The Impact of Internal Core Competencies in Improving the Organizational Competitive Advantage, The Case of MTN SA Network Group.

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Declaration

I, Mlindi Mashologu, 9381635, hereby declare that this research for Master in Business Administration (MBA) is my own work and that it has not previously been submitted for assessment or completion of any postgraduate qualification to another University or for another qualification.

29 November 2013

Mlindi Mashologu

Date
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Abstract

South African Telecommunication market is becoming more challenging and highly competitive which results in market share continuously shifting between the role-players in this sector. The market is characterized by diverse service offering radical price plans that are offered by the operators. An organization that operates in this space needs to have some sort of competitive advantage which will ensure that it remains relevant and be able to survive the tough competition.

Competitive advantage in an organization is seen as having leverage of rival organizations and is derived from either the external sources or internal sources. The external sources include factors like lower prices, differentiated services etc. This research unpacks the internal sources for achieving competitive advantage. These internal sources are seen as the internal core competencies, which are the combination of skills, knowledge and intellect that will ensure that the organization thrives amongst the competitors. The dimensions of core competencies that have been analysed are innovation, strategic entrepreneurship, intellectual capital and effective leadership.

The primary objective of this research is to determine the impact of these internal core competencies in improving the organizational competitive advantage. This will in turn provide a view of the critical skills and knowledge base in the organization and how these skills will assist the organization in surviving in this challenging and competitive environment. This research makes use of the resource based view (RBV) as the baseline model for core competencies and to address the shortcomings of RBV, organizational learning theory dimensions have been added to the operational model of this research.

The research then provides the analysis of all the dimensions of core competencies using statistical modelling to provide empirical evidence. Based on the empirical evidence, descriptive statistics and using the theoretical frameworks, the recommendations for this research are provided.
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Chapter 1

1 Introduction to the Research

1.1 Introduction

In today’s challenging economic climate, an organization must continue to re-evaluate and re-invent itself to ensure that it remains relevant in its operating environment. This becomes quite critical especially if the organization is operating in a highly competitive environment. An organization therefore needs to enhance its competitive advantage to ensure that it maintains and improves its market share; hence ensuring its relevance, stability and sustainable organizational performance.

An organization needs to investigate the use of a sustainable competitive advantage strategy which will ensure that it prospers and survives against its competitors (Lynch, 2009: 8). There are three categories that can be used in providing strategic competitive advantage; the organizational resources, relationships and the industrial structure’s point of view (Ionica, 2009). It is not only the external forces that are important to determine the competitive advantage of an organization; internal factors also contribute significantly to the success of an organization (Ionica, 2009). It can therefore be argued that no matter how successful the organization is at the present moment, there is a continual need to provide a strategic direction to ensure its continued competitive advantage (Wen-Chen et al., 2011).

Mobile Telephone Network (MTN) Group Limited is a multi-national telecommunications group, formed in 1994 and is currently offering voice and data communications products and services to individuals and businesses (MTN, 2013). MTN has GSM licenses in 22 countries and internet service provider businesses in 14 countries, covering three regional areas; MTN South and East Africa (MTN SEA), MTN West and Central Africa (MTN WECA) as well as MTN MENA which is MTN Middle East and North Africa (MTN, 2013).
The company is the second biggest operator in the mobile environment in South Africa with the market share of 38% with Vodacom taking the majority share of 51%, and CellC taking a 10% share (MTN, 2012). The remainder of the market is occupied by the Mobile Virtual Network Operator (MVNO), Virgin Mobile and the last entrant in the market Telkom Mobile (MTN, 2013 and Telecom Week, 2012). MTN posted positive results as recorded in the December 2012 audited financial statements.

Table 1.1: MTN Results

<table>
<thead>
<tr>
<th>ZAR (million)</th>
<th>H1-12</th>
<th>H2-12</th>
<th>YTD-12</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>South Africa</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Revenue</td>
<td>19 862</td>
<td>21 488*</td>
<td>41 350*</td>
</tr>
<tr>
<td>EBITDA</td>
<td>7 026</td>
<td>7 450*</td>
<td>14 476*</td>
</tr>
<tr>
<td><strong>EBITDA margin</strong></td>
<td>35.4%</td>
<td>34.7%*</td>
<td>35.0%*</td>
</tr>
<tr>
<td><strong>Business Solutions South Africa</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Revenue</td>
<td>639</td>
<td>432</td>
<td>1 071</td>
</tr>
<tr>
<td>EBITDA</td>
<td>(11)</td>
<td>(34)</td>
<td>(45)</td>
</tr>
<tr>
<td><strong>EBITDA margin</strong></td>
<td>(1.7%)</td>
<td>(7.9%)</td>
<td>(4.2%)</td>
</tr>
<tr>
<td><strong>South Africa excl Business Solutions</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Revenue</td>
<td>19 862</td>
<td>21 274</td>
<td>41 136</td>
</tr>
<tr>
<td>EBITDA</td>
<td>7 026</td>
<td>7 455</td>
<td>14 481</td>
</tr>
<tr>
<td><strong>EBITDA margin</strong></td>
<td>35.4%</td>
<td>35.0%</td>
<td>35.2%</td>
</tr>
</tbody>
</table>

Source: MTN (2013)

The telecommunication market in South Africa is highly competitive with various operators offering unique service offerings and lower call rates. This puts pressure on MTN to ensure that they enhance their competitive advantage to make sure that the company maintains its market share. There are factors that need to be looked at; with internal factors needing to be critically analysed and a functional strategy to be developed to ensure that MTN survives in this challenging market.
The current analysis using the organization’s published financial statements shows that the organization has been quite successful in generating revenue and that the market share has been consistent for the past ten years (MTN, 2012). MTN has however, in the first half of 2013 recorded its first ever market share decline since its inception, shedding 2% of the market share to CellC, while Vodacom retained their market share at 51% (MTN, 2013). The forecasted revenue targets for the first half were also not met which resulted in a lower EBITDA which is now forcing MTN to conduct business differently (MTN, 2013). If the organization does not re-invent itself, the potential risk of losing its position in the market will become a reality which could have detrimental effects as the organization could be forced to restructure, hence resulting in job losses.

1.2 Problem Statement

The resource based view of an organization can be firmly argued that it provides an enhanced competitive advantage as well as increased performance through the organization’s resources that are valuable, rare and non-substitutable (Barney, 1986 cited in Al-Swidi, 2011). The intangible resources of an organization are in the form of knowledge, skills, process and practices that are efficient, intellectual capital, entrepreneurial inclination and innovation that cannot be placed in an organization’s balance sheet but provide a huge injection in the strategy for enhancing competitive advantage (Mathew, 2006 cited in Al-Swidi, 2011).

An organization’s core competencies are seen as the capabilities or skills that the organization excels in and emphasizes in doing, while the efforts are directed towards the overall mission (Divandri and Yousefi, 2011). Literature study conducted shows that innovation, strategic entrepreneurship, effective leadership and intellectual capital are some of the aspects of organizational core competencies. There is therefore a critical need to analyse the core competencies of MTN Network Group which will be useful in developing a model and a functional strategy to improve its competitive advantage. The reason for choosing Network group is that the department is a technology department at MTN and it is a strategic business unit for the development of new and innovative services and products that MTN would take to the market.
1.3 Research Objectives

1.3.1 Primary Research Objectives

The key research question for this study is:

*What is the Impact of Internal Core Competencies in Improving the Competitive Advantage of MTN SA Network Group?*

Based on the key research question, the primary objective of this research is to provide a view of how the competitive advantage of MTN Network group could be enhanced by investigating how internal core competencies within the business unit contribute to the organizational performance and competitive advantage. This is done by the investigation of chosen internal factors (Innovation, Strategic Entrepreneurship, Effective Leadership as well as Intellectual Capital) and their impact in improving competitive advantage of the organization. The results of the study could be used by management in formulation of a functional strategy to be used by the organization to address any shortcomings that are discovered.

1.3.2 Secondary Research Objectives

The following secondary research objectives are pursued in this research:

- What is the perception of Intellectual Capital in the organization (Managers vs. Engineers)?
- What is the perception of Innovation in the organization (Managers vs. Engineers)?
- Is there a link between Innovation perception and Technical qualifications?
- Is there a link between Strategic Entrepreneurship perception and Technical qualifications?
- Is there a link between Strategic Entrepreneurship perception and Management Qualifications?
1.3.3 **Research design objectives**

The primary and secondary research objectives will be achieved by following the structure outlined:

- Critical review of study to obtain information on the variables that are going to be used in this study.
- Construct questionnaire for data collection for this study.
- Test the questionnaire by means of a pilot study.
- Adjust and improve the questionnaire using the results of the study.
- Conduct survey on Engineers, Senior Engineers, Specialist Engineers, Managers, Senior Managers and General Managers of MTN SA Network Group.
- Capture and analyse data using software modelling tools.
- Interpret findings and provide conclusions.
- Discuss the empirical findings.
- Present recommendations to management.

1.4 **Research Paradigm**

The quantitative method in research is used to answer questions relating to relationships and to measure the correlation between variables, in order to explain, control and predict phenomena. This method is an objective, formal systematic process which deals with numeric data findings in testing, describing and examining the cause and effects of relationships between variables (Burns and Grove, 1987). Cormack (1991) provides an argument that quantitative research methodology tests the theory deductively from the existing knowledge by developing the hypothesized model. This research will therefore be based on analysing and understanding the impact of internal core competencies in enhancing the organizational competitive advantage. The hypothesized model will be developed to evaluate the relationship of the variables based on the existing knowledge. The quantitative research methodology is therefore the ideal methodology for this study.
1.5 Sample and Sample Design

Sample design looks at the methods for selection of appropriate primary units that are used for data collection and analysis for a specific research question (Handwerker, 2005). These units could consist of cities, provinces, or individuals. For this research’s purpose, the sample consists of engineers, senior engineers, specialist engineers, middle and senior managers at MTN South Africa Network Group. These employees are located in both the head-quarters of MTN in Johannesburg and also in six regions that form the operation of the company. The population size for MTN Network Group is 803 (MTN, 2013) of which 400 has been chosen as the sample size to be used for this research. This sample therefore uses known selection and the respondents are readily available. The questionnaire will be sent to all respondents via an online webpage.

1.6 Measuring Instrument

Measuring instruments are the tools that are used for collection and quantifying of data or to score a subject’s performance (Gay et al., 2010). They further state that the different types of instruments that can be used in research include:

- Cognitive – used for measuring intellectual processes like thinking, memorizing, problem solving, analyzing and reasoning.
- Achievement – used for measuring what the audience already knows.
- Aptitude – used for measuring general mental ability and is usually used in the prediction of future performance.
- Affective – used for assessing individual’s feelings, values, attitudes and beliefs.

A self-constructed measuring instrument has been designed based on the critical review of literature to measure the following variables:

- Competitive Advantage (CA)
- Innovation (IN)
- Effective Leadership (EL)
- Strategic Entrepreneurship (SE)
- Intellectual Capital (IC)
1.7 **Hypothesis**

The following hypothesis has been formulated to address both primary and secondary research objectives:

\[ H_1 = \text{Innovation has an influence on Competitive Advantage} \]

\[ H_2 = \text{Strategic Entrepreneurship has an influence on Competitive Advantage} \]

\[ H_3 = \text{Intellectual Capital has an influence on Competitive Advantage} \]

\[ H_4 = \text{Effective Leadership has an influence on Competitive Advantage} \]

Figure 1.1 below is used to graphically depict the hypothesis for this research.

Figure 1.1: Research Hypothesis
1.8 **Definition of Key Concepts**

1.8.1 **Core Competencies**

The core competence is a skill or capability that an organization emphasizes and excels in doing while pursuing its overall mission (Divandri and Yousefi, 2011). Core competencies are therefore the result of collective learning processes which are normally manifested in business processes and activities (Agha and Alrubaiee, 2012). Giesecke and McNeil (1999) provide a view that the competencies are the combination of knowledge, skills and personal attributes that have a contribution to the success of an individual in a particular position. They further suggest that in order for these competencies to be useful, they need to be able to relate to the objectives, goals and strategies of the organization.

1.8.2 **Competitive Advantage**

Competitive advantage is seen as an advantage that is gained by the organization over its competitors by offering its customers greater value, which could either, be through lower prices or by providing additional distinct benefits and services that justify similar or sometimes higher prices (Ehmke, 2011). Competitive advantage is achieved by a distinctive strategy that sets the organization apart from its rivals (Hough et al., 2008: 6). Porter (1985) provides a compelling argument that competitive advantage forms the heart of the organization’s performance in a highly competitive environment. He further argues that the ability of the organization to outperform its competitors is deeply rooted in the ability to convert the competitive strategy into a competitive advantage, where the competitive strategy entails the ability of the organization to position itself favourably in the industry in relation to its competitors.

1.8.3 **Innovation**

Innovation is a process by which value is created for customers being serviced by an organization through transformation of new technologies and knowledge into profitable services and products aimed for national and global markets (IVS, 2008). Innovation in an organization is one of the fundamental instruments of growth strategies for entering new markets, to provide an
increase in existing market share as well as to provide the organization with a competitive edge (Gunday et al., 2007). They further argue that innovation provides a crucial component in the corporate strategy as it enhances productivity in manufacturing processes, provides better performance as well as providing positive reputation in customer’s perception, which therefore leads to gaining sustainable competitive advantage.

1.8.4 **Strategic Entrepreneurship**

Strategic Entrepreneurship is the convergence of opportunity seeking and strategic actions for the formation of a strategic entrepreneurial model to create wealth in an organization. (Sathe, 2003 cited in Dhliwayo and Van Vuuren, 2011). Strategic entrepreneurship focuses on the ways that organizations create positive changes, including new businesses as well new product development (Narayanan et al., 2009). Guth and Ginsberg (1990) provide a view that strategic entrepreneurship in a corporate environment is defined by two phenomena; the internal venturing and the birth of new businesses, and transformation of the organization through the renewed patterns of resource deployment.

1.8.5 **Intellectual Capital**

The intellectual capital is the soft and intangible part of the organizational value which is in addition to the financial balance sheet (Al Zoabi and Bataineh, 2011). Intellectual capital is a multidimensional concept which consists of human, relational and organizational resources of an organization (Mention, 2012). Lev (2001) provides a compelling argument that intellectual capital embraces all the intangible assets that are inclined to generate future benefits. He further suggests that intangible assets are vital to future benefits and do not have any physical or financial embodiment.
1.8.6 **Effective Leadership**

Effective Leadership is the ability of the leader to modify the leadership style based on particular situations (DuBrin, 2010: 138). Goleman (2000) argues that effective leadership can be achieved by employing three primary leadership styles:

- Vision and mobilizing people towards change.
- Serving by building emotional bonds.
- Leading the followers to greatness by developing them for future responsibility.

He further argues that these principles are seen as the climate drivers that provide the most positive impact in an organization.

1.9 **Outline of the Study**

**Chapter 2** is the critical review of literature on Innovation, Strategic Entrepreneurship, Intellectual Capital and Effective Leadership and their impact in the competitive advantage of an organization.

**Chapter 3** looks into the research gaps identified, operationalized model and the development of the hypothesis.

**Chapter 4** is the methodology of the study focusing on sample selection, procedure used in designing the measuring instrument and data collection as well as the statistical procedures to be used for data analysis.

**Chapter 5** is an in-depth analysis and interpretations of the empirical results for the study.

**Chapter 6** provides the conclusion and recommendations by the author.
Chapter 2

2 Literature Review

2.1 Introduction

The challenges that are faced by MTN with respect to core competencies and competitive advantage need to be clearly understood in the broader aspect of theory. This literature review highlights the aspects of internal core competencies and their elements, as well as competitive advantage and organizational performance. This research is based on the assumption that core competence is the critical knowledge and skills that distinguishes the organization from its competitors and hence should have the ability to provide enhanced performance and competitive advantage. The core competencies that have been selected for this research are innovation, strategic entrepreneurship, intellectual capital and effective leadership.

This literature review therefore looks at the theoretical aspects of the organizational core competencies and their link to the organizational performance and competitive advantage. This is important in order to get an idea if the primary and secondary research objectives can be modelled based on the literature study. The literature will then be used to derive the methodology and the questionnaire for this study.

2.2 Core Competencies

Core competence is currently becoming a very popular term in business discipline but its meaning is still unclear as it is sometimes loosely used in many different aspects (Chen and Chang, 2011). The strategic management literature uses the term core competence in respect of the organizational strengths and capabilities which are important for competitive advantage, while human resources management literature refers to core competencies as capabilities of human or personnel in an organization which provide superior task or job performance.
Mascarenhas et al. (1998) provide a definition of a core competency as taking various forms which include technical or subject matter know-how, reliable processes as well as close relationships with both suppliers and customers. Competencies are areas of specialized expertise that result from the harmonization of complex streams of technology and work activity (Pahalad and Hamel, 1990). They further argue that in order to identify core competencies in an organization the following three factors are of critical importance:

- Provides potential access to a wide variety of markets – the core competence variables are those that assist the organization in creating new services and products. Expansion and retention of the organization’s current market structure is a continuous process which needs to be examined to create new products and markets as well as modifying the current product offerings to suit the diverse market needs. The capabilities that assist the organization in the introduction of new services and products are important for the organization to gain competitive advantage.

- Makes significant contribution to the perceived customer benefits of the end product – provision of the fundamental customer benefit is the key focus of core competencies. Customers always expect more benefits from the services and products of an organization which shows that every service or product needs to have its own level of performance and customers will always try to get more than their expectations. If these customer benefits are met, the organization is able to gain competitive advantage over its competitors.

- Difficult for the competitors to imitate – when defining core competencies the organization should focus on being completely unique. This uniqueness depends on the industry where the organization is competing. In a variety of industries, a number of skills are considered a prerequisite for participation and do not provide any significant competitor differentiation. In order for a competence to qualify as a core, the competitors should be in a position to wish they had these competencies within their own business.

Galunic and Rodhan (1998) further argue that a core competence does not only differentiate different organizations but also within the organization itself, it differentiates among several other competencies. This means that core competencies guide the organization in recombining its competencies in response to demands from the operating environment. Organizations should
therefore differentiate their businesses on the basis of a number of variables which could include services, products, personnel, image and many others. If an organization’s resources are easily available and are standardized, the organization will not be in a position to gain competitive advantage over its rivals. If an organization has the capabilities and resources that are superior to those of its competitors, then as long as the organization adopts the strategy that is effectively utilizing these capabilities and resources, it will enable it to establish the competitive advantage (Agha and Alrubaiee, 2012).

The resource based-view (RBV) of core competencies provides the view that an organization is seen to be having competitive advantage if it is implementing the value-creating strategy that is not being implemented by the current or potential competitors (Barney, 1991). He further proposed the framework for core competencies using four primary attributes; value, rareness, inimitability and non-substitutability. Peteraf (1993) provides an argument that the four conditions needed to achieve sustainable competitive advantage are resource immobility, resource heterogeneity, ex-ante and ex-post limits to completion. This model is only applicable to diversification and single business strategy.

From this literature, an argument can then be based on the fact that an organization needs to identify their core competencies by looking at the areas of specialization and expertise, the complex streams of business activities across the organization’s value chain and the intangible assets that an organization possesses that bring success to its operation.

2.3 Competitive Advantage

Competitive advantage is the advantage that an organization has over its competitors which is gained by offering customers great value products, which is achieved by either provision of lower prices or providing much greater benefits and services that justify higher prices (International School of Management, 2012). Competitive advantage is therefore bounded in an understanding of challenging relationship between the organization and its operating environment. This is a key in acquiring the right and talented people who are able to facilitate and identify market opportunities, connections, and industry patterns as well key issues that
control the business environment in order to reach the required competitive position (Al-Zoubi, 2012).

Competitive advantage in an organization is seen as the availability of core competencies which are the capabilities or the skills that an organization puts effort into and excels in while maintaining its target of the overall mission (Divandri and Yousefi, 2011). Core competencies that differ from the competing organizations have a unique characteristic in that they cannot be replicated and are referred to as distinctive competencies (Divandri and Yousefi, 2011). An organization needs to identify and nurture the distinctive competencies in order to ensure that the organization has a good execution plan which will help in providing products and services that have superiority to the customers and this becomes the basis of a lasting competitive advantage (Al-Zoubi, 2012). He further provides a view that organizational distinctive competencies include:

- **Tangible Assets** – these are the most easily identified assets which are normally found in an organization’s balance sheet and include production facilities, financial resources, raw material.
- **Intangible Assets** – these are the assets that cannot be felt or touched and include company’s reputation, organizational morale, technical knowledge, trademarks, patents and intellectual property rights.
- **Organizational Capabilities** – these include skills, abilities and the ways in which assets, people and processes are combined.

The Resource-Based View (RBV) is a method that is used to analyse and identify the organization’s strategic advantages, which is based on the examination of its distinct combination of assets, skills, capabilities and the intangibles (Divandri and Yousefi, 2011). The RBV provides a model for analysing the internal resources of an organization which are important in providing the competitive advantage.

### 2.3.1 Creation of Competitive Advantage

Michael Porter promoted the idea that the industry structure and the organizational positioning are the basis for the models of competitive advantage. Porter’s five forces diagram provides the
idea of Porter’s theory for competitive advantage. Competitive strategy need to grow out of a sophisticated understating of the rules of completion that in turn determine the attractiveness of the industry. “The ultimate aim of competitive strategy is to cope with and, ideally, to change those rules of the firm’s behaviour” (Porter, 2008). The five forces as developed by Porter determine the profitability of the industry and that some industries will be more attractive compared to others.

Figure 2.1: Porter's 5 Forces - Elements of Industry Structure

Source: Porter (2008)

Looking at the fundamental theory of organizations, the competitive advantage is created by the perception or discovering new ways and better ways of doing things ensuring that an organization is in a better position to compete in the industry. This is mainly achieved by the act of innovation which enables the organization to develop better products and services than its competitors within their business environment (Shahamat and Mousavian, 2011). Innovation enhances competitive advantage when the rivals in the operating arena either fail to perceive the new ways of competing or are unable and unwilling to respond.
Innovation provides one of the very important aspects of competitive advantage in a business as it has the ability to stimulate growth, economic prosperity and enhances rapid technological change (Christensen et al., 2004 cited in Shahamat and Mousavian, 2011). Innovation provides the business with the ultimate goal of enhancing investment decisions. Organizational innovation cannot be separated from technological advancement of that particular organization. Technological innovation is therefore a provision of the concept that has been developed within the scientific field of innovation studies, which then serves in the explanation of the nature and the rate of technological change (Smith, 2002 cited in Shahamat and Mousavian, 2011)

Research and Development (R&D) is the most widely understood form of innovation in many organizations (Singh et al., 2007). They further argue that R&D is often associated with technical issues on an organization, especially the development of new products. The limitation of the use of only the technical department as the source of innovation is that the rest of the business units are not exploited for innovation and therefore limiting an organization in ensuring that it achieves competitive advantage through innovative strategies (Singh et al., 2007).

2.3.2 Emergence of Competitive Advantage

In an organization the competitive advantage emerges from both internal and external sources within its operating environment. The internal environment is when the organization creates innovative capabilities and skills which would be encouraged by the pressures in the market environment (Grant, 2012). He further suggests that the external sources which are important in the emergence of organizational competitive advantage include:

- New technology developments
- New or changing customer needs
- The emergence of new industry segment
- Availability and changing of input costs

In order for any organization to react to these sources key strategic decisions need to be taken which would ensure the enhancement of competitive advantage. Some of the common ways that organizations need to look include (Porter, 1996):
• Deliver the product or service at a reduced cost. This does not mean the organization should deliver the lowest cost, but the cost should be linked to quality of the product or service which would make it to be attractive to the end user but still able to yield sufficient return on investment.

• Deliver a service or product that is differentiated. This means that the product is enhanced with additional unique features that are attractive to the market.

• Focus on a specific segment. The idea is to identify and create market niches that have not been exploited.

• Innovation. Develop products and services that are unique and have value added features to excite the market.

The extent to which the external sources create an advantage or disadvantage in the competitiveness of an organization depends on the size of the change and the extent of the organization’s strategic differences (Grant, 2012). He further argues that the unsteadiness in an organization’s operating environment creates a greater number of sources of change and that the greater the differences in the organization’s resources and capabilities, the greater the dispersion of profitability within the industry.

Grant (2012) provides an argument that competitive advantage emerges from the responsiveness to external change, and this depends on the organization’s ability to respond to change. This then translates into the external change in an organization being able to create the opportunities for revenue generation which include new business opportunities and this is seen as entrepreneurship. Responsiveness’s two critical capabilities include the ability to anticipate changes in the external environment and the speed to which the organization react to the changes (Grant, 2012).

2.3.3 **Sustaining Competitive Advantage**

Once the competitive advantage is established, there is a probability that it will be eroded by the competition. The speed with which the competitive advantage can be undermined or attacked depends entirely on the ability of the organization’s competitors to challenge, either by imitation
or innovation (Grant, 2012). Imitation is by far the most powerful enemy of competitive advantage so in order for it to be sustained over time, barriers to imitation need to be carefully exploited. The term isolating mechanisms best describes the barriers that limit ex post equilibrium of rents among individual organizations (Kaptanoglu et al., 2007). If these isolated mechanisms are effective, the competitive advantage can be sustained against the onslaught of the rival organizations. In most industries it takes quite a long time for the competitive advantage to erode.

Grant (2012) provides the argument that in order for an organization to identify the sources of isolating mechanisms, the competitive imitation needs to be critically analysed. In order for any organization to successfully imitate the strategy of another the following four conditions need to be met:

- **Identification** – The organization must be in a position to identify that the competitor has the competitive advantage.
- **Incentive** – As the competitor is identified as having competitive advantage, the organization then embarks in investing in imitation which could produce superior returns
- **Diagnosis** – An organization needs to be able to diagnose the features of the competitor’s strategy that gives rise to competitive advantage.
- **Resource Acquisition** – An organization then needs to be able to acquire, either through transfer or replication, the resources and capabilities that are necessary for imitating the strategy of the organization with competitive advantage.

The sustainability period of competitive advantage depends on the time it would take for the competitors to acquire and mobilize the resources and capabilities that are needed for the competitive advantage. The organization can then sustain competitive advantage by creating the resources through internal investment (Kaptanoglu et al., 2007). The effective training programs and staff retention programs which are a source of intellectual capital are therefore important aspects that an organization needs to organize in order to sustain competitive advantage (Grant, 2012).
When an organization has the capabilities and resources that are superior to those of the competitors in an operating environment, the organization therefore needs to adopt a strategy that would effectively utilize these capabilities and resources, which in the long term will be a major source of competitive advantage. Competitive advantage would be meaningful if it has the attributes that add a significant value to the operations of an organization.

2.4 **Innovation**

Innovation is continuing to be an important topic of study for quite a number of disciplines including business, economics, science engineering as well as sociology. The term innovation; despite being studied in various disciplines, continues to be poorly understood and it is sometimes confused with change, design, invention and creativity (O’Sullivan and Dooley, 2009). One of the definitions of Innovation taken from The New Oxford Dictionary is “making changes to something established by introducing something new” (O’Sullivan and Dooley, 2009). They further suggest that this definition does not provide the suggestion that the innovation needs to be radical or relate exclusively to new products and it also does not suggest that innovation would be exclusively for large organizations or single entrepreneurs, but the innovation is relevant for public and private institutions and businesses.

The goal for every organization is to have sustainable development and be able to produce good ideas. In order to express the production and development of good ideas in innovation, the definition of innovation can be extended as (O’Sullivan and Dooley, 2009): “Innovation is the process of providing changes to something that has already been established by introducing something new that would add value to the end customers”. The value addition therefore provides an assumption that the customer experience will have an impact in the continued use of the product, process or services that at least have the improved experience (O’Sullivan and Dooley, 2009). This will in turn provide the growth of the particular organization.

The term innovation is mostly associated with products. Generally when thinking about innovation, the critical mass would immediately think of physical product like a television, a gaming device or a technological gadget. Innovation is also possible in the processes that are
critical in product development as well as services that provide intangible products (O’Sullivan and Dooley, 2009). Some service industries do not produce physical products at all; an example of this would be a Disk Jockey that provides entertainment through playing music at weddings or parties.

2.4.1 **Product Innovation**

Product innovation is generally linked to the technological progress of an organization to develop new products. The essence of exploitation in the industry or organization is the refinement as well as the extension of existing competences, paradigms and technologies that produce positive, proximate and predictable returns whereas the essence of exploration is therefore the experimentation with new alternatives that produce distant, uncertain and mostly negative returns (March, 1991 cited in Zhou and Wu, 2009). Looking further into March’s view point on the product innovation domain, the exploitation is then seen as the use and refinement of the existing skills and knowledge in the product development and exploration then refers to the pursuit and search of new skills and knowledge in product development (Zhou and Wu, 2009).

One of the critical elements for the firms to adapt to turbulent environments in order to achieve sustainable competitive advantage is innovation (Zhou and Wu, 2009). The absorptive capacity, which is also seen as an organization’s ability to recognize the value of new information, integrate and apply it to commercial offering, is crucial to the organization’s innovative activities (Cohen and Levinthal, 1990 cited in Zhou and Wu, 2009). In order for the organization to develop innovation, it is important to be able to search, identify and evaluate alternative knowledge and skills from various sources and then transform this knowledge to an understandable form for internal use (Zhou and Wu, 2009).

Technological capability is the ability of an organization to employ various technologies (Afuah, 2002). When the technological capability gets rooted in the organizational routine over a specific time, it then becomes more valuable, non-substitutable and inimitable (Zhou and Wu, 2009). Technological capability promotes organizational learning and therefore provides product

2.4.2 Process Innovation

Process innovation is a way of implementing new or significantly improved delivery or production methods (Gunday et al., 2007). This would therefore include massive changes in techniques, software and equipment. The main aim for engaging in process innovation is to be able to decrease production unit costs, increase delivery efficiency and also produce significantly improved services and products (Gunday et al., 2007). Fagerberg et al. (2004) further provide an argument that new product or service introduction is normally assumed to be having a positive, clear effect on growth of employment and income. Process innovation as it is based on cost-cutting mechanisms, does provide a significant advantage to an organization.

Process innovation provides the dimension of the flexibility and robustness of the new product development process in an organization and it brings the attention for every employee involved to the needs of the customer which is opposed to the angle of the marketing which normally focuses on customer needs (Gamal et al., 2011). In order for an organization to gain and achieve process innovation, it is critical have strong processes which could effectively provide an edge over competitors.

2.4.3 Innovation Value Chain

In order to have improved innovation an organization needs to enhance the process of idea transformation to the commercial output as a cohesive flow, which is similar to the idea of Michael Porter’s value chain for the transformation of raw materials into finished products and goods (Hansen and Birkinshaw, 2007). They further argue that the three stages of this value chain include generation of ideas, idea conversion and diffusion.
2.4.3.1 **Idea Generation**

It is a known factor that good ideas lead to innovation, but the big question is where the concepts of innovation are derived. Organizations need to look internally on the functional groups and business units to see if there are creative ideas, and these ideas are normally seen when individuals from different units interact or when then the organization look at the external partners for ideas (Hansen and Birkinshaw, 2007). They also argue that collaboration between different units in an organization in order to develop new services and products is often not an easy exercise.

Decentralized organizational structures as well as the geographical separation of offices make it difficult for employees to work across different business units. Organizations therefore need to be able to assess if they are sourcing ideas that are good from external sources (outside the company and industry), tapping from the knowledge and insights from end users, customers, independent entrepreneurs, suppliers, inventors and scientists (Hansen and Birkinshaw, 2007). If an organization does not have this ability, this could result in opportunities being missed as well as lower innovation productivity.

2.4.3.2 **Idea Conversion**

Generating good ideas is critical for any organization, however how these ideas are handled or mishandled once they are generated is equally important (Hansen and Birkinshaw, 2007). Any new concept will not develop into a fully-fledged product or service if there is no adequate screening and funding mechanism. In many different organizations minimal capital budgets, conventional thinking and tight funding models shut down many novel and creative ideas (Hansen and Birkinshaw, 2007). The organizations therefore need to be able to establish if they have adequate commercial skills and capital for high risk projects, and also if they have good screening mechanisms to be able to see which ideas have potential and which ones have not. The ideas that need to be fostered need to make an impact on the overall business strategy of the organization. The ideas therefore need to be turned into revenue generating services, processes and products (Hansen and Birkinshaw, 2007).
2.4.3.3 **Idea Diffusion**

Concepts and ideas that have been sourced, vetted, funded and developed need to have a buy-in from within the organization and not only from the customers (Hansen and Birkinshaw, 2007). They further argue that organizations need to get relevant constituencies internally to provide support in order to spread the new products, businesses and practices across different geographical areas, channels as well as customer groups. Robinson (2009) provides a view that diffusion in an innovation process has three valuable insights into the social change process; the qualities which make innovation spread, the importance of peer networks and peer-to-peer conversations, as well as the understanding of different user segment needs. The approach of diffusion is that it does not focus on persuading individuals to change but rather looks into change as being primarily about the evolution of products and behaviours so that they fit better for the individual and group needs (Robinson, 2009).

2.4.4 **Success of Innovation**

Success of innovation is based on five critical aspects as detailed by Robinson (2009):

- **Relative Advantage** – this is the degree to which innovation is seen as better than the idea it displaces by a certain group of users, and is measured in terms that matter the most to those users which include social prestige, economic advantage, satisfaction and convenience. If the relative advantage of innovation is greatly perceived, the rate of adoption of the product or service is accelerated.

- **Compatibility with existing practises and values** – this is based on the way to which innovation is seen to be consistent with past experiences, values and potential adopter needs.

- **Simplicity** – this is the degree to which innovation is seen as difficult to use and understand. New ideas that are much simpler to recognize and understand are normally adopted more quickly than those that require the adopter to develop new understanding and skills.
• Trialability – this is based on the degree to which innovation can be tested and experimented within a limited time basis. If an innovation concept is trialable, it therefore represents less uncertainty to the adopter.

• Observable results – if the results of an innovation idea are easily recognizable, it is more like to receive a positive response. Results that are visible lower the uncertainty and stimulate peer discussions for the new ideas.

2.4.5 Innovation as a Core Competence

The development of any organization cannot be separated from the organization’s innovation capacity. The business innovation promotes the organization’s core competitiveness in order to create a continuous competitive strategy, form a complete system that provides organization’s rapid expansion (Zang and Wang, 2010). They further argue that research and organizational learning through innovation form the basis of organizational core competencies as they add positive value to the organization. Drucker (2001) provides an argument that the positive value created by innovation in an organization includes incremental improvements of existing products and services, creation of new services and products as well as reduction of costs due to improved processes, is therefore seen as a core competence. Bharadwaj and Menon (2000) further argue that the core competency depends on the individual competitiveness as well as the organizational systems.

In the technology intensive and highly competitive environment, it is critical for any organization to enhance the innovation skills as new ideas and products are important for the survival of organizations. Innovation is seen as adding positive value to the organizational performance. An organization needs to be the first mover in providing new products and services which would ensure that it remains competitive in the market. This would then ensure that it can improve the market share in highly competitive environments.
2.5 **Strategic Entrepreneurship**

2.5.1 **Fundamentals of Entrepreneurship**

The main question that is being addressed in the field of entrepreneurship is why entrepreneurs recognize the opportunities that have not been recognized by the non-entrepreneurs (Baron, 2004). Since venture creation has been a critical aspect of entrepreneurs in the entrepreneurship research, scholars have been focusing on identifying the key that distinguish entrepreneurs (Dyer et al., 2009). They further argue that three most popular explanations why non-entrepreneurs and Entrepreneurs differ include personality, cognitive and social network differences.

Some research on personality differences has been surprising due to the fact that successful entrepreneurs and successful business executives have no significant differences on personality traits (Busenitz and Barney, 1997). The physiological literature has the findings that a wide variety of individual physiological differences, which include risk taking and locus of control do not vary significantly between managers in large organizations and entrepreneurs (Dyer et al., 2009).

Currently there is little empirical support for the personality differences between non-entrepreneurs and entrepreneurs but empirical evidence suggest that there is a notable difference on cognitive and social networking differences (Dyer et al., 2009). Entrepreneurs are prone to cognitive biases which are mostly representativeness and overconfidence biases which have indirect influence to opportunity recognition but have a strong drive towards pursuing new venture ides which in turn increases the venture creation probability (Busenitz and Barney, 1997).

Entrepreneurs have been seen to have the ability to recognize opportunities which has led to threefold categorization (Miller, 2007):

- Opportunity recognition – provides the idea of connecting the known products to the existing demand in order to exploit a previously unrecognized opportunity.
• Opportunity Discovery – provides an idea of starting with a known supply proceeding to the search of unknown demand and also looking into the known demand to the motivation of the search of an unknown supply.

• Opportunity Creation – is an idea that neither the demand or the supply exist before the entrepreneurial activity, the entrepreneur therefore has a task to create both of them.

Opportunity recognition refers to all three processes for starting the business that is innovative, but technically speaking innovative entrepreneurs are more likely to venture into opportunity creation since it provides the introduction of new goods and services to the market.

2.5.2 Occupational, Structural and Functional Aspects of Entrepreneurship

Entrepreneurship needs to be understood and organized in different constituents which are structural, occupational and functional aspects. Occupational theories and aspects provide a definition that entrepreneurship is self-employed and therefore treats the individual as the unit of analysis, further highlighting the characteristics of individuals who start their own ventures and provide an explanation between self-employment and employment (Parker, 2004). The literature on labour economics on occupational choice as well as psychological literature on personal characteristics of individuals that are self-employed is a fit for this category (Klein, 2008). The argument is further explained by McGrath and McMillan (2000) that some individuals who possess an entrepreneurial mindset have the ability to find the opportunities that have been overlooked or ignored by other individuals. This mindset is normally developed through experience rather than formal instruction.

The approach of structural aspect treats an organization or an industry as an analysis unit and further defines the entrepreneurial organization as a new or small organization (Klein, 2008). The literature studies on organizational growth, industry dynamics and networks all have structural aspect of entrepreneurship in mind (Audretsch et al., 2005). It can be strongly argued then that a particular organization or industry can be more entrepreneurial than others, depending on a particular market structure.
The economic theory of entrepreneurship provides a model that entrepreneurship is a function, process or activity and not an employment category or the market structure (Klein, 2008). The ways in which the entrepreneurial function is characterized include judgement, innovation, adaptation, coordination and alertness (Witt, 2003). In each of these cases the functional concepts of entrepreneurship are mostly depended on structural and occupational concepts (Klein, 2008). The entrepreneurial function can therefore be seen as happening in both large and small organizations, in individuals and across various occupational categories. The concept of alertness in entrepreneurship provides an idea that profit opportunities are the most influential aspects in functional approaches (Klein, 2008). The typical case for this is the ability of an entrepreneur to be aware of a new product or service and steps in to fill the gap in the market before the others can identify and see it.

2.5.3 Strategic Entrepreneurship

Strategic entrepreneurship is a field that is newly recognized and has its origins rooted in strategic management and entrepreneurship fields (Klein et al., 2012). They further provide an argument that there are two ideas that form the core of strategic entrepreneurship. The first one is strategy formulation and execution which involves the fundamentally entrepreneurial attributes like alertness, judgement and creativity in which entrepreneurs capture and create value through acquisition of resources as well as competitive positioning. The second one is advantage-seeking and opportunity-seeking which provide the basis of strategic management field and entrepreneurial field respectively, and that these fields need to be jointly considered. This therefore explains that the related specific links between entrepreneurship and strategy provides the development of strategic entrepreneurship criteria.

Entrepreneurs and entrepreneurial discipline need strategy since across the stages of product and organizational life cycle, together with the insights from strategic management point of view about capturing value through acquisition of resources, competitive positioning in the industry and capability development are key elements in the understanding of new products industries and organizations (Klein et al., 2012). Strategic management theory has its core rooted on competitive advantage. Resource attributes like value, rarity, substitutability and imitability do
not exist on their own but are created and discovered through human intervention and agency (Klein et al., 2012). They further provide an argument that strategic entrepreneurship is based on the following key assumptions:

- The creation of wealth is not an automatic process, but results from the creative activity of individuals.
- Economic actions do take place under Knightian uncertainty conditions where the decision making is poorly described by the models of coherent, utility-maximising agents which are borrowed from the mainstream economics. Critical important aspects in this regard include satisficing, judgment, biases and heuristics as well as learning and experimentation.
- Entrepreneurship involves deployment and assembly of diverse capital resources which could result in the creation and establishment of a new organization.
- Resource characteristics are not given before the event but need to be created and discovered through entrepreneurial activity.

Based on these assumptions it can therefore be safely deduced that strategic entrepreneurship can be perceived as the study of individuals that build the economic institution in order to create wealth where traditional decision making about profit maximization could be replaced by other kinds of decision rules.

2.5.4 Strategic Entrepreneurial Mindset

The mindset of strategic entrepreneurship is a unitary thinking and a behavioural process which cannot be separated from the independent component processes of strategic an entrepreneurial thinking (Dhliwayo and Van Vuuren, 2007). The argument further provides strategic thinking as the way of solving problems, combining convergent and rational approaches with divergent and creative processes which are then linked to an ongoing action processes. Strategic thinking provides a universal approach and attention to the fundamental structures of complex situations and thinking which then enables resolution of contradictions and the development of different alternative solutions (Bonn, 2001). Entrepreneurship and strategic planning are tightly linked to innovation, internationalisation, organizational networks and learning, as well as flexibility and
change (Hitt et al., 2002). Strategic entrepreneurial mindset therefore focuses on seeking new opportunities, value creation, recognition as well as discovering future business needs.

Organizations that need to enhance competitive advantage continuously try to find better solutions through the use of effective strategic thinking and thinking strategically throughout the ranks of the company (Dhliwayo and Van Vuuren, 2007). The strategic entrepreneurial mindset therefore provides the organization with key opportunities for connecting with the organization’s strategic vision or shaping its strategic future (Kelly et al., 2002).

Entrepreneurial mindset creates the environment pro-activeness which is an opportunity seeking perspective of looking forward and involves the introduction of new services and products ahead of the competing organizations and acting in expectation of future demand in order to create change which therefore shapes the environment (Kreiser et al., 2002). Pro-activeness, which is seen as the organization’s response to market opportunities, is therefore a critical part of strategic entrepreneurial thinking since strong proactive tendencies give the organization the ability to forecast changing needs in the market environment (Dhliwayo and Van Vuuren, 2007). Proactive organizations have the urge to be creators which enable them to capitalize on emerging opportunities (Wicklund and Shepherd, 2005).

The other critical factor to consider in strategic entrepreneurship is the high level of uncertainty as well as the associated risk (Ostler, 2012). The uncertainty is in different forms, so in order to fully understand the role of uncertainty risk taking plays a critical role in the strategic entrepreneurial activity (Ostler, 2012). Different risks do exist and the example of this is how the venture capitalists distinguish between technical risk and market risk. Risk-taking is normally associated with preparedness to commit significantly more resources to projects where the outcome is not entirely known and in this case the organization will break away from tried and tested ventures into the unknown (Dhliwayo and Van Vuuren, 2007). Organizations that are risk-inclined would normally conduct experiments, take initiatives and are aggressive when they pursue opportunities (Hisrich and Peters, 2002).
Competitive aggressiveness is another aspect of strategic entrepreneurship and it is defined as the organization’s inclination to be able to strongly challenge its competitors in order to achieve gain entry or improve the market position in order to outperform the industry rivals in the operating environment (Lumpkin and Dess, 1996: 148). Hitt et al., 2001 further argue that a strong competitive aggressive standpoint gives the organization the ability to be a strong and decisive player in the field of competing organizations and therefore act convincingly to secure and improve its market position. In divergence with the proactive quest for new markets which have been made possible by the value innovations, competitive aggressiveness therefore focuses on the critical threats that are imposed by the competing firms as well as battles over the existing customer base (Stambaugh et al., 2012).

### 2.5.5 Strategic Entrepreneurship as a Core Competence

The core element of any organization’s business model is the economic model which provides a consistent logic for earning profits (Linder and Cantrell, 2000). Four subcomponents of the economic model include: the operating leverage which is the extent to which the cost structure is dominated by variable versus fixed costs; the ability of the organization to achieve higher margins; the ability of the organization to emphasize on lower or higher volumes based on internal capacity and market opportunity as well as the organization’s revenue model (Morris et al., 2005). An organization has a value proposition and the creation of this value provides the justification for the business entity (Afuah and Tucci, 2001). Based on these arguments it is therefore safe to argue that the business model of an organization will be determined by the strategic entrepreneurship inclination in the organization. Strategic entrepreneurship therefore adds positive value to the existence of the organization and is therefore a core competence.

It can be argued based on literature that there are certain aspects that are similar when looking into both strategy and entrepreneurship. The areas of commonality include decision making, wealth creation, operational decisions as well as the assembling of resources in order to create wealth. The future of any profit making organization lies on its ability to create wealth, which would therefore provide sustainability and long term survival. Strategic entrepreneurship provides a focus for an entrepreneurial quest for a string of temporary advantages which are
under the form of wealth creation mechanisms. In order for the organization to survive, it is therefore important for the leaders and the employees to have entrepreneurial inclination.

2.6 Intellectual Capital

Intellectual Capital (IC) is the term that is commonly used in nowadays across different fields in both academic and managerial activity that was first introduced by economist John Kenneth Galbraith in 1969 which refers to the difference between the organization’s book value and market value (Moghadam et al., 2013). Intellectual capital therefore provides a new tool to recognize the hidden value of an organization (Moghadam et al., 2013). Three basic dimensions of intellectual capital are human capital, structural or organizational capital as well as relational capital (Bontis and Keow, 2000). Intellectual Capital (IC) is therefore seen as an economic value based on the combination of three basic categories of the organizational intangible assets:

- Human Capital refers to the competencies, abilities as well as the know-how of human resources;
- Organizational Capital refers to the organizational knowledge which is mostly confined in business procedures, processes as well as the systems;
- Relational Capital looks deep into the knowledge that is embedded in business networks which normally includes supplier relations, customer loyalty and goodwill.

This research focuses on the two aspects of intellectual capital, namely, human capital and organizational capital. The resource based view of an organization can be strongly argued as one of the elements in improving the competitive advantage of an organization. Knowledge is also a strong element in the organization’s economic resources and it is replacing financial and physical capitals and is one of the most important capitals in the new economy (Hamzah and Ismail, 2008). In today’s economic climate there is an exponential growth in information and it is very important to manage the knowledge-inclined assets in an organization. The internal capabilities of an organization provide a wide variety of skills, knowledge and activities (Hamzah and Ismail, 2008). The argument can therefore be created that the performance of the organization should be linked to how the organization manages and nurtures its knowledge-inclined assets.
Intellectual capital can be seen as the knowledge that can be exploited for some money-making or useful purposes in an organization. It combines the idea of the intellect, or the brain-power, with the economic concept of capital, the saving of eligible benefits so that they can be invested in producing more goods and services (Vargas-Hernandez and Noruzi, 2010). Intellectual capital can therefore include critical skills and knowledge that an organization has been able to develop in order to make its goods and services; individual employees or groups of employees whose knowledge is deemed critical to a company's continued success; and its aggregation of documents about processes, customers, research results, and other information that might have value for a competitor that is not common knowledge.

The value that the organisation obtains from its intellectual capital is the result of well-planed, well-reasoned, and well-executed set of management initiatives (Harrison and Sullivan, 2002). They also debate that an organisation’s design initiatives that are meant to ensure that specific forms of values, believed to be important to the organisation’s business strategy are routinely extracted from the organisation’s intellectual capital. This means that the value of an organisation’s intellectual capital depends on the type of outcome desired and the organisation’s point of view or context. According to Harrison and Sullivan (2002), an organisation’s context is the organisation’s internal and external realities. Organisation’s internal realities are concerned with direction, resources and customers. Meanwhile the organisation’s external realities are related to opportunities and threats there is a need to focus on the fundamental forces affecting the long-term viability of the industry as well as the immediate opportunities available to the organisation.

The increased economic instability, knowledge requirements as well as changing business requirements in organizations require the increased need of study of intellectual capital. Intellectual capital is important for the following reasons (Ulrich, 1998):

- There is a huge demand for knowledge workers in the growing economies; this factor is linked to human capital aspects of intellectual capital.
- Innovation and learning has become an integral aspect in new economy (organizational capital).
2.6.1 **Human Capital**

Human capital is seen as the skills, experience, knowledge, insights and the attitudes of the workforce in an organization which can be used to stimulate economic growth (Ali and Ali, 2006). Bontis and Keow (2001) further argue that human capital provides a representation of the individual knowledge asset of the organization’s employees and that these employees generate intellectual capital through their competency, attitude and intellectual inclination. Human capital can be seen as a combination of four factors which are; culture, experiences, inheritance as well as attitude (Madjitinos et al., 2009).

The theory of human capital provides the use of economic logic in order to study the individual decisions in dealing with investments in productivity-enhancing skills and knowledge (training, schooling, and firm-specific knowledge investment), career choices as well as other work characteristics (Becker, 1964 cited in Swart, 2005). This theory therefore extrapolates that individuals choose employment or an occupation that provides the maximum present value of economic and physical benefits over their life time. Lepak and Snell (1999) further argue that the human capital theory emphasizes the cost of labour relative to the Return on Investment (ROI) which includes future productivity for developing employee knowledge and skills.

The productivity aspect in human capital provides an argument that employee knowledge and skills represent the capital because of the enhanced productivity which in turn adds value to the organization (Longo and Mura, 2008). Even though this organizational value is tangible as it is created though the transformation of the organization’s product, most of it would be intangible as it consists problem solving skill, the critical ability to identify key aspects of work as well as the capability to be creative and innovative in performing the task at hand (Hitt et al., 2001).

The organization therefore needs to take a decision to nurture human capital internally by developing the skills and capabilities or acquiring them on the external market (Lepak and Snell, 1999). The argument can therefore be deduced that internalizing employment would be effective if an organization can do so without investing in employee development, but the divergent view can also be exploited in that if the productivity of the employee is not expected to exceed the cost
of investment, the organization could therefore acquire these skills from the external labour market.

Human capital can also be seen on a transferability angle which provides an argument that on the labour market, human capital has a price since it is a valuable resource from other organizations, and is most importantly transferable (Longo and Mura, 2008). This argument is based on the critical fact that organizations do not own human capital as it is embodied in the employees themselves and these employees are free to move from one organization to another (Longo and Mura, 2008). Generic human capital is accumulated through individual efforts which include experience and education and it is highly transferable across the organizations (Mention, 2012). Low employee turnover represents a critical element in the organization’s value creating process as it secures the firm from losing key skills, knowledge as well as expertise (Longo and Mura, 2008). The other argument can also be deduced that if the employees stay within the organization, their contribution is directly proportional to their willingness to perform. This then shows that employee satisfaction, commitment and motivation are critical components in developing human capital.

The literature provides the emphasis of the individual aspect of human capital, regardless of the context in which it is developed or mobilized. There is also the notion that knowledge is socially constructed and also results from the interactions with others, which then refers to the concept of social capital and an impact on human capital development (Mention, 2012). Nahapiet and Goshal (1998) cited in Mention (2012) define social capital as the sum of actual and potential resources rooted within, available through and derived from relationship networks than an individual possess.

The theory of human capital therefore focuses on the model that employees who possess skills, knowledge and experience provide an economic value to the organization. The dimension to be further followed in this research is that human capital is considered mainly as an individual level construct and therefore will look into the individual knowledge, expertise, experience, attitudes as well as abilities of individual employees in the Network group at MTN.
2.6.2 Organizational Capital

Organizational Capital is an intangible concept that still needs a lot of research in order to be widely acknowledged. Organizational Capital is seen as firm-specific information that has an effect in the production possibility set and is improved through processes that consist of output-related learning (Squicciarini and Le Mouel, 2012). Organizational capital, as defined by Evenson and Westel (1995) cited in Squicciarini and Le Mouel (2012), is the organizational know-how that is needed in the creation of production systems which combine both physical capital and human capital.

The viewpoint of economic literature models the organizational capital as a specific information asset in an organization, whose conceptualization lies on the concept of the organization that goes beyond the production function representation (Squicciarini and Le Mouel, 2012). Prescott and Visscher (1980) provide an argument that organizational capital is indeed the specific type of business knowledge that has an effect on the organization’s production function possibility set which is accrued jointly with the output. The main components therefore include: the quality of the match between task characteristics and information on employees; the quality of the match between employee assignment and the teams; the information personified in employees in terms of organization’s specific training.

The organization’s comparative advantage, which is used to create and maintain the revenue streams, is represented in the specific knowledge capability (Squicciarini and Le Mouel, 2012). Atkeson and Kehoe (2005) further provide the examples of learning processes that take place in the organizations and creation and accumulation of the knowledge-inclined asset, the difficulty matching employees to jobs which results in employee turnover dynamics, the impact of the investment in knowledge-inclined assets to the firm growth as well as the rents that accrue to the organization’s owners from the return on knowledge capital. The recent explanations of sustainable competitive advantage have been strongly argued on the strategic management literature which focuses on the ability of the organizations to exploit scarce and non-imitable specific organizational resources.
The managerial literature takes a point of view that organizational capital provides an important source of competitive advantage, and it is one of the main organization’s specific resources (Mention, 2012). The survey of main theories of organization’s comparative advantage highlights that firm specific rents are mainly based on industrial organization theories which are related to market dynamics which include the ease or barriers of entry to the market, the substitutability of products, bargaining power of suppliers and buyers (Porter, 2008). The recent explanations and analysis of a sustained competitive advantage mainly focus on the ability of the organizations to exploit scarce and non-imitable organizational specific resources (Squicciarini and Le Mouel, 2012). This analysis has then led to the Resource Based View (RBV) of the organization which strongly underlines the need for the organization to understand their capabilities in terms of the organizational structure, as well as managerial processes that support the organization’s productive activity as opposed to looking on the balance sheet (Squicciarini and Le Mouel, 2012). The dynamic capabilities of an organization, ability to reconfigure the production for entering new markets as well as the ability to upgrade activity in the global value chains provides the key to long term survival which then rests on the strong qualities of management and flexible organizational structures (Squicciarini and Le Mouel, 2012).

The sociological aspect of the organizational theory further provides an argument that the standard economic notion of rational profit-seeking individuals can be set aside and the organizations can emphasize on the interconnectedness of actors and the power struggles that are involved in the relationships (Lounsbury and Ventresca, 2003). This notion looks deep onto the network of relationships that exist within the organization’s employees, which in turn provides the appropriate knowledge to be shared and integrated in the organizations that are formal and in dispersed practices of individual (Agterberg et al., 2010). This social aspect provides an analytical tool that underpins the social network analysis which has become increasingly important in many fields and the natural application in the organizational theory context (Borgatti and Foster, 2003). The context of organizational structure has led to the management performance research and its impact in a number of organizational dynamics; job turnover, innovation, individual career paths as well as perceived organizational support (Moran, 2005).
2.6.3 **Intellectual Capital as a Core Competence**

Human capital is seen as a critical resource in many organizations as it is a source of competitive advantage. Hitt et al. (2001) provide an argument that attributes like education, skills and experience of employees provide an improved business performance. Human capital therefore by its ability of providing improved business performance can be seen as an organizational core competence. Bontis (1998) provides a view that human capital generates competitive advantage if it transforms into organizational capital. The greater obsession to maintain and improve organizational capital provides an increase in the economic value of the organization (Rodriguez-Castellanos et al., 2006). This therefore translates into the conclusion that organizational capital forms part of core competencies in an organization.

Organizational capital is a critical element that needs to be carefully studied in order to quantify the investments that an organization makes in knowledge-inclined assets in order to uncover the relationship that links entrepreneurial dynamics, organizational capital and productivity. Organizational Capital has been modelled in different disciplines which include economics, accounting and management. The organizations that are technology intensive like MTN then need to re-evaluate themselves to see if there are capabilities for organizational capital which are needed to provide the atmosphere for enhanced learning and improve the organizational performance.

2.7 **Leadership and Effective Leadership**

The setting of leadership is occupied by opportunities, purpose as well as relationships (McCaslin, 2001). He further argues that while it is not easy to gain the full understanding of leadership setting by an examination of various aspects, there is examination that could be exploited and this positions leadership as a meta-motivational value. Leadership is a higher order value, condition or concept which sets itself away from human nature by being incorruptible, unchanging and unyielding in principle while providing creativity, inspiration for hope as well as empowerment to unmet human potential (McCaslin, 2001).
In today’s competitive environment, most organizations do rely upon their leaders in order to facilitate innovation and changes that are required for the maintenance of competitive advantage (Pradeep and Prabhu, 2011). Leaders are seen as people that have the ability to single handedly create order out of a chaotic situation, guide organizations through difficult situations, bring glory out of mediocrity and prosper where lesser mortals will quickly diminish away (Pradeep and Prabhu, 2011). Leaders have characteristics that influence followers in many regards including communicating, coordinating, motivation, training as well as rewarding (Yukl, 2006).

2.7.1 **Leadership Theory**

Literature on leadership has been revealing an evolving series for the school of thought from different aspects which include Great Man, Trait theories as well as Transformational leadership Models. The early theories had a great focus on behaviours and characteristics of successful leaders and the more recent theories started to consider the role of followers and the leadership contextual nature (Gosling et al., 2003).

Great Man Theories are based on the simple belief that leaders are unique people that are born with intrinsic qualities and are destined to lead (Gosling et al., 2003). The use of the ‘man’ in this theory has been intentional as in the early days in the twentieth century leadership was seen as a concept primarily for males.

The Trait Theories focus on the list of qualities of traits that are associated with leadership, which exist in abundance and therefore continue to be produced (Gosling et al., 2003). They look on virtually all adjectives in the dictionary which describe the positive human values from ambition to passion for life.

Behaviourist Theories concentrate on what leaders are actually doing rather than the leadership qualities themselves (Gosling et al., 2003). They further argue that there are different patterns of behaviours that are observed and characterized as styles of leadership and this area has attracted a lot of attention from practising managers.
The Situational Leadership Model is based on the argument that there is no one size fits all approach in leadership (Hersey et al., 2012). They further argue that depending on the situation, varying levels of leadership and management are necessary and leaders need to identify their most important priorities and then consider the readiness level of their followers by analysing the group’s willingness and ability. Situational Leadership approach sees leadership as being specific to the situation in which it is being implemented (Gosling et al., 2003). An example of this is that in some situations there is a requirement for autocratic leadership style and some situations may rather require participative approach. This theory also has a proposal that there could be differences in required leadership styles at different job levels in an organization (Gosling et al., 2003).

Contingency leadership theory was developed by Fiedler in 1967 and it characterizes leaders as either relationship-motivated or task-motivated (Barling et al., 2007). They further argue that the three dimensions that characterize a situation are; performance goal clarity, leader-follower relations and formal authority or power and each dimension provides influence on the extent to which leaders are afforded a sense of control over their jobs. Contingency Theory is a refinement of the view point of situational leadership and mostly focuses on identifying the individual variables that normally predict the most effective and appropriate leadership style that is needed to fit a particular circumstance (Gosling et al., 2003).

Barling et al. (2007) provide an argument that transactional leadership has the following different behaviours:

- The non-leadership and non-management styles which characterize laissez-faire behaviours of the leader and these behaviours include denying and avoiding responsibility as well as negligence of taking any actions even in terrible situations.
- Active management by exception occurs when the leader focuses enthusiastically on the mistakes and failures of the followers in order to meet the standards. The leader is therefore focusing consistently on the errors rather than focusing on the positive events.
- Passive management by exception occurs when the leader focuses on errors and waits until these errors are of such significance that they can no longer be tolerated.
• Contingent reward involves setting of goals by managers, providing feedback and ensuring that the behaviours of employees have consequences either positive or negative.

Gosling et al. (2003) suggest that the transactional leadership theory emphasizes on the importance of the relationship between the leader and the followers and focuses on the mutual benefits that are derived from a form of contract which the leader is delivering, which includes rewards and recognition in return for the loyalty and commitment of the followers.

Transformational Leadership Theory provides a central concept of change and the role of leadership in foreseeing and implementing the transformation of organizational performance (Gosling et al., 2003). Barling et al. (2007) further explain that transformational leadership provides the four different behaviours which are idealized influence, intellectual stimulation, inspirational motivation as well as individualized consideration. Transformational leaders therefore have the ability to change employers who carry out tasks into very valuable team members (Popa, 2012).

2.7.2 **Key Dimensions of Transformational Leadership**

Transformational leaders have a belief of delegating the responsibility and getting the employees to be involved in the important decisions as well as showing confidence in their ability to make right choices (Popa, 2012). Bass and Avolio (1994: 3) provide an argument that transformational leaders do more with colleagues and followers than setting up simple agreements as they behave in different ways to achieve superior results by employing one or more of the following aspects:

• **Idealized Influence** – Transformational leaders perform in the ways, resulting in them being role models to the followers as they are respected, admired and trusted. Followers therefore identify with their leaders and want to imitate them. The organizational risks are shared by the leader to the followers and the leader has consistency.

• **Inspirational Motivation** – Transformational leaders inspire and motivate those around them by providing the challenge and the meaning to the follower’s work. The leader is
focusing on creating a clear communicated expectation that the followers want to meet and also demonstrate the commitment to a shared vision and long term goals.

- Intellectual Stimulation – Transformational leaders stimulate the efforts of the followers in order to be creative and innovative by questioning the assumptions, reframing the problems as well as providing new ways of approaching old situations.

- Individualized Consideration – Transformational leaders pay specific attention to each individual’s needs for growth and achievement by acting as a mentor or coach. Fellow employees are developed to a much higher potential level. Individualized consideration is based on the idea that new learning opportunities are being created along with a supportive climate.

2.7.3 Transactional Leadership and Management by Exception

Transactional leadership occurs when the leader provides a reward or a disciplinary action to the follower depending on the competence of the follower’s performance (Bass and Avolio, 1994: 4). They further argue that transactional leadership depends on contingent reinforcement which could either be positive contingent reward or the more negative active reward, which are seen as forms of management-by-exception active and management-by-exception passive respectively. Contingent reward is seen to be reasonably quite effective in motivating others to achieve higher levels of performance and development (Bass and Avolio, 1994: 4). They further provide a view that in this scenario the leader assigns what needs to be done and promises rewards in exchange for satisfactory carrying out of the specified assignment.

Management by exception is required in certain situations but sometimes it tends to be ineffective. In the scenario of management by exception-active the leader arranges to actively monitor abnormalities from the standards, errors and mistakes in the follower’s assignments and then provides a corrective action (Bass and Avolio, 1994: 4). They further suggest that management by exception-passive implies waiting passively for abnormalities, errors and mistakes to occur and then takes a corrective action.
2.7.4  **Leadership Effectiveness as a Core Competence in an Organization**

The success of an organization is dependent on the ability of a leader to optimize human resources (Pradeep and Prabhu, 2011). Leadership theory can be strongly argued that a good leader has an understanding of the importance of employees in achieving the goals of an organization and that employee motivation is important on achieving goals. It is widely accepted that effective leadership is needed in any organization to be effective and that organizational performance is in direct proportion to effective leadership (Fiedler and House, 1988). They further argue that effectiveness of any set of individuals is largely dependent on the quality of their leader as effective leadership behaviour facilitates the realization of the follower’s desires which then results in improved performance.

Leaders are mostly effective if they engage in transformational leadership behaviour which includes uttering an attractive vision for the future, fostering the common goal acceptance, acting as role models that are charismatic in nature, setting high performance expectations as well as providing the intellectual stimulation and individualized support for the followers (Menges et al., 2011). Studies conducted show that transformational leadership behaviours have the ability to inspire high levels of performance in followers which can then be seen as a core competence.

Leaders in an organization are crucial in defining and shaping work contexts that contribute to organizational innovation and there is strong evidence that individual leadership style is an important aspect innovation (Sarros and Cooper, 2008). They further suggest that transformational leadership does promote and support innovation which in turn provides the long term survival of an organization. Transformational leadership behaviour therefore motivates followers to perform and identify with the goals and interest of an organization, as well as provide the capacity to motivate employees beyond the expected levels of work performance. Employees therefore feel engaged and personally rewarded through work and outcomes of work, which include satisfaction and extra effort are improved (Sarros and Cooper, 2008).
2.8 Conclusion

This Chapter has provided a view of core competencies and their role in enhancing competitive advantage. Mascarenhas et al. (1998) provide a definition of a core competency as taking various forms which include technical or subject matter know-how, reliable processes as well as close relationships with both suppliers and customers. Barney (1991) provides a compelling argument that the resource based-view (RBV) of core competencies provides the view that the organization is seen to be having competitive advantage if it is implementing the value-creating strategy that is not being implemented by the current or potential competitors. If an organization has the capabilities and resources that are superior to those of its competitors, then as long as the organization adopts the strategy that is effectively utilizing these capabilities and resources, it will be possible to establish and maintain the competitive advantage (Agha and Alrubaiee, 2012).

The chosen internal core competencies have been analysed in terms of their contribution in enhancing the competitive advantage. The business innovation promotes the organization’s core competitiveness in order to create a continuous competitive strategy, form a complete system that provides organization’s rapid expansion (Zang and Wang, 2010). They further argue that research and organizational learning through innovation form the basis of organizational core competencies as they add positive value to the organization.

Intellectual capital provides a new tool to recognize the hidden value of an organization (Moghadam et al., 2013). Hitt et al. (2001) provide an argument that attributes like education, skills and experience of employees provide an improved business performance. Entrepreneurial mindset creates environment pro-activeness which is an opportunity seeking, perspective of looking forward and involves introduction of new services and products ahead of the competing organizations and acting in expectation of future demand in order to create change which therefore shapes the environment (Kreiser et al., 2002).

Fiedler and House (1988) argue that it is widely accepted that effective leadership is needed in any organization to be effective and that organizational performance is in direct proportion to effective leadership. They further provide a view that effectiveness of any set of individuals is
largely dependent on the quality of their leader as effective leadership behaviour facilitates the realization of the follower’s desires which then results in improved performance.

This chapter has focused on internal core competencies using the resource based view model as the baseline. The next chapter looks into the research gaps that have been identified on this model, improving the model for core competencies and developing the hypothesis.
Chapter 3

3 Research Gaps, Operational Model and Hypothesis

3.1 Introduction

Chapter 2 of this research has provided an in-depth discussion of the core competencies and how they contribute in enhancing the organizational competitive advantage. The chapter also focused on the resource based view model of competitive advantage. Chapter 3 then focuses on the research gaps that have been identified from literature. These gaps are analysed and the improved model is then developed based on the operationalization of the variables. The hypothesis for the research is then developed based on an operationalized model as well the literature that has been conducted.

This chapter further focuses on developing a hypothesis with the RBV as the founding framework, then including the ideas from organizational learning theories and knowledge management theoretical concepts. Learning theories are viewed as important as they allow the generation of organizational core competencies or dynamic capabilities which are critical elements of competitive advantage.

3.2 Problem Discussion

Based on the problem statement discussed in Chapter 1, the primary objective of this research is to provide a view of how the competitive advantage of MTN Network group could be enhanced by investigating how internal core competencies contribute to the organizational performance and competitive advantage. The key research question for this study is as follows:

\textit{What is the impact of internal core competencies in improving the competitive advantage of MTN Network Group?}

From the literature discussion in chapter 2, competitive advantage in an organization is seen as the availability of core competences which are the capabilities or skills that the organization puts effort on and excels while it is maintaining its target of the overall mission (Divandri and
Yousefi, 2011). They further argue that core competencies that differ from the competing organizations have a unique characteristic in that they cannot be replicated and are referred to as distinctive competencies. Mascarenhas et al. (1998) provide a definition of a core competency as taking various forms, which include technical, or subject matter know-how, reliable processes as well as close relationships with both suppliers and customers. Competencies are areas of specialized expertise that results from the harmonization of complex streams of technology and work activity (Pahalad and Hamel, 1990).

It is clear that the competitive advantage emerges from both internal and external sources of the organization’s operating environment. Porter (1996) provides an argument that the competitive advantage is achieved when the organization is focusing on the following strategies; Delivering the product or service at a reduced cost, delivering a service or product that is differentiated, Focusing on a specific segment, as well as innovation. Grant (2012) also provides an argument that the internal environment for creating competitive advantage is when the organization is creating innovative capabilities and skills which would be encouraged by the pressures in the market environment. He further argues that the external sources which are important in the emergence of organizational competitive advantage include; new technology developments, new or changing customer needs, the emergence of new industry segment as well as the availability and changing of input costs.

Zang and Wang (2010) provide and argument that business innovation promotes the organization’s core competitiveness in order to create a continuous competitive strategy. They further argue that research and organizational learning through innovation form the basis of organizational core competencies as it adds positive value to the organization. Drucker (2001) provides an argument that the positive value created by the innovation in an organization includes incremental improvements of existing products and services, creation of new services and products as well as reduction of costs due to improved processes is seen as a core competence.

Hitt et al. (2001) provide an argument that attributes like education, skills and experience of employees provide an improved business performance. Human capital can therefore, by its
ability of providing improved business performance, be seen as an organizational core competence. Bontis (1998) provides a view that human capital generates competitive advantage if it transforms into organizational capital.

An organization that needs to enhance its competitive advantage must continuously try to find better solutions through the use of effective strategic thinking and apply this thinking throughout the ranks of the company (Dhliwayo and Van Vuuren, 2007). Kelly et al. (2002) provide an argument that strategic entrepreneurial mindset provides the organization with key opportunities for connecting with the organization’s strategic vision or shaping its strategic future. Hitt et al. (2001) argue that a strong competitive aggressive standpoint gives an organization the ability to be a strong and decisive player in the field of competing organizations and therefore act convincingly to secure and improve its market position.

The success of an organization is dependent on the ability of a leader to optimize human resources (Pradeep and Prabhu, 2011). Fiedler and House (1988) provide an argument that the effectiveness of any set of individuals is largely dependent on the quality of their leader as effective leadership behaviour facilitates the realization of the follower’s desires which then result in improved performance. It is widely accepted that effective leadership is needed in any organization to be effective and that organizational performance is in direct proportion to effective leadership (Fiedler and House, 1988).

### 3.3 Research Gaps

One of the critical shortcomings in the resource based-view is the fact that the organization is seen as a black box even though it is considered as the main source of organizational support (Priem and Butler, 2001). This limitation is not the only one in the eyes of researchers who regard RBV as the main theory for competitive advantage; if the major interest relies on “rules for riches” then there is a dissatisfying factor on the causal ambiguity argument of RBV (Witkens et al., 2004). Barney (1991) provides the view that the causal ambiguity is the link between organizational internal processes, resources that are controlled by the organization as well as sustained competitive advantages and can neither be attributed from outside nor from
organizational members. He further explains that causal ambiguity paradox provides a view of organizational internal processes that have strategic impact.

As much as RBV provides a compelling argument on the emphasis of the internal organization, it has some gaps in the understanding of organizational internal strategic processes. In enhancing the research there is a need to look at the broader perspective of social action within the organization (Witkens et al., 2004). Mintzberg (1994) provides a view of different organizational theories that assist in specifying critical variables, dependencies and interactions of strategic processes.

### 3.4 Organizational Learning Theories and Knowledge Management

The learning perspective of an organization contributes to the understanding of strategic processes as embryonic development patterns which results from interactions and resource allocation between several organizational agents (Bower, 1996). Dominant coalitions, top and middle management team, knowledge workers and knowledge communities are of major concern as they are the critical sources of knowledge and information as well as enablers of knowledge diffusion processes that are important factors in the organization (Lovas and Ghoshal, 2000). The other key determinant in the learning theory is the social environment which sees the organization as the open system with an assembly of exchange processes and interactions in which the organization is embedded (Probst et al., 1997). Learning theory then provides awareness for the wealth of different sources of information outside and inside the organization.

The five critical factors for organizational learning include; risk taking, experimentation, dialogue, interaction with external environment and participative decision making (Chiva and Alegre, 2009). Experimentation is seen as the degree to which new suggestions and ideas are attended and dealt with. Risk taking is being understood as the ability to tolerate uncertainty, ambiguity and errors (Sitkin, 1996: 541). Dialogue is a sustained collective inquiry into assumptions, processes and certainties that make up everyday experience (Dixon, 1997). Interaction with external environment is seen as diverse relationships which the organization
forms with external sources of information. Participative decision making refers to the influence level owned by the employees in the decision-making process (Scott-Ladd and Chan, 2004).

Knowledge definition is rooted from the organizational learning theory and meets the ideas of capabilities, resources and causal ambiguity that are explained in RBV (Witkens et al., 2004). From the perspective of RBV, knowledge is both a resource and dynamic capability. Heterogeneous knowledge and capabilities are the main determinants of sustained competitive advantage as well as superior organizational performance (Eisenhardt and Santos, 2002: 139). Knowledge is the critical intangible resource that an organization uses to conceive and implement its strategies (Barney, 2001). Competence resides in the implicit capability of an organization which results from a process of collective and continued learning, and is exemplified in the organization’s routines and localized skills (Cantwell, 1992: 8). Knowledge therefore characterizes the sociotechnical process for converting resources into core competencies (Wiklund and Shepherd, 2003).

### 3.5 Operationalization Model for Core Competencies

Porter (1985) provides a compelling argument that the organization is in possession of competitive advantage when the strategy that it is implementing is adding positive value and is not simultaneously being implemented by the current or potential competitors, either because the competitors are unable to duplicate or it is too costly to imitate. The RBV theory provides an argument that for organizational sustainability, the core competencies and resources must be valuable in neutralizing threats and exploiting opportunities, must be rare, imperfectly imitable and there should be no potential substitute (Barney, 1991). The organizational learning theory provides a view that the five factors that are important for organizational learning are; risk taking, experimentation, dialogue, interaction with external environment and participative decision making (Chiva and Alegre, 2009). Knowledge is the critical intangible resource that the organizations use to conceive and implement their strategies (Barney, 2001). From literature review in Chapter 2 the following factors have been identified as internal core competencies; Innovation, Strategic Entrepreneurship, Intellectual Capital and Effective Leadership.
Based on the above arguments the internal core competencies for enhancing organizational performance and competitive advantage the variables are operationalized by the model below:

Figure 3.1: Operationalized Model

3.6 Research Hypothesis

In this research, in order to find impact of internal core competencies on improving competitive advantage, the measurement of competitive advantage is needed. According to the literature
review, the four dimensions that are used in improving competitive advantage are innovation, intellectual capital, strategic entrepreneurship as well as effective leadership. The items that are used are extracted as the measure of improved competitive advantage, are therefore reflected in the questionnaire. In order to develop the hypothesis, the list of researchers who introduce the core competency dimensions is on the table 3.1 below.

Table 3.1: Competency Dimensions

<table>
<thead>
<tr>
<th>Researcher</th>
<th>Innovation</th>
<th>Strategic Entrepreneurship</th>
<th>Intellectual Capital</th>
<th>Effective Leadership</th>
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<tr>
<td>Number Cited</td>
<td>7</td>
<td>6</td>
<td>5</td>
<td>4</td>
</tr>
</tbody>
</table>
This research provides an illustration of four dimensions which are gathered from a variety of researchers in terms of core competencies. The competitive advantage is taken as the constant variable for the hypothesis and uses four core competency dimensions as independent variables.

Drucker (2001); Grant (2012); Zang and Wang (2012) and Porter (1996) all provide an argument that innovation is the key determinant of organizational core competencies. Drucker (2001) further suggests that the positive value created by the innovation in an organization includes incremental improvements of existing products and services, creation of new services and products as well as reduction of costs due to improved processes and can be seen as a core competence. Consequently the first null hypothesis for this research would be:

\[ H_{10} : \text{Innovation on an organization has no impact in improving competitive advantage.} \]

Based on Witt (2003); Hitt et al. (2002); Dhliwayo and Van Vuuren (2007); Kelly et al. (2002) and Klein (2008), an argument is deduced that strategic entrepreneurship is the key determinant an organization’s core competencies. Kelly et al. (2002) provide an argument that strategic entrepreneurial mindset provides an organization with key opportunities for connecting with the organization’s strategic vision or shaping its strategic future. The second null hypothesis for this research is:

\[ H_{20} : \text{Strategic Entrepreneurship on an organization has no impact in improving competitive advantage.} \]

Hitt et al. (2001); Bontes (1998); Rodriguez-Castellanos et al. (2006); Mention (2012) and Longo and Mura (2008) provide an argument that intellectual capital is one of the key determinants of organizational core competencies. Hitt et al. (2001) further argue that attributes like education, skills and experience of employees provide an improved business performance. The third null hypothesis for this research is therefore:

\[ H_{30} : \text{Intellectual Capital on an organization no impact in improving competitive advantage.} \]
Pradeep and Prabhu (2011); Sarros and Cooper (2008); Menges et al. (2011) as well as Wicklund and Shepherd (2005) argue that effective leadership is a dimension of organizational core competencies. Fiedler and House (1988) argue that effectiveness of any set of individuals is largely dependent on the quality of their leader as effective leadership behaviour facilitates the realization of the follower’s desires which then results in improved performance. The fourth null hypothesis for this research is therefore:

\[ H_{40}: \text{Effective Leadership on an organization has no impact in improving competitive advantage.} \]

### 3.7 Conclusion

This chapter has focused on identifying the research gaps that were identified from the literature review. Learning theories that are viewed as important as they allow the generation of organizational core competencies or dynamic capabilities which are critical elements of competitive advantage have been analysed and used in order to develop the improved operational model for this research. Bower (1996) provides a view that the learning perspective of an organization contributes to the understanding of strategic processes as embryonic development patterns which results from interactions and resource allocation between several organizational agents.

The organizational learning theory provides a view that the five factors that are important for organizational learning are; risk taking, experimentation, dialogue, interaction with external environment and participative decision making (Chiva and Alegre, 2009). Barney (2001) further argues that knowledge is the critical intangible resource that the organizations use to conceive and implement their strategies. These aspects have then been mapped on the new operationalized model of this research.

The hypothesis for this study has then been developed with the RBV as the founding theoretical framework. The organizational learning theory which has been added on the model for this study is then included in the measuring scale which is detailed in Chapter 4. Chapter 4 focuses on the methodology of the study, research approach and research paradigms that have been used.
Chapter 4

4 Research Methodology

4.1 Introduction

Chapter 3 of this research focused on the development of the operational model as well as the hypothesis for this study. The organizational learning theory was added to the operational model, which will be used in developing the measuring scale for this study. This chapter then builds on that as well as providing the full methodology to be employed on this research.

Researchers have different ways and beliefs of interacting and viewing the surrounding environment, which results in a variation in which research studies are conducted. There are certain rules and standards that guide a researcher’s beliefs and actions. Such principles or standards are referred to as the methodology of the research.

The way in which research is to be conducted needs to be conceived in terms of the research approach, research paradigm, research strategy as well as data collection mechanisms. The measuring instrument is also developed as part of the philosophy subscribed to, the research strategy employed and then the complete research methodology to be employed. The purpose of this chapter is therefore to:

- Discuss the research approach in relation to other approaches.
- Discuss the research paradigm and select the appropriate one for the study.
- Provide a view of research strategies and the selection of the chosen strategy for the research.
- Provide data collection and sampling mechanisms.
- Develop the measuring instrument.
- Sample analysis.
- Reliability and validity of the measuring instrument.
4.2 **Research Approach**

Saunders et al. (2009: 61) provide an explanation of two general approaches to research; the inductive and deductive approach. They provide an argument that these research approaches are differentiated as follows: the deductive approach which is also known as testing a theory, is when a researcher develops a hypothesis or theory and design the research strategy to test a formulated theory; the inductive approach is known as building the theory where the researcher starts with data collection in an attempt to develop a theory.

Robson (2002) provides five steps that are normally followed in a deductive research:

- Use one of the research strategies to develop hypothesis.
- Clarify the hypothesis in operational conditions in order to provide the relationship between two variables.
- Test the hypothesis using one of the research strategies.
- Check the outcome of the hypothesis.
- Revise the outcome of the hypothesis.

Blackstone (2006) provides an explanation that the inductive research follows these three steps:

- Data collection with emphasis on specific level of focus
- Look for patterns
- Develop a theory (general level of focus).
Table 4.1 below provides a critical analysis of the differences between deductive and inductive research:

<table>
<thead>
<tr>
<th>Deductive Approach</th>
<th>Inductive Approach</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Makes use of scientific principles</td>
<td>• Gain an understanding of meanings human attach to events</td>
</tr>
<tr>
<td>• Moving from theory to data.</td>
<td>• A close understanding of research context.</td>
</tr>
<tr>
<td>• The need to explain causal relationships between chosen variables.</td>
<td>• Qualitative data is collected.</td>
</tr>
<tr>
<td>• Quantitative data is collected.</td>
<td>• A more flexible structure to permit changes of research emphasis as the research progresses.</td>
</tr>
<tr>
<td>• The application of controls to ensure data validity.</td>
<td>• The realization that the researcher is part of the research process.</td>
</tr>
<tr>
<td>• The operationalization of concepts to ensure clarity of definition.</td>
<td>• Less concern with need to generalize.</td>
</tr>
<tr>
<td>• Researcher independence of what is being researched.</td>
<td></td>
</tr>
<tr>
<td>• The necessity of selecting samples of sufficient size in order to generalize conclusions.</td>
<td></td>
</tr>
</tbody>
</table>

Source: Saunders et al. (2009: 127)

From table 4.1 above and the definitions of research approaches, this research will be based on the deductive approach where hypotheses are created from literature and then tested in operational terms with numeric data. With this approach, the relationship between the four elements of core competencies and improving the competitive advantage will be tested and generalized.
4.3 Research Paradigm

When looking at the nature and the context of the problem being researched, the accent should then bring one or more questions to which answers need to be found. The construction of research accent provides and suggests at least the main characteristic of the research (Zait, 2009). He further argues that the research can then be situated in any of the following areas: explanatory, argumentative, comprehensive, descriptive or predictive. The epistemological choice is then used to position the research towards the problem and the manner in which it can be resolved, which will result in the establishment of the basic landmarks for future approaches (Zait, 2009). The theoretical perspectives provide epistemology through positivistic and phenomenological paradigms.

Positivism is still considered to be the ideal paradigm in scientific research (Zait, 2009). Positivism emerged from the work of French philosopher Auguste Comte in the 19th century and it defines the knowledge in terms of empirically verifiable observation (Masadeh, 2012). This paradigm, in its view, considers the world as an external object for investigation; then provides separation from subjective experiences of the researcher – that is, it entails a realist position and the goal of the researcher is to gain knowledge of an external reality (Masadeh, 2012). Positivism therefore favours the methodologies that include statistical investigation in order to provide a strong subjective infection (Easterby-Smith et al., 1991 cited in Masadeh, 2012). The epistemological effect provides the view that knowledge for positivism is limited only to those phenomena that can be observed, measured and recorded (Hussey and Hussey, 1997).

Positivistic paradigm therefore provides basic beliefs that the world is external and objective, the researcher is independent and focuses on facts (Masadeh, 2012). The researcher has to look at the causality and fundamental laws, reduce the phenomena to the basic and simple elements and then formulate and test the hypothesis.

Phenomenological paradigm takes a different approach in that it takes a view of reality as wholly constructed, subjective and social in its nature (Masadeh, 2012). The ontology is then based on the notion of social construction which means that the nature’s reality and existence is then determined by the researcher’s subjective actions and viewpoint (Masadeh, 2012). This paradigm
therefore seeks knowledge through the social meaning of the phenomena which is opposed to using its measurements (Hussey and Hussey, 1997). Large samples are needed when the positivistic paradigm is to be used in a research.

The basic beliefs of phenomenological paradigm are that the world is socially constructed and subjective, the observer forms part of the phenomena being observed, human interests drive science and it mainly focuses on the meanings (Masadeh, 2012). The researcher then needs to understand what is happening and looks at the situation in totality and then develops ideas for induction in order to establish different views of the particular phenomena (Masadeh, 2012). When the research to be done follows the phenomenological paradigm, small data samples are investigated, but the process has to be in depth and has to be taken over some period of time.

The research that the author will be investigating will be looking on the impact of the internal core competencies in order to improve the competitive advantage of the organization. The factors that the author proposes to investigate are innovation, intellectual capital, strategic entrepreneurship as well as effective leadership. The author, having studied both positivistic and phenomenological paradigms thereby proposes to use the positivistic paradigm in this research. This is due to the fact that the researcher will be focusing on facts and trying to gain knowledge of an external reality. The researcher will not be subjective and will be trying to provide the findings using statistical methods which include testing the hypothesis. Looking at the angle that the researcher is proposing and aligning with the theory shows that the researcher is in line with positivistic approach on this proposed research.

4.4 Research Strategy

Saunders et al. (2009: 600) provide a definition for research strategy as the general plan of how the researcher will be answering research questions. Bryman (2008: 698) provides an argument that research strategy is a general orientation of conducting research. Saunders et al. (2009) further mention that the appropriate research strategy needs to be selected based on research objections and questions, the scope of existing knowledge on the subject matter being researched, the amount of time and resources available, and the philosophical foundations of the
researcher. Yin (2003) provides a recommendation that a particular research strategy has to be selected based on the following three conditions:

- The type of research question.
- The extent of control an investigator has over actual behavioural events.
- The degree of focus on contemporary or historical events.

Several strategies are available to be applied in research namely: case study, survey, experiment, action research, ethnography, grounded theory, archival research, longitudinal studies, cross sectional studies as well as participative enquiry (Easterby-Smith et al., 2008; Collis and Hussey, 2009; Saunders et al., 2009).

Experiments – formulated by statistician Sir Ronald Fisher, as the only experience carefully planned in advance and designed to form a secure basis of new knowledge (Kirk, 2007). He further argues that experiments are characterized by manipulation of one or more independent variables, random assignment of participants or experimental units to one or more independent variables as well as careful measurement or observation of one or more dependent variables.

Case Study – is the approach that refers to a group of methods emphasizing in qualitative analysis (Yin, 1984). He further argues that data is collected from a small number of organizations through various methods that include in-depth interviews, participant observation as well as longitudinal studies. The case study tries to understand the investigated problem but provides an opportunity of asking penetrative questions and also capturing the richness of organizational behaviour, the conclusions being drawn could be specific to particular organizations being studied and may not be generalized (Gable, 1994).

Survey – Gamble (1994) provides a view that this approach emphasizes the quantitative analysis, where data from an organization or number of organizations is collected through the various methods which include questionnaires, telephone interviews, or from published statistics. This data is then analysed using statistical modelling. He further argues that the survey seeks to discover the relationships that are common across the organization in order to provide a generalized statement about the study objectives.
Action Research – is a democratic, participatory, process which is concerned with the development of practical knowing in pursuit of worthwhile human purposes, grounded in a participatory worldview which is believed to emerge at a historical moment. It tries to bring together reflection and action, practise and theory, in participation with others, in the pursuit of practical solutions to issues of pressing concern to people, and more generally the thriving of individual persons and their communities (Reason and Bradbury, 2001: 1). Action research provides a challenge to the claims of a positivistic view of knowledge which holds that in order to be credible, research must remain objective and value-free (Brydon-Miller et al., 2003).

Grounded Theory - Grounded theory was developed by Glaser and Strauss with its main drive being to generate theories regarding social phenomena; which could be further be explained as developing a higher level of understanding that is grounded in, or derived from, a systematic analysis of data (Lingard et al., 2008). They further explain that rounded theory is appropriate when the study of experiences or social interactions aims to explain a process, not to test or verify an existing theory. Researchers therefore approach the question with disciplinary interest assumptions and background.

Ethnography – Saunders et al. (2009) provide a view that this strategy uses explanation and description of social world objectives as they are; which is an inductive approach.

Looking at the above research strategy explanations, the survey method has been selected for this study as it provides a basis for the impact of internal core competencies in enhancing the competitive advantage of MTN SA Network group. This strategy is in line with what the researcher is aiming to achieve.

4.5 Data Collection and Sample Selection

Saunders et al. (2009) provide a view that the two techniques used in data collection are qualitative and quantitative whereby qualitative uses techniques and methods to produce non-numerical data and quantitative uses data collection techniques that generate numerical data.
They further provide an argument that primary data is collected by means of observation, interviews and questionnaire.

Due to the purpose of this research, a descriptive survey will be used in order to measure the impact of internal core competencies in improving the competitive advantage and will use numerical data for statistical analysis. The quantitative technique is therefore used for this research. The questionnaire has been selected as the data collection method for this research.

Figure 4.1: Data Collection Method

Sample design looks at the methods for selection of appropriate primary units that are used for data collection and analysis for a specific research question (Handwerker, 2005). These units could consist of cities, provinces, or individuals. For this research the sample will be chosen from the engineers, senior engineers, specialist engineers, middle and senior managers at MTN South Africa Network Group.

The two sampling types available include representative sampling, which is also known as probability sampling, and judgemental sampling, which is known as non-probability sampling. Saunders et al. (2009: 213) provide a further explanation of these sampling methods as follows; in representative sampling, the probability of each selected case from the population is known and mostly equal on for all cases meaning that research questions could be answered and objectives that that require statistical estimation can be achieved; while on judgemental sampling, the probability of each selected case from the total population is not known which
makes it impossible to answer the research questions. Representative sampling will then be used in this research.

Figure 4.2: Sampling Methods

For the statistical analysis in quantitative data collection, this research will therefore use probability sampling. The group of employees that were chosen for this research to answer the questionnaire were Engineers, Senior Engineers, Specialist Engineers, Managers, Senior Managers and General Managers so the stratified cluster sampling method is used. This was selected based on the advantage that this sampling method provides which is the ability to ensure that specific groups are represented, even proportionally, in the samples be it by gender, position and academic qualification which is achieved by selecting individuals from strata list.
4.6 **Response Analysis Based on Stratified Cluster Sampling**

Figure 4.3 shows that only 10% of the respondents were female and 90% of the respondents were males. This is an indication that there are still quite fewer females that are pursuing the electronic engineering field which MTN Network group is focusing on. There is an urgent need to get more females into the technology intensive sectors in order to have the balance of gender and employment equity.

![Figure 4.3: Response Rate by Gender](image)

Figure 4.4 provides an illustration that 76% of the respondents are in the age group of 26 – 45. This is not a bad demographic as these are the employees that are mostly in the middle of their career path and who have gained sufficient experience needed to take the organization forward. However, there seems to be quite a low employee rate on the 18-25 age group which would be the entry level employees from tertiary institutions. Hasluck and Hogarth (2010) provide a view that employing a younger workforce in most of the times provides a better match to business needs, are people that are flexible and forward looking who have the potential to provide the skills that would be required in the future. Hasluck (2012) further provides an argument that
employing young people provides the following key benefits to the employers; lower recruitment costs, cost effectiveness due to lower salary scales, flexibility in terms of working hours, higher qualifications, as well as willingness to learn.

Figure 4.4: Response Rate by Age.
Table 4.2: Qualification Analysis

<table>
<thead>
<tr>
<th>Technical Qualifications</th>
<th>Count</th>
<th>Cumulative Frequency</th>
<th>Commercial Qualifications</th>
<th>Count</th>
<th>Cumulative Frequency</th>
<th>Management Qualification</th>
<th>Count</th>
<th>Cumulative Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technical Matric</td>
<td>7</td>
<td>9%</td>
<td>None</td>
<td>18</td>
<td>22%</td>
<td>None</td>
<td>45</td>
<td>55%</td>
</tr>
<tr>
<td>N. Dip (S4)</td>
<td>29</td>
<td>35%</td>
<td>National Diploma</td>
<td>39</td>
<td>48%</td>
<td>National Diploma</td>
<td>20</td>
<td>24%</td>
</tr>
<tr>
<td>N4</td>
<td>3</td>
<td>4%</td>
<td>Bachelors Degree</td>
<td>13</td>
<td>16%</td>
<td>EDP</td>
<td>1</td>
<td>1%</td>
</tr>
<tr>
<td>N6</td>
<td>14</td>
<td>17%</td>
<td>Bachelors Degree (Honours)</td>
<td>7</td>
<td>9%</td>
<td>MDP</td>
<td>1</td>
<td>1%</td>
</tr>
<tr>
<td>N. Dip (T3)</td>
<td>4</td>
<td>5%</td>
<td>Masters Degree</td>
<td>3</td>
<td>4%</td>
<td>Bachelors Degree</td>
<td>6</td>
<td>7%</td>
</tr>
<tr>
<td>N.H. Dip (T4)</td>
<td>5</td>
<td>6%</td>
<td>Doctorate Degree</td>
<td>2</td>
<td>2%</td>
<td>Bachelors Degree (Honours)</td>
<td>3</td>
<td>4%</td>
</tr>
<tr>
<td>B. Tech</td>
<td>5</td>
<td>6%</td>
<td>Masters Degree</td>
<td></td>
<td></td>
<td></td>
<td>4</td>
<td>5%</td>
</tr>
<tr>
<td>B. Sc</td>
<td>7</td>
<td>9%</td>
<td>Doctorate Degree</td>
<td>2</td>
<td>2%</td>
<td></td>
<td>2</td>
<td>2%</td>
</tr>
<tr>
<td>B. Eng</td>
<td>5</td>
<td>6%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M. Sc</td>
<td>2</td>
<td>2%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M. Eng</td>
<td>1</td>
<td>1%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>82</td>
<td>100%</td>
<td>82</td>
<td>100%</td>
<td></td>
<td>82</td>
<td>100%</td>
<td></td>
</tr>
</tbody>
</table>

Table 4.2 shows that only 24% of the employees responded have a Bachelors degree and above, while the remainder have qualifications at the diploma level and below. The technology intensive organizations need to enhance their research capabilities in order to provide new and innovative services, and also the strong research on academia is mainly on the Masters level and above so if MTN network group is not enhancing the technical academic qualifications, the organization could be on the back foot. The commercial and management qualifications also show the similar trend with 31% and 18% of the respondents respectively having a bachelor degree and above.

4.7 Sample Size

Scheaffer et al. (1995) provide a discussion for several strategies of determining sample size for traditional quantitative research. Procedures developed by Scheaffer et al. (1995), are based on Neyman/Pearson estimation with confidence intervals rather than Fisherian Null Hypothesis Significance Testing (NHST). They further argue that two factors govern the sample size and the
equation to be used; the survey sampling design (simple random, stratified random, or cluster random) and the parameters to be estimated (e.g., means, totals, proportions).

The equation for the desired response rate is therefore as follows:

\[ n = \frac{N\sigma^2}{\left[N - 1\right]B^2 + \sigma^2} \]

Where \( N \) = Finite Sample size
\( B \) = Desired Margin of Error
\( \sigma \) = Population Variance

B, the desired margin of error is determined by subjective judgement method. Estimation of item responses on a 5-point Likert scale may yield a mean of 2. For this research, the author proposes the comfortable margin of error of 0.2 so that the confidence level would be 1.8 – 2.2 on the scale. It is important for the researcher to understand that the margin of error chosen implies a critical value, just as the Fisherian NHST would require (Scheaffer et al., 1995). For a 95% confidence interval with a sufficiently large sample size, the critical value is 1.96. So the margin of error the researcher chooses is the product of this critical value and a subjectively determined standard error (Scheaffer et al., 1995). The worst case scenario for a 5-point Likert item can be drafted by using the widest range possible for that scale: 5-1=4 so the 5 Point Likert o according to Tchebysheff’s theorem has a standard deviation of 1 \((5-1)/4 = 1\) (Scheaffer et al., 1995)

For this research the population size is 803 (MTN, 2013) but the sample size selected for this population is 400 which will be representative of all the target audience. This is the staff of Network group that has been analysed for this study, so the desired response size using the formula is:

\[ n = \frac{N\sigma^2}{\left[N - 1\right]B^2 + \sigma^2} \]
\[
= \frac{400 \times 1^2}{[400 - 1]0.2^2 + 1^2}
\]

\[
= \frac{400}{4.99}
\]

\[
n = 80.16 [81 \text{ People}]
\]

The respondents of the sample that were received is 82 which then satisfy Scheaffer et al. argument of calculating the response rate size for the survey.

### 4.8 The Measuring Instrument

Bourque and Clark (1994) provide three methods of designing the measuring instrument in order to determine data from samples which are; developing your own questions, adapting from other questionnaires as well adopting from other questionnaires. Collis and Hussey (2003: 173) argue that questionnaires are associated with both the positivistic and phenomenological methodologies.

For this research, after developing the core competency dimensions from literatures, some questions were adopted and adapted from different questionnaires in literature. The questionnaire used in this research consists of closed-ended questions which have been based on the content analyses of the literature review of the variables, with a section which determines respondent’s demographics followed by the measuring scale for each variable. All questions for measuring variables are based on a 5 point Likert scale.

Adopted and adapted questions for developing a measuring instrument based on literature review sources were used to measure the underlying variables is listed below:

- Competitive Advantage – Certo et al. (1995); Macmillan and Tampo (2000); Aghan and Alrubaiee (2012).
• Innovation – Hansen and Birkinshaw (2007); Roper et al. (2008); Gamal et al. (2011).

• Strategic Entrepreneurship - Covin and Slevin (1991); Miller (1983); Lumpkin and Dess (1996); Covin et al. (2004).

• Intellectual Capital - Snell and Dean (1992); Zárraga and Bonache (2005); Carmeli and Tishler (2004); Chen et al. (2004).

• Effective Leadership – Howell and Avolio (1992); Bass and Avolio (1994).

4.9 The Pilot Study

Collis and Hussey (2003: 175) provide a suggestion that clear instructions need to be provided in the questionnaire by communicating exactly how the researcher expects respondents to respond. This is achieved by means of a pilot study, which would highlight items that are not easy to understand or ambiguous. Lancaster (2005: 108) further argues that a pilot study helps in refining the questionnaire in order to ensure that the respondents do not encounter problems in answering the questions that are presented to them. In this case it tests the suitability of the data collection techniques that are used.

The questionnaire that is used for this research is composed of closed-ended questions anchored on a five-point Likert scale. This five-point Likert scale is then used for the respondents to rate their level of agreement with each given statement with “one” being strongly agree and “five” being strongly disagree. The questionnaire was validated by conducting a pilot study among five MTN network group employees and three members from the MBA group who provided feedback on the questionnaire. Improvements and adjustments were then made based on the feedback from the pilot study with the improved questionnaire being adopted as the actual tool used for data collection.


4.10 The Reliability of the Measuring Instrument

A critical factor when conducting data collection is the quality of the data as well as determining if the data is effective relative to a research study. Data sometimes has variations and so it is critical to understand the criteria of data quality assessment with respect to validity and reliability (Lancaster, 2005: 71). He further provides a view that the reliability of a measuring instrument is the extent to which it yields consistent results on different occasions and when there are no changes in what is being measured. Collis and Hussey (2003: 58) suggest that reliability deals with the findings of the research and is an important aspect for testing the credibility of the findings. They further claim that if the research finding can be repeated, it is therefore reliable.

Collis and Hussey (2009: 204) provide a claim that the three common ways that are used for estimating the reliability of the questionnaire are:

- **Test re-test method** - is used in determining the extent to which the one measuring instrument yields the same results on two different occasions. The responses for these two occasions are then correlated in order to determine the correlation co-efficient.

- **Split-halves method** – in this method the questionnaires are divided into two equal halves, the responses are of these two halves are then used to calculate the correlation co-efficient of the sample.

- **The internal consistency method** – in this method each item is correlated with every other item in the sample and then the average inter-item correlation is seen as a reliability index.

Reliability measurement is perfect when the sample size is greater or equal to 200 (Cook, 2009: 115). When the sample size is small, as is the case with this current research, reliability coefficients for the tests used need to be provided. He further argues that the Cronbach’s alpha coefficient is an ideal measuring tool when respondents are answering questions that are anchored on a Likert scale. Its calculation monitors inter-correlations among the test items and the closer a Cronbach’s alpha coefficient is to 1.00 the higher the instrument’s reliability and internal consistency. Arnolds and Boshoff (2001: 40) provide a view that a Cronbach alpha of
0.50 is regarded in many research studies as acceptable for basic research and a scale that produces a reliability coefficient of above 0.70 is usually regarded as a reliable instrument.

In this research, the Cronbach alpha coefficient was used to calculate the internal consistency regarding the reliability of the measuring scales. The first step in the data analysis procedure was assessing the internal reliability of the measuring instruments by means of Cronbach alpha coefficients. The results, reported in Table 4.3 show that all the instruments returned alpha values of more than 0.50, which are acceptable for basic research (Tharenou, 1993; Pierce and Dunham, 1987). The items that produced Cronbach alpha that is below 0.5 were eliminated and not used further on the research.

Table 4.3: Chronbach Alpha > 0.5 Values of the Measuring Instrument

<table>
<thead>
<tr>
<th>Factor</th>
<th>Factor Name</th>
<th>Cronbach's alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAF</td>
<td>Competitive Advantage - Flexibility</td>
<td>0.82</td>
</tr>
<tr>
<td>CAR</td>
<td>Competitive Advantage - Responsiveness</td>
<td>0.86</td>
</tr>
<tr>
<td>CA</td>
<td>Competitive Advantage</td>
<td>0.88</td>
</tr>
<tr>
<td>INI</td>
<td>Innovation – In-house Idea Generation</td>
<td>0.65</td>
</tr>
<tr>
<td>IND</td>
<td>Innovation - Development</td>
<td>0.56</td>
</tr>
<tr>
<td>IN</td>
<td>Innovation</td>
<td>0.81</td>
</tr>
<tr>
<td>SEP</td>
<td>Strategic Entrepreneurship - Proactiveness</td>
<td>0.82</td>
</tr>
<tr>
<td>SER</td>
<td>Strategic Entrepreneurship - Risk Taking</td>
<td>0.77</td>
</tr>
<tr>
<td>SEC</td>
<td>Strategic Entrepreneurship - Competitive Aggressiveness</td>
<td>0.74</td>
</tr>
<tr>
<td>SE</td>
<td>Strategic Entrepreneurship</td>
<td>0.82</td>
</tr>
<tr>
<td>ICH</td>
<td>Intellectual Capital - Human Capital</td>
<td>0.71</td>
</tr>
<tr>
<td>ICO</td>
<td>Intellectual Capital - Organizational Capital</td>
<td>0.82</td>
</tr>
<tr>
<td>IC</td>
<td>Intellectual Capital</td>
<td>0.85</td>
</tr>
<tr>
<td>EFT</td>
<td>Effective Leadership - Transformational Leadership</td>
<td>0.80</td>
</tr>
</tbody>
</table>

The Items on Table 4.4 have failed reliability as they had the Chronbach Alpha that is below 0.5. These items have been eliminated going further on this research.
Table 4.4: Chronbach Alpha < 0.5 Values of the Measuring Instrument

<table>
<thead>
<tr>
<th>Factor</th>
<th>Factor Name</th>
<th>Cronbach's alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>INC</td>
<td>Innovation – Cross Pollination</td>
<td>0.49</td>
</tr>
<tr>
<td>INE</td>
<td>Innovation – External Sourcing</td>
<td>0.48</td>
</tr>
<tr>
<td>INS</td>
<td>Innovation - Selection</td>
<td>-0.23</td>
</tr>
<tr>
<td>IDF</td>
<td>Innovation - Diffusion</td>
<td>0.47</td>
</tr>
<tr>
<td>ICH.M</td>
<td>Intellectual Capital - Human Capital – Management Questions</td>
<td>0.41</td>
</tr>
<tr>
<td>EFM</td>
<td>Management By Excepotion</td>
<td>0.30</td>
</tr>
</tbody>
</table>

4.11 The Validity of the Measuring Instrument

Lancaster (2005: 70) suggests that validity is an important attribute in a measuring instrument with regard to its credibility as it relates to the extent of which the research method measures or describes what it is supposed to measure or describe. Evans (2010: 339) views validity as the extent to which a research model represents reality. It can be judged by identifying and examining the assumptions made in a model to establish how they are in agreement.

Saunders et al. (2009: 189) discuss four critical validity methods as follows:

- Content validity shows the degree to which the measuring instrument fully assesses or measures the construct of interest. Content valid instrument is developed by typically achieving a rational analysis of the instrument by ratings (ideally 3 to 5) familiar with the construct of interest. These ratings will review all of the items of clarity, readability, and comprehensiveness then provide some level of agreement as to which items should be included in the final instrument.

- Face validity is a component of content validity and is established when an individual reviewing the instrument concludes that it measures the characteristic or trait of interest. In short, it looks as if it is indeed measuring what it is designed to measure.

- Criterion-related validity is assessed when the researcher is interested in determining the relationship of scores on a test to a specific criterion.

- Construct validity is the degree to which an instrument measures the trait or theoretical construct that it is intended to measure. Construct validity is very much an ongoing
process as one refines a theory, if necessary, in order to make predictions about test scores in various settings and situations.

In this current research, content validity was determined on the basis of the literature review by assessing the core competencies and competitive advantage dimensions on the questionnaire items. Discriminant validity could not be conducted for the current research due to the size of the sample.

4.12 Conclusion

This chapter has provided the view of different aspects of methodology that have proposed to be used in this research. The aspects analysed include; research approach, research paradigm, research strategy, data collection, sampling methods as well as measuring instrument. For ease of access to the research methods and techniques that have been discussed in this study, table 4.5 has been developed to show the overview of options that were selected from the ones that were studied.

Table 4.5: Overview of Research Methodology

<table>
<thead>
<tr>
<th>Research Approach</th>
<th>Deductive</th>
<th>Inductive</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research Purpose</td>
<td>Exploratory</td>
<td>Explanatory</td>
</tr>
<tr>
<td>Research Strategy</td>
<td>Experiments</td>
<td>Case Study</td>
</tr>
<tr>
<td>Data Collection Techniques</td>
<td>Qualitative</td>
<td>Quantitative</td>
</tr>
<tr>
<td>Data Collection Type</td>
<td>Observation</td>
<td>Interview</td>
</tr>
<tr>
<td>Questionnaire Type</td>
<td>Online</td>
<td>Postal</td>
</tr>
<tr>
<td>Sampling Types</td>
<td>Representative</td>
<td>Judgemental</td>
</tr>
<tr>
<td>Probability Sampling Technique</td>
<td>Simple Random</td>
<td>Systematic Random</td>
</tr>
<tr>
<td>Questionnaire Design</td>
<td>Adapting</td>
<td>Adopting</td>
</tr>
<tr>
<td>Types of Questions</td>
<td>5-Point Likert Scale – Closed Ended</td>
<td>Open Ended</td>
</tr>
<tr>
<td>Reliability and Validity</td>
<td>Chronbach Alpha</td>
<td>Content Validity</td>
</tr>
</tbody>
</table>

Chapter 5 will then be the descriptive statistics as well as the empirical results with respect to survey results and on the discussed variables.
Chapter 5

5 Descriptive Statistics and Empirical Results

5.1 Introduction

The primary objective of the study was to determine how the competitive advantage of MTN Network Group can be improved by the internal core competencies. This approach entails adopting Innovation (IN), Intellectual Capital (IC), Strategic Entrepreneurship (SE) and Effective Leadership (EL) as the internal core competencies for improving the organizational competitive advantage. To achieve this objective, the respondents were asked to indicate their levels of agreement about the possible strategies that can be employed by the organisation to improve the organizational performance and competitive advantage. The strategies were identified as a result of the critical review of literature.

The responses to individual questionnaire statements were analysed to determine how these strategies are perceived. The SPSS Predictive analytics software was used to analyse data. The data analysis consisted of the calculation of means, and standard deviations. All “agree and strongly agree” responses were combined and “disagree and strongly disagree” were also combined in order to make the analysis more meaningful.

5.2 Sample Characteristics

In order to determine the impact of internal core competencies in improving the competitive advantage of MTN Network Group, an electronic survey was sent via email to a the employees in this business unit, located in the Head Quarters in Johannesburg as well as the six regions of MTN South Africa. These regions are Gauteng, Northern, Central, KwaZulu Natal, Eastern and Western covering the entire South Africa. The sample size was 400 of which 82 employees responded to this survey (n=82). This represent 20.5% response rate. This response rate satisfies Scheaffer et al. (1995)’s argument of the size of respondents needed for the reliability of a
research. This sample consisted of 90% male respondents and 10% female respondents which is currently representative of MTN SA Network group.

5.3 Descriptive Statistics

This section provides a summary of responses to the survey questionnaire. Table 5.1 to Table 5.5 as well as Figure 5.1 to Figure 5.5 provide a view of respondent’s perception on the impact of core competencies (Innovation (IN), Intellectual Capital (IC), Strategic Entrepreneurship (SE) and Effective Leadership (EL)) in improving the competitive advantage (CA). The author seeks to find various aspects of core competencies which include the level of innovation, strategic entrepreneurship and intellectual capital in this business unit. In order to achieve this, questions were asked which relate to competitive advantage as a dependent variable and the core competencies as independent variables. In order to perform the quantitative data analysis through this questionnaire, a five point Likert scale was used for the statements with the following rankings:

1 : Strongly Agree
2 : Agree
3 : Neutral
4 : Disagree
5 : Strongly Disagree

The 5-point Likert scale provides a midpoint at 3 which indicates the neutrality or mixed satisfaction of the respondents (Gwinner, 2011). He further provides the cut-off for this scale is the neutral which will be taken from 2.8 to 3.4, so any value below 2.8 and above 3.4 will show that the respondents agree and disagree with the questionnaire statements respectively.

5.4 Descriptive Statistics for the Variables

In this section the author presents the frequency distribution for all dimensions of core competencies which are the independent variables as well as the dependent variable, which is
competitive advantage. Profile behaviour of a variable is mostly quantified by the following three statistical measures (Wegner, 2007: 94):

- A measure of location which is both non-central and central location
- The measure of spread or dispersion about the central location value, and
- The measure of shape or skewness.

Wegner (2007: 94) further provides an explanation that the central location represents the most representative value of all data values and is mostly a middle value that provides a representation of where the majority of data is concentrated. The following measures are used for descriptive statistics on this research:

- Mean – this is also seen as the arithmetic mean or average which is the value that lies at the center of the set of data values (Wegner, 2007: 95). When the mean is calculated, the higher numbers in the data set pull it up while the lower numbers pull it down, so it takes into account all values in the distribution, and is therefore seen as a weighted average (Chambliss, 2012: 165). The formula for the mean is therefore calculated as follows:

\[ \bar{x} = \frac{\text{Sum of all observations}}{\text{Number of observations}} = \frac{\sum x_i}{n} \]

Where:
- \( \bar{x} \) = The sample arithmetic mean
- \( n \) = The number of data values in the sample
- \( x_i \) = The value of the \( i^{\text{th}} \) data value of random variable \( x \)
- \( \sum x \) = The sum of the \( n \) data values i.e \( x_1 + x_2 + x_3 \ldots \ldots x_n \)

- The Standard Deviation – this is the distance from the arithmetic mean and covers the clear majority of cases which is about two-third (Chambliss, 2012: 167). The standard deviation is more precisely the average squared deviation of each case from the arithmetic mean. The formula for the standard deviation is therefore:

\[ s = \sqrt{\frac{\sum (x_i - \bar{x})^2}{(n - 1)}} \]
5.5 Competitive Advantage

Figure 5.1: Descriptive Statistics - Competitive Advantage

- CAF-1: Our organizational management assurance material and moral support meet the needs and aspirations of our current and future customers
- CAF-2: The management team gives staff complete freedom to complete the work entrusted to them
- CAF-3: The management team work tirelessly on developing the employee performance and improve their skills as required by the market
- CAF-4: The company's management seeks to know the characteristics of the market for the preparation of strategies and tactics appropriate for any current and future possibilities.
- CAF-5: The relationship between management and employee features to efficiency and effectiveness in order to complete departmental deliverables
- CAR-1: Our operations system responds rapidly to changes in product volume demanded by our internal and external customers
- CAR-2: Our operations system effectively expedites emergency customer orders
- CAR-3: Our operations system rapidly reconfigures equipment to address demand changes
- CAR-4: Our operations system rapidly reallocates people to address demand changes
- CAR-5: Our operations system rapidly changes manufacturing processes to address demand changes
- CAR-6: Our operations system rapidly adjusts capacity to address demand changes
Table 5.1: Descriptive Statistics - Competitive Advantage

<table>
<thead>
<tr>
<th>CA</th>
<th>Mean</th>
<th>S.D.</th>
<th>Strongly agree</th>
<th>Agree</th>
<th>Neutral</th>
<th>Disagree</th>
<th>Strongly disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAF-1</td>
<td>2.52</td>
<td>1.14</td>
<td>17</td>
<td>21%</td>
<td>25</td>
<td>30%</td>
<td>25</td>
</tr>
<tr>
<td>CAF-2</td>
<td>2.39</td>
<td>1.17</td>
<td>21</td>
<td>26%</td>
<td>27</td>
<td>33%</td>
<td>21</td>
</tr>
<tr>
<td>CAF-3</td>
<td>3.04</td>
<td>1.25</td>
<td>6</td>
<td>7%</td>
<td>28</td>
<td>34%</td>
<td>21</td>
</tr>
<tr>
<td>CAF-4</td>
<td>2.71</td>
<td>1.09</td>
<td>13</td>
<td>16%</td>
<td>21</td>
<td>29%</td>
<td>29</td>
</tr>
<tr>
<td>CAF-5</td>
<td>2.82</td>
<td>1.10</td>
<td>8</td>
<td>10%</td>
<td>26</td>
<td>32%</td>
<td>29</td>
</tr>
<tr>
<td>CAR-1</td>
<td>2.67</td>
<td>1.10</td>
<td>16</td>
<td>20%</td>
<td>14</td>
<td>17%</td>
<td>38</td>
</tr>
<tr>
<td>CAR-2</td>
<td>2.79</td>
<td>1.14</td>
<td>12</td>
<td>15%</td>
<td>19</td>
<td>23%</td>
<td>33</td>
</tr>
<tr>
<td>CAR-3</td>
<td>2.56</td>
<td>1.06</td>
<td>13</td>
<td>16%</td>
<td>27</td>
<td>33%</td>
<td>30</td>
</tr>
<tr>
<td>CAR-4</td>
<td>2.93</td>
<td>1.12</td>
<td>10</td>
<td>12%</td>
<td>17</td>
<td>21%</td>
<td>31</td>
</tr>
<tr>
<td>CAR-5</td>
<td>2.99</td>
<td>1.18</td>
<td>10</td>
<td>12%</td>
<td>17</td>
<td>21%</td>
<td>29</td>
</tr>
<tr>
<td>CAR-6</td>
<td>2.65</td>
<td>1.10</td>
<td>14</td>
<td>17%</td>
<td>21</td>
<td>26%</td>
<td>33</td>
</tr>
</tbody>
</table>

Table 5.1 and Figure 5.1 show the responses on how the respondents view competitive advantage in the organization. The average responses are illustrated in Table 5.1 which shows the means and standard deviations. Two dimensions that have been identified in literature for competitive advantage are Flexibility, which is measured by CAF-1 to CAF-5, and Responsiveness which is measured by CAR-1 to CAR-6. The analysis of the responses indicates that there is a general agreement that the two dimensions of competitive advantage, which are flexibility (CAF) and responsiveness (CAR), are critical elements for the organization to survive. The average mean achieved on the eleven elements measured is 2.7 which shows that the respondents have generally agreed with the questionnaire statements and the individual means from these items range 2.39 to 3.04 while the standard deviations range from 1.06 to 1.25.

About fifty one per cent (51%) of the respondents agree with the view that the management in the organization provides assurance moral support which is needed for the needs of current and future customers. Fifty nine per cent (59%) provide an agreement that the management team gives staff the complete freedom in order to complete the work that is entrusted to them. These are the critical factors for the flexibility of the organization and having faith in the staff will in turn boost their moral and enable them to perform better. Fifty one per cent (51%) of the respondents are in agreement that the operations system is able to adjust capacity in order to address the demand changes in the organization. This dimension is important for the responsiveness of the organization as the technology inclined and dynamic environment needs the organization to be able to adjust the operations system when there is an urgent need. There is also a challenge that is picked from the respondents with thirty nine per cent (39%) proving a
view that the management team is not doing enough in developing the employees to have the skills that are required by the market.

5.6 Innovation

Figure 5.2: Descriptive Statistics - Innovation
Table 5.2: Descriptive Statistics - Innovation

Figure 5.2 and Table 5.2 show the responses on how the respondents see innovation in the organization. The average responses are illustrated in Table 5.2 which shows the means and standard deviations. Innovation value chain from literature provides a view that innovation is achieved by a combination of the following items; In-house Idea Generation (INI), Cross Pollination (INC), External Sourcing (INE), Selection (INS), Development (IND) and Diffusion (IDF) however the following items (INC, INE, INS and IDF) have been eliminated on this research since they have failed reliability with Chronbach Alpha of below 0.5. These items will then not be factored in on the results of this research going forward. The items analysed then for descriptive statistics are INI (In-house idea generation), and IND (Development). The average mean achieved on the four elements measured is 3.23, which show that the respondents were generally neutral on the statements from the questionnaire with individual means from these items ranging from 3.04 to 3.41 while the standard deviations range from 1.01 to 1.21. Forty nine per cent (49%) of the respondents illustrated that there is a lack of in-house idea generation as they disagree with the statement “people in our department come up with ideas of their own”.

<table>
<thead>
<tr>
<th>IN</th>
<th>Mean</th>
<th>S.D.</th>
<th>Strongly agree</th>
<th>Agree</th>
<th>Neutral</th>
<th>Disagree</th>
<th>Strongly disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>INI-1</td>
<td>3.21</td>
<td>1.21</td>
<td>9 11%</td>
<td>13 16%</td>
<td>25 30%</td>
<td>22 27%</td>
<td>13 16%</td>
</tr>
<tr>
<td>INI-2</td>
<td>3.41</td>
<td>1.16</td>
<td>5 6%</td>
<td>13 16%</td>
<td>24 29%</td>
<td>23 28%</td>
<td>17 21%</td>
</tr>
<tr>
<td>INC-1</td>
<td>3.73</td>
<td>1.08</td>
<td>12 15%</td>
<td>20 24%</td>
<td>20 40%</td>
<td>12 15%</td>
<td>5 6%</td>
</tr>
<tr>
<td>INC-2</td>
<td>3.22</td>
<td>1.24</td>
<td>11 13%</td>
<td>10 12%</td>
<td>23 28%</td>
<td>26 32%</td>
<td>12 15%</td>
</tr>
<tr>
<td>INE-1</td>
<td>3.12</td>
<td>1.00</td>
<td>6 7%</td>
<td>11 13%</td>
<td>39 48%</td>
<td>19 23%</td>
<td>7 9%</td>
</tr>
<tr>
<td>INE-2</td>
<td>3.20</td>
<td>1.05</td>
<td>6 7%</td>
<td>9 11%</td>
<td>41 50%</td>
<td>15 18%</td>
<td>11 13%</td>
</tr>
<tr>
<td>INS-1</td>
<td>3.06</td>
<td>1.18</td>
<td>10 12%</td>
<td>13 16%</td>
<td>32 39%</td>
<td>16 20%</td>
<td>11 13%</td>
</tr>
<tr>
<td>INS-2</td>
<td>2.80</td>
<td>1.01</td>
<td>10 12%</td>
<td>17 21%</td>
<td>38 46%</td>
<td>13 16%</td>
<td>4 5%</td>
</tr>
<tr>
<td>IND-1</td>
<td>3.28</td>
<td>1.14</td>
<td>7 9%</td>
<td>10 12%</td>
<td>31 38%</td>
<td>21 26%</td>
<td>13 16%</td>
</tr>
<tr>
<td>IND-2</td>
<td>3.04</td>
<td>1.01</td>
<td>8 10%</td>
<td>10 12%</td>
<td>41 50%</td>
<td>17 21%</td>
<td>6 7%</td>
</tr>
<tr>
<td>IDF-1</td>
<td>2.79</td>
<td>1.39</td>
<td>20 24%</td>
<td>16 20%</td>
<td>20 24%</td>
<td>13 16%</td>
<td>13 16%</td>
</tr>
<tr>
<td>IDF-2</td>
<td>2.95</td>
<td>1.15</td>
<td>12 15%</td>
<td>12 15%</td>
<td>34 41%</td>
<td>16 20%</td>
<td>8 10%</td>
</tr>
<tr>
<td>IDF-3</td>
<td>2.63</td>
<td>1.26</td>
<td>14 17%</td>
<td>21 26%</td>
<td>22 27%</td>
<td>15 18%</td>
<td>10 12%</td>
</tr>
</tbody>
</table>
5.7 Strategic Entrepreneurship

Figure 5.3: Descriptive Statistics – Strategic Entrepreneurship

- SEP-1: We typically initiate actions and solutions to which competitors then respond
- SEP-2: In our competitive environment, our organization has a strong tendency of being ahead of other competitors in the introduction of novel ideas and solutions
- SEP-3: We are always the first to introduce new products, services and solutions
- SEP-4: Our organization shapes the environment by introducing new products, technology and solutions than merely react
- SER-1: Compared to our competitors, our organization has higher inclination in taking risks
- SER-2: Our organization has shown a great deal of tolerance for high risk projects
- SER-3: Our top management team favour a bold, aggressive attitude in order to maximize the probability of exploiting potential when faced with uncertainty
- SER-4: Most employees in the organization are willing to take risk
- SER-5: The term "risk taker" is considered a positive attribute for the employees
- SER-6: Employees are always encouraged to take calculated risk with new ideas
- SEC-1: Owing to the nature of our operating environment, bold, wide ranging acts are necessary to achieve the organization's objectives
- SEC-2: We typically adopt a very competitive, 'undo-the-competitor' approach
- SEC-3: My organization has a strong tendency of increasing the market share by reducing the
Table 5.3: Descriptive Statistics – Strategic Entrepreneurship

<table>
<thead>
<tr>
<th>SE</th>
<th>Mean</th>
<th>S.D.</th>
<th>Strongly agree</th>
<th>Agree</th>
<th>Neutral</th>
<th>Disagree</th>
<th>Strongly disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>SEP-1</td>
<td>2.91</td>
<td>1.24</td>
<td>13 16%</td>
<td>16 20%</td>
<td>29 39%</td>
<td>13 16%</td>
<td>11 13%</td>
</tr>
<tr>
<td>SEP-2</td>
<td>2.77</td>
<td>1.18</td>
<td>11 13%</td>
<td>26 32%</td>
<td>25 30%</td>
<td>11 13%</td>
<td>9 11%</td>
</tr>
<tr>
<td>SEP-3</td>
<td>3.17</td>
<td>1.19</td>
<td>5 6%</td>
<td>22 27%</td>
<td>24 29%</td>
<td>16 20%</td>
<td>15 18%</td>
</tr>
<tr>
<td>SEP-4</td>
<td>2.67</td>
<td>1.12</td>
<td>13 16%</td>
<td>25 30%</td>
<td>25 30%</td>
<td>14 17%</td>
<td>5 6%</td>
</tr>
<tr>
<td>SER-1</td>
<td>3.07</td>
<td>1.10</td>
<td>5 6%</td>
<td>22 27%</td>
<td>26 32%</td>
<td>20 24%</td>
<td>9 11%</td>
</tr>
<tr>
<td>SER-2</td>
<td>2.78</td>
<td>1.13</td>
<td>12 15%</td>
<td>21 26%</td>
<td>28 34%</td>
<td>15 18%</td>
<td>6 7%</td>
</tr>
<tr>
<td>SER-3</td>
<td>3.02</td>
<td>1.04</td>
<td>4 5%</td>
<td>21 26%</td>
<td>36 44%</td>
<td>11 13%</td>
<td>10 12%</td>
</tr>
<tr>
<td>SER-4</td>
<td>3.12</td>
<td>1.18</td>
<td>6 7%</td>
<td>20 24%</td>
<td>29 34%</td>
<td>14 17%</td>
<td>14 17%</td>
</tr>
<tr>
<td>SER-5</td>
<td>2.96</td>
<td>1.01</td>
<td>5 6%</td>
<td>22 27%</td>
<td>32 39%</td>
<td>17 21%</td>
<td>6 7%</td>
</tr>
<tr>
<td>SER-6</td>
<td>2.83</td>
<td>1.08</td>
<td>8 10%</td>
<td>25 30%</td>
<td>28 34%</td>
<td>15 18%</td>
<td>6 7%</td>
</tr>
<tr>
<td>SEC-1</td>
<td>2.33</td>
<td>1.11</td>
<td>22 27%</td>
<td>26 32%</td>
<td>23 28%</td>
<td>7 9%</td>
<td>4 5%</td>
</tr>
<tr>
<td>SEC-2</td>
<td>2.80</td>
<td>1.13</td>
<td>10 12%</td>
<td>23 28%</td>
<td>30 37%</td>
<td>11 13%</td>
<td>8 10%</td>
</tr>
<tr>
<td>SEC-3</td>
<td>2.91</td>
<td>1.11</td>
<td>8 10%</td>
<td>21 26%</td>
<td>32 39%</td>
<td>12 15%</td>
<td>9 11%</td>
</tr>
</tbody>
</table>

Figure 5.3 and Table 5.3 show the responses on how the respondents view strategic entrepreneurship in the organization. The average responses are illustrated in Table 5.3 which shows the means and standard deviations. Three dimensions that have been identified in literature for strategic entrepreneurship are Pro-activeness which is measured by SEP-1 to SEP-4, Risk taking which is measured by SER-1 to SER-6 and Competitive Aggressiveness which is measured by SEC-1 to SEC-3. The analysis of the responses indicates that there is a general agreement that the three dimensions of strategic entrepreneurship are critical elements for the organization to survive. The average mean achieved on the thirteen elements measured is 2.87, which shows that the respondents have generally neutral responses towards the questionnaire statements, with the individual means from these items range 2.33 to 3.07 while the standard deviations range from 1.01 to 1.24.

Forty six per cent (46%) of the respondents agree with the view that the organization shapes the environment by introducing new products, technology and solutions. This is an important aspect of pro-activeness as the telecom environment is quite dynamic with customers looking for more innovative solutions from their service providers. Fifty nine per cent (59%) provide an agreement that bold and wide ranging acts are critical for the organization to achieve the objectives. This is an important dimension in competitive aggressiveness as the operating space is finite with key role players having aggressive strategies like the current price war that is going on as well as the impact of the regulatory in terms of cutting the interconnect fees which results in organization incurring massive revenue reductions. Thirty one per cent (31%) of the respondents feel that the employees on the organization are quite conservative when it comes to
risk taking. Entrepreneurship literature sees risk taking as the critical element for growth so if the organization is not aggressive in taking risks, this could lead to some opportunities not being discovered.

### 5.8 Intellectual Capital

Figure 5.4: Descriptive Statistics – Intellectual Capital
Table 5.4: Descriptive Statistics – Intellectual Capital

<table>
<thead>
<tr>
<th>IC</th>
<th>Mean</th>
<th>S.D.</th>
<th>Strongly agree</th>
<th>Agree</th>
<th>Neutral</th>
<th>Disagree</th>
<th>Strongly disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>ICH-1</td>
<td>2.94</td>
<td>1.19</td>
<td>10 12%</td>
<td>19</td>
<td>23%</td>
<td>30</td>
<td>37%</td>
</tr>
<tr>
<td>ICH-2</td>
<td>2.90</td>
<td>1.13</td>
<td>8   10%</td>
<td>22</td>
<td>27%</td>
<td>32</td>
<td>39%</td>
</tr>
<tr>
<td>ICH-3</td>
<td>3.12</td>
<td>1.18</td>
<td>8   10%</td>
<td>15</td>
<td>18%</td>
<td>31</td>
<td>38%</td>
</tr>
<tr>
<td>ICH-4</td>
<td>3.04</td>
<td>1.07</td>
<td>7   9%</td>
<td>13</td>
<td>16%</td>
<td>43</td>
<td>52%</td>
</tr>
<tr>
<td>ICH-5</td>
<td>3.23</td>
<td>1.15</td>
<td>2   9%</td>
<td>3</td>
<td>14%</td>
<td>8</td>
<td>36%</td>
</tr>
<tr>
<td>ICH-6</td>
<td>2.23</td>
<td>1.02</td>
<td>6   27%</td>
<td>8</td>
<td>36%</td>
<td>5</td>
<td>23%</td>
</tr>
<tr>
<td>ICH-7</td>
<td>1.95</td>
<td>0.95</td>
<td>8   36%</td>
<td>9</td>
<td>41%</td>
<td>3</td>
<td>14%</td>
</tr>
<tr>
<td>ICH-8</td>
<td>2.44</td>
<td>1.16</td>
<td>5   20%</td>
<td>10</td>
<td>40%</td>
<td>6</td>
<td>24%</td>
</tr>
<tr>
<td>ICH-9</td>
<td>2.35</td>
<td>0.99</td>
<td>16  20%</td>
<td>32</td>
<td>39%</td>
<td>26</td>
<td>32%</td>
</tr>
<tr>
<td>ICH-10</td>
<td>2.70</td>
<td>1.10</td>
<td>10  12%</td>
<td>28</td>
<td>34%</td>
<td>28</td>
<td>34%</td>
</tr>
<tr>
<td>ICO-1</td>
<td>2.32</td>
<td>1.22</td>
<td>25  30%</td>
<td>27</td>
<td>33%</td>
<td>14</td>
<td>17%</td>
</tr>
<tr>
<td>ICO-2</td>
<td>2.57</td>
<td>1.01</td>
<td>10  12%</td>
<td>32</td>
<td>39%</td>
<td>27</td>
<td>33%</td>
</tr>
<tr>
<td>ICO-3</td>
<td>3.15</td>
<td>1.36</td>
<td>11  13%</td>
<td>19</td>
<td>23%</td>
<td>17</td>
<td>21%</td>
</tr>
<tr>
<td>ICO-4</td>
<td>2.65</td>
<td>1.26</td>
<td>16  20%</td>
<td>25</td>
<td>30%</td>
<td>24</td>
<td>29%</td>
</tr>
<tr>
<td>ICO-5</td>
<td>2.48</td>
<td>1.16</td>
<td>18  22%</td>
<td>27</td>
<td>33%</td>
<td>23</td>
<td>28%</td>
</tr>
</tbody>
</table>

Figure 5.4 and Table 5.4 illustrate the responses on how the respondents view intellectual capital in the organization. The average responses are illustrated in Table 5.4 which shows the means and standard deviations. Two dimensions that have been identified in literature for intellectual capital are Human Capital, which is measured by ICH-1 to ICH-10, as well as Organizational Capital which is measured by ICO-1 to ICO-5. The average mean achieved on the fifteen elements measured is 2.67, which shows that the respondents have generally agreed with the questionnaire statements, with the individual means from these items ranging from 1.95 to 3.23 while the standard deviations range from 0.95 to 1.36.

Seventy seven per cent (77%) of the management respondents have a view that the employees in the organization have the abilities that are seen as the best in the industry. This question was posed to managers in order to see how they view their subordinates and is an important aspect of human capital. Fifty nine per cent (59%) provide an agreement that employees in the organization develop new ideas and knowledge. This aspect is very important to both human capital and innovation in an organization. Sixty three per cent (63%) agree that the organization does encourage creativity and creates a platform for development of new ideas. However, forty three per cent (43%) of the respondents have an argument that managers do not involve them in the decision making process.
5.9 Effective Leadership

Figure 5.5: Descriptive Statistics – Effective Leadership

- EFT-1: I invest time and energy developing my subordinates' potential
- EFT-2: I inspire others to lead through service
- EFT-3: I encourage open exchange of information throughout the organization
- EFT-4: I articulate a compelling vision of the future
- EFT-5: I instil pride in others for being associated with me
- EFT-6: I encourage constructive criticism
- EFM-1: I focus attention on irregularities, mistakes, exceptions, and deviations from standards
- EFM-2: I direct my attention toward failures to meet standards
- EFM-3: I keep track of all mistakes
- EFM-4: I concentrate my full attention on dealing with mistakes, complaints, and failures
Table 5.5: Descriptive Statistics – Effective Leadership

<table>
<thead>
<tr>
<th>EL</th>
<th>Mean</th>
<th>S.D.</th>
<th>Strongly agree</th>
<th>Agree</th>
<th>Neutral</th>
<th>Disagree</th>
<th>Strongly disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>EFT-1</td>
<td>2.50</td>
<td>1.01</td>
<td>3</td>
<td>14%</td>
<td>9</td>
<td>41%</td>
<td>7</td>
</tr>
<tr>
<td>EFT-2</td>
<td>1.82</td>
<td>0.85</td>
<td>9</td>
<td>41%</td>
<td>9</td>
<td>41%</td>
<td>3</td>
</tr>
<tr>
<td>EFT-3</td>
<td>2.00</td>
<td>0.69</td>
<td>5</td>
<td>23%</td>
<td>12</td>
<td>55%</td>
<td>5</td>
</tr>
<tr>
<td>EFT-4</td>
<td>2.73</td>
<td>1.08</td>
<td>2</td>
<td>9%</td>
<td>8</td>
<td>36%</td>
<td>8</td>
</tr>
<tr>
<td>EFT-5</td>
<td>2.27</td>
<td>0.94</td>
<td>5</td>
<td>23%</td>
<td>8</td>
<td>36%</td>
<td>7</td>
</tr>
<tr>
<td>EFT-6</td>
<td>1.86</td>
<td>0.83</td>
<td>8</td>
<td>36%</td>
<td>10</td>
<td>45%</td>
<td>3</td>
</tr>
<tr>
<td>EFM-1</td>
<td>3.41</td>
<td>1.14</td>
<td>2</td>
<td>9%</td>
<td>1</td>
<td>5%</td>
<td>9</td>
</tr>
<tr>
<td>EFM-2</td>
<td>3.27</td>
<td>1.03</td>
<td>1</td>
<td>5%</td>
<td>2</td>
<td>9%</td>
<td>13</td>
</tr>
<tr>
<td>EFM-3</td>
<td>3.41</td>
<td>1.18</td>
<td>2</td>
<td>9%</td>
<td>2</td>
<td>9%</td>
<td>7</td>
</tr>
<tr>
<td>EFM-4</td>
<td>3.64</td>
<td>0.95</td>
<td>0</td>
<td>0%</td>
<td>4</td>
<td>18%</td>
<td>3</td>
</tr>
</tbody>
</table>

Figure 5.5 and Table 5.5 illustrate the responses on how the respondents view effective leadership in the organization. The average responses are illustrated in Table 5.5 which shows the means and standard deviations. From literature transformational leadership is seen as critical leadership style that can improve the performance of the organization while managers that are not inclined towards transformational leadership normally focus on management by exception. The statements for the items in leadership were directed to managers in the organization with Transformational Leadership being measured by EFT-1 to EFT-6, and Management by Exception measured by EFM-1 to EFM-4. The average mean achieved on the six elements measured for transformational leadership is 2.20, which shows that the respondents have generally agreed with the questionnaire statements, with the individual means from these items ranging from 1.82 to 2.73 while the standard deviations range from 0.69 to 1.08. The average mean achieved on the four elements measured for management by exception is 3.43, which shows that the respondents have generally disagreed with the questionnaire statements, with the individual means from these items ranging from 3.27 to 3.64 while the standard deviations range from 0.95 to 1.14.

Seventy eight per cent (78%) of the management respondents have a view that they encourage the open exchange of information in an organization. Eighty one per cent (81%) of the management respondents have a view that they encourage constructive criticism. Both these dimensions are important in transformational leadership style in an organization. Sixty nine per cent (69%) of the respondents disagree with the critical statement of management by exception which states that “the manager focuses on dealing with complaints, mistakes and failures”. From the sample it can be seen that management respondents are more inclined towards the transformational leadership style, however this sample is quite low to produce conclusive results.
**Empirical Results**

**5.10 Correlation Analysis**

The Pearson product-moment correlation is used to measure the interrelationship between the dependent and independent variables. Pallant (2007) provides a view that the correlation test is conducted in order to examine the presence of multicollinearity. In this research, the Chi-squared test is used to test the hypothesis so it is important to do the correlation test first in order to determine the presence of multicollinearity. Pallant (2007) further suggests that multicollinearity exists when the independent variables are highly correlated which is $r = 0.9$ and above. For this research, the correlation test is used to determine the strength of linear association between the dependent variable and the independent variables. Table 5.6 below shows the correlation results from the analysed sample results:

Table 5.6: Correlation Results

<table>
<thead>
<tr>
<th>Factor</th>
<th>n</th>
<th>r</th>
</tr>
</thead>
<tbody>
<tr>
<td>IN (Innovation)</td>
<td>82</td>
<td>0.209</td>
</tr>
<tr>
<td>SE (Strategic Entrepreneurship)</td>
<td>82</td>
<td>0.864</td>
</tr>
<tr>
<td>IC (Intellectual Capital)</td>
<td>82</td>
<td>0.900</td>
</tr>
<tr>
<td>EFT (Transformational Leadership)</td>
<td>22</td>
<td>0.825</td>
</tr>
</tbody>
</table>

As it can be seen from the table 5.6, there are two n-values, $n = 82$ has been the entire responses for this research and $n = 22$ focused purely on leadership questions of which the questions were directed to the employees at management level. For innovation it can be see that $r$ value which is the correlation co-efficient is quite low and this is caused by the elimination of some questions as they were loading the scale negatively and also have failed the reliability test.

Statistical significance is used in describing the results for which there is a 5% or lower probability that the results have occurred by chance (ECS, 2004). This then shows that from the social science perspective this chosen percentage is seen as a cut-off point. The statistical significance in correlation test means that the probability of achieving the correlation coefficient by chance is less than five times in a hundred and this result would indicate the presence of a
relationship between the variables (ESC, 2004). The convention for showing this statistical significance is \( p > 0.05 \).

The results then provide the following information statistically:

Statistical significance at 0.05%
- for \( n = 22 \): \(|r| > 0.476\)
- for \( n = 82 \): \(|r| > 0.247\)

Considering table 5.6 above, the results are summarized as follows:

The relationship between CA as a depended variable and IN, SE, IC and EFT which are independent variables was investigated using the Pearson product-moment correlation coefficient. Preliminary analysis was performed to ensure no violation of the assumptions of normality and linearity. There was a strong positive correlation between CA and SE (\( n = 82, r = 0.864 \)). There was also a strong positive correlation between CA and IC (\( n = 82, r = 0.900 \)). The other variable that has a strong positive relationship is CA to EFT (\( n = 22, r = 0.825 \)). The results show that there is a weak positive correlation between CA and IN (\( n = 82, r = 0.209 \)).

Practical significance provides a view of whether the difference is large enough to be of importance in a practical sense (ESC, 2004). ESC (2004) further provides a view that in determining practical significance the researcher must consider the following:

- The quality of the research questions
- The relative size of the effect
- The size of the sample
- The importance of the finding
- Confidence intervals
- The link to previous research
- The strength of correlation

- for \( n = 22 \): \(|r| > 0.476\)
- for \( n = 82 \): \(|r| > 0.300\)

For practical significance, the results are the same as those achieved in statistical significance.
5.11 **Chi-Squared Test**

The Chi-Squared ($X^2$) test is used by scientists to determine the goodness of fit between theoretical and experimental data (Wegner, 2007: 359). He further explains that if the profile of a random variable’s response can be matched to a theoretical probability distribution, be it Poisson, Binomial or Normal, the theoretical distribution can therefore be used to explain the behaviour of the random variable. The chi-squared test therefore measures the goodness of fit between the observed frequency distribution from a sample data and an expected frequency distribution (Wegner, 2007: 359).

The use of $X^2$ distribution in testing the hypothesis is comparable to the use of $t$ and $F$ distributions (Wegner, 2007: 359). In testing the hypothesis, the null hypothesis is stated, then a statistic test is calculated. The value that is observed from the test statistic is then compared to the critical value and the decision is made whether to accept or reject the null hypothesis.

5.12 **First Hypothesis: The Impact of Innovation on Competitive Advantage**

$H_{10}$: *Innovation on an organization has no impact in improving competitive advantage.*

$H_1$: *Innovation on an organization has an impact in improving competitive advantage.*

Table 5.7: Contingency Table - SE and CA

<table>
<thead>
<tr>
<th>IN</th>
<th>CA</th>
<th></th>
<th></th>
<th></th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>[1.0 to 2.6] Low</td>
<td>[2.6 to 3.4] Average</td>
<td>[3.4 to 5.0] High</td>
<td></td>
<td></td>
</tr>
<tr>
<td>[1.0 to 2.6] Low</td>
<td>6</td>
<td>30%</td>
<td>10</td>
<td>50%</td>
<td>4</td>
</tr>
<tr>
<td>[2.6 to 3.4] Average</td>
<td>5</td>
<td>13%</td>
<td>24</td>
<td>60%</td>
<td>11</td>
</tr>
<tr>
<td>(3.4 to 5.0] High</td>
<td>4</td>
<td>18%</td>
<td>1</td>
<td>5%</td>
<td>17</td>
</tr>
<tr>
<td>Total</td>
<td>15</td>
<td>18%</td>
<td>35</td>
<td>43%</td>
<td>32</td>
</tr>
</tbody>
</table>

($\text{Chi}^2(\text{d.f.} = 4, n = 82) = 20.29; p < 0.0005; V = 0.35 \text{ Large})$ – Calculated from Statistical modelling.

From the $X^2$ table df = 4, $p < 0.05$, $X^2 = 9.488$ which is the critical value.
According to the respondents, innovation does have an influence on competitive advantage ($X^2 = 20.29 > 9.488, p < 0.05$). The hypothesis $H_1$ is therefore supported while $H_{10}$ is not supported and so statistically the null hypothesis is rejected. The results from an analysed sample prove that an improvement in innovation will lead to an improved competitive advantage.

5.13 Second Hypothesis: The Impact of Strategic Entrepreneurship on Competitive Advantage

$H_{20}$: Strategic Entrepreneurship on an organization has no impact in improving competitive advantage.

$H_2$: Strategic Entrepreneurship on an organization has an impact in improving competitive advantage.

<table>
<thead>
<tr>
<th>Table 5.8: Contingency Table – SE and CA</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SE</strong></td>
</tr>
<tr>
<td>--------</td>
</tr>
<tr>
<td>[1.0 to 2.6] Low</td>
</tr>
<tr>
<td>[2.6 to 3.4] Average</td>
</tr>
<tr>
<td>(3.4 to 5.0] High</td>
</tr>
<tr>
<td>Total</td>
</tr>
</tbody>
</table>

($\chi^2$(d.f. = 4, n = 82) = 77.83; p < 0.0005; $V = 0.69$ Large) – Calculated from Statistical modelling.

According to the respondents, strategic entrepreneurship does have a significant influence on competitive advantage ($X^2 = 77.83 > 9.488, p < 0.05$). The hypothesis $H_2$ is therefore supported while $H_{20}$ is not supported and so statistically the null hypothesis is rejected. This then means that an improvement in strategic entrepreneurship will lead to an improved competitive advantage.
5.14 Third Hypothesis: The Impact of Intellectual Capital on Competitive Advantage

\( H_{30} \): Intellectual Capital on an organization has no impact in improving competitive advantage.

\( H_3 \): Intellectual Capital on an organization has an impact in improving competitive advantage.

Table 5.9: Contingency Table - IC and CA

<table>
<thead>
<tr>
<th>IC</th>
<th>CA</th>
<th>[1.0 to 2.6] Low</th>
<th>[2.6 to 3.4] Average</th>
<th>(3.4 to 5.0] High</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>[1.0 to 2.6] Low</td>
<td>11</td>
<td>79%</td>
<td>3</td>
<td>21%</td>
<td>14</td>
</tr>
<tr>
<td>[2.6 to 3.4] Average</td>
<td>4</td>
<td>11%</td>
<td>26</td>
<td>74%</td>
<td>35</td>
</tr>
<tr>
<td>(3.4 to 5.0] High</td>
<td>0</td>
<td>0%</td>
<td>6</td>
<td>18%</td>
<td>33</td>
</tr>
<tr>
<td>Total</td>
<td>15</td>
<td>18%</td>
<td>35</td>
<td>43%</td>
<td>82</td>
</tr>
</tbody>
</table>

(Chi²(d.f. = 4, n = 82) = 75.50; p < .0005; V = 0.68 Large) - Calculated from Statistical modelling.

According to the respondents, intellectual capital does have a significant influence on competitive advantage \((X^2 = 75.50 > 9.488, p < 0.05)\). The hypothesis \( H_3 \) is therefore supported while \( H_{30} \) is not supported and so statistically the null hypothesis is rejected. This then means that an improvement in intellectual capital will lead to an improved competitive advantage.

5.15 Fourth Hypothesis: The Impact of Effective Leadership on Competitive Advantage

\( H_{40} \): Effective Leadership on an organization has no impact in improving competitive advantage.

\( H_4 \): Effective Leadership on an organization has an impact in improving competitive advantage.

Table 5.10: Contingency Table – EFT and CA

<table>
<thead>
<tr>
<th>EFT</th>
<th>CA</th>
<th>[1.0 to 3.0] Low</th>
<th>[3.0 to 5.0] Higher</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;= Median 3.83</td>
<td>8</td>
<td>80%</td>
<td>2</td>
<td>20%</td>
</tr>
<tr>
<td>&gt; Median 3.83</td>
<td>2</td>
<td>17%</td>
<td>10</td>
<td>83%</td>
</tr>
<tr>
<td>Total</td>
<td>10</td>
<td>45%</td>
<td>12</td>
<td>55%</td>
</tr>
</tbody>
</table>
(Chi\(^2\)(d.f. = 1, n = 22) = 7.46; p = 0.716; V = 0.58 Large) - Calculated from Statistical modelling.

From the \(X^2\) table df = 1, p <0.05, \(X^2 = 3.843\)

According to the respondents, effective leadership does have a significant influence on competitive advantage (\(X^2 = 7.46 > 3.843, p < 0.05\)). The hypothesis \(H_4\) is therefore supported while \(H_{40}\) is not supported and so statistically the null hypothesis is rejected. This then means that an improvement in effective leadership will lead to an improved competitive advantage.

### 5.16 Secondary Research Questions

- What is the perception of Intellectual Capital in the organization (Managers vs. Engineers)?

\(H_{S01}\): There is no difference in perception of Intellectual Capital between the Managers and Engineers.

\(H_{S1}\): There is a difference in perception of Intellectual Capital between the Managers and Engineers.

Table 5.11: Contingency Table – Current Position and IC

<table>
<thead>
<tr>
<th>Current Position</th>
<th>IC</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Low</td>
<td>Average</td>
<td>High</td>
<td>Total</td>
</tr>
<tr>
<td>Engineers</td>
<td>12</td>
<td>25</td>
<td>41</td>
<td>61</td>
</tr>
<tr>
<td>Managers</td>
<td>2</td>
<td>5</td>
<td>36</td>
<td>14</td>
</tr>
<tr>
<td>Total</td>
<td>14</td>
<td>30</td>
<td>40</td>
<td>75</td>
</tr>
</tbody>
</table>

Table 5.12: t-Test: IC by Current Position – Engineers and Managers

<table>
<thead>
<tr>
<th>Variable</th>
<th>Current Position</th>
<th>n</th>
<th>Mean</th>
<th>S.D</th>
<th>Difference</th>
<th>t</th>
<th>d.f.</th>
<th>p</th>
<th>d</th>
</tr>
</thead>
<tbody>
<tr>
<td>IC</td>
<td>Engineers</td>
<td>61</td>
<td>3.25</td>
<td>0.84</td>
<td>-0.08</td>
<td>-0.32</td>
<td>73</td>
<td>.747</td>
<td>n.a.</td>
</tr>
<tr>
<td></td>
<td>Managers</td>
<td>14</td>
<td>3.32</td>
<td>0.58</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\((t = -0.32, \text{d.f.} = 73, p = 0.747)\) - Calculated from Statistical modelling.
From the t-table for the two tailed test:
\( T_{cv}(df = 73, 2 \text{ tail}, 0.05) = \pm 2.00 \)

So: \( t = -0.32 \) and \( t_{cv} = 2.00 \)

According to the respondents, there is no significant difference on the perception of intellectual capital between engineers and managers in the organization \( (t = -0.32 < 2.00) \) as the measured t-value is less than the critical t-value. This therefore means that we fail to reject the null Hypothesis in that there is no difference on the perception of intellectual capital between the managers and the engineers.

- What is the perception of Innovation in the organization (Managers vs. Engineers)?

\( H_{S02}: \text{There is no difference in perception of Innovation between the Managers and Engineers.} \)

\( H_{S2}: \text{There is a difference in perception of Innovation Capital between the Managers and Engineers.} \)

Table 5.13: Contingency Table – Current Position and IN

<table>
<thead>
<tr>
<th>Current Position</th>
<th>IN</th>
<th>Low</th>
<th>Average</th>
<th>High</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engineers</td>
<td>15</td>
<td>25%</td>
<td>27</td>
<td>44%</td>
<td>61</td>
</tr>
<tr>
<td>Managers</td>
<td>5</td>
<td>36%</td>
<td>7</td>
<td>50%</td>
<td>14</td>
</tr>
<tr>
<td>Total</td>
<td>20</td>
<td>27%</td>
<td>34</td>
<td>45%</td>
<td>75</td>
</tr>
</tbody>
</table>

Table 5.14: t-Test: IN by Current Position – Engineers and Manages

<table>
<thead>
<tr>
<th>Variable</th>
<th>Current Position</th>
<th>n</th>
<th>Mean</th>
<th>S.D</th>
<th>Difference</th>
<th>t</th>
<th>d.f.</th>
<th>p</th>
<th>d</th>
</tr>
</thead>
<tbody>
<tr>
<td>IN</td>
<td>Engineers</td>
<td>61</td>
<td>3.10</td>
<td>0.72</td>
<td>0.27</td>
<td>1.32</td>
<td>73</td>
<td>.191</td>
<td>n.a.</td>
</tr>
<tr>
<td></td>
<td>Managers</td>
<td>14</td>
<td>2.83</td>
<td>0.49</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\( (t = 1.32, \text{d.f.} = 73, p = .191) \) - Calculated from Statistical modelling.

From the t-table for the two tailed test:
\( T_{cv}(df = 73, 2 \text{ tail}, 0.05) = \pm 2.00 \)

So: \( t = 1.32 \) and \( t_{cv} = 2.00 \)
According to the respondents, there is no significant difference on the perception of innovation between engineers and managers in the organization (t = 1.32 < 2.00) as the measured t-value is less than the critical t-value. This therefore means that we fail to reject the null hypothesis in that there is no difference on the innovation perception between the managers and the engineers.

- Is there a link between Innovation perception and Technical qualifications?

\(H_{S03}: \text{There is no link between Innovation perception and Highest Technical Qualifications.}\)

\(H_{S3}: \text{There is a link between Innovation perception and Highest Technical Qualifications}\)

Table 5.15: Contingency Table - Highest Technical Qualification and IN

<table>
<thead>
<tr>
<th>Highest Technical Qualification</th>
<th>Low</th>
<th>Average</th>
<th>High</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>N4,N6,Dip [2 - 6]</td>
<td>8</td>
<td>30 15%</td>
<td>17</td>
<td>55 100%</td>
</tr>
<tr>
<td>Degree [7 - 11]</td>
<td>10  50%</td>
<td>6 30%</td>
<td>4</td>
<td>20 100%</td>
</tr>
<tr>
<td>Total</td>
<td>18  24%</td>
<td>36 48%</td>
<td>21</td>
<td>75 100%</td>
</tr>
</tbody>
</table>

Table 5.16: t-Test: IN by Highest Technical Qualification

<table>
<thead>
<tr>
<th>Variable</th>
<th>Highest Technical Qualification</th>
<th>n</th>
<th>Mean</th>
<th>S.D</th>
<th>Difference</th>
<th>t</th>
<th>d.f.</th>
<th>p</th>
<th>d</th>
</tr>
</thead>
<tbody>
<tr>
<td>IN</td>
<td>N4,N6,Dip [2 - 6]</td>
<td>55</td>
<td>3.14</td>
<td>0.59</td>
<td>0.23</td>
<td>1.33</td>
<td>73</td>
<td>.186</td>
<td>n.a.</td>
</tr>
<tr>
<td></td>
<td>Degree [7 - 11]</td>
<td>20</td>
<td>2.91</td>
<td>0.86</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\((t = 1.33, \text{d.f.} = 73, p = .186) - \text{Calculated from Statistical modelling.}\)

From the t-table for the two tailed test:
\(T_{cv}(df = 73, 2 \text{tail}, 0.05) = \pm 2.00\)

So: \(t = 1.32\) and \(t_{cv} = 2.00\)

According to the respondents, there is no significant link between innovation perception and highest technical qualifications in the organization (t = 1.33 < 2.00) as the measured t-value is less than the critical t-value. This therefore means that we fail to reject the null hypothesis in that there is no link between innovation perception and highest technical qualifications.
• Is there a link between Strategic Entrepreneurship perception and Technical qualifications?

\( H_{S04} \): There is no link between Strategic Entrepreneurship perception and Technical Qualifications.

\( H_{S4} \): There is a link between Strategic Entrepreneurship perception and Technical Qualifications

Table 5.17: Contingency Table - Highest Technical Qualification and SE

<table>
<thead>
<tr>
<th>Highest Technical Qualification</th>
<th>Low</th>
<th>Average</th>
<th>High</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>N4,N6,Dip [2 - 6]</td>
<td>10</td>
<td>21</td>
<td>24</td>
<td>55</td>
</tr>
<tr>
<td>Degree [7 - 11]</td>
<td>7</td>
<td>10</td>
<td>3</td>
<td>20</td>
</tr>
<tr>
<td>Total</td>
<td>17</td>
<td>31</td>
<td>27</td>
<td>75</td>
</tr>
</tbody>
</table>

Table 5.18: t-Test: SE by Highest Technical Qualification

<table>
<thead>
<tr>
<th>Variable</th>
<th>Highest Technical Qualification</th>
<th>n</th>
<th>Mean</th>
<th>S.D</th>
<th>Difference</th>
<th>t</th>
<th>d.f.</th>
<th>p</th>
<th>d</th>
</tr>
</thead>
<tbody>
<tr>
<td>SE</td>
<td>N4,N6,Dip [2 - 6]</td>
<td>55</td>
<td>3.30</td>
<td>0.72</td>
<td>0.57</td>
<td>2.95</td>
<td>73</td>
<td>.004</td>
<td>0.77</td>
</tr>
<tr>
<td>Degree</td>
<td>[7 - 11]</td>
<td>20</td>
<td>2.74</td>
<td>0.78</td>
<td>Medium</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\( t = 2.95, \text{ d.f.} = 73, p = .04 \) - Calculated from Statistical modelling.

From the t-table for the two tailed test:

\( T_{cv}(df = 73, 2 \text{ tail, } 0.05) = \pm 2.00 \)

So: \( t = 2.95 \) and \( t_{cv} = 2.00 \)

According to the respondents, there is a significant link between strategic entrepreneurship and technical qualifications in the organization \( (t = 2.95 > 2.00) \) as the measured t- value is much more than the critical t-value. This then means that we reject the null Hypothesis as there is a link between strategic entrepreneurship and technical qualifications. The results show that
employees with higher technical qualifications [degrees] have more strong perception of strategic entrepreneurship than those with lower qualifications.

- Is there a link between Strategic Entrepreneurship perception and Management Qualifications?

$H_{S05}$: There is no link between Strategic Entrepreneurship perception and Management Qualifications.

$H_{S5}$: There is a link between Strategic Entrepreneurship perception and Management Qualifications

Table 5.19: Contingency Table - Highest Management Qualification and SE

<table>
<thead>
<tr>
<th>Highest Management Qualification</th>
<th>SE</th>
<th>Low</th>
<th>Average</th>
<th>High</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td></td>
<td>7</td>
<td>21</td>
<td>17</td>
<td>45</td>
</tr>
<tr>
<td>Diploma</td>
<td></td>
<td>6</td>
<td>7</td>
<td>9</td>
<td>22</td>
</tr>
<tr>
<td>Degree</td>
<td></td>
<td>5</td>
<td>6</td>
<td>4</td>
<td>15</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>18</td>
<td>34</td>
<td>30</td>
<td>82</td>
</tr>
</tbody>
</table>

Table 5.20: Descriptive Statistics SE by Highest Management Qualification

<table>
<thead>
<tr>
<th>Group</th>
<th>All</th>
<th>None</th>
<th>Diploma</th>
<th>Degree</th>
</tr>
</thead>
<tbody>
<tr>
<td>n</td>
<td>82</td>
<td>45</td>
<td>22</td>
<td>15</td>
</tr>
<tr>
<td>Mean</td>
<td>3.16</td>
<td>3.23</td>
<td>3.24</td>
<td>2.80</td>
</tr>
<tr>
<td>SD</td>
<td>0.75</td>
<td>0.68</td>
<td>0.79</td>
<td>0.84</td>
</tr>
<tr>
<td>95% CI low</td>
<td>2.99</td>
<td>3.03</td>
<td>2.89</td>
<td>2.34</td>
</tr>
<tr>
<td>95% CI high</td>
<td>3.32</td>
<td>3.44</td>
<td>3.59</td>
<td>3.26</td>
</tr>
</tbody>
</table>

$(\chi^2_{(d.f. = 4, n = 82)} = 3.20; p = .525)$ - Calculated from Statistical modelling.

From the $X^2$ table df = 4, p <0.05, $X^2 = 9.488$ which is the critical value.

According to the respondents, there is no significant link between strategic entrepreneurship perception and the management qualifications ($X^2 = 3.20 < 9.488$, p < 0.005). The hypothesis $H_{S05}$ is therefore supported while $H_{S5}$ is not supported and so statistically we fail to reject the null. This therefore means that on the analysed sample the management qualifications will not
have an impact on strategic entrepreneurship perception which is one of the key factors that are important for competitive advantage.

5.17 Conclusion

This chapter provided a critical analysis of descriptive statistics for the variables as well as the empirical results for the hypotheses tests. The descriptive statistics for CA, IC, EFT were between 2.2 and 2.7 which shows that respondents generally agreed with the questionnaire statements, while SE and IN were between 2.87 and 3.23 and these values fall on the neutral region of the measuring scale.

Correlation tests were also done on this chapter which showed that SE, IC, and EFT have strong positive correlation to CA while IN had a weak positive correlation to CA. Some items that were used to test IN were eliminated due to the fact that they failed the reliability test. Hypotheses tests for the primary research objectives were done and all have shown that the selected items of core competencies, IN, SE, IC and EL have influence of CA. Secondary research questions were also analysed in chapter which showed that IN and IC are the same between managers and engineers, there is no link between IN and technical qualification, there is no link between SE and management qualification and there is link between SE and technical qualifications.

In the next chapter findings of the study are discussed. The chapter also presents conclusions and recommendations.
Chapter 6

6 Findings, Conclusions and Recommendations

6.1 Introduction

In this research, based on the problem statement and the critical review of literature, the following research question has been investigated:

What is the Impact of Internal Core Competencies in Improving the Competitive Advantage of MTN SA Network Group?

In order to answer this question, several literature resources on competitive advantage (CA), emergence of competitive advantage, sources of competitive advantage as well as sustaining competitive advantage have been critically analysed. The dimensions of internal core competencies which are innovation (IN), intellectual capital (IC), strategic entrepreneurship (SE) and effective leadership (EL) have been analysed to provide their link to competitive advantage. In literature, the core competencies analysed were based on the resource based view (RBV) which is the model that was used on in Chapter 4.

Chapter 3 showed the gaps that were picked up from the critical review of literature and to fill these gaps, the organizational learning theory has been included in order to enhance the model for core competencies. This has led to a new operationalized model for this study. The operational model and literature study then provided the development of the hypotheses for this research. In order to answer the key research question, the following null hypotheses were developed:

\( H_{10} \): Innovation on an organization has no impact in improving competitive advantage.

\( H_{20} \): Strategic Entrepreneurship on an organization has no impact in improving competitive advantage.

\( H_{30} \): Intellectual Capital on an organization has no impact in improving competitive advantage.
Table 4-5 showed the view of the analysed and selected parameters used on this study from a research methodology point of view. The population size for this research was 803 and the sample size selected from this population was 400 which represented engineers, senior engineers, specialist engineers, managers, senior managers and general managers. The questionnaire was sent online and from the sample of 400 employees, 82 employees responded. The questionnaire, which consisted of 62 items that were selected from different sources of literature, was sent to selected MTN Network group employees. This questionnaire is on Appendix A of this research. The results for this questionnaire were tested for validity and reliability and the items that failed reliability were eliminated from this research.

The responses from the questionnaire were applied to SPSS statistical modelling tool and the descriptive statistics for all the responses were analysed. This analysis provided a view of how respondents see the dependent variable (CA) and the core competencies (IN, IC, SE and EL), which are independent variables for this research. The relationship between the competitive advantage and internal core competencies was first tested using the correlation test and then the hypotheses tests were performed using the Chi-squared test. The secondary research questions were then answered statistically using the t-test as well as the Chi-squared test.

This chapter will then focus on discussing the empirical results and linking the findings to the theoretical aspects of this research. The recommendations are also discussed in this chapter.
Findings

6.2 Competitive Advantage

The statistical mean that was achieved on competitive advantage descriptive statistics was 2.7 which was an indication that most respondents chose mostly agree and agree for the questionnaire items. This relative response is very important as it emphasizes on the items that need to be considered for competitive advantage.

Competitive advantage does emerge from the organization by being responsive to external change and this depends on the organization’s ability to respond to change (Grant, 2012). He further argues that responsiveness’s two critical capabilities include the ability to anticipate changes in the external environment and the speed to which the organization react to these changes. Responsiveness is one of the aspects of competitive advantage that were tested in this research using the survey, so it can be safely argued that the organization in question does have an understanding of competitive advantage and its influence on organizational performance.

6.3 Innovation

Some items on the measuring scale for innovation were omitted due to the fact that they failed the reliability test. Only four items were then successfully tested with the statistical mean of 3.23, which shows that the respondent’s answers were mostly neutral. The interesting statistic that has been noted is that forty nine per cent (49%) of the respondents illustrated that there is a lack of in-house idea generation in the organization. Hansen and Birkinshaw (2007) provide an argument that organizations need to look internally on the functional groups and business units to see if there are creative ideas, and these ideas are normally seen when individuals from different units interact or when then the organization looks at the external partners for ideas. If employees at MTN network group do not have in-house idea generation skill, the organization could have a significant decline in competitive advantage.

Correlation tests were also performed to see the dimensions of core competencies with respect to competitive advantage. For innovation, results showed that there is a weak positive correlation
between CA and IN (n = 82, r = 0.209). This could be attributed to the fact that the items that failed reliability were omitted on the measuring scale. The first hypothesis between innovation and competitive advantage was also performed. The results verified the alternative hypothesis that, innovation does have an influence on competitive advantage ($X^2 = 20.29 > 9.488, p < 0.05$). However, the influence that has been measured statistically is quite low. Zhou and Wu (2009) provide an argument that one of the critical elements for the firms to adapt to turbulent environments in order to achieve sustainable competitive advantage is innovation. They further argue that the absorptive capacity, which is also seen as the organization’s ability to recognize the value of new information, integrate and apply it to commercial offering, is crucial to the organization’s innovative activities.

6.4 Strategic Entrepreneurship

The descriptive statistics for strategic entrepreneurship show the average mean of 2.87, which shows that respondents were generally neutral with the statements of this core competence dimension. The statistics further show that forty six per cent (46%) of the respondents agree with the view that the organization shapes the environment by introducing new products, technology and solutions, which is an important aspect of pro-activity as the telecom environment is quite dynamic with customers looking for more innovative solutions from their service providers. Fifty nine per cent (59%) of respondents provide an agreement that bold and wide ranging acts are critical for the organization to achieve the objectives. The question that needs to be further investigated is: how bold are the employees in the organization to ensure entrepreneurial inclination.

Correlation test was also performed to see the relationship between strategic entrepreneurship (SE) and competitive advantage (CA). The correlation test showed that there was a strong positive correlation between CA and SE (n = 82, r = 0.864). This shows that any organization that has entrepreneurial inclination will have an ability of having competitive advantage. This then led to the second hypothesis for this research being performed. The respondents from the analysed sample show statistically that strategic entrepreneurship does have a significant influence on competitive advantage ($X^2 = 77.83 > 9.488, p < 0.05$). The secondary research
question was also addressed on strategic entrepreneurship as the researcher wanted to see if technical academic qualifications do have an effect on the perception of strategic entrepreneurship. The respondents provided a view that there is a link between strategic entrepreneurship perception and technical qualifications in the organization ($t = 2.95 > 2.00$) as the measured t-value is more than the critical t-value. The results show that employees with higher technical qualifications [degrees] have stronger entrepreneurship perceptions than those with lower qualifications.

Miller (2007) argues that entrepreneurs have been seen to have the ability to recognize opportunities which has led to threefold categorization:

- **Opportunity recognition** – provides the idea of connecting the known products to the existing demand in order to exploit a previously recognized opportunity.
- **Opportunity discovery** – provides an idea of starting with a known supply proceeding to the search of unknown demand and also looking at the known demand to the motivation of the search of an unknown supply.
- **Opportunity creation** – is an idea that neither the demand or the supply do exist before the entrepreneurial activity, the entrepreneur therefore has a task to create both of them.

Hitt et al. (2001) argue that a strong competitive aggressiveness standpoint which is a dimension of strategic entrepreneurship, gives the organization the ability to be a strong and decisive player in the field of competing organizations and therefore act convincingly to secure and improve its market position. Based on this argument, as well as the descriptive statics and empirical evidence, the author can conclude that entrepreneurship is a dimension for organizational core competencies and is a critical element for improving competitive advantage. The organization that nurtures strategic entrepreneurship will then be able to achieve and sustain competitive advantage.
6.5 Intellectual Capital

On the descriptive statistics for this dimension the statistical mean achieved on the fifteen elements measured was 2.67, which shows that the respondents have generally agreed with the questionnaire statements. Seventy seven per cent (77%) of the management respondents have a view that the employees in the organization have the abilities that are seen as the best in the industry. However, this statistic could not be validated as this would require an industry wide study to see if the skills in the organization are the best. Sixty three per cent (63%) agree that the organization does encourage creativity and creates a platform for development of new ideas. This is very critical for both innovation and intellectual capital as the operating environment is quite competitive and development of new ideas is going to play a major role for the organization to compete in its environment. However, forty three per cent (43%) of the respondents have an argument that managers do not involve them in the decision making process. This could have a negative effect in the organization as the organizational learning theory views dialogue as very critical for the organization to survive.

On the empirical evidence tests, the correlation was tested to see the relationship between intellectual capital (IC) and competitive advantage (CA). The results showed that there was a strong positive correlation between CA and IC (n = 82, r = 0.900). The third hypothesis of the research was then tested using the Chi-squared analysis. Statistical results provided a view that intellectual capital does have a significant influence on competitive advantage ($X^2 = 75.50 > 9.488, p < 0.05$).

Bontis (1998) argues that human capital generates competitive advantage if it transforms into organizational capital. The greater obsession to maintain and improve organizational capital provides an increase in the economic value of the organization (Rodriguez-Castellanos et al., 2006). The managerial literature takes a point of view that organizational capital provides an important source of competitive advantage, and it is one of the main organization’s specific resources (Mention, 2012). Consequently, the dimensions that have been analysed for organizational capital are human capital and organizational capital, so there is a strong argument that intellectual capital is a source of competitive advantage in an organization. Based on the review of literature, the descriptive statistics as well as the empirical results, the author can
safely conclude that intellectual capital is a critical element for competitive advantage in an organization. The organization that enhances intellectual capital will therefore be able to achieve, improve and sustain competitive advantage.

6.6 Effective Leadership

Effective leadership was measured by looking on the two opposing theories, transformational leadership and active management by exception. This was done to see which style is preferred by the managers in the organization. The average mean achieved on the six elements measured for transformational leadership was 2.20, which shows that the respondents have generally agreed with the questionnaire statements while the average mean achieved on the four elements measured for management by exception is 3.43, which shows that the respondents have generally disagreed with the questionnaire statements. From literature, transformational leadership is seen as critical leadership style that can improve the performance of the organization while managers that are not inclined towards transformational leadership normally focus on management by exception. The results from this survey showed that the managers are inclined towards transformational leadership. However, these results are not conclusive as the sample was quite small (n=22) and was not as entirely representative of the management population in the organization.

On the empirical evidence tests, the correlation was tested to establish the relationship between effective leadership (EL) and competitive advantage (CA). The results showed that there was a strong positive correlation between CA to EL (n= 22, r = 0.825). The fourth hypothesis of the research was then tested using Chi-squared analysis. Statistical results provided a view that effective leadership (transformational leadership) does have a significant influence on competitive advantage ($\chi^2 = 7.46 > 3.843$, p < 0.05).

Sarros and Cooper (2008) argue that leaders in an organization are crucial in defining and shaping work contexts that contribute to organizational innovation, and that there is strong evidence that individual leadership style is an important aspect in innovation. They further suggest that transformational leadership promotes and support innovation, which in turn provides long term survival of an organization. Based on these arguments as well as empirical results, the
author therefore provides a strong argument that transformational or effective leadership is needed in order to provide sustainable growth in an organization. The empirical results also showed that innovation is a critical aspect for an organization to create competitive advantage. So, if effective leadership has an influence on innovation as well as on competitive advantage, the author then provides a view that an organization that has effective leaders will then improve their competitive advantage.

6.7 Recommendations and conclusion

Based on the empirical evidence presented on this study, the author provides the following recommendations:

- Competitive advantage is a term that has been researched thoroughly on the strategic management literature. The organization that has competitive advantage will have an edge over its rivals due to the availability of resources that are rare and non-substitutable. These resources are seen as organizational core competencies. So any organization that has valuable core competencies will be in a strong position to compete and hence will be able to improve its competitive advantage. Albert Einstein’s quote states that “A society's competitive advantage will come not from how well its schools teach the multiplication and periodic tables, but from how well they stimulate imagination and creativity”. This is a very important quote as the organizations cannot just train employees to do the work, but also a need for stimulation of imagination and creativity. Innovation cannot be achieved if the employees are not creative.

- The greatest asset that the organization can have is its employees. Employees need to be treated as the source of competitive advantage and not as liabilities on the balance sheet. The employees need to be innovative in order to develop new advanced services and solutions. This is also true from the organizational learning point of view. Employees need to be encouraged to “think out of the box” to be able to come up with new solutions and services in this dynamic telecom environment.

- Entrepreneurs are seen as people who are able to see the opportunities that other people cannot see. If the employees in an organization have entrepreneurial inclination, the
organization would be able to use this resource to tap into untapped markets which will in turn provide enhanced economic value and sustainable growth. The organization therefore needs to enhance the entrepreneurial inclination of employees. The aspect that was tested on secondary research question was a link between higher technical qualifications and strategic entrepreneurship. This test showed that the employees with higher degrees had strong entrepreneurial perceptions than those with lower qualifications and no degrees. This could be attributed to the research that is normally done on higher degree levels which could enable employees to convert the academic research to real solutions that can be used by the organization.

- Intellectual capital is the collection of skills, knowledge and experience that the organization would have through its employees. The organization needs to analyse its current resources to see if these resources possess sufficient intellectual capital to ensure that the organization survives in this competitive environment. It is critical for the organization to know that as soon as they establish the knowledge base in the organization, how this knowledge will be enhanced in order to gain leverage over the rivals.

Based on the discussions and empirical evidence the author then conclude that any organization that develops and nurtures core competencies will be able to achieve competitive advantage. The organization needs to be able to use the intangible assets and develop a strategy that will provide long term growth and sustainability.
6.8 **Further Research**

The empirical evidence shows that there is a direct link between internal core competencies and competitive advantage. The dimensions of core competencies (Innovation, Strategic Entrepreneurship, Intellectual Capital and Effective Leadership) all show a positive correlation to competitive advantage. Jack Welch’s quotation is that “If you do not have competitive advantage, don’t compete”. The next step for this research would then be to see if MTN does have a competitive advantage. This would be done by looking doing an industry wide study and benchmarking MTN network group resources with rival companies. This will then provide a view of which organization does indeed have a competitive advantage and also a critical analysis of knowledge base in the industry.

The author also would like to engage in further study of the dimensions of Innovation as the scale that was used failed on reliability. In order to strengthen this scale other dimensions of innovation will have to be tested and evaluated.
7 References


Cook, G.T. 2009. *Key factors required to be classified as a world-class supplier from a South African automotive industry perspective*. Port Elizabeth: Nelson Mandela Metropolitan University.


Dear Fellow Colleague,

I am a student at Nelson Mandela Metropolitan University who is currently doing a research with the topic: The Impact of Internal Core Competencies in Improving the Organizational Competitive Advantage, The Case for MTN SA Network Group. You are part of the selected sample of respondents whose views are being sought on the above-mentioned matter. Can you please assist in filling this questionnaire. It should take you about 15 minutes to complete this survey. The results for this survey will be made available to Network Group on request.

This is the research for partial fulfilment of my Masters in Business Administration (MBA). There are no correct or incorrect answers. Please answer the questions as accurately as possible. For each statement, tick the answer which best describes your experience or perception.

The authenticity of this study can be verified by contacting my mentor: Dr Chris Adendorff, +27 41 5860421, powerhouse@alfresco.co.za

The questionnaire has been ethically cleared by the Ethics Committee at NMMU with the clearance number H13-BES-BS-035.

Once again I would like to thank you in advance for your assistance.

Should you have any queries, please do not hesitate to contact me on 083 214 0049, mashol_m@mtn.co.za

Regards;
Mlindi Mashologu
## Appendix B – Measuring Instrument

### 9.1 Demographic Data

<table>
<thead>
<tr>
<th>Business Unit</th>
<th>Network Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Position</td>
<td>Engineer, Senior Engineer, Specialist, Manager, Senior Manager, General Manager</td>
</tr>
<tr>
<td>Gender</td>
<td>Male, Female</td>
</tr>
<tr>
<td>Highest Technical Qualification</td>
<td>Technical Matric, N4, N6, N. Dip, NH. Dip, B. Tech, B.Eng, BSc, M. Tech, M. Eng, MSc, D. Tech, D. Eng, PhD</td>
</tr>
<tr>
<td>Highest Management Qualification</td>
<td>Diploma, Bachelors, Masters, Doctorate</td>
</tr>
<tr>
<td>Highest Commercial Qualification</td>
<td>Diploma, Bachelors, Masters, Doctorate</td>
</tr>
<tr>
<td>Other Certification</td>
<td>CCNA, CCNP, CCIE, MCSE, MCSD, Project Management</td>
</tr>
<tr>
<td>Number of Years at MTN</td>
<td>1-19</td>
</tr>
<tr>
<td>Number of Years in Current Position</td>
<td>1-19</td>
</tr>
</tbody>
</table>
9.2 Questionnaire

9.2.1 Competitive Advantage

<table>
<thead>
<tr>
<th>Competitive Advantage</th>
<th>Dimension</th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Neutral</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Our organizational management assurance material and moral support meet the needs and aspirations of our current and future customers</td>
<td>CAF-1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The management team gives staff complete freedom to complete the work entrusted to them</td>
<td>CAF-2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The management team work tirelessly on developing the employee performance and improve their skills as required by the market</td>
<td>CAF-3</td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The company’s management seeks to know the characteristics of the market for the preparation of strategies and tactics appropriate for any current and future possibilities.</td>
<td>CAF-4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The relationship between management and employee features to efficiency and effectiveness in order to complete departmental deliverables</td>
<td>CAF-5</td>
<td>Flexibility</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

9.2.2 Innovation

<table>
<thead>
<tr>
<th>Innovation Value Chain</th>
<th>Dimension</th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Neutral</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Our organizational culture makes it hard for people to put forward novel ideas</td>
<td>INI-1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>People in our department come up with very few ideas on their own</td>
<td>INI-2</td>
<td>In-house Idea Generation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Few of our innovation projects involve team members from different departments</td>
<td>INC-1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The staff typically do not collaborate on projects across different departments</td>
<td>INC-2</td>
<td>Cross Pollination</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Few good ideas for new products come from outside the company</td>
<td>INE-1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ideas from outside the company are not considered as valuable as those generated internally</td>
<td>INE-2</td>
<td>External Sourcing</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>New ideas are often too hard to get funding</td>
<td>INS-1</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>We have risk-averse attitude towards investing in novel ideas</td>
<td>INS-2</td>
<td>Selection</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>New product development projects are often not finished on time</td>
<td>IND-1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Managers have hard time getting the traction in developing new businesses</td>
<td>IND-2</td>
<td>Development</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>We are slow in rolling out new products and solutions</td>
<td>IDF-1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The competing companies quickly copy our product introductions and solutions</td>
<td>IDF-2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>We do not penetrate all possible channel and customer groups with our new products, services and solutions</td>
<td>IDF-3</td>
<td>Diffusion</td>
<td></td>
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<td></td>
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</tbody>
</table>
## 9.2.3 Strategic Entrepreneurship

<table>
<thead>
<tr>
<th>Strategic Entrepreneurship</th>
<th>Coding Name</th>
<th>Dimension</th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Neutral</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>We typically initiate actions and solutions to which competitors then respond</td>
<td>SEP-1</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>In our competitive environment, our organization has a strong tendency of being ahead of other competitors in the introduction of novel ideas and solutions</td>
<td>SEP-2</td>
<td></td>
<td></td>
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<td></td>
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<td></td>
</tr>
<tr>
<td>We are always the first to introduce new products, services and solutions</td>
<td>SEP-3</td>
<td>Proactiveness</td>
<td></td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>Our organization shapes the environment by introducing new products, technology and solutions and solutions than merely react</td>
<td>SEP-4</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Compared to our competitors, our organization has higher inclination in taking risks</td>
<td>SER-1</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Our organization has shown a great deal of tolerance for high risk projects</td>
<td>SER-2</td>
<td></td>
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</tr>
<tr>
<td>Our top management team favour a bold, aggressive attitude in order to maximize the probability of exploiting potential when faced with uncertainty</td>
<td>SER-3</td>
<td></td>
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</tr>
<tr>
<td>Most employees in the organization are willing to take risk</td>
<td>SER-4</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>The term “risk taker” is considered a positive attribute for the employees</td>
<td>SER-5</td>
<td></td>
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<tr>
<td>Employees are always encouraged to take calculated risk with new ideas</td>
<td>SER-6</td>
<td></td>
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</tr>
<tr>
<td>Owing to the nature of our operating environment, bold, wide ranging acts are necessary to achieve the organization’s objectives</td>
<td>SEC-1</td>
<td></td>
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</tr>
<tr>
<td>We typically adopt a very competitive, “undo-the-competitor” approach</td>
<td>SEC-2</td>
<td>Competitive</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>My organization has a strong tendency of increasing the market share by reducing the competitor’s market</td>
<td>SEC-3</td>
<td>Aggressiveness</td>
<td></td>
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</tbody>
</table>

## 9.2.4 Intellectual Capital

<table>
<thead>
<tr>
<th>Intellectual Capital</th>
<th>Coding Name</th>
<th>Dimension</th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Neutral</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>My organization allocates resources to employees training to a higher extent than the competitors</td>
<td>ICH-1</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>In my organization, the people who receive training is higher than the competitors</td>
<td>ICH-2</td>
<td></td>
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</tr>
<tr>
<td>In my organization, there are always problems when an employee resigns.</td>
<td>ICH-3</td>
<td></td>
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<tr>
<td>In my organization, the percentage of jobs filled by means of internal promotion promotion is higher than in the competitors</td>
<td>ICH-4</td>
<td></td>
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<tr>
<td>When filling a position academic qualifications are not important</td>
<td>ICH-5</td>
<td></td>
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</tr>
<tr>
<td>Our employees have adequate and appropriate experience to carry their duties satisfactorily</td>
<td>ICH-6</td>
<td></td>
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<tr>
<td>Our employees possess abilities that are seen as the best in the industry</td>
<td>ICH-7</td>
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<tr>
<td>When filling a position experience is mostly important</td>
<td>ICH-8</td>
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</tr>
<tr>
<td>Employees in the organization develop new ideas and knowledge.</td>
<td>ICH-9</td>
<td></td>
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</tr>
<tr>
<td>Employees are generally satisfied with the organization</td>
<td>ICH-10</td>
<td>Human Capital</td>
<td></td>
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</tr>
<tr>
<td>My company encourages creativity, organizational and/or the development of new ideas</td>
<td>ICO-1</td>
<td></td>
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</tr>
<tr>
<td>We have a common system of values, beliefs, and objectives directed to new ideas development and innovation</td>
<td>ICO-2</td>
<td></td>
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<tr>
<td>Managers involve their employees in important decision-making processes.</td>
<td>ICO-3</td>
<td></td>
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</tr>
<tr>
<td>Managers support and lead the innovation process.</td>
<td>ICO-4</td>
<td></td>
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</tr>
<tr>
<td>Much of the firm’s knowledge relating to processes, systems, and structures is contained in databases, the intranet, electronic files etc.</td>
<td>ICO-5</td>
<td>Organizational Capital</td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

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### 9.2.5 Effective Leadership

<table>
<thead>
<tr>
<th>Effective Leadership</th>
<th>Coding Name</th>
<th>Dimension</th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Neutral</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>I invest time and energy developing my subordinate's potential</td>
<td>EFT-1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I inspire others to lead through service</td>
<td>EFT-2</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>I encourage open exchange of information throughout the organization</td>
<td>EFT-3</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>I articulate a compelling vision of the future</td>
<td>EFT-4</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>I instill pride in others for being associated with me</td>
<td>EFT-5</td>
<td>Transformational</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I encourage constructive criticism</td>
<td>EFT-6</td>
<td>Leadership</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I focus attention on irregularities, mistakes, exceptions, and deviations from standards</td>
<td>EFM-1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I direct my attention toward failures to meet standards</td>
<td>EFM-2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I keep track of all mistakes</td>
<td>EFM-3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I concentrate my full attention on dealing with mistakes, complaints, and failures</td>
<td>EFM-4</td>
<td>Management-by- Exception (Active)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>