.

Measures such as: “do you feel safe?”, should not be the only measure for safety on the trains as safety should be measured in terms of outcomes and a measure about actual crime states would be far more useful in determining the railways’ safety performance.

The formulation of questions to establish whether the trains are always late, is another example of a subjective measurement as opposed to an objective measure of “are trains late on a daily basis by more than 5 minutes?”

It is the view of Fourie (1997) that the most valued measure of service quality is the subjective opinion of the customer, as only the customer can evaluate the service experience in light of his expectations.

It is stated in Maurer et al (2004) that “[e]ven services that are well-defined are often managed by subjective measures. As more of what IT organizations do become service-based, decisions become based on fewer and fewer facts. A dashboard can provide quantitative data that can be put into context for decision making...”
The table below, developed by Nonaka and Takeuchi (1995:61) provides a good framework for this discussion and links it to concepts such as experience acquired by the body and rationality of the mind. A further concept that is explored is putting theory (analog knowledge) into practice (digital knowledge) as this provides the basis for the understanding that there is a good balance needed between theory and practice.

<table>
<thead>
<tr>
<th>Tacit knowledge (Subjective)</th>
<th>Explicit knowledge (Objective)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge of experience (body)</td>
<td>Knowledge of rationality (mind)</td>
</tr>
<tr>
<td>Analog knowledge (practice)</td>
<td>Digital knowledge (theory)</td>
</tr>
</tbody>
</table>

Source: Nonaka and Takeuchi, 1995:61

4.4.4.2 SWOT

The SWOT analysis is a powerful tool and is used widely. It is the opinion however of Ilbury and Sunter (2005:135) that it could be quite helpful when it is used as part of the strategic conversation in the context of a strategy game.

The acronym, SWOT stands for: Strengths, Weaknesses, Opportunities and Threats. Strengths and Weaknesses of the business are identified in the inner dimensions using this tool whereas Opportunities and Threats relate to external dimensions.
4.4.3 Strategy

"Which way should I go from here?" said Alice
'That depends a good deal on where you want to go,' said the Cat.
'I don't much care where ___' said Alice
'Then it doesn't matter which way you go,' said the Cat
'___ so long as I get somewhere,' Alice added as an explanation.
'Oh, you're sure to do that,' said the Cat, 'if you only walk long enough.'

Alice's encounter with the Cheshire Cat, in Alice's Adventure in Wonderland, Lewis Carrol

Strategy tells an organization how to arrive at a set destination or vision. A strategy is a set of hypotheses about cause and effect (Kaplan and Norton, 1996:30).

No organization can achieve all the goals it sets out to do at once and has to prioritise in order to focus on achieving some of the goals. It is advisable to set priorities for minimal objectives and measure it with a scoreboard type tool (Covey, 2004:227). Delivering on the priorities will assist in "picking the low growing fruit" and in the process increases the credibility of projects as early victories have already been won.

Strategy is also a trade-off. The company slogan, "Taking South Africa to work" would therefore suggest that most of the attention of the company must be given to this task and the focus will not be on other destinations: as this is the articulated intention of the company.

It is important to note that form follows function, i.o.w. structure follows purpose or strategy (Covey, 2004:235). This concept is also endorsed by Alfred Chandler Jr (Takeuchi and Nonaka, 2004:142). A strategy must therefore first be developed before a structure is put in place. The structure proposed for projects are cross-functional teams which are expounded in the discussion on the business systems model.
A number of gurus have attempted to establish these criteria: one such guru is the Quality guru Joseph Juran who recommends seeking the “critical few” and not the “trivial many” for prioritization (as quoted in Goldsby and Martichenko, 2005:209).

4.4.4.4 Processes

Hoyle (1998:124) states that “[a]ll work is performed through processes. Work commences with an input and proceeds through a series of steps to produce the output using tools, equipment and so on”.

Process thinking is fundamental to systems thinking. Pierre Leroy states the following in Hammer (2001:62-63) about processes:

- Teleological (from the Greek word telos, meaning “goal” or “mission”)
- Processes focus on the outcome
- Customer focused
- Holistic to create superior value for the customer
- Based on the thinking that business succeeds based on well-designed ways of working as opposed to one or two brilliant individuals

ISO (2000) defines a process as a set of interrelated or interacting activities which transforms inputs into outputs. Outputs from one process typically form part of the inputs into subsequent processes”, as shown in the figure below.

![Figure 4.4.4.4 Chain of interrelated processes](source: ISO (2000))
4.4.4.5 Continuous Improvement and Problem Solving

"The significant problems we face cannot be solved at the same level of thinking we were at when we created them"
Albert Einstein

Business requires problem solving to be done at a different level than the level at which the problem is created. "Out of the box" or "beyond the box" thinking as promoted by Leibold et al (2002:104) can play a role as well as the six values model proposed by de Bono (2005).

Customers now expect businesses to exist to solve their problems and not just to sell them products (Hammer, 2001:18). It must however be noted that continuous improvement is not a single event (Goldsby and Martichenko, 2005:191).

4.4.4.6 Project Management

"A project is as a temporary endeavour undertaken to create a unique product, service or result. Temporary means that every project has a definite beginning and a definite end".

(PMIBOK, 2006).

The project scope covers "the three musketeers"– cost, time and functionality (quality) – which will ensure project success when managed well. Project Management is key to the implementation of all initiatives in the business and the standard project management diagram below puts the key aspects of project management in perspective.

![Project Management Framework](source: Groff and Jones, 2003:6)
PDCA is also found in project management and PMBOK (2006:38) states that “PDCA is the underlying processes for project management”. This implies that quality management is the underlying philosophy for project management and once again stresses its importance.

All work should be turned into project work according to Peters (1998:206). The projects should be managed on a cross-functional basis as per Covey (2004:234) who warns that there is often synergistic decision making and stovepipe execution. It is vital that cross-functional decision making is supported by cross-functional project teams and process improvement teams.

4.4.4.7 Performance Management

The old adage “if you cannot measure it you cannot manage it” puts the responsibility on management to measure all critical business processes.

Measuring what matters and what can help turn knowledge into action, emphasizes the need to perform: a business has to measure the processes it needs to get done (English and Baker, 2006:260)

Measuring services is extremely difficult as services have some unique attributes when compared to measuring products. The challenge however exists to establish the correct measures as per Goldsby and Martichenko (2005:215) who state that the wrong things could be measured right.

The perfect measurement for measuring customer services is proposed in the model below. They argue that the most perfect measure from a customer and logistics point of view is time, cost and quality, all of which are needed for full understanding of a process – a view also supported in Kaplan and Norton (1996:84).
This model with Measure indicated in the centre, adds a lot of value to the question of the right measurement for customer service as this is a huge challenge.

A discovery was made that the criteria are also identical to the ones identified for evaluating a successful project.

It is noted by Goldsby and Martichenko (2005:211) that a weighting be assigned to each of the criteria as they do not all carry the same weight, and the end result could be skew. Thus, it is proposed that weighting be introduced for each question so that the importance of the criteria can be established.

It is therefore proposed that the results of complaints, surveys and business performance be shared with all staff and customers, whilst 50% of survey results are shared with employees, only 5% is shared with customers (Gartner, 2005).
Chapter 5: **Change Management Process**

5.1 **Introduction to change**

Introducing change into organizations will be a challenge as change is not a natural part of the business. This view is endorsed by Porter (1990) when he states that “[c]hange is an unnatural act, particularly in successful companies; powerful forces are at work to avoid it at all costs”.

5.2 **Resistance to change**

Sunter and Ilbury (2005:8) state that people opposing change initiatives is a reality as you will be introduced to some people who never change their minds. To make an analogy with computer systems, one could say they have Read Only Memory (ROM), which means the person’s mind or memory cannot change.

> “In time of change, learners inherit the world while the learned remain beautifully equipped to deal with a world that no longer exists”

Eric Hoffer

5.3 **Change management program**

To become a world class organization, a change management program would be required to support the introduction of change into any organization. One area in particular that would require some intervention is the adoption of new technology in the organization.

This view is supported by Allee (1997:214) who states that “[i]t is naïve to assume that new technologies will automatically change behaviours. The presence of technologies that allow information sharing cannot in itself change a company culture”.

A change management program would therefore have to be produced as this would require convincing the entire organization of the need for change. Manning (2001:21) states that “change for the sake of change is stupid”.

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In constructing such a program, it must be kept in mind that not all will come on board immediately as stated earlier. The progression in terms of the adoption of “converts” for the change initiative, is shown diagrammatically below. The model has been slightly adapted as some people will never change their minds as indicated above and this must be acknowledged: hence the inclusion of terrorists or freedom fighters.

![Diagram showing the time of adoption of innovations](image)

**Figure 5.3 Time of adoption of innovations**
Source: Everett M. Rogers, 1983 quoted in Kotler, 2003:197

Four stages have been developed by Wilson (1999:138), quoted in Groff and Jones (2003:96) that any project will go through before a project reaches a performance level.

The stages are:

**Forming:** getting together

**Storming:** struggle for team control and roles

**Norming:** clarity on agreement and goals

**Performing:** actually doing the work
Like any “marriage”, some unproductive time will be spent storming, but this would be necessary for team members to discover one another. This model on group dynamic was developed by Bruce Tuckman (as quoted in Wilson, 1999:138).

5.4 Align business

Whilst the change might be painful, it is needed to move the business towards its ultimate goal.

“There is only one valid definition of business purpose: to create a customer.... the business enterprise has two and only these two basic functions: marketing and innovation”


5.5 Paradigm shift

The word paradigm stems from the Greek word paradeigma, originally a scientific term but commonly used today to mean a perception, assumption, theory, frame of reference or lens through which you view the world. A paradigm shift is required when quantum improvements are needed, for example: the changes that were required to move from the Industrial age to the Information age (Covey, 2000:19).

The change to a knowledge based strategy would amount to a number of paradigm shifts and below are a few mentioned by Malhotra (2000:12-13):

Design and use of technology

The role of senior management: e.g. a change from command and control to sense and respond

Organizational knowledge processes with ongoing reassessment of key assumptions

According to Malhotra (2000) industry will go through three major phases over a period of time, namely: automate, informate and transformate. The informate phase will rely heavily on education as people are informed (Crainer, 1998).
The word "paradigm shift" has been an abused term, but the move to the knowledge economy seems to be just right for once (Earl, 2000:22).

5.6 Mindset change

A mindset change is also becoming a critical management focus and Botha (2005) made reference to a concluding comment by the Rector of Stellenbosch University in dealing with a language debate at the University. The Rector was quoted in Botha (2005) where he remarked that a "mindset change is needed in this process".

A model has been developed which serves an agenda for strategic conversation and any organization can use it to change its mindset. Change Management is what some people call it, but to get people to manage differently, you have to change their minds first (Ilbury and Sunter, 2005:7).

The Greek word for shift of mind according to Senge (1990) is Metanoia which means a fundamental shift or in the Christian tradition, to repent: it also means to have a deeper meaning of learning.

This clearly indicates that the tools for the changing of mindsets have now become critical for the leadership of businesses. Ilbury and Sunter (2005); Senge, et al (1995) views a mind set change as a key issue for changing problem situations around. This paper will explore how these concepts together with some other knowledge-based tools can provide solutions to the dilemma facing Metrorail.
Chapter 6: People Management

6.1 Introduction

The contemporary thinking on management in business now includes looking at the mind for solutions. Whilst a full understanding of how the mind works is still in its infancy (Kim, 1993), there is much value in this approach for solving the problems of business and society as a whole.

There are many proponents for this thinking which is covered in Senge et al (1995); Senge (1990); Ries and Trout (1994); Choo (2001); de Bono (2005).

The most comprehensive model was developed by Chris Argyris in 1990 and remodeled by Senge et al (1995:242-245). It shows the steps that the individual goes through either consciously or unconsciously from making initial observations to finally taking certain actions.
6.2 Senge: Ladder of inference

Figure 6.2 Ladder of Inference
6.2.1 Beliefs, truths and real data

Senge et al (1995:242) elaborates on the model as follows:

We live in a world full of self-generating beliefs which remain largely untested. We adopt those beliefs because they are based on conclusions, which are inferred from what we observe, plus our past experiences.

Our ability to achieve the results we truly desire is eroded by our feelings.

Our beliefs are the truth.
The truth is obvious.
Our beliefs are based on real data.
The data we select are the real data.

6.2.2 Steps in the ladder of inference:

1. Observable “data” and experiences: much like a videotape recording a scene
2. Selecting data from what is being observed
3. Adding meanings (cultural and personal)
4. Making assumptions based on the meanings added
5. Drawing conclusions
6. Adopting beliefs about the world
7. Taking actions based on beliefs

One cannot go through life without adding meaning or drawing conclusions, but you can improve your communications through reflection, and by using the ladder of inference in three ways:

* Becoming more aware of your own thinking and reasoning (reflection)
* Making your thinking and reasoning more visible to others (advocacy)
* Inquiring into others’ thinking and reasoning (inquiry)
6.2.3 **Summary: steps of the ladder of inference**

This model is very relevant for both staff and customers alike as both go through these steps, and actions can therefore be traced right back to how the observable “data” (what is perceived) is what has been experienced.

It shows how people arrive at certain decisions, which help us make sense of why they take actions in a certain way. If a metaphor of a computer is used for the human brain, the old computer acronym: Garbage In, Garbage Out (GIGO), would be relevant. If Garbage enters the brain, Garbage will be the result and great care must be taken if the “software” of the mind is outdated or has bugs in it (in a metaphorical sense).

The model suggests improved communication with the biggest relevance for the study being the aspect of making thinking and reasoning more visible.

The model is also expanded by a number of other authors, and one other model by Choo (2001) has been included in the literature review. A number of other guru’s have developed similar models; although they have had different objectives to achieve.

6.3 **Values**

“Values determine our perceptions whether or not we are conscious of those values, and then what we see tends to support that perception.” (de Bono, 2005:16)

Our value system is therefore critical for how we view the world. A diverse customer base with diverse value systems would therefore perceive the service offering in very different ways.

Leonardo Da Vinci (as quoted by Gelb, 1998:97) stated that “the average human looks without seeing, listens without hearing, touches without feeling, eats without tasting, moves without physical awareness, inhales without awareness of odour or fragrance, and talks without thinking.”.
6.4 Perception

It has always been the Marketing department that has up to now been the department dealing with customer perceptions, but it now needs a new focus as only using factual decisions gives the business a false sense of reality. This fact is confirmed by Ries and Trout (1994:20) when they state that “[m]arketing people focus on facts because they believe in objective reality”.

It is also easy for marketing people to assume that truth is on their side, but marketing is not a battle of product, it is a battle of perceptions (Ries and Trout, 1994:18).

De Bono (2005) states:

Values play an important role in perception that when you are hungry you perceive a sandwich in a different way from someone who is not hungry. We may therefore need to do a value scan to see what values might be driving our perception.

In a way, a perception is an unconscious decision about how we see the world around us. Because it is unconscious, we have no control over our perceptions unless we make the driving values visible.

There is a direct correlation between the principles found in de Bono (2005) and Maslow’s hierarchy of needs at the physiological needs level. A hungry person will be motivated by physiological needs, which is at the bottom of the pyramid; hence aesthetics would not be a priority for this person as this would be a need second from the top of the pyramid.

Due to the fact that perception is largely an unconscious act, deliberate interventions would be required to show customers the positive aspects of the business.

“Man’s desires are limited by his perceptions. No one can desire what he has not perceived.”

William Blake
Ries and Trout (1994: 19-20) state:

Marketing people are preoccupied with doing research and getting facts. They analyze the situation to make sure that truth is on their side.

The perception is the reality. Everything else is an illusion. … Truth and perception become fused in the mind, leaving no difference between the two.

Negative perceptions must be challenged or corrected with marketing programs as leaving these intact could have serious ramifications and this can only be achieved by studying how perceptions are formed in the mind and focusing your marketing programs on these perceptions.

The old adage “perception becomes reality in the absence of facts” suggests that facts are also needed to change incorrect perceptions.

"You can't change the world but you can change the facts, and when you change the facts, you change points of view, and when you change points of view, you change the world"

Quote written on the Berlin Wall 1989
6.5 Perception and the human brain

This interest in perception can be seen in Van Dyk and Herholdt (2004:33) when they state: “Recent research about human perception and functioning of the brain also provides a different viewpoint from which to understand the effect a brand has on consumers. For example, there are theories that explain the effects of branding in terms of the impact on all five of our senses.”

It stands to reason that whilst Stewart (1997) stated that when the trace of money is followed, it will lead to information, when the trace of perception management is followed, it will lead to the brain.

“The five senses are the ministers of the soul.”

LEONARDO DA VINCI

Gartner, which is the world’s leading research organization in the areas of Information Management and Knowledge Management, published a report in 2005 covering the topic: “Perception Is Reality: Communication Strategies for Public CIO’s”. The report deals with the importance of perception management and strategies are proposed which can be applied to improve negative perceptions and to create more positive perception.

6.6 Mental models

This leads us to another core theme in the research namely mental models. Mental models according to Dawson (2005:104) were popularized by Peter Senge, but cognitive psychologists held the concept for decades: examples are Kenneth Craik in 1943, Henry Mintzberg in 1973 and Chris Argyris around 1976.
Mental models are described by Dawson (2005:103-107) as follows:

A mental model is the way we view the world.

All decisions are made on the basis of mental models which means that mental models must be aligned with reality for staff and customers to make the correct decisions.

To change a mental model requires a mind set change and this is a challenge.

People’s mental models dictate their perceptual filters, which determine what they actually sense in their environment, and how it is interpreted.

Lissack & Roos (1999:5) state that “a mental model is an image inside one’s head to help make sense of any situation”.

Mental models can restrict our understanding of the world according to Kim (1993), which could be detrimental to the organization as blind spots can develop. The concept of blind spots is stated by Stewart (1997:135); Choo (2001:260) and is explained by a model referred to as the Johari window.

> “Do not conform any longer to the pattern of this world, but be transformed by the renewing of your mind.”
> Romans 12:2

6.7 Frameworks

“Frameworks allow us to direct attention at will. Frameworks allow us to ask others to direct their attention in a certain way. ... Frameworks allow us to give 'names' to things so that we can look for them, look at them and notice them” (de Bono, 2005:32).

Kinghorn (as quoted in Leibold et al, 2002) raises a similar notion and states that frameworks work on the same principle as when light bounces off an object – directing attention on what needs to be amplified as well as allowing for naming things.
Frames create context for what is being presented and weave knowledge into a big picture (English and Baker, 2006:80).

6.8 The 23 step framework

The framework below was developed to facilitate the introduction of the ISO 9000 into Metrorail. The standard project Gantt chart was converted in a train line with 23 stops as a metaphor of the journey to be taken. The train stops at every station and repeats the journey starting from station 1 which would signify continuous improvement as an accepted principle.

Figure 6.8 The 23 Step ISO 9001:2000 implementation framework
Source: Metrorail
A framework should be developed to communicate service levels to the customers. It is proposed that the frameworks ISO 9001:2000 and BIG 5 are shared with commuters to give them better insight into the workings of the systems at Metrorail. This thinking is in line with that of the ex-CEO of General Electric, Jack Welch, who employs the theory of having a transparent organization which he referred to as the boundaryless organization.

6.9 Naming an object

It is stated in De Bono (2005:31): “Can you see something for which there is no name? In the physical sense you can, of course, see that thing. But you may not ‘notice’ it and the thing may not register in your mind.” This clearly makes the case for giving objects a name, particularly when you want it to be noticed.

6.10 People think in terms of metaphors and frames

Metaphors are becoming increasingly popular in the business world. One example is a business book that became a best seller: “Who Moved My Cheese”, by Dr Spencer Johnson. The book depicts cheese as a metaphor for what is desired in life. Two mice, Sniff and Scurry, and two little people, Hem and Haw, are depicted in this story as they have to deal with change.

Dawson (2005:340) states that “[m]etaphors are tools. Metaphors are poetry. Metaphors are bridges to connect our knowledge. …Leading linguists and cognitive scientists George Lakoff and Mark Johnson explore in detail the nature of the metaphors that guide our everyday perceptions and communication”. They find (sic) that most of our conceptual system is metaphorical in nature, and they in fact argue that “human thought processes are largely metaphorical.”
6.11 Metaphor: Naming BIG 5

The naming of the performance management tool as BIG 5, has allowed the entire company to become *au fait* with a performance management tool and the metaphor of a big 5 has done a lot to draw attention to performance management. In the process, Metrorail created a reporting framework to support a “back to basics” strategy. The thinking behind this strategy is to first focus on the minor challenges such as on-time service before taking on the challenge of developing strategies for performing logistics integration across the different modes of transport.

The strategy consists of the following five key customer focus areas with each of the performance criteria linked to the BIG 5 animals of South Africa as indicated below:

<table>
<thead>
<tr>
<th>Affordability</th>
<th>On-time service</th>
<th>Safety and security</th>
<th>Customer communication</th>
<th>Cleanliness and comfort</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leopard</td>
<td>Buffalo</td>
<td>Lion</td>
<td>Elephant</td>
<td>Rhino</td>
</tr>
</tbody>
</table>

**Figure 6.11 Big 5**
Source: Metrorail

This has become an effective tool in getting the business to focus on the BIG 5 Metaphors, but in turn, focuses on the business without negative connotations associated with performance targets in business.
6.12 Endorsement

De Bono (2005:94) proposes endorsement as a technique to change perceptions as an influential person could have a positive impact on the image of your company. This technique could be used by the companies by using use high profile sport stars or musicians to endorse positive aspects of the service.

6.13 Belief

"...Every man gives his life for what he believes. Every woman gives her life for what she believes."

Joan of Arc

A belief system is a very important aspect in perception and it is therefore proposed that an understanding of the belief system of customers be ascertained.

People would be prepared to die for it, as is evident in the quotes by Joan of Arc and Nelson Mandela, who stated what sacrifices they were prepared to make for what they believed in.

"I have fought against white domination and I have fought against black domination. I have cherished the ideal of a democratic and free society in which all persons live together in harmony and with equal opportunities. It is an ideal which I hope to live for and to achieve. But if needs be, it is an ideal for which I am prepared to die."

Nelson Mandela
Rivonia Treason Trial, 20 April 1964
6.14 Making the system visible

The first clause in the ISO 9000 standard in ISO (2000) state:

Section 4.1

Leading and operating an organization successfully requires managing in a systematic and visible manner.

For an object to be seen, light has to bounce off it. It is therefore proposed that the organization put the spotlight on positive issues when dealing with the customers in the system and make information about the service visible. Making the system visible is also endorsed by ISO (2000).

6.15 Real worlds

The real world lives in the mind of people which is a view supported by Ries and Trout (1994:20) when they stated that “if the universe exists, it exists inside your mind and the mind of others. That’s the reality that marketing programs must deal with.”

The company must therefore become aware of how all projects or activities are perceived when being involved in any initiative. It is important to check to see how it is perceived inside and outside the organization.
6.16 Training and development

The people aspect is critical as more than 60% of the operational budget of Metrorail is spent on personnel. The competence of staff is also a huge factor as Noninelli and Meyer (2004:12) propose the model below which presents human input as part of a continuum to ultimately produce optimal performance.

"It is not your aptitude, but your attitude, that determines your altitude"
Zig Ziglar
English and Baker (2006:240) have another version of this model which makes experience and creativity pertinent factors. This model links well with requirements of ISO 9000 in terms of Human Capital Management.

There is therefore a general consensus amongst KM experts that the knowledge-based activities are crucial to developing products. Davenport and Prusak (1998:13) state that it has the greatest potential for providing competitive advantage. Process design is regarded by Hammer (2001:69) as a valuable form of intellectual asset.

Galloway and Ho (1996:23) state that “since the customer is often used as labour in service operations, ... training applies to customers as well as employees”. This suggests that customers be included in some training programs of the organization and that some of the solutions in terms of changing mindsets would be relevant to customers and employees alike.
The organization does not own Human Capital and must therefore make every effort to have the human capital documented and codified (English and Baker, 2006:140).

The people issues are covered in Quality Management Systems and the clause relating to Human Resources, found in ISO (2000) and is quoted below.

“6.2 Human Resources

Personnel performing work affecting product quality shall be competent on the basis of appropriate education, training, skills and experience.”

The Balanced Scorecard which has Learning and Growth as one of only four sections of the framework covers the aspect of training. This also emphasizes the value of teaching and learning in the Information age. Particular emphasis should be placed on front-line staff: a view supported by Mudi and Cottam (1999:261) who make special reference to front-line staff in dealing with customers.

6.17 Value chain

Porter’s physical value chain below is expanded into a logical value chain shown named the HR Value chain – the model depicts strategic and operational HR processes.

The ideas of Harvard academics Jeffrey Rayport and John Sviokla (quoted in Earl, 2000:18) together with the Porter value chain are used as the basis for enhancing the model found in Boninelli and Meyer (2000). It is also significant to note that the Porter value chain (Porter, 1985) still remains the fundamental technique for identifying critical business processes.
Figure 6.17a Value chain
Source: Porter (1990)

Figure 6.17b New value chain
Source: Jeffrey Rayport and John Sviokla (as quoted in Earl, 2000:18)
6.18 Meta-skills

The training curriculum should also include meta-skills. Examples of meta-skills are listed below:

- Rapidly learning new processes and skills
- Open communication
- Sharing and leveraging knowledge internally
- Flexibility and adaptability of organizational structure

Source: (Dawson, 2005)

It is stated by Dawson (2005:344) that Myers-Briggs can be regarded as meta-skills. This implies that the employee training program should include knowledge and skills identified by the Myers-Briggs assessment.

The Myers-Briggs Type Indicator (MBTI) is the most widely used personality-assessment instrument in the world. It is based on the work of Carl Jung as per Chris Argyris (quoted in Takeuchi and Nonaka, 2004:131).
The MBTI tool is particularly helpful at the interview stage (Covey, 2004:147). It is therefore important that we recruit correctly (Fourie, 1997:110). It therefore stands to reason why it would be most appropriate according to Peters (1998:368; Fourie, 1997:110) to hire for attitude and train for skills.

Recruitment processes must therefore be aligned to the Knowledge, Skills and Attitude (KSA) requirements as recruiting people with the right KSA is also a governance issue (IOD, 2002).

The ultimate goal therefore would be to secure an optimal change in behaviour from both employees and customers which will ensure an improvement in customer service.
Chapter 7: Processes

7.1 Customer and Market Processes

7.1.1 Customer needs

Metrorail is a commuter rail service provider on behalf of government who has spelt out their requirements in DOT (1998) as below:

Customer needs: the transport strategy must be based on data-driven understanding of needs of different customer segments, their service and cost requirements...

The service must be a safe, affordable, efficient and effective service.

The diagram below is modelled on the diagram presented by Slater (1999:138). It shows that only a number of issues are visible to the customer and many processes are hidden from the customer based on the theory that only certain service aspects are visible to the customer.
The diagram that was developed is a travel chain which is a requirement as per DOT (1998) which states “[a] travel chain as a tool to assist transport authorities and transport planners in understanding where the critical obstacles to access and mobility are located in transport systems”.

There is an additional strategic principle specified in DOT (1998) to create customer facing systems and enhance customer power. The travel chain will ensure that there will be a focus on creating customer-facing systems.

It must be noted that the customers are not really interested in product or service, but only that their problems be solved (Hammer, 2001:38) or what the product does for them (Drucker, 2001:187).

The implementation of the recommendations of the study could be the key reason for the company to look at its customers in a different light. The traditional view of the customer is that the customer is the person that merely buys your product. This could be replaced with the view that the customer is a person of behaviour, based on the Latin meaning of the word customer.

The word that is closely linked with customer is custom, which is defined as “long-established activity or action; usual habit; regular use of shop or business” according to Collins (2004). This definition suggests words such as action and habit which have a wider connotation than simply “a buyer of goods”.

The entire business model must be examined including a decision to employ people with a strong feel for the behavioural sciences.

7.1.2 Customer value proposition

Creating customer value for customers to maximize their disposable income, should be the starting point for management as opposed to their own products or services according to Drucker (2001:86).
The following generic formula as a customer value proposition is proposed by Kaplan & Norton (1996:74) and found in the diagram below.

![Customer Value Proposition Diagram](image)

It is stated in Kaplan and Norton (1996:84) that after evaluating many value propositions that the generic measurements include price, time and quality. A similar concept is expounded by Albrecht (1997:128) where the following customer value model is proposed: financial environment, delivery, interpersonal, procedural, informational, aesthetics.

Price might not be that obvious, as is even more relevant for a governmental organization. Hence the value in providing a low cost service to the bulk of the commuters should be stressed in the promotional efforts of the marketing function.

The customer value package according to Albrecht (1997:13) is a combination of **things** and **experiences** that create a total customer perception of value received.

### 7.1.3 Market segments

![Value Creation and Delivery Sequence Diagram](image)

Source: M.J.Lanning an E.G. Michaels quoted in Kotler (2003:70)
The solution will have to be developed in conjunction with the Marketing function. It is therefore proposed that the value creation and delivery sequence as per Lanning and Michaels (as quoted in Kotler, 2003:70) be applied. The marketing approach therefore also takes on a value chain approach which has now become a central theme for customer solutions. Market segments for businesses were also identified as a viable initiative according to Hammer (2001:22).

The first step as shown in the figure above is to look at customer segments. A marketer can rarely satisfy everyone in a market. Therefore, marketers identify and profile distinct groups of buyers who might prefer or require varying products and marketing mixes. Market segments can be identified by examining demographics, psychographics, and behavioural differences among buyers (Kotler, 2003:6).

<table>
<thead>
<tr>
<th>Table 7.1.3 Market segments for public transport</th>
</tr>
</thead>
<tbody>
<tr>
<td>Customer segment</td>
</tr>
<tr>
<td>Strider (walk or cycle)</td>
</tr>
<tr>
<td>Stranded</td>
</tr>
<tr>
<td>Survival (cheap transport)</td>
</tr>
<tr>
<td>Source: DOT (1998)</td>
</tr>
</tbody>
</table>

Metrorail Western Cape services at least 600,000 commuter trips on a daily basis. The company offers two main services, namely Metro and Metroplus. The Metro service accounts for 87% of the commuter base and has an average monthly ticket fee of R90, whereas the average cost of the Metroplus ticket is R180. Metroplus passengers therefore expect a higher level of service as they pay a premium for this service.

Emphasis should therefore be placed on demographics and behavioural differences in the market; however, the CSI report demographic has not been a factor in ensuring the inclusion of the various segments in the surveys.
In reviewing the CSI report, it shows that no customer reporting was done on the basis of demographics. A report on demographics was produced on the sample interviewed but this has not been linked back to the detailed CSI report. This can be regarded a shortcoming in the CSI report and it is proposed that this type of analysis will be done in future reports.

7.1.4 Branding

Products can be classified as brands which are classified as Intellectual Property (a subset of Intellectual Assets). These brands also have a value and some have a national and international value. One other brand, is the brand South Africa, which has a value of R379.5 billion according to Busrep (2005).

Intellectual Capital is uncharted territory with executives and this includes branding, copyright and patents (Stewart, 1997). The company has built up brand capital over the years which implies the Metro and Metroplus brand can now be sold to another company in future as international legislation to list brands on the balance sheet does now exist.

All organizations also have employee brands according to Van Dyk and Herholdt (2004:xi), whether it was intended or not.

The American Marketing Association (as quoted in Kotler, 2003:216) defines a brand as a name, term, sign, symbol or design, or a combination of these, which is intended to identify goods or services of one group of sellers and differentiate them from those of competitors.

The importance of brands is highlighted by Peters (1998) when he states that brands are now becoming even more important and that businesses should develop an obsession with branding.

There is a link between brands and metaphors according to Dawson (2005:340) who states:

...metaphors are tools that form bridges to connect our knowledge. Leading linguists and cognitive scientists George Lakoff and Mark Johnson also stated as having explored in detail the nature of the
metaphors that guide our everyday perceptions and communication. They find (sic) that most of our conceptual system is metaphorical in nature, and they in fact argue that human thought processes are largely metaphorical.

This implies that brands which have a logo are metaphors which play a critical role in communicating a brand. Evidence for this conclusion is provided by Aaker (2002:177) where visual imagery and metaphors are given under the classification of a brand as a symbol.

“Symbols are more meaningful if they involve a metaphor, with the symbol or a symbol characteristic representing a functional, emotional, or self-expressive benefit... A strong symbol can be the cornerstone of a brand strategy” (Aaker, 2002:85).

The importance of branding is stressed by Gartner (2005) in stating that brand equity also has the additional benefit in that it acts as a sponge for the occasional bad news a company experiences. Consideration must be given to brands during strategy review sessions as branding is a major issue in product strategy (Kotler, 2003:216).

A brand’s value proposition includes: functional, emotional and self-expressive benefits which is coupled with price. If the price is too high, relative to the benefits, it will undermine the value proposition. The functional benefits are a given, whereas a management team with a high EQ and SQ can create value through this strength (Aaker, 2002:95-102).
7.1.5 Value chain

The value chain principles (Porter, 1985), merged with the ISO 9000 model (ISO, 2000) has delivered the model below. The model was also influenced by Tiwana (2001) which shows knowledge as the business process that cuts across the entire value chain.

Single and double loops are quite visible in the figure below. Feedback loops are the conduits for information flow in the system.

![Figure 7.1.5 Metrorail value chain](source: Porter(1985); ISO (2000))
7.1.6 What is the Moment of Truth (MOT)?

Albrecht (1993:116-118) state that the concept of the Moment of Truth (MOT) is defined as any episode in which the customer comes into contact with the organization and gets an impression of its service. The MOT concept was first mooted by consultant Richard Normann and popularized by Scandinavian Airlines, Chief Executive: Jan Carlzon.

Business does not exist in the mind of the customer – the only time they think of a business is when they come in contact with it and hence all MOTs add to the total customer perception. This approach must not be confused with the service chain which maps the path of all elements of the business chain. The “MOT is the measure of the actual encounter between the customer and the service chain elements.” (Fourie, 1997).

Whilst the truth will set you free, the paradoxical nature of clarity and truth is touched on by Cochrane (2004:4) where he states:

We seek clarity and truth....
...but they are mostly orthogonal...
To explain the complex we simplify and bastardize the truth – it all becomes a lie
If we tell the absolute truth, things can become so complex, no one understands.

7.1.7 Why is the MOT important?

The MOT analysis may be used to take inventory of the moments of truth in order to establish what needs to be done. For each contact point, there should be a small set of key customer related goals against which performance is monitored. A good place to start is to draw a diagram that maps each point of contact where a customer can pass judgment on the company (Fourie, 1997).
7.1.8 Service chain

Service is work done by one person for the benefit of another (Albrecht, 1993:70). The service industry is different from the manufacturing industry. To provide a service one should consider community based organizations such as the church and welfare organizations. The Pope (as quoted in Albrecht, 1993:105) on the topic of a service mindset, refers to service as: servus servorum (the servant of servants).

The Spirit of Service

An attitude based on certain values and beliefs about people, life and work, that leads a person to willingly serve others and take pride in his or her work.

(Albrecht, 1993:88)

The move to a service industry therefore, would require a new mindset. This mindset would be instrumental with all staff feeling comfortable with the statement by Covey (2005:224) that the Ritz-Carlton exhibits an extraordinary service culture, namely: “We are gentlemen and ladies serving gentlemen and ladies”.

One of the most significant aspects of a service industry is that there is no longer a “thing” to take back when customers are not satisfied. Kaplan and Norton (1996:88) commented in this regard that “In contrast, when a quality failure occurs in a service company, the customer has nothing to return...”. This complicates the industrial based business model, as the move from the tangible world to the intangible world has now become a reality.

This task is however not as straightforward as it first appears, as rail operators produce a service. Rail travel could be classified as the same as air travel. Hence consideration should be given to the statement by the President of Southwest Airlines who said “We’re in the customer service business; we just happen to provide airline transportation.”
There is however a school of thought that suggests “products” and “services” should not be separated according to Albrecht (1993) and that this notion is archaic and in fact is a thinking trap. Rail companies who think commuters choose rail as the only mode of transport display a blind spot as rail is just one form of transport and customers will choose the best form available to them (Kotler, 2003:13).

Metrorail has been experiencing some overcrowding due to a shortage of trains. This could be problematic and Fourie (1997:26) state that there are problems abound in a service scenario when demand exceeds supply, as the production and consumption cannot be separated. Over-full trains will inevitably result in customer complaints as all passengers now clamour for seats, on a train that does not exist.

7.1.9 Metrorail’s travel chain

There are a number of “moments of truths” that the customers experience daily. These MOTs are illustrated in the travel chain below. Care should be taken that all measures are in place as the measurement of critical processes are often overlooked in the value chain (Fourie, 1997).

These moments of truths therefore have to be analysed using the principles espoused by Porter (1985) as a basis. Measures are attached to each moment of truth to ensure that the right attention is given to customers.

![Figure 7.1.9 Travel value chain](Source: Metrorail)
7.1.10 MOTs per day

There are 600,000 commuter trips in the Western Cape on a daily basis. To determine the amount of MOTs experienced daily by commuters, this figure must be multiplied by 10 which is the number of MOTs experienced by each commuter per trip. The daily MOTs therefore amount to 6,000,000 all which are opportunities for positive and negative customer experiences.
7.1.11 CRM

Customer relationships are the primary lever for value creation according to Kotler (2003:73) which means it will make good sense to initiate a CRM program in the company. It is also stated by Kotler (2003:47) that relationship equity is the customer’s tendency to stick with the brand beyond its objective or subjective assessment. To build relationships provide a buffer when things go wrong and your customers will be prepared to stick it out with the company against all odds.

7.1.12 Who is my customer?

Objective

To test the theory that premium customers are prepared to engage the supplier when problems are experienced with service delivery. This is in spite of the fact that they pay more for a service. There is a theory that bargain hunters, on the other hand, are not keen to spend money to engage the supplier when things go wrong and hence are not truly loyal to their supplier.

Data collected

Data was needed to show how many of the people were premium customers: namely Metroplus as opposed to Metro commuters.

The call centre database, consisting of customers who have complained over a period of one year. A random sample of 100 commuters was selected from the database.

Results

It was found that 50% percent of the sample were Metroplus ticket holders and were mainly monthly ticket holders - which showed a high level of loyalty. This could be regarded as quite significant as the Metroplus commuter base is only 15% of the total customer base.

Conclusion

This led to the conclusion that premium customers are prepared to engage a company during the normal course of business and are more loyal to the company.
7.1.13 Summary

It has been critical to review the Customer and Market processes, as the purpose of business is largely based on the true needs of the customer. There is acknowledgement that various market segments exist, however a standard value chain becomes the backbone for developing logistical planning of the service.

7.2 Communication Process

7.2.1 Basic communication model

Communication in business is stressed as being of paramount importance in Manning (2001:14) who state “Organizations, then, are managed conversations. People inside them talk to each other all day long about what they must do and how they do it. They also talk to a variety of outsiders – customers, suppliers, government, and so on.”

Whilst communication has been at the centre of managerial attention for decades, the results have been meagre according to Drucker (2001:214). It is however stated by Stewart (1997) that the fundamental sources of wealth are knowledge and communication.

“Therefore is the name of it called Babel; because the Lord did there confound the language of all the earth: and from thence did the Lord scatter them abroad upon the face of all the earth.”

Genesis 11:9

It would therefore be important to review the fundamentals of communication below:

1. Communication is perception
2. Communication is expectation
3. Communication is demand
4. Communication and information are different and indeed largely opposite-yet interdependent.

Source: (Drucker, 2001:265)
Information is logic, whereas communication is perception. Information is formal and therefore has no meaning. It is impersonal and when stripped of emotions, values, expectations and perceptions, the more valid and reliable it becomes. Information presupposes communication whereas communication may not depend on information where sharing of experiences takes place without logic.

For information to be communicated, a sender must encode a message and send it to a recipient who receives and decodes it.

A basic communication model as per Morris et al (1996) has been included above due to the importance of communication. This model depicts the potential for problems with transference of information from source to receiver. Information can get corrupted at several stages in this process. The model has been adapted to indicate communication barriers which exist in business due to factors such as language, poor communication methods, listening problems and many more.

Communication appears to be easy to manage but basic mistakes are made when communicating: examples are listed below.
- Message are not coded properly and are transmitted with incorrect information
- Messages are transmitted but not decoded properly
- Messages are transmitted, but no checking is done that the messages have been received.

### 7.2.2 SECI Model

![The SECI Model](image)

**Figure 3.2** The SECI Model (Adapted from Nonaka, 1998, pp. 40-54)

**Figure 7.2.2 The SECI Model**

Source: Despres and Chauval (2000:60)

The KM gurus Takeuchi and Nonaka developed the SECI communication model in 1991, which describes the way knowledge is generated, transferred and re-created in organizations.
Despres and Chauvel (2000:60) state:

Socialization: the sharing of tacit knowledge between individuals through joint activities, physical proximity

Externalization: The expression of tacit knowledge in publicly comprehensible forms

Combination: The conversion of explicit knowledge into more complex sets of explicit knowledge: communication, dissemination, systematization of explicit knowledge.

Internalization: The conversion of externalized knowledge into tacit knowledge on an individual or organizational scale; the embodiment of explicit knowledge into actions, practices, processes, and strategic initiatives.

The model in essence states that knowledge is transferred to three audiences, namely individuals, groups and organizations, which relates to the standard organizational pyramid. Knowledge changes from a tacit to explicit form as it moves through the ontological levels of the organization (Takeuchi and Nonaka, 2004:9).

7.2.3 Making it visible

Making the actions visible is a requirement of both Total Quality Management and KM processes. These two processes have complementary processes as stated earlier in the report where the document and record processes for a QMS as well as the documentation required for KM lays a solid foundation for knowledge management.

In the book on Six Sigma Quality, Bicheno and Catherwood (2005:17) show the famous visible tip of the iceberg showing minimal failures. The bulk of problems are unseen under the water, and therefore all the problems are to be made visible.
When criminal arrests are made, for example, this should be reported widely. This will send a signal that the company is serious about dealing with crime and the staff will regain confidence in the system at the same time. This will go a long way in helping the company lose the stigma that their efforts are “the best kept secret in town” and will help closing the loop.

7.2.4 FAQ

Frequently Asked Questions (FAQs) have been documented at Metrorail and are widely distributed to staff, commuters and stakeholders. The purpose of FAQs is for all employees and call centre staff to respond to standard customer complaints and queries proactively.

It is however proposed by Gartner (2005) that different FAQs be prepared for the different levels of the stakeholders as this is regarded as a proactive initiative in dealing with stakeholders.

7.2.5 Less jargon

All customer communication should be free from techno jargon: examples are “besetting”, “occupations” and “flimsy”. A fog index should be used on all communication to ensure that the appropriate level of communication is produced.

7.2.6 Summary

The critical nature of communication is highlighted in this chapter and underpinned by many authors, including Drucker (2001) and Manning (2001).

The interdependency between information and communication is highlighted here as the need to make business systems visible.
7.3 Information and Knowledge Management Processes

7.3.1 Data, info, knowledge and wisdom

Data is a discrete set of objective facts that, on its own, has little relevance and purpose.

Information - As soon as data is manipulated and/or related to any category, event, context etc. It gains meaning, revealing patterns and trends, and is then termed "information".

Knowledge is applied information and is meant to change the way the holder of the information perceives something and then have an impact on his or her behaviour.

Wisdom is the correct, contextualised application of knowledge - with the purpose of trying to create a sustainable basis of action for the individual and organization, without the need for iterative action.

(April & Izadi, 2004:3-11)

The discussion is aided by examples of information and knowledge.

Information: the wind speed is six knots from the South East.
Knowledge: you will stall if you fly less than 60 knots.

(Francis and Woodcock, 2004:199)
7.3.2 Continuum/progression for adding value

The knowledge Progression

![Diagram of knowledge progression]

Adding Value: 
- Contextualized
- Categorized
- Calculated
- Corrected
- Condensed

Adding Value: 
- Comparison
- Consequence
- Connections
- Conversations

Adding Value: 
- Action-oriented
- Measurable efficiencies
- Wiser decisions

Data
- Discrete, objective facts about an event

Information
- A message meant to change receiver’s perception

Knowledge
- Experience, values, context applied to a message

Wisdom
- Collective, application of knowledge in action

Quantitative: 
- Cost
- Speed
- Capacity

Qualitative: 
- Timeliness
- Relevance
- Clarity

Quantitative: 
- Connectivity
- Transactions

Qualitative: 
- Informativeness
- Usefulness

Quantitative: 
- Contextual
- Evaluative

Qualitative: 
- Intuitive
- Informative

Figure 7.3.2 The knowledge Progression
Source: Liebowitz, 1999:8; Davenport and Prusak, 1998:5-6

The knowledge Progression model points out the progression from data to wisdom. Terms such as “beliefs” and “perception” in the definitions of the knowledge progression are seen as an opportunity for a solution with the perception dilemma and Shakespeare says: "therein lies the rub". This opportunity was not previously presented with data processing and information management.
7.3.3 Fusion of DIKW and Qualitative plus Quantitative

The diagram also marries the traditional DIKW model with the Quantitative and Qualitative perspective, demonstrating that combining these two processes add value to the progression. This is where the rubber meets the road as indicated by Covey (2004:274) and Senge (1990:10) or in railway terms: where “steel meets steel.”

Groff and Jones (2003:166) describe the two types of metrics as follows:

Quantitative metrics: Measures that determine amount or quantity.

Qualitative metrics: Measuring of, relating to, concerning quality. Qualitative measures are inherently subjective: examples include feedback measurements systems such as Amazon.com’s book-rating system.

To fully comprehend the aspects of quality, quantitative metrics would be required. This would be supported by qualitative metrics.

7.3.4 Overlap between information and knowledge

The thinking that data are simply turned into information and then into knowledge has been an oversimplification of how knowledge is created. “To conceive of knowledge as a collection of information seems to rob the concept of all of its life…. Knowledge resides in the user and not in the collection. It is how the user reacts to a collection of information that matters” (Churchman, 1971, p.10 quoted in Malholtra, 2006)

There is a view that “not only are the definitions of the three entities vague and imprecise: the relationships between them, although non-trivial, are not sufficiently dealt with. It is unwise trying to define these entities in terms of each other since such definitions seem to further confuse the picture” (Stenmark, 2002).

There is however a lack of consistency in the definition stating the difference between Knowledge and Information which is not “clear cut” (Francis and Woodcock, 2004:199).
It is stated in Harris et al (1999:1) that the industry does not share a common definition of KM, and is confused by the concept.

7.3.5 Value of Information

Information becomes more valid and reliable when it is freed of such things as emotions and values, expectations and perceptions (Drucker, 2001:265). There could therefore be a tendency for information to be stripped of all the soft data in order for communication to be efficient, but the process of communication becomes ineffective as it should happen on an intellectual and emotional level. Drucker (2001:344) state that information is conceptual, whereas meaning is not, it is perception.

![Figure 7.3.5 A Simple Marketing System](Source: Kotler, 2003:7)

The figure above highlights the flow of information and communication between the sellers and buyers as key issues, along with the more prominent flow of goods/services and money. The information and communication are equivalent to the feedback loops indicated in the ISO 9000 framework and the similarities between the Kotler model and the ISO 9000 framework are fairly obvious.

Whilst the customer is the *raison d'être* for business, it is easy to see why it is remarked by Stewart (1997:20) that "If you want to figure out what a business is doing, follow the money. The trail leads straight to information". This concept can be expanded with the notion that
when the trail is followed beyond information, it would lead one to the brains of individuals as this is where knowledge resides. This would be the case for both employees and customers.

Obtaining the correct customer information cannot be left to chance and must be made a priority. Judging by the low percentage of external information a company owns, approximately 90 per cent or more of the information any organization collects is about inside events (Tissen et al, 2000:127).

7.3.6 CRM data

A classification scheme for customer information is given below and found in Radcliffe et al (2001) with the view that customer information is the lifeblood of CRM. The Customer Information classification scheme is based on three levels namely: descriptive, relationship and contextual.
Table 7.3.6 Classification scheme for Customer Information

<table>
<thead>
<tr>
<th>Level of Info</th>
<th>Purpose</th>
<th>Examples</th>
<th>Sources</th>
<th>Strengths</th>
<th>Weaknesses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contextual</td>
<td>Understand behavioral drivers</td>
<td>Satisfaction, events, competitor actions, attitudes</td>
<td>News-feeds, employees market research</td>
<td>Relevant to customer</td>
<td>Difficulty to gather and structure</td>
</tr>
<tr>
<td>(Creativity*)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Relationship</td>
<td>Understand customer's behaviour</td>
<td>Purchases, usage, communication, lifestyle, industry relationships</td>
<td>Internal systems, loyalty schemes, external data sources</td>
<td>Personalize to company</td>
<td>Data Overload, system integration complexity</td>
</tr>
<tr>
<td>(Completeness*)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Descriptive</td>
<td>Understand behaviour</td>
<td>Contact, size, socioeconomics, demographics</td>
<td>Operational systems, external data sources</td>
<td>Easily available</td>
<td>Completeness</td>
</tr>
<tr>
<td>(Accuracy*)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Note the key to success is indicated in brackets for every level

Knowledge is an output of Information and Learning – it improves the way we do things “it’s big and slippery; hard to get your hands around!” (Francis and Woodcock, 2004:199).

Knowledge has to be turned into information when there is a need to communicate knowledge to inform the receiver, and in the process some of the knowledge is lost as the carrier is often unable to carry all the nuances of knowledge.

It is stated by Jan Carlzon (quoted in Albrecht, 1993:143) that individuals that have access to information cannot help but take responsibility. This will assist in closing the execution gap as staff and customers alike would be able to help themselves since they would be empowered to act.
Information has inherent value which is created when information is made available. The benefits to commuters could result in a saving of time and money.

Some examples of the benefits:

- Passengers can make alternative arrangements when trains run late or are cancelled

- With appropriate route information, passengers can plan journeys with the shortest distance to a destination.

"We are drowning in information but starved for knowledge."
- John Naisbitt, Megatrends

7.3.7 Value of knowledge

A concern is expressed for ‘Islands of knowledge’ by Goldsby and Martichenko (2005:57). This concern is however addressed by the mission of the KM department which is “to connect people with people and people with information”.

This vision is endorsed by Liebowitz (1999:4-5) who states that the purpose of KM is “connecting people to people, people to information, and providing a means to develop the tacit knowledge required…”.

Knowledge Management is a poor term according to Stewart (1997) and should rather have been named Intellectual Capital which is also the name of Stewart’s book. This view is underpinned by Liebowitz (1999:4-5) who states that “It is evident that you cannot manage knowledge. What you can do is to manage an environment that optimizes knowledge, that encourages information sharing, knowledge creation, and team working.”.
KM has however been heralded by Grant (as quoted in Despres and Chauvel, 2000:28) that despite its peculiar, superficial, and wrong-headed manifestations, it has the potential to make the most important advance in management theory and practice of the past 50 years.

Thomas Stewart however gave KM the ultimate praise as a tool in the information age and stated in Stewart (1997) that Information and Knowledge Management are the thermonuclear competitive weapons power of our time. No company can therefore deal in a competitive market without an Information Management and Knowledge Management strategy.

7.3.8 Value of wisdom

Wisdom has much to offer as it includes sustained action which is preferable to once-off actions. No organization has the resources and time for continual action initiation - once a process is in place, then it must work into perpetuity. There is an acknowledged execution gap in business according to Covey (2004:274) which is the reason that things do not get done in organizations.

7.3.9 Lies, damn lies and statistics

It is proposed by de Bono (2005) that a different spin be put on sharing information with customers. This is particularly relevant when only averages are used; averages provide a one-dimensional view of data.

One example illustrating the use of this principle can be seen in the calculation of the average age of 10 people on a train. A sample set is as follows: 12, 11, 45, 42, 13, 12, 12, 40, 11, and 10. These children are accompanied by 3 adults. The average (mean) age is 20.8, which is correct, but misleading.

The technique therefore is to put a different spin on the information by also using standard deviation and mode which would result in answers of 14.9 and 12 respectively, which is much more realistic. The issue of statistics is raised by Drucker (2001:34) who highlights that 80% of 100 is less than 50% of 250, which suggests that great care must be taken with statistics.
7.3.10 Introducing a High Level KM Framework

To introduce KM into an organization will not be an easy task due to the abstract nature of the subject. This is compounded by the fact that there are many different definitions for Information and Knowledge Management. Based on the literature covered, it would be recommended that a framework be developed to introduce KM into the organization.

The framework should have the following elements:

1. Should be simple to understand
2. Use input from other KM models studied in the process
3. Link to the business, people and technology
4. Holistic and have a link to key frameworks
5. Consider requirements of a KM initiative as per this report

An answer to the question of how we should start with implementing the change in business in the knowledge economy is provided by Tiwana (2001:6) who states:

Implementing knowledge enabled customer relationship management begins with strategically aligning business strategy and technology for supporting knowledge and relationship capital building.

The model covers the aspects of people, processes and technology. This model encapsulates the key internal driving forces and a similar concept has been espoused by many other authors and will be discussed in the figure below.
Figure 7.3.10a Linkages in traditional customer relationship management
Source: Tiwana (2001:6)

Table 7.3.10 Summary of existing KM models studied

<table>
<thead>
<tr>
<th>Model</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use a fusion of technology, content and people to advance knowledge management efforts in the organization.</td>
<td>Applehans et al, 1999</td>
</tr>
<tr>
<td>Four components namely culture and people, process, infrastructure and facilities as well as content and Intellectual Assets</td>
<td>Liebowitz, 1999:4-3</td>
</tr>
<tr>
<td>People, Process, Tools and Culture</td>
<td>English and Baker JR, 2006:158</td>
</tr>
<tr>
<td>People, processes and technology.</td>
<td>Tiwana, 2001:61</td>
</tr>
<tr>
<td>Structures, Culture, Leadership, Processes, Technology and Measures</td>
<td>Botha and Fouche, 2002</td>
</tr>
</tbody>
</table>
Culture is defined by Botha and Fouche (2002) as “an expression of the dominant work-related value system shared by the members of an organization”. It is included in the proposed model as it falls under the people leg of the model.

The other aspects such as strategy and measures will be omitted as the proposed KM model will be used alongside other business models such as ISO 9000 and the Hulbert business systems model. The purpose of the KM model is to complement these other models.

7.3.11 Model verification

![Diagram of Five forces influence the Organization's objective](source: Clarke (2005))
The model constructed by Clarke (2005) makes it quite obvious that technology, processes and people (which cover individuals and roles, culture and structure) are dimensions in an organization.

This model has been developed in a field unrelated to KM, but the triad is clearly visible with lines showing the linkages between the entities. This input therefore verifies the model that is proposed below with the input from other KM models.

![Proposed KM model](image)

**Figure 7.3.11 Proposed KM model**
Source: Author's own conceptualisation
7.3.12 Proposed KM model to introduce KM into the organization

The model above is proposed to introduce KM into the organization. System thinking is central to the model and in so doing becomes the centre of the KM “universe”.

There is however the temptation to follow the model of Wiigg (as quoted in Depres and Chauvel, 2000:10), which states that people and their work behaviour are at the centre of the effective enterprise as well as an understanding of the cognitive aspects of knowledge-understanding, mental models and decision making.

The proposed model, however, needs to be a generic model, but could evolve to one where people are at the centre of the model.

7.3.13 Proposing a KM working model

![Proposed KM working model](source)

**Figure 7.3.13 Proposed KM working model**
Source: Bukowitz and Williams (2000); ISO (2000)
The High Level KM Framework will however not be adequate for day-to-day use within the organization as the work processes are not included. The model below is therefore proposed which represents the work processes of KM and will assist the organization to align thinking and management of KM. The model consists of operational processes in ISO (2000) plus tactical and strategic processes in Bukowitz and Williams (2000). There is no space for an extensive discussion of the model, but the model is simple and also represents a common sense approach.

7.3.14 Summary

The requirement of ISO 9000 is to manage customer perception and also to turn information into knowledge.

Elements of the continuum should be considered for the value each one would add to the business. Looking at hard data without taking into account the softer issues such as culture, could result in incorrect decision making; hence it is stated by Despres and Chauvel (2000: 323) that it is better to be roughly right than exactly wrong.
Chapter 8: Technology

8.1 Role of IT

The word “technology” is defined in Collins (2004) as “application of practical or mechanical sciences to industry or commerce; scientific methods used in a particular field”. This indicates clearly that there should be a balance between the mechanical aspects and the scientific aspects when technology is applied.

Information plus Technology equals Information Technology (IT) which can also be regarded as the prerequisite for development and utilization of knowledge and supports the exchange of information (Goldsby and Martichenko, 2005:57). Technology is an extension of human beings and whilst it can change our worldview, it can at the same time change our world (Drucker, 2001:343).

The role IT can play according to Cobb (2003:141) is encapsulated in the statement: “innovative use of information technology can be a very powerful enabling force in the creation of significant business process improvements”. IT also has a critical role to play, particularly in governmental organizations as IT is key to assisting governments to instil confidence in its citizens.

"Public confidence in the ability of government to protect the United States from terrorists is enhanced by the public’s confidence in the IT effectiveness of organizations such as the departments of homeland security, defence, justice and the broader intelligence community. The CIO has a critical role in establishing that confidence.”
—Mark Greer

Deputy CIO, Defense Intelligence Agency

Source: Gartner (2005)
8.2 IT is the enabler

The technology is surprisingly easier to manage than the human issues, yet many projects place heavy emphasis on technology and very little on the human issues (Hammer, 2001: 231).

Information technology is both an enabler and a constraint (Cobb, 2003:141). IT has in the past been heralded as the silver bullet as highlighted above, but this should change as IT is a good slave but a poor master (Covey, 2004). It is also now very rare according to Stewart (1997) to find any organization that is not run by IT.

It is acknowledged by Kotler (2003:3) that the new economy has also brought a new set of capabilities and the following tools and techniques are proposed for businesses:

- A new information and promotional channel
- Web sites containing products and services, its history, its business philosophy, etc
- Marketing research using the Internet

It must also be added that in the absence of technology, many KM processes would exist only in narrow domains and with limited capabilities as KM is critically dependent on technology (Harris et al, 2003).

8.3 IT’s value proposition

IT also has a value proposition which can save costs when applied to needs of the business.

IOD (2002) state:

"A dominant feature of business since 1994 has been the emergence of information technology in all its facets, as a key driver of business strategy and decisions. The proliferation of cheap, accessible communication via the internet has facilitated a potent form of information exchange across all spectrums of society."
One specific value proposition according to Gartner (2005) is e-filing which saves the organization money as there is a more efficient use of resources.

8.4 Communication tools

The Knowledge Transfer Mechanisms model developed by Grant (quoted in Despres and Chauvel, 2000:49) shows a number of tools used for transferring knowledge. The figure shows the dissemination breadth of knowledge on the y-axis, which relates to how many people share knowledge versus the ability to codify knowledge and information on the x-axis and in so doing make knowledge and information explicit.
8.5 Advances in Technology

The figure above is now out-of-date due to the pace at which technology changes in industry. SMS technology is not included in this diagram, but is part of the current tools available.

There is now a significant change in the management of a brand which is no longer built solely via the mass media. It is stated in Kirkby et al (2003) that customer experience is delivered through touch points (e.g. salespeople, call centre agents, advertising, events, debt collectors, receptions, product brochures and Web sites).

The advances in technology have however been responsible for adding two tools to this diagram, namely, Short Message Services (SMS) or text messaging and Multi Media (MM) messaging. They are both high on explicit content and coverage with SMS at this stage has a restriction in the number of characters sent. MM will become a popular application for passengers as graphical messages can be sent right across the world instantly. This will improve the customer rating of safety as they will feel safer as they would be able to see dangerous situations developing on their cell phones anywhere in the world.

“If a picture is worth a 1000 words,
a moving picture is worth 1,000,000 words and an
animated multimedia experience is worth 1,000,000,000 words.”
(Cochrane, 2004:3)

8.6 Internet

The Internet usage policy for businesses in South Africa is very restrictive. Evidence of this was obtained via a telephonic survey with staff at a major newspaper during November 2005. The general response from staff members showed that they were not allowed to use the Internet due to the concern for loss of productivity in spite of the company being part of the knowledge industry.
The high cost of telecommunications in South Africa is also an inhibiting factor and has been mentioned by President Thabo Mbeki in his 2005 State of the Nation Address speech, where he encouraged companies to reduce the cost of doing business in the country.

The reduction in cost would go a long way in making the internet more accessible to people in South Africa. Only 11% of South Africans have internet access and the country is only the 30th largest user of the internet (Lotriet, 2005).

Increased usage of web technology will benefit customer relationships as relationships do grow on the web. The many love affairs that started on the web are evidence of this, which have now become the subject of a number of Hollywood movies.

It is therefore proposed in MWC (2006) that Intranets should be used extensively. Where people do not have access to computers, access to information should be made available via Intranet Cafés to expose all staff to the technology. Intranets are acknowledged by Kotler (2003:3) to facilitate and speed up internal communication.

There are benefits also in the use of the internet. Gartner (2005) who state that the internet is the best way to publish information without the risk of being misquoted. Another benefit is that the hit rate can be monitored.

8.7 Email

Using email as a communication tool with customers has not been exploited enough and considering that it is free, it is proposed that more use should be made of email. Email covers the widest breadth and information sent via email can reach one or a million global users within minutes.

A database driven email system linked to on-line train running times as well as updates on customer complaints, could provide a platform for keeping customers informed on an operational basis. A feature of this system could be an auto reply via an email rule, which will help with giving the customers confidence that the systems in the organization are working.
There have been numerous requests from governmental stakeholders and customers for the continued use of this technology. These needs are recorded in the table below and the company has now included it in the communication strategy.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>“Metrorail is planning a major remake of its image, including the use of a text messaging service to alert commuters to train delays or cancellations” says acting chief executive Lauriete Modipane</td>
<td>Sowaga, D. 08 Aug 2004. Metrorail on revamp mission. City Press</td>
</tr>
<tr>
<td>Fraser-Moleketi said “The civil service also had to become more technology-savvy, moving towards the increased use of SMS technology to allow communication with the public.”</td>
<td>Loxton, L. 20 May 2005. Civil servants have plan to be more professional. Cape Times</td>
</tr>
</tbody>
</table>

The use of a text messaging service to alert commuters to train delays or cancellations within 5 minutes of the incident has now been put in place.

Successful use has also been made of SMS technology at Finnish Railroads according to Gartner (2005:25) where key people in the organization are informed about the situation when train runs late by more than a minute.

“Creutz is well aware of the sometimes-fleeting nature of a good reputation. Her advice: You can’t rely on it. You can lose it in one day; you have to earn it every day.”

Gartner, 2005:25
8.9 Push and pull technology

In analyzing the usage of internet-based applications such as email and websites, the anomaly in usage led me to the conclusion that business has far more success with push technologies such as email than with pull technologies such as web sites. ASQ (1999:246) endorses this viewpoint and states in that “Web-based communications, including information available on Web sites, moderated discussion lists, and information disseminated to web users using ‘push’ technology”.

The use of SMS in Metrorail could be regarded as a push technology as information is pushed to customers, whereas using the internet could be regarded as a pull technology as users have to “surf” the website for information.

The use of SMS has turned out to be a huge success with customers, based on a survey done in June 2006 to establish the effectiveness for customer communication. Customers were asked to provide feedback on the service where they were receiving notification of late trains via SMS. Samples of the feedback are included in appendix F.

The common view is that you think globally and act locally (Kinghorn, 2005). However, with the advances in technology, it is now possible to think and act globally.

8.10 Analysis of Call Centre usage

The hit rate on the company website capemetrail.co.za, for time-table information, is 3,000 per month versus a call centre phone-in query rate of 77,000 calls per month. This shows a huge imbalance between the two communication channels in use.

A huge opportunity still exists within Metrorail for internet and cellphone based technology as the call centre for National Rail Enquiries in the UK according to e-motionmagazine (2006) receives 105 million enquiries a year. 45% are to the call centres, 54% are through the website, and the remaining 1% is via WAP phones.
The proposal is therefore to identify the constraints in access to the web for commuters and stakeholders. This would be in line with the thinking of Hammer (2001) that the company has to go beyond the traditional customer services boundary as customers want companies to solve their problems for them.

8.11 Blogging

Blogging is a new tool for communication and its use has grown exponentially on the internet. The purpose of blogging according to Wright (2006:5) is to perform the following functions:

Information: Telling your customers what you’re doing and finding out what they are thinking

Relationships: Building a solid base of positive experiences with your customers that changes them from plain-old consumers to evangelists for your company

Knowledge Management: Having the vast stores of knowledge within your company available to the right people at the right time

Blogging is therefore proposed as another communication channel that must be opened to commuters and stakeholders.

8.12 Summary

Too much reliance is often placed on technology whilst the human aspects are more difficult to master. Technology however still has extremely high usefulness for a KM project and the benefits must be realised.

“A fool with a tool will remain a fool”

Mike Bergen and Associates 1993
Chapter 9: Recommendations

9.1 Linking the CSI to the company mission

A key observation in analyzing the CSI measurements are that they do not include cost which is a key measurement included in the company mission statement in terms of affordability. Cost must therefore be included in future CSI surveys as Metrorail has a competitive advantage (particularly over longer distances) – see the cost comparisons below:

<table>
<thead>
<tr>
<th>Table 9.1 Public transport cost comparison (30 km trip)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Metrorail- Metro</td>
</tr>
<tr>
<td>2.70</td>
</tr>
</tbody>
</table>

Source: Die Burger : 28 Aug 2006

This potential saving should be communicated via promotional programs to the customers as well as stakeholders, as the savings to the commuter can be quite large. The savings for example when commuters switch from their cars to using the Metro service over a ten year period could amount to more than R100,000.

9.2 Need to add value

Adding value to customers is a vital aspect as confirmed by Hammer (2001:53) who states that a company exists only to create value for them, to provide them with results.

Many of the business tools found in Porter (1985); ISO (2000); Kaplan and Norton (1996) have been designed with adding value as the central concept in the methodology. The value-add the symbols in the figure below are visible throughout these methodologies and serve as a reminder to add value to all processes, especially tasks relating to customer service.
To add value must become the new business *mantra* as it makes good business sense and customers expect it. It is therefore imperative that the question of “how can I add value?” be on the lips of every employee, second to, “what is in it for me?”.

### 9.3 Objective and subjective measures

Subjective measures are a reality in a service industry and specific measures should be developed to measure customer satisfaction. This view is also supported by Kinghorn (2005) when he state that “standards are ultimately subjective, i.e. dependent on the quality, competitiveness and sense for relevance…”

It is however proposed that a balance between objective and subjective measures be included in surveys, as both types are needed.

### 9.4 Perception

It has been shown in this study that perception management is indeed a key factor in providing solutions to the problem. Perception Management and mental models are now enjoying a fair share of attention in journals and publications world-wide.

An improvement in perception will definitely increase the CSI, due to the interdependency between perception and the many factors in business.
9.5 Branding as a means of re-vitalising a corporate identity

It is proposed that the Metrorail brands must be protected and extended across all the communication channels – including the company website. Care should be taken so as not to outsource the “look and feel” of the web design as the outsourcing company can lay claim to the Intellectual Property.

The CSI report unfortunately does not produce reports differentiating between Metro and Metroplus which is another improvement to be implemented when the CSI methodology is revised.

9.6 Proudly South African

The Department of Trade and Industry in South Africa promotes a quality certification scheme: Proudly South African. This can in some way be equated to the USA’s governmental support for the Baldrige Award: although the standards for the Baldrige award are at a much higher level.

It is therefore proposed that Metrorail Western Cape pursue a Proudly South African registration as the criteria for entrance to the program have already been met as obtaining ISO 9000 certification is the pre-requisite.

Co-branding with Proudly SA would assist in changing the mindset of the customer as the logo for Proudly South African includes the South African flag which promotes patriotism.
9.7 **Making actions visible**

Improvement projects must be made visible to customers and staff as they will only believe what they see, as the old adage, “seeing is believing” has merit here. It must also be stressed that positive initiatives must be put under the spotlight.

What would help is for managers at Metrorail to engage in “Managing by Riding About (MBRA)”. This is another version of Managing by Walking About (MBWA), a concept made famous by Tom Peters.

Management must be visible to staff and customers alike and this is particularly relevant to a service industry where the outputs are intangible and only the outcomes matter. “You have to put your face in front of people if you want them to follow you” (Chislanzoni and Shearn, 2005).

9.8 **Understanding of human cognitive functions**.

Drucker (2001:346) ascribes the change to the movement from the mechanical universe to a biological universe. He further states that contemporary philosophers will have to deal with signs and symbols, with patterns, with myth and with language.

It is therefore proposed that some employees working in the Marketing, IT, KM and HR departments have psychology and philosophy included in their competency profiles, as the battle for the customer and staff member is now in the mind.

The Chief Knowledge Officer (CKO) \(^1\) has the responsibility of KM and should be well disposed to blend technical, human, and financial skills, with a feel for the cultural and behavioural factors that impede or enable knowledge (Davenport and Prusak, 1998:117).

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\(^1\) Refer to Appendix E for CKO job description
9.9 Investigate CRM

A number of companies have initiated a CRM program to address customer relationships according to Dawson (2005:250); however, there were more failures than successes. This should be taken into account as a risk factor when embarking on a CRM project.

A potential relationship gap has however been identified in the model presented by Tiwana (2001). CRM has however been slow to take off in KM projects, but, there is substantially more progress toward KM in Sales and Marketing (Harris et al, 2003). A project in the area of CRM would boost KM within the business.

It would however still be viable to continue with a CRM program as long as the lessons learnt are taken into consideration. The CRM project should include the examination dynamic qualities and relationships on a holistic basis.

9.10 Do further empirical research

Chris Argyris supports the notion of empirical research with the customer (as quoted in Harvard Business Review, 1998:157) by saying that the research department’s ultimate partner is the customer.

Responses from commuters are to be gathered over a period of time, so that trends can be established. Hence their before and after feedback would be critical. Feedback should be collected at all times, but specific customers must be tracked in a CRM system that caters for responses at MOT level as well as in the bi-annual CSI surveys.

Qualitative surveys should be included as quantitative surveys on their own do not provide adequate information on the softer customer issues such as their expectations. The importance of scientific measurements is endorsed by Kinghorn (2005) when he states that scientific quality is non-negotiable and must be improved.
9.11 **Increased use of technology for customer information**

There is great value in utilizing some of the latest technologies available due to the cost benefits and potential business impact.

One example would be to make the train time-table more accessible to commuters, which is the key product of the business and provides the menu of services.

- Database driven time-tables will facilitate flexibility on the Internet and Intranet. Queries can be generated for a specific station or period of the day as the queries can be customized with ease.

- The distribution could be automated with the large range of communication tools to choose from: examples are email, extranets and SMS. This will be done by sending the right information at the right time and also in the right format.

“This is not the end; it is the end of the beginning”  Winston Churchill
List of sources

Albrecht, K. 1993.
Allee, V. 1997.
   The Knowledge Evolution: Expanding Organizational Intelligence.
American Society for Quality (ASQ), 1999.
   Managing knowledge – A practical web-based approach. Massachusetts: Addison
   Wesley Longman.
   Knowledge Management Praxis. Cape Town: Juta
   [Online].
   Six Sigma and the Quality Toolbox for Service and Manufacturing. Buckingham:
   PICSIE Books.
Botha, B. 2005.
   Transformation is a mind game. 28 July 2005, Cape Argus.
Botha, D. & Fouche, B. 2002.
   The assessment of corporate knowledge management practices: the role of a reference
   2002.
   Building Human Capital: South African Perspectives, Randburg: Knowres Publishing
   (Pty) Ltd.

   Every scorecard needs a strategy map. Available: http://www.gartner.com

   Available http://www.busrep.co.za/index.php?fSectionId=&fArticleId=2116940

Cant, M. 2005.


Clarke, R. 2005.

   Uncommon Sense. West Sussex: Capstone Publishing Limited.


Covey, S. 1989.
   The 7 habits of highly effective people. Great Britain: Simon & Schuster.

Covey, S. 2004.
   The 8th Habit – From Effectiveness to Greatness. Great Britain: Simon & Schuster.


   Key management ideas. Great Britain: Prentice Hall.


Fourie, M.G. 1997. A Focus on customer service and satisfaction for quality improvement. Presented to the Graduate School of Business of the University of Stellenbosch in partial fulfillment of the requirements of the degree of Master of Business Administration.


  Lean Six Sigma Logistics: Strategic Development to Operational Success.
  USA: J.Ross Publishing.
  Reengineering the corporation. London: Nicholas Brealey.
  The case for Knowledge Management in CRM. Available Gartner.
  The Knowledge Management Scenario: Trends and Directions for 1998-2003,
  Gartner.
  Knowledge Management. USA: Harvard Business Review.
  ISO 9000 Quality System Development Handbook (A systems Engineering
  King committee on corporate governance. Executive summary of the King report
  Brain-based Executive Education. Randburg: Knowres publishing.

The Rational Manager. New Jersey: Kepner-Tregoe Inc.


The making of the knowledge society and economy (unpublished work).

Kirkby, J., Thompson, E. & Buytendijk, F. 2001


Strategic Management in the Knowledge Economy. Germany: Publicus Corporate Publishing and Wiley.


The next common sense. London: Nicholas Brealey Publishing.

SA vaar glad nie wafers. Burger. 27 November 2005


Malhotra, Y. 2006.
Using an IT Performance Dashboard. Gartner.
Metrorail Western Cape (MWC), 2006.
Regional Strategic plan.
Morris, S., Meed, J. & Svensen, N. 1996.
The Knowledge Manager. adding value in the information age. Pitman publishing.
The Management and Marketing of Services. Butterworth and Heineman
The knowledge-creating company. Companies create the dynamics of innovation. New York: Oxford University Press.
A Conceptual Model of Service Quality and its implications for Future Research.
Porter, M.E. 1985
PMBOK. 2006.

Customer Information Is the Lifeblood of CRM. Gartner. December 2001

22 Immutable laws of marketing. London: Profile Books Ltd.

Senge, P.M. 1990.


Slater, R. 1999.


South Africa (Republic). Department of Transport (DOT). 1998


Hitotsubashi on Knowledge Management. Singapore: John Wiley & Sons.


The Essential guide to Knowledge Management. United States of America: Prentice Hall.

Transforming your employment brand. Randburg: Knowres.

Knowledge Based Customer Relationship Management Review and Scoring Model. A study project presented to the Graduate School of Business of the University of Stellenbosch.

Wilson, D.A. 1999.

Wright, J. 2006.
Blog Marketing: The revolutionary new way to increase sales, build your brand and get exceptional results. United States of America: McGraw-Hill.

Zak, M. 1999.
Appendices

Appendix A

Glossary of terms

“If you want to speak to me, define your terms” Voltaire

Knowledge management is a discipline that promotes an integrated approach to the creation, capture organization, access and use of an enterprises information assets. These assets include structured databases, textual information such as policy and procedure documents, and most importantly, the tacit knowledge and expertise resident in the heads of individual employees.

(Harris et al, 1999)

Knowledge is embedded in people, and knowledge creation occurs in the process of social interactions.

(Groff and Jones, 2003:127)

Marketing is The art and science of choosing target markets and getting, keeping, and growing customers through creating, delivering, and communicating superior customer value.

(Kotler, 2003)

Policy

A guide to thinking, action and decision. Policies can exist at any level of in an organization from corporate level to the lowest level where activities are performed.

(Hoyle, 1998:407)

Principle

A Quality Management Principle is a comprehensive and fundamental rule or belief for teaching and operating an organization aimed at continually improving performance over the long term by focusing on customers while addressing the needs of all other stakeholders

(ISO, 2000)
Procedure

**Specified way to carry out an activity or a process**

(ISO, 2000)

**Process**

An organized group of related activities that together create a result of value to customers.

(Hammer, 2001:53)

**Qualitative analysis**

Qualitative analysis examines dynamic qualities and relationships holistically.

(Groff and Jones, 2003:88)

**Quantitative analysis**

Quantitative analysis is based on separate examination of the component parts of a subject.

(Groff and Jones, 2003:88)

**Total Quality Management**

A Management approach of an organization centred on quality based on the participation of all its members and aiming at long-term success through customer satisfaction, and benefits to all members of the organization and to society.

This data is collected by interviewing 300 commuters traveling on all three lines.

<table>
<thead>
<tr>
<th>CUSTOMER SATISFACTION INDEX</th>
<th>PERFORMANCE ANALYSIS</th>
<th>QUAR</th>
<th>TER 1</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>JULY 03</td>
<td>TOT</td>
<td>WC</td>
</tr>
<tr>
<td></td>
<td>NB</td>
<td>PER</td>
<td>Cape</td>
</tr>
<tr>
<td>+</td>
<td>9.5</td>
<td>6.0</td>
<td>5.9</td>
</tr>
<tr>
<td>FACTOR 1 - TICKETING (56%)</td>
<td>9.5</td>
<td>6.7</td>
<td>6.5</td>
</tr>
<tr>
<td>The ticket examiners are entirely professional</td>
<td>9.5</td>
<td>6.7</td>
<td>6.3</td>
</tr>
<tr>
<td>There is easy access to the ticket office</td>
<td>9.6</td>
<td>6.9</td>
<td>7.1</td>
</tr>
<tr>
<td>There is no delay during gate control</td>
<td>9.5</td>
<td>6.4</td>
<td>6.5</td>
</tr>
<tr>
<td>Ticket officials on the trains are polite to us and helpful</td>
<td>9.5</td>
<td>6.6</td>
<td>6.5</td>
</tr>
<tr>
<td>Ticket officials check the tickets all the time</td>
<td>9.4</td>
<td>6.7</td>
<td>6.4</td>
</tr>
<tr>
<td>Ticket office windows are open when you need them</td>
<td>9.6</td>
<td>6.8</td>
<td>6.6</td>
</tr>
<tr>
<td>You don’t have to wait in a long queue at the ticket office</td>
<td>9.6</td>
<td>6.6</td>
<td>6.1</td>
</tr>
<tr>
<td>FACTOR 2 - CLEANLINESS AND COMFORT (14%)</td>
<td>9.6</td>
<td>5.3</td>
<td>4.9</td>
</tr>
<tr>
<td>All windows in trains are in good working order</td>
<td>9.6</td>
<td>5.0</td>
<td>4.1</td>
</tr>
<tr>
<td>All the doors on the trains are in working order</td>
<td>9.7</td>
<td>5.4</td>
<td>5.1</td>
</tr>
<tr>
<td>-------------------------------------------------</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
</tr>
<tr>
<td>The coaches are generally kept clean and tidy</td>
<td>9.6</td>
<td>5.6</td>
<td>5.6</td>
</tr>
<tr>
<td>All the windows on the train are clean</td>
<td>9.4</td>
<td>5.0</td>
<td>4.1</td>
</tr>
<tr>
<td>There is no overcrowding on the trains</td>
<td>9.6</td>
<td>4.5</td>
<td>4.3</td>
</tr>
<tr>
<td>The platforms are not crowded and I can easily move around</td>
<td>9.4</td>
<td>6.0</td>
<td>6.2</td>
</tr>
</tbody>
</table>

**FACTOR 3 – BATHROOM FACILITIES (8%)**

<table>
<thead>
<tr>
<th>The toilets are easy to find</th>
<th>9.1</th>
<th>6.0</th>
<th>5.4</th>
<th>5.3</th>
<th>5.2</th>
<th>5.7</th>
</tr>
</thead>
<tbody>
<tr>
<td>The toilets are kept clean</td>
<td>9.1</td>
<td>6.6</td>
<td>6.6</td>
<td>6.4</td>
<td>5.8</td>
<td>7.5</td>
</tr>
<tr>
<td>The toilets are in working order</td>
<td>9.1</td>
<td>5.2</td>
<td>5.2</td>
<td>5.1</td>
<td>4.9</td>
<td>5.4</td>
</tr>
<tr>
<td>You feel safe when using the toilet</td>
<td>9.2</td>
<td>5.5</td>
<td>4.6</td>
<td>4.5</td>
<td>4.9</td>
<td>4.4</td>
</tr>
</tbody>
</table>

**FACTOR 4 – PERSONAL NEEDS (8%)**

<table>
<thead>
<tr>
<th>The staff in the ticket office are helpful and know what they are doing</th>
<th>9.7</th>
<th>6.2</th>
<th>6.6</th>
<th>6.2</th>
<th>6.2</th>
<th>7.4</th>
</tr>
</thead>
<tbody>
<tr>
<td>The train service is a convenient mode of transport</td>
<td>9.8</td>
<td>6.6</td>
<td>7.5</td>
<td>6.9</td>
<td>6.9</td>
<td>8.6</td>
</tr>
<tr>
<td>The train service is reliable</td>
<td>9.7</td>
<td>5.9</td>
<td>6.4</td>
<td>6.1</td>
<td>5.8</td>
<td>7.3</td>
</tr>
<tr>
<td>Commuters are cared for</td>
<td>9.6</td>
<td>5.8</td>
<td>6.2</td>
<td>5.9</td>
<td>5.9</td>
<td>6.7</td>
</tr>
<tr>
<td>Commuters needs are considered</td>
<td>9.6</td>
<td>5.7</td>
<td>6.1</td>
<td>5.8</td>
<td>5.9</td>
<td>6.7</td>
</tr>
</tbody>
</table>

**FACTOR 5 – SAFETY (6%)**

<table>
<thead>
<tr>
<th>There are always security personnel around the station to whom I can report incidents</th>
<th>9.6</th>
<th>5.3</th>
<th>5.1</th>
<th>4.8</th>
<th>5.3</th>
<th>5.4</th>
</tr>
</thead>
<tbody>
<tr>
<td>You feel safe from robbers on the train</td>
<td>9.7</td>
<td>4.5</td>
<td>4.4</td>
<td>4.1</td>
<td>4.6</td>
<td>4.6</td>
</tr>
<tr>
<td>You don’t have to worry about anyone assaulting us on the trains</td>
<td>9.6</td>
<td>5.0</td>
<td>4.5</td>
<td>4.1</td>
<td>5.0</td>
<td>4.2</td>
</tr>
<tr>
<td>Security personnel are helpful when</td>
<td>9.7</td>
<td>5.6</td>
<td>5.7</td>
<td>5.4</td>
<td>5.6</td>
<td>6.1</td>
</tr>
<tr>
<td>Incidents occur</td>
<td>9.5</td>
<td>5.7</td>
<td>5.6</td>
<td>5.4</td>
<td>5.4</td>
<td>6.2</td>
</tr>
<tr>
<td>---------------------------------------------------------------------------------</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
</tr>
<tr>
<td>Commuters are usually well behaved</td>
<td>9.6</td>
<td>5.4</td>
<td>6.0</td>
<td>5.9</td>
<td>5.9</td>
<td>6.5</td>
</tr>
<tr>
<td>FACTOR 6 – PUNCTUALITY (4%)</td>
<td>9.7</td>
<td>5.4</td>
<td>6.0</td>
<td>5.8</td>
<td>6.0</td>
<td>6.3</td>
</tr>
<tr>
<td>You are notified of delays in good time</td>
<td>9.7</td>
<td>5.2</td>
<td>6.1</td>
<td>5.9</td>
<td>5.7</td>
<td>6.7</td>
</tr>
<tr>
<td>The trains are usually punctual</td>
<td>9.5</td>
<td>5.6</td>
<td>6.0</td>
<td>5.9</td>
<td>5.9</td>
<td>6.4</td>
</tr>
<tr>
<td>Trains are not delayed through breakdowns</td>
<td>9.5</td>
<td>6.5</td>
<td>6.4</td>
<td>6.1</td>
<td>6.4</td>
<td>6.9</td>
</tr>
<tr>
<td>FACTOR 7 – STATION MAINTENANCE (4%)</td>
<td>9.3</td>
<td>6.7</td>
<td>6.6</td>
<td>6.4</td>
<td>6.5</td>
<td>7.0</td>
</tr>
<tr>
<td>The cleaners have a good attitude to their job</td>
<td>9.5</td>
<td>6.7</td>
<td>6.8</td>
<td>6.1</td>
<td>6.6</td>
<td>7.6</td>
</tr>
<tr>
<td>The stations are well maintained</td>
<td>9.6</td>
<td>6.3</td>
<td>5.8</td>
<td>5.7</td>
<td>5.6</td>
<td>6.1</td>
</tr>
<tr>
<td>The information on the communication system is generally accurate</td>
<td>9.6</td>
<td>6.1</td>
<td>6.3</td>
<td>5.9</td>
<td>6.4</td>
<td>6.6</td>
</tr>
</tbody>
</table>
## APPENDIX C

### AUDIT RESULTS OF STATIONS

<table>
<thead>
<tr>
<th>Station</th>
<th>Elsies</th>
<th>St. James</th>
<th>Belhar</th>
<th>Ave</th>
<th>Ave</th>
</tr>
</thead>
<tbody>
<tr>
<td>/4</td>
<td>/4</td>
<td>/4</td>
<td>/4</td>
<td>/10</td>
<td></td>
</tr>
<tr>
<td><strong>1. CUSTOMER EXPERIENCE OF FACILITIES</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.3</td>
<td>3.1</td>
<td>3.0</td>
<td>2.8</td>
<td>7.0</td>
<td></td>
</tr>
<tr>
<td><strong>2. CUSTOMER SERVICE STAFF</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.0</td>
<td>3.0</td>
<td>3.1</td>
<td>3.0</td>
<td>7.6</td>
<td></td>
</tr>
<tr>
<td><strong>3. MANAGEMENT</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4.0</td>
<td>10.0</td>
<td></td>
</tr>
<tr>
<td><strong>4. POSTERS</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.9</td>
<td>3.8</td>
<td>4.0</td>
<td>3.6</td>
<td>8.9</td>
<td></td>
</tr>
<tr>
<td><strong>5. SAFETY</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.3</td>
<td>3.8</td>
<td>4.0</td>
<td>3.7</td>
<td>9.3</td>
<td></td>
</tr>
<tr>
<td><strong>AVERAGE</strong></td>
<td>3.1</td>
<td>3.5</td>
<td>3.6</td>
<td>3.4</td>
<td>8.6</td>
</tr>
</tbody>
</table>

### CUSTOMER EXPERIENCE OF FACILITIES

| PARKING                                      | N/A    | 3        | 3       | 3    | 7.5  |
| ACCESS                                       | 1.7    | 3.3      | 3       | 2.7  | 6.7  |
| TICKET OFFICE FOYER                         | 1.8    | 2.8      | 3       | 2.5  | 6.3  |
| VERIFICATION POINTS                         | 1.8    | 2.3      | 1.8     | 2    | 4.9  |
| PLATFORMS                                    | 2      | 3.3      | 3       | 2.8  | 6.9  |
| TOILETS                                      | 2      | 2.7      | 3.3     | 2.7  | 6.7  |
| BRIDGES / SUBWAYS / STAIRWAYS               | 1.3    | 2.3      | 2.3     | 2    | 4.9  |
| WAITING ROOMS & SHELTERS                    | 2.3    | 2.7      | 2.3     | 2.4  | 6.1  |
| FENCING                                      | 4      | 4        | 3.5     | 3.8  | 9.6  |
| GARDENS                                      | N/A    | 3.5      | N/A     | 3.5  | 8.8  |
| TRACK ENVIRONMENT                            | 4      | 4        | 4       | 4    | 10   |
| TICKET OFFICE                                | 3      | 3.7      | 4       | 3.6  | 8.9  |
| MESS ROOM                                    | N/A    | N/A      | N/A     | N/A  | N/A  |
| AREA MANAGERS OFFICE                        | N/A    | N/A      | N/A     | N/A  | N/A  |
| ADMINISTRATIVE OFFICES                       | N/A    | N/A      | N/A     | N/A  | N/A  |
| **OVERALL RATING OF FACILITIES**            | 2.3    | 3.1      | 3.0     | 2.8  | 7.0  |

### CUSTOMER SERVICE STAFF

<p>| TICKET EXAMINING STAFF                       | N/A    | N/A      | 4       | 4    | 10   |
| TICKET ISSUING STAFF                        | 4      | 4        | 4       | 4    | 10   |
| INFORMATION CENTRE STAFF                    | N/A    | N/A      | N/A     | N/A  | N/A  |
| CONTRACT WORKERS : FTCW                     | N/A    | N/A      | N/A     | N/A  | N/A  |
| CONTRACT SECURITY                            | 3.3    | 3.3      | 3.3     | 3.3  | 8.3  |
| PATROLING ON PLATFORMS                      | 4      | 4        | 4       | 4    | 10   |
| APPROACHING TRAINS ANNOUNCED                | 1      | 1        | 1       | 1    | 2.5  |
| IS LOUD HAILER BEING USED                   | 1      | 1        | 1       | 1    | 2.5  |</p>
<table>
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<th>Category</th>
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<th>Rating 3</th>
<th>Rating 4</th>
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<td>STAFF HAVE THEIR SECURITY MANUAL ON THEM</td>
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<td>4</td>
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<td></td>
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<td></td>
</tr>
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<td>APPROACHING TRAIN : LIGHT ON BRIGHT &amp; HOOTER USED</td>
<td>N</td>
<td>Y/N</td>
<td>N</td>
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<td></td>
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<tr>
<td>TRAIN STATIONARY : GUARD GETS OUT OF TRAIN</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>GUARD BLOWS THEIR WHISTLE</td>
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<td>Y</td>
<td>Y</td>
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</tr>
<tr>
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<td>3.1</td>
<td>3.0</td>
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<td>MINUTES : STAFF MEETINGS</td>
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Appendix D

Metrorail values

Ubuntu

Upholding human dignity, respect and understanding, ensuring equal opportunity and fairness in all our dealings in order to build a climate of trust and unity.

People Development

Providing opportunity for all to grow and develop to the benefit of both the individual and the organization.

Customer Service

Providing quality service to both our internal and external customers by striving to always meet and exceed their needs and expectations.

Communication

Open, honest, respectful and timeous two way communication and sharing of information.

Health and Safety

Providing a healthy, safe and secure operating environment for all our employees and customers.

Community Involvement

Active involvement, contribution and upliftment of the community and protection of the environment in which we operate.
Participative Co-determination

Developing an environment where all stakeholders are empowered through being involved in and accountable for decisions that affect them.

Continuous Improvement, Recognition and Reward

Recognising and rewarding continuous improvement that enhances performance in the achievement of our mutually agreed goals.
Appendix E

Chief Knowledge Officer (CKO)

The CKO in an organization must:

- Advocate or “evangelize” for knowledge and learning from it. Particularly given the important role for knowledge in the strategies and processes of many firms today, long-term changes are necessary in organizational cultures and individual behaviors relative to knowledge. These changes will require sustained and powerful advocacy.

- Design, implement, and oversee a firm’s knowledge infrastructure, including its libraries, knowledge bases, human and computer knowledge networks, research centers, and knowledge-oriented organizational structure.

- Manage relationships with external providers of information and knowledge (for example, academic partners or database companies), and negotiate contracts with them. This is already a major expense item for many companies, and efficient and effective management of it is important.

- Provide critical input to the process of knowledge creation and use around the firm (for example, new product development, market research, and business strategy development), and facilitate efforts to improve such processes if necessary.

- Design and implement a firm’s knowledge codification approaches. Such approaches specify key categories of information or knowledge that the organizations would address, and entail mapping both the current knowledge inventory and future knowledge models.
• Measure and manage the value of knowledge, either by conventional financial analysis or by "anecdote management". If the organization has no sense of the value of knowledge and its management, the function won’t last long.

• Manage the organization’s professional knowledge managers, giving them a sense of community, establishing professional standards, and managing their careers. These workers may be “matrixed” between the CKO and managers of the domains where the company focuses knowledge management efforts (for example, a particular market, product set, or type of customer).

• Lead the development of knowledge strategy, focusing the firm’s resources on the type of knowledge it needs to manage most, and the knowledge processes with the largest gaps between need and current capability.

Of all these CKO responsibilities, three are particularly critical: building a knowledge culture, creating a knowledge management infrastructure and making it all pay off economically.

In the short term, however, a firm can begin to foster a knowledge culture in part through such means as education, incentive programs, and management example.

Criteria:

• Deep experience in some aspect of knowledge management, including its creation, dissemination, or application.

• Familiarity with knowledge-oriented organizations and technologies (libraries, groupware, and so forth).

• Display of a high level of "knowledgeability" directly related to one’s professional stature.

• Comfort (and ideally personal experience) with the primary operational processes of the business.
CKO positions require a blend of technical, human, and financial skills with a feel for the cultural and behavioural factors that impede or enable knowledge. The CKO can be a senior stand-alone role, or it can be combined with either the human resources (HR) or Information Systems (IS) functions.

Source: (Davenport and Prusak, 1998:114-117)
Appendix F

Feedback from customers on SMS survey

15 Jun 2006 16:22:58 Excellent but I feel sorry 4 Central + Khaye line passengers!
15 Jun 2006 16:23:19 Danfred booyse excellent!
            Esp when the trains r late I dont stand on the platform so long.
            thanx Paul Heyl.
15 Jun 2006 16:24:13 V good. H'ever i dont need updates re central line, as i travel
            northern line 2 B'fell. Tks
15 Jun 2006 16:24:19 VERY HELPFUL. N DE VILLIERS
15 Jun 2006 16:24:25 Jerome, this sms service is great and very accurate
15 Jun 2006 16:24:37 My name r marius,and thanks 4 the good servise. From marius
            coetzee.
15 Jun 2006 16:25:03 Franquin. Ur service is great. If it weren't for u, then i wud b
            stranded, but now we can make arrangements.
15 Jun 2006 16:25:19 Sorry, my name is Jane + excellent service!
15 Jun 2006 16:25:25 Valda lucas i find the service valuable and trustworthy.
15 Jun 2006 16:25:26 VERY HELPFUL THANK U
15 Jun 2006 16:25:29 Maryna Calitz. I think your service is very helpfull. Keep up the
            good work.
15 Jun 2006 16:25:33 Service good Darius
15 Jun 2006 16:25:47 Jacqui: not very effective trains are most of the time late without
            being informed by metro rail.
15 Jun 2006 16:25:49 Dumisani - informative!