

A comparative study of leadership style fostering commitment to product quality in the manufacturing industry

B MANDA
23272856

Mini-dissertation submitted in partial fulfilment of the requirements for the degree *Magister in Business Administration* at the Potchefstroom Campus of the North-West University

Study Leader: Mr JA Jordaan

May 2014

It all starts here

ABSTRACT

This study was commissioned to examine the applied leadership styles that foster organisational commitment and product quality commitment levels of two groups of employees working at two different business units of same private sector steel manufacturing company in Gauteng. The samples included 226 production employees from business unit 'A' and 190 production employees from population 'B'. The combined sample of 416 included 83 managers and 333 low level employees.

Leadership style data was collected through the Multi-Factor Leadership Questionnaire (MLQ) from the managers and Organisational and Product Quality data was gathered through the Employee Questionnaire (EQ). The MLQ measured nine constructs of the Full Range Leadership Theory while the EQ measured four constructs of identification, affiliation, exchange and product quality commitment levels among lower level employees. A total of 416 questionnaires were distributed and 274 were received.

The data was analysed statistically to define the leadership styles, the levels of organisational and product quality commitment and come up with correlations. It was found that transformational and transactional leadership styles were predominant at both business units. Laissez-faire style was also being used at business unit 'A'. The leadership styles were found to be below the ideal levels for effective leadership. Leaders were perceived to be active managers and not leaders. The organisational and product quality commitment levels among employees were found to be marginal at both units. The top leadership styles and commitment levels trended the same and scored closely for both business units with small variations. The results were comparable.

Positive correlations were found between identification commitment (0.305 for 'A' and 0.481 for 'B') and product quality commitment among employees. It was concluded from the correlations that the higher the levels of organisational

commitment, the higher the levels of product quality commitment among employees. By statistical averages, it was concluded that higher levels of transformational leadership fosters higher levels of identification commitment and product quality commitment among employees.

Demographics affected the way the respondents answered the questions. A leadership model complete with recommendations was proposed with the intention of increasing leadership effectiveness in order to positively impact and foster product quality commitment among employees.

KEYWORDS

Full Range Leadership Theory, transformational, transactional, laissez-faire, exchange, affiliation, identification commitment, quality, product, defects

ACKNOWLEDGEMENTS

I would like to express my most sincere and magnanimous gratitude to the following Beings and people, without whom this research would not have been possible:

- My first gratitude goes to my Lord and Saviour Jesus Christ for making it possible in a most special way for me to do and complete this programme. I pledge allegiance to Him.
- Secondly to my departed parents. Mom and Dad, I miss you so much. I still cherish your words and wisdom. I will always love you. God bless.
- Mr Johannes Jordaan, my supervisor, for his guidance and simple approach: *'you can do it Badnock'*
- Mr Sibusiso Ndzukuma for his assistance regarding the statistical processing. Without him, I could not make sense of the correlations
- My siblings, Moses, Joyce, Esther, Alliet and Rachel for your love and consideration, and influence.
- A special word of thanks to the ArcelorMittal management for granting me permission to conduct the research and employees who completed the questionnaire.

Table of Contents

ABSTRACT	ii
ACKNOWLEDGEMENTS.....	iv
List of Tables.....	v
List of Figures.....	xv

CHAPTER ONE – CONCEPTUALISATION OF THE STUDY	1
1.1 Introduction.....	1
1.2 Background	1
1.3 Setting the study.....	3
1.4 Problem definition.....	5
1.5 Research objectives	7
1.5.1 Primary objective	7
1.5.2 Specific objectives.....	8
1.6 Scope of study.....	8
1.7 Research methodology	9
1.7.1 Empirical Research Design	9
1.7.2 Part 1: Literature and theoretical review	10
1.7.3.1 Hypothesis.....	11
1.7.4.2 Validity and Reliability	14
1.7.5 Statistical Analysis.....	15
1.7.6 Limitations of the study.....	16
1.7.7 Chapter division.....	16
1.7.8 Chapter summary.....	17

CHAPTER TWO - THEORETICAL REVIEW	18
2.0 Introduction.....	18
2.1.0 Background to leadership.....	18
2.1.1 Definition of leadership	19
2.1.2 Importance of leadership	21
2.1.3.1 Historical Perspective	24
2.1.3.2 Hersey-Blanchard Model	26
2.1.4 New Leadership Approaches	28
2.1.4.1 Transformational Approach	28
2.1.4.2 Transactional Approach	32
2.1.4.3 Transactional versus Transformational	33
2.1.4.4 Laissez- Faire leadership approach	34
2.1.4.5 Competencies of Effective Leaders	35
2.1.4.6 Conclusions.....	36
2.2 Background to product quality	39
2.2.1 Definition of quality	39
2.2.3 Importance of product quality	41
2.2.4 Product quality control.....	42
2.2.5 Product Quality Control At ArcelorMittal	43
2.2.5.1 Product Quality at Vereeniging Works.....	44
2.2.5.2 Product Quality at Cold Rolling Mills	45
2.2.6 Conclusions.....	46
2.3 EMPLOYEE COMMITMENT	48
2.3.1 Introduction.....	48

2.3.2	Definition of employee commitment	49
2.3.3	Importance of Commitment	50
2.3.4	Building Organisational Commitment	52
2.3.5	Conclusions.....	54
2.4	LEADERSHIP AND COMMITMENT TO PRODUCT QUALITY.....	55
2.4.1	Introduction.....	55
2.4.2	Leadership Style and Commitment to Organisation and Quality	55
2.4.3	Conclusions.....	61
CHAPTER THREE: RESEARCH METHODOLOGY		62
3.1	Research Problem.....	63
3.4	Research Design.....	67
3.5	Sampling Design	68
3.5.1	Response Rate.....	69
3.5.2	Demographic Information	70
3.5.2.1	Gender.....	70
3.5.2.2	Race.....	70
3.5.2.2.1	Employees.....	70
3.5.2.2.2	Managers	71
3.5.2.3	Age Groups	71
3.5.2.4	Length of employment.....	72
3.5.2.5	Job Grading for managers.....	73
3.5.2.6	Management Qualifications (level of education).....	74
3.5.2.7	Summary of demographics.....	74
3.6	Measurement Instruments.....	74

3.6.1	Multi-factor Leadership Questionnaire.....	76
3.6.2	Reliability and Validity of the Mult-factor Leadership Questionnaire.....	77
3.7	Employee Commitment to Product Quality and Organisation.....	78
3.7.1	Reliability and Validity	79
3.8	Data Collection Procedure.....	79
3.9	Ethical Considerations.....	80
3.10	Data Analysis	81
3.11	Chapter summary	83
CHAPTER FOUR – ANALYSIS OF RESULTS		84
4.1	Introduction.....	84
4.3	Descriptive statistics for Leadership Style	84
4.3.1	Leadership Style.....	84
4.3.2	Factor Analysis for Leadership style.....	89
4.3.3	Statistical Analysis of the Leadership variables.....	90
4.3.3.1	Transformational Leadership Style	90
4.3.3.2	Transactional Leadership Style	94
4.3.3.2.1	Contingent Reward.....	94
4.3.3.2.2	Management by Exception (Active).....	95
4.3.3.2.3	Management by Exception (Passive)	96
4.3.3.4	Laissez-faire Leadership Style	97
4.3.3.4	Summary of Leadership Styles.....	97
4.4	Descriptive statistics for employees	99
4.4.1	Employee Quality and Organisational Commitment	99
4.4.2	Factor Analysis for Employee Commitment.....	101

4.4.3	Statistical Analysis of the commitment variables	104
4.4.3.1	Product Quality Commitment.....	104
4.4.3.2	Organisational Commitment.....	105
4.4.3.2.1	Identification Commitment.....	105
4.4.3.2.2	Affiliation Commitment	106
4.4.3.2.3	Exchange Commitment	107
4.4.3.3	Summary of Employee Organisational Commitment.....	108
4.5	Derived Demographic Relationships	108
4.5.1	Race of the Leadership Style raters	109
4.5.2	Age of the leadership style raters	110
4.5.3	Level of education of the raters	111
4.5.4	Level of Employment of the raters.....	112
4.5.5	Employee Commitment Demographics	113
4.5.5.1	Gender	113
4.5.5.2	Race of employees for CRM	114
4.5.5.3	Employees' Age	116
4.5.5.4	Educational Level of the employees.....	117
4.5.5.5	Experience Level.....	119
4.5.5.6	Hierarchy Level	120
4.5.6	Summary of Derived Relationships	122
4.6	Hypothesis Testing.....	123
4.6.1	Hypothesis testing at CRM.....	123
4.6.2	Hypothesis testing at VRN.....	125
4.7	Discussion of findings.....	126

4.8	Identified Relationships from the Study	130
CHAPTER FIVE – CONCLUSIONS AND RECOMMENDATIONS		133
5.1	Introduction.....	133
5.2	Findings from the literature study	133
5.3	Findings from the empirical study	135
5.4	Recommendations to the organisation	140
5.5	Proposed Leadership Mode	144
5.6	Limitations of the study.....	147
5.7	Future Research prospects	147
5.8	Chapter summary	148
6.0	BIBLIOGRAPHY.....	149

LIST OF TABLES

Table	Description	Page
Table 1.	A Review of Leadership Theories	25
Table 2.	Leadership behaviour	27
Table 3.	Four stages of situational leadership.....	28
Table 4.	Constructs of transformational leadership	30
Table 5.	Subscale of transactional leadership.....	33
Table 6.	Comparison of transactional and transformational leadership	34
Table 7.	Competencies of effective leaders.....	36
Table 8.	Dimensions of quality products	40
Table 9.	Population ‘A’ and sample.....	68
Table 10.	Population and sample	69
Table 11.	Survey Response rates	69
Table 12.	Gender statistics	70
Table 13.	Distribution of age groups	72
Table 14:	Data collection approaches	80
Table 15a.	Summary of the nine leadership constructs on a 5 point scale	87
Table 16.	Extra three constructs results from the MLQ	88
Table 17.	Calculated Cronbach alphas, KMO and Eigenvalues	89
Table 18.	Idealised influence (attributes)	91
Table 19.	Idealised Influence (behaviour)	92
Table 20.	Inspirational Motivation.....	92
Table 21.	Intellectual Stimulation.....	93
Table 22.	Individualised Consideration.....	94
Table 23.	Contingent reward	94

Table 24. Management by Exception (active)	95
Table 25. Management by exception (passive)	96
Table 26. Laissez-faire	97
Table 27. Final summary of scores for managers	98
Table 28. Summary of styles	99
Table 29. Scores of the theoretical factors on a 7 point scale	100
Table 30. CFA results on the standard section	102
Table 31. Pattern matrix loading for employees	103
Table 32. Product quality commitment	104
Table 33. Identification constructs of commitment	106
Table 34. Affiliation commitment	106
Table 35. Exchange commitment	107
Table 36. Summary scores for employee constructs	108
Table 37. T-test and ANOVA for race for managers	109
Table 38. T-tests and ANOVA for age	110
Table 39. T-test and ANOVA results for level of education	111
Table 40. T-test and ANOVA for level of employment	113
Table 41. T-Test results on gender	114
Table 42. CRM p-values and t-tests on race	1145
Table 43. VRN p-values and t-tests on race	1145
Table 44. T-tests and ANOVA for age for CRM employees	116
Table 45. T-test and ANOVA for VRN employees	117
Table 46. CRM t-tests and ANOVA for educational qualifications	118
Table 47. VRN t-test and ANOVA for educational qualifications	118
Table 48. CRM t-test and ANOVA for experience level	119

Table 49. VRN t-test and ANOVA results for experience.....	11920
Table 50. CRM t-test and ANOVA for hierarchy	11921
Table 51. VRN t-test and ANOVA for hierarchy for experience.....	11922
Table 52. Correlations for CRM variables.....	11923
Table 53. Pearson correlations for VRN.....	11925
Table 54. Leadership Style summary	11927
Table 55. Employee commitment summary	11928
Table 56. Summary of styles.....	135

LIST OF FIGURES

Figure Description	Page
Figure 1. Empirical research cycle	10
Figure 2. Formulation of hypothesis (H1, H2 and H3).....	12
Figure 3. Situational grid table	27
Figure 4. The Full Range Leadership Theory.....	29
Figure 5. Senior organisation structure for ArcelorMittal	43
Figure 13. CRM and VRN service years for managers.....	72
Figure 14.VRN and CRM service years for employees	73
Figure 15. Job gradings for managers.....	73
Figure 16. Qualifications of management	74
Figure 17. Statistical data analysis methods	81
Figure 18. Leadership styles scores	87
Figure 19. Leadership style summary scores.....	129
Figure 20. Mean scores of the employee factors.....	101
Figure 21. New mean scores after factor analysis.....	103
Figure 22. Summary of correlations.....	129
Figure 23. Hypothesis summary	138
Figure <u>24</u> . Proposed leadership model.....	143

LIST OF ABBREVIATIONS

AMSA	ArcelorMittal
ANOVA	Analysis of Variance
MLQ	Multifactor Leadership Questionnaire
FRLT	Full Range Leadership Theory
VRN	Vereeniging
VDP	VanderbijlPark
NWU	North West University

CHAPTER ONE – CONCEPTUALISATION OF THE STUDY

1.1 Introduction

This study focuses on the applied leadership style on employee-product quality commitment and organisational commitment in a manufacturing industry. It is a comparative study of two business units belonging to one company.

This chapter provides the background and problem statement. The primary and secondary objectives of the study are presented together with the methodology used in order to achieve these objectives. Limitations of the study are also highlighted. The chapter concludes with an overview of the structure of the study by briefly describing the contents of the chapters to follow.

1.2 Background

Many factors play an essential role in the sustainable growth of an organisation. Leadership is one of them. Leadership formulates a strategic vision and directs employees towards attaining the vision whilst employees are expected to follow and transform the vision into a practical reality (WiseGeek, 2013).

In order to achieve this strategic vision by steering the energy of the company's resources in that particular direction, effective leadership is required (Thompson, Peteraf, Gamble & Strickland 2012:72). Needless to say, the importance of effective leadership in an organisation has increased in today's increasingly complex internal and external environments. To establish a dedicated and well-motivated workforce in these trying economic times, an organisation needs leadership that can effectively deal with these dynamic situations in order to achieve its vision (Khan & Malik, 2010:2). In addition, effective leadership is fundamental if organisations are to remain vital units of productivity, effectiveness and in service.

Underlying the strategic vision is the concept of product or service quality. In fact, product quality has become the buzzword in every occupation (New Age Publishers, 2007:1). Product quality is the characteristics, properties, and attributes that influence the customer's perception of the grade of excellence according to Stromgren (2007:15). Paterson (2009:2) has identified product quality as a key

strategic ingredient for an organisation. In addition, Brun (2011:9) revealed that slackness in maintaining product quality inadvertently creates problems for companies. Furthermore, Reid and Sanders (2010:137) ascertained that commercial success comes not simply from low cost competitiveness, but also from highly reliable product quality. Successful companies understand the powerful impact customer-defined quality can have on business. For this reason, many competitive firms continually increase their quality standards (Chase & Jacobs, 2011:156).

According to Jaroslav (2013:42), profit and company growth are stimulated by customer loyalty, which is immediately formed by their satisfaction. Reciprocally, customer satisfaction is determined by product quality which is generated by satisfied, committed and productive employees. Furthermore, Caliskan (2010:3) remarked that the financial achievements of a company depend on the operating performance which, represents a function of personnel, process and technology.

Specifically, one of the key company activities and purpose is for leadership to guide employees to high productivity and product quality (Caliskan, 2010:4). As articulated by Pirraglia (2010:5), different applied leadership styles have different effects on business, people, and ultimately quality performance. Through academic research, different types of leadership styles have emerged. These include participative, authoritative, coaching, neutral, transformational, and transactional variants (Jaroslav, 2013:40; McShane & Von Glinow, 2011:371; Bolden, Gosling, Marturano & Dennison, 2003:5; Gebhardt, Heinrinci & Pavan, 2003:3; Antonakis, Cianciolo & Sternberg 2008:5; Hilaire, 2008:3; Deepa, 2013).

Research to correlate applied leadership styles with organisational performance, organisational commitment and service quality has been carried out in the garment manufacturing industry, banking sector, hospitals and educational industry (Alharbi & Yusoff, 2012:59; Batool, 2013:43; Bushra, Usman & Naveed, 2011:266; Shams, Rehman, Shareef & Ishaque, 2012:627). Alharbi and Yusoff (2012:60) indicated that the quality and performance of managers are the key criteria in deciding organisational success. An enterprise without effective leadership is not able to

transmute input resources into competitive advantage. Furthermore, Bass (1990:3) showed that 45% to 65% of the total factors causing success or failure of an organisation are associated with decisions made by leadership. The author concluded that the leadership style of a manager has a close relation to the quality development of the organisation its employees.

Therefore, the manufacturing of good quality products is not only dependent on the technology and operating equipment used. It is also dependent on the employees' commitment and the leadership style applied (Jaroslav, 2013:39). The degree to which these employees are committed is therefore critically important for the success of the business (SuccessFactors, 2013:1)

However, research on the association between leadership style and product quality commitment in a steelmaking and processing industry is limited. Studies by Collinson, Edwards and Innes (2009:37) on British Steel and Seshadri and Tripathy (2007:131) on TATA Steel targeted quality perceptions and turnaround strategies only. Therefore, the purpose of this study is to highlight the relationship between applied leadership styles towards product quality commitment among employees. Consequently, the objective of this study is to provide empirical evidence of the leadership style fostering product quality commitment among personnel in a steelmaking industry.

1.3 Setting the study

We live in an era of profound transformation, where the world is more turbulent and chaotic than ever before (IMD, 2013:9; Khan & Malik, 2010:1). The liberation of markets, driven by the power of corporations, has created more complex and interconnected economic systems which, inevitably cannot be easily controlled or predicted (Pretorius, 2013:89; New Age Publishers, 2007:14). In addition, Alarifi and Althonayan (2013:116) argued that amidst the economic globalisation and deregulation, companies are seeking competitive advantage by developing and applying superior understanding of the market place as well as growth strategies.

According to Spirig (2011:15), for companies to navigate this economic globalisation, deregulation hurdle and stay competitive, they need strong leadership as one of their growth strategies. Leadership, as stated by Stone and Patterson (2005:1), has roots in the beginning of civilisation. These two authors categorically specified that the ancient Egyptian Pharaohs, Biblical Patriarchs and Chinese Dynasties all exhibited a common thing – strong political and economic leadership.

On one hand, Akkaya (2007:4) identified product quality as the most important growth strategy apart from marketing and leadership. Furthermore, Akkaya (2007:5) alluded that all businesses express their belief in and pursuance of quality and that the business leadership is tailored towards that expression. However, Brooks (2008:4) emphatically asserted that most companies have well laid down quality procedures and standards, they unfortunately, do not strive to exceed them. In furthering the argument, the author opined that quite often, most companies occasionally and intentionally compromise on quality in order to hit the bottom line target. Moreover, businesses are often characterised by shoestring budgets, drive to meet production targets and the rush to meet end of month shipment quotas and these are achieved at the expense of product quality (Sherman, 2005:88).

The CIPD (2010:5) advanced the argument that all truly built to last companies need to have at their heart, a fundamental, unquestioning and authentic leadership resolve to product quality, because today's customers are continuously shaping organisations. In support of this, Rathod (2013:2) as well as Pretorius (2013:96) argued that customers are demanding what they want, when they want it, how they want it, and how much they will pay for it in today's business world.

The National Economic Council (2009:12) mentioned that no organisation in today's competitive world could perform at peak levels without commitment to quality at all levels. Quality commitment is a source of competitive advantage and leadership should drive this (Reid & Sanders, 2010:138).

Having presented the importance of applied leadership and product quality to businesses, it is therefore of paramount importance for leadership to be able to create a committed workforce. Therefore, there is the need for leaders to understand

the concept of innovation and fostering product quality commitment (National Economic Council, 2009:12). Chase and Jacobs (2011:323) stated that it is imperative to have quality leadership entrenched in top management in order to achieve outstanding quality standards. Furthermore, this should be accompanied by a customer focus, total involvement of the workforce and continuous improvement based upon rigorous analysis of processes.

Brooks (2008:3) further articulated that the best companies commit a significant portion of their profits to continual improvement in quality and never compromise quality for profit. In addition, celebrated leaders, like Richard Branson instil in their organisations, an unwavering commitment to quality and to its continual improvement (McShane & Von Glinow, 2011:371; BIS, 2012:3).

The steel industry is no exception to the above-mentioned environments. According to the World Steel Association (2012:15), world finished steel products' consumption stood at 1,371 million tonnes in 2011. The World Steel Association further stated that steel use transcends every aspect of human life from simple cutlery to intricate and safety conscious engineering masterpieces like the space shuttle all created from steel.

The demands for quality and safe steel are also growing under such enormous consumption statistics (Siemens, 2010:1). Rosenberg (n.d:4) attributed the historical sinking of the 'unsinkable' Titanic in 1912 to the poor quality steel used for ship's hull and rivets. He mentioned that the ship could have survived the ordeal if the steel had been made to today's quality standards. In addition, the automotive industry, for example Toyota, has been plagued with millions of dollars in vehicle recalls because of safety related quality issues and consequently, leaders have been relieved of their duties because of such incidences (Muller, 2012:2).

1.4 Problem definition

ArcelorMittal South Africa (AMSA) has long recognised quality commitment as a competitive advantage (ArcelorMittal, 2013). Thus, for the organisation's vision (to be the preferred supplier of steel solutions for the development of sub-Saharan Africa and be among the lowest cost producers of steel globally) to become a reality, its

leadership relies on an unrelenting quality commitment of employees across the company. The role of employees, as a result, is central to this endeavour, for the aim is to have among the employees a culture of quality commitment to both internal and external customers (Chase & Jacobs, 2011:324). Furthermore, organisations can easily cede competitive advantage to competitors if their employees are not committed (Waggoner, 2011)

ArcelorMittal South Africa supplies safety critical components for engineering applications and solutions. Up to 60% of the chassis components of Toyota vehicles, Ford bakkies (Ranger and American F series), BMW, VW and Mercedes Benz vehicles are made from AMSA steel. Components such as torsion and stabiliser bars, coil and leaf springs, wheel hubs, stirring knuckles, shock absorbers, transmission gears etc. are manufactured. Additionally, components for the armaments industry, train tyres, and train transmission shafts for Transnet are also made from this steel.

Thus, product quality is a non-negotiable priority. The organisation's intolerance to sub-standard practices, procedures, behaviours and promotion of custodianship for quality products at all stages of the supply chain, is pivotal to its survival. For example, a lawsuit from a derailed train or a component recall from the automotive industry can have catastrophic reputational consequences for the company. In total terms, one a defect in a product is considered too many in today's business world.

Consequently, lack of product quality commitment is a cause of concern for ArcelorMittal. The costs of poor quality are the costs that result from products that do not meet customer specifications, or which do not meet the designer's design intent. These costs are categorised into internal failure costs, including scrap and rework. It also includes appraisal costs (inspection) and prevention costs (systems and procedures). External costs include the cost of rework, inspection, and warranty investigations, which result after the product has left the manufacturing facility (Reid & Sanders, 2010:141) According to Brun (2011:10) the cost of producing faulty products in the United Kingdom was estimated at 10% of the Gross National Product (GNP): which amounted to several thousand million pounds in 2009.

Furthermore, Collinson, *et al.*, (2009:37) conducted a study to measure product quality perceptions in a steel producing company (British Steel). The study indicated that 26% of the population sampled thought that the concept of quality was crucial and singularly important to the organisation, 58% said it was important while 16% said it was not. In addition, the study revealed that 35% of the respondents cited customer demands for quality as the main driver for quality commitment within British Steel and only 17% mentioned internal leadership drive. The research concluded that external forces were more active than internal leadership in driving product quality awareness among employees.

Unescapably, the ability of ArcelorMittal leadership to foster a quality commitment culture is vital. Having said this, the extent and influence of leadership style in fostering commitment to product quality has not been adequately addressed at ArcelorMittal. Therefore, there is a need to seek greater understanding of this relationship.

The results of this study will help the leadership at ArcelorMittal to practice leadership behaviours that will foster product quality commitment amongst employees. In addition, the study will also contribute to the body of knowledge by providing information on the relationship between leadership style and effective product quality commitment in the steel processing industry.

The research objectives of the study are outlined below.

1.5 Research objectives

The research objectives were divided into primary and specific objectives.

1.5.1 Primary objective

The primary objective of this research is to investigate the effect of applied leadership style on employee-commitment to product quality on two business units of ArcelorMittal. It is a comparative study. The approach is to find out whether

leadership style is a significant factor in fostering product quality commitment at ArcelorMittal.

1.5.2 Specific objectives

To achieve the primary objective, the following specific/secondary objectives were

1. To conduct a literature survey on applied leadership styles and employee organisational commitment as well as product quality. Show the link between leadership style and organisational commitment
2. Empirically assess the dominant leadership styles within the two selected business units by using the statistical means from the Multifactor Leadership Questionnaire.
3. Empirically assess employee organisational commitment within the two business units by using the statistical means.
4. Empirically assess employee product quality commitment within the two business units by using statistical means
5. To determine any relationships between leadership style and organisational commitment by using means and literature
6. To determine any links between employee organisational commitment and employee product quality commitment by correlations. Is there any relationship between organisational commitment and product quality commitment?

1.6 Scope of study

This study involved principles of both Organisational Behaviour and Operations Management. The Organisational Behaviour focused on leadership as an independent variable and employee commitment as the dependent variable. The study is set in a Steelmaking Operations Management environment where the focus is on quality of steel products.

Two stand-alone business units of ArcelorMittal were used. These units are of equal sizes in terms of number of employees and situated 42 kilometres apart. The research method used is discussed below.

1.7 Research methodology

This section summarised the methodology used to conduct this research. Subsection 1.7.1 presented the research design, which consists of two parts; namely a literature review and an empirical study. The empirical study defined the research question, formulation of hypothesis, sample and sampling techniques as well as measuring instruments. Data collection issues and statistical analysis in relation to this study are provided in this section.

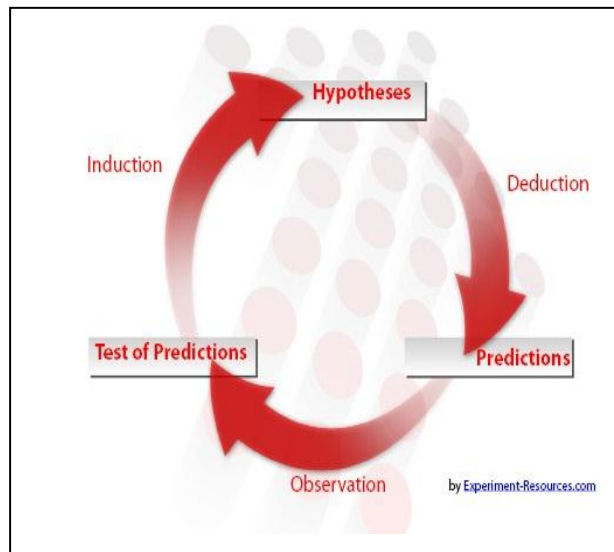
1.7.1 Empirical Research Design

An empirical research is based on observed and measured phenomena and derives knowledge from actual experience rather than from theory or belief. Data collected in this way is referred to as empirical evidence, which is subjected to quantitative analysis and then used to answer empirical questions (Hani, 2009:2).

According to Moody (2002:1), research usually starts with some theory, which the researcher develops to try to explain and/or predict what happens in the real world. The purpose of the research is to test the theory and possibly refine it. The empirical cycle includes observation (collecting data and organising facts to form hypothesis), induction (process of forming hypothesis), deduction (coming up with consequences with newly gained empirical data), testing (test the hypothesis with new empirical data) and evaluation (perform evaluation of outcome of testing) as articulated by Hani (2009:3)

The research design used consisted of a literature survey (theoretical model), research question, formulation of hypothesis and predictions, observations (data collection), data analysis and test of predictions. The research design is summarised in figure 1.

Figure 1. Empirical research cycle



Source: Experiment-Resources.com (2011)

1.7.2 Part 1: Literature and theoretical review

According to Welman, *et al.*, (2011:13), for the research question to be empirically tested, the research question will need to be transformed into a theoretical model, consisting of theoretical constructs (latent variables), causal relationships and measures (observed variables). Furthermore, the theoretical model is generally developed based on analysis of the literature and forms the basis both for collecting and analysing data.

The literature survey was presented in chapter 2. Leadership style was defined as the independent variable while commitment to quality and organisational commitment were defined as the dependent variable. The literature review section was divided into two main parts, a review on the literature on leadership styles and its antecedents, product quality, employee commitment and eventually employee commitment to product quality.

The chapter on leadership had the following subheadings: 'definition of leadership', 'importance of leadership', 'review of leadership theories' and 'competencies of leaders'. The section on product quality consisted of the following headings: 'definition of product quality', 'importance of product quality', 'product quality control

at the business units'. The last section included a trade-off between employee quality commitment and leadership styles fostering commitment to quality.

The literature review of this study was conducted by means of a study of relevant scientific journals, articles, books and research documents. The following databases were considered:

- Internet: Google Scholar and internet articles
- Emerald: International Quality journals
- EbscoHost: International journals on Academic Search Premier, Business Source
- SACat: National catalogue of books and journals in South Africa
- SAePublications: South African journals
- Premier, Communication and Mass Media Complete and EconLit
- ProQuest: International dissertations in full text

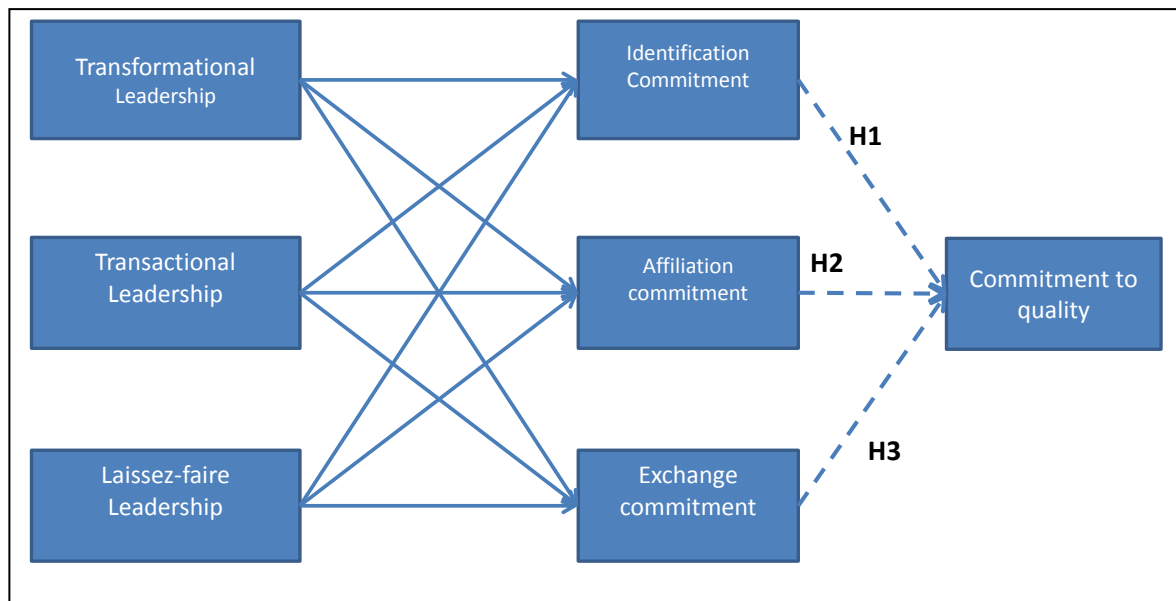
1.7.3 Research Question

The research question was formulated as 'is applied leadership style a significant factor in fostering product quality commitment at ArcelorMittal? This was explained in section 1.5.1.

1.7.3.1 Hypothesis

According to Moody (2002:3), a hypothesis defines an expected relationship between variables which can be empirically tested. In this case, a much better quality of products in companies with high leadership competencies and high organisational commitment would be expected as compared to the companies with low leadership competencies and organisational commitment (Das, Kumar & Kumar, 2011:23). Organisational commitment was used as a mediating variable between leadership style and product quality commitment as shown in figure 2. According to Wu and Zumbo (2007:369), an independent variable affects the mediating variable which in turn the intended dependent variable.

Figure 2. Formulation of hypothesis (H1, H2 and H3)



Source: Developed by researcher

As a result, this review suggested the following hypothesis - the higher the level of leadership competencies of top management, the better the organisational commitment and the better the quality of the product in a company.

Therefore, the research wished to prove the link between leadership style and organisational commitment. Furthermore, it aimed to test the hypotheses between organisational commitment and product quality commitment.

The following was then formulated:

H₀₁: There is no statistical significant relationship between leadership style, employee organisational commitment levels and product quality, among employees.

H_{a1}: There is statistical significant relationship between leadership style, employee organisational commitment levels and product quality, among employees.

1.7.4 Population, Sampling and Participants

Two populations were targeted for observation by the researcher and a cluster sample drawn from these population. Firstly, population 'A' was the Vereeniging Business Unit. The entire population 'A' consisted of 854 employees. A sample of 226 was chosen from this. This selected sample comprised of 48 managerial and supervisory staff as well as 178 employees. These managerial staff and employees are directly involved in production in this business unit.

Secondly, population 'B' was the Cold Rolling Mills Business Unit. The entire population 'B' consisted of 895 employees. A sample of 190 was chosen from this. This selected sample comprised of 35 managerial and supervisory staff as well as 155 employees. These managerial staff and employees are directly involved in production in this business unit.

All the participants were briefed of the purpose of the study and why they were requested to participate. Furthermore, they were assured of the anonymity of their identities and that participation was voluntary. Participants included all races, gender and age groups.

1.7.4.1 Measuring Instruments

Two questionnaires (one standardised and one adapted) were used to measure the variables. A biographical questionnaire regarding participants' age, gender, race, education and years employed was included as well.

The first questionnaire was the Multifactor Leadership Questionnaire (MLQ). This was used to assess the leadership style constructs. Bass and Avolio (1992) developed this to determine the degree to which leaders exhibited transformational and transactional leadership and the degree to which their followers were satisfied with their leader's effectiveness.

The MLQ measures a broad range of leadership types from passive leaders, to leaders who give contingent rewards to followers and to leaders who transform their followers into becoming leaders themselves. It had a five point Likert scale.

0 Not at all	1 Once in a while	2 Sometimes	3 Fairly Often	4 Frequently if not always
-----------------	----------------------	----------------	-------------------	-------------------------------

The second questionnaire to measure employee commitment and employee commitment to product quality was adapted from the work of Balfour and Wechsler (1996), Caryl, Martz and Agnew (1998) and the author's own development. This questionnaire consisted of 18 questions and has a seven point Likert scale with the following scores:

1 Strongly disagree	2 Disagree	3 Somewhat Disagree	4 Neutral	5 Somewhat agree	6 Agree	7 Strongly Agree
---------------------------	---------------	---------------------------	--------------	------------------------	------------	------------------------

1.7.4.2 Validity and Reliability

The two most important and fundamental characteristics of any measurement procedure are reliability and validity. According to Kimberlin and Winterstein (2008:1), the process of developing and validating an instrument focuses on reducing error in the measurement process.

Reliability is defined as the extent to which a questionnaire, test, observation or any measurement procedure produces the same results on repeated trials. In short, it is the stability or consistency of scores over time or across raters (Miller, 2005:1). On one hand, validity is the extent to which the interpretations of the results of a test are reasonable, which depends on the particular use the test is intended to serve (Kimberlin & Winterstein, 2008:1).

An instrument must be reliable before it can be valid, implying that the instrument must be consistently reproducible. According to Tavakol and Dennick (2011:54) it is mandatory that assessors and researchers should estimate this quantity to add validity and accuracy to the interpretation of their data

The reliability of the instruments is measured by the Cronbach alpha co-efficient which is based on the average correlation of variables within a test (Welman, *et al.*, 2011:148). If a construct yields a large alpha co-efficient, then it can be concluded

that a large portion of the variance in the test results for the construct is attributable to general and group factors (Cortina, 1993:103)

Tavakol and Dennick (2011:54) suggested that the Cronbach alpha co-efficient should be greater than 0.70, for the data to be regarded as reliable and internally consistent.

1.7.5 Statistical Analysis

In this study the data was captured and analyzed using the SPSS statistical programs (SPSS Inc, 2007), with the assistance of the Statistical Consulting Services of the North-West University.

Confirmatory factor analysis (CFA) was used on the MLQ. This is a statistical technique used to verify the factor structure of a set of observed variables. CFA allows the researcher to test the hypothesis that a relationship between observed variables and their underlying latent constructs exists. The researcher uses knowledge of the theory, empirical research, or both, postulates the relationship pattern a priori and then tests the hypothesis statistically (Suhr, 2006:1).

Exploratory factor analysis was used to examine constructed equivalence and to enhance the reliability results of the Employee Questionnaire. Exploratory factor analysis (EFA) could be described as orderly simplification of interrelated measures. EFA, traditionally, has been used to explore the possible underlying factor structure of a set of observed variables without imposing a preconceived structure on the outcome. By performing EFA, the underlying factor structure is identified.

The number of factors in the total sample of the Employee Questionnaire were determined by the principal component analysis. Subsequently components extraction was used to estimate the number of factors followed by principal axis factoring extraction using a rotation method of direct Oblimin with Kaiser normalisation and/or Varimax on the MLQ and Employee Questionnaire. Descriptive statistics (e.g. means and standard deviations) were used to analyse data.

Pearson product-moment correlation co-efficients were used to specify the relationship between the variables. In terms of statistical significance, the correlation

is practically significant at ($p \leq 0.05$). Effect sizes (Cohen, 1988:15) were used to decide on the practical significance of the findings. A cut-off point of 0.30 (medium effect) and 0.50 for (large effect) are set for practical significance of correlation coefficients.

T-tests and ANOVA were employed to determine differences between the groups in the sample. Effect size (Cohen, 1988:15; Steyn, 1999:12) was used in addition to statistical significance to determine the importance of relationships. Effect sizes served to indicate whether the results obtained were practically significant.

1.7.6 Limitations of the study

The main limitation was that the study was carried out using a sample of employees working for one Steelmaking Company. This might not represent the industry as a whole. In addition, there is no way of capturing the feelings of the respondents, how truthful they were is, how much thought was put in and whether they were thinking within the full context of the situation (University of Surrey, 2010:29).

1.7.7 Chapter division

The chapters in the mini-dissertation were presented as follows

Chapter 1: introduced the content of the research and gave the background as well as the problem statement, defined the research sample, research design and the empirical study.

Chapter 2: provided the literature review on applied leadership style, product quality and employee commitment to quality.

Chapter 3: this section reported the research method that was used to attain the goals of the research.

Chapter 4: provided the analysis of the results

Chapter 5: Discussions, conclusions and recommendations

1.7.8 Chapter summary

This chapter provided the background and set the study in motion. It also defined the problem statement together with the primary objectives and specific objectives. It dwelt on the research methodology as well as the limitations of the study.

Upon this basis, the next chapter will then dwell on the theoretical part of the research.

CHAPTER TWO - THEORETICAL REVIEW

2.0 Introduction

The purpose of the literature review was to examine key concepts and related research relevant to leadership styles and its effect on the employee commitment to product quality as well as organisational commitment. The chapter was split into four parts namely:

- **Section 2.1.1** reviewed leadership by giving a background, definition of leadership, outlined the importance of leadership, discussed the different leadership theories as well as the competencies of leaders.
- **Section 2.1.2** discussed product quality in terms the definition of quality, the importance of quality, quality control and introduced the two business units of ArcelorMittal.
- **Section 2.1.3** deliberated on employee commitment to the organisation and to product quality
- **Section 2.1.4** was the last part that sought to correct leadership fostering commitment to product quality.

Each of these topics were reviewed and critiqued relevant to the study.

2.1.0 Background to leadership

Leadership is a highly researched topic and a concept much talked about (Lyne De Ver, 2009:3; Khan & Malik, 2010:1). It has been identified as an important subject and one with the most dynamic effects during individual and organisational interactions (Obiwuru, Okwu, Akpa and Nwankwere, 2011:101). According to these authors, the word 'leadership' has been used in various aspects of human endeavour such as politics, business and in academia. The importance of leadership has attracted huge research as a result.

Over 14 million books and articles have been written on leadership and management (Pretorius, 2013). Hilaire (2008:5) stated that insightful literature is available on the constitution of good leadership and the leader's influence on subordinates.

Therefore, there is a wide consensus and recognition that leadership matters for growth and development.

In support of this view, the ArcelorMittal University asserted that leadership effectiveness is one of the strongest drivers of business performance (ArcelorMittal University, 2012:4). Furthermore, Pugas (2002:1) sighted the demise of Enron to the moral and ethical collapse of corporate leadership. The author referred to Enron's then CEO (Jeff Skilling) who was quoted, at a strategy conference to say

“You must cut costs ruthlessly by 50 to 60%. Depopulate. Get rid of people. They gum up the works”.

On the political front, Jorgensen (2008:168) concluded that Napoleon was defeated at the battle of Waterloo because of his unfortunate leadership decision to postpone assault for four hours because of a downpour. Regarding leadership, progressive and well-known companies like General Electric spend US\$1billion on leadership training and education per year (Thompson, *et al.*, 2012:383). In addition, the ArcelorMittal University (2012:13) calculated the cost of leadership performance difference between an average and top performing leader to be US\$2.6million as an opportunity cost per year.

In light of this huge focus on leadership, this section aims to define the concept of leadership before dwelling on why we need leadership. It is certainly not the intention of the author to present a complete review of every trend and every theory of leadership. Rather, the goal of the chapter is to give an overview and subsequently dwell on some theories in depth. Leadership will be discussed by focusing on the situational, transformational, transactional and the laissez-faire styles in detail.

2.1.1 Definition of leadership

According to Hilaire (2008:5), the very notion of leadership is proving difficult to define despite the copious and significant literature contributions. Researchers are finding it difficult to arrive at a clear consensus. Vroom and Jago (2007:17) noted that there are at almost as many definitions of leadership as there are persons who

have attempted to define leadership. Antonakis, Cianciolo and Sternberg (2011:4) stated that the leadership process is complex in nature and therefore a specific and widely accepted definition of leadership does not exist and might never be found. However, even in the absence of universal agreement, a broad definition of leadership is necessary before introducing leadership as the domain of this chapter.

Attempts to define leadership date back as early as the 1900s (Bolden, *et al.*, 2003:5). Some authors defined leadership as a position, some as a person, some as a style, a relationship or a process (Nyengane, 2007:9). Nonetheless, the great majority of researchers concur that leadership is a social influenced process (McShane & Von Glinow, 2011:375). All definitions tend to include one or more of the following three elements, namely

- A combination of specific personality traits and modes of behaviour which distinguish leaders from non leaders
- An influencing process and related perceptions of followers
- A specific content which allows for leadership (Hochschild, 2010:14).

In the 1950s, Stogdill defined leadership as the individual behaviour to guide a group to achieve the common target (Obiwuru, *et al.*, 2011:101). Yukl explained leadership as

“an influence process affecting the interpretation of events for follower, the choice of objectives for the group or organisation of work activities to accomplish the objectives, the motivation of followers to achieve the objectives” (Yukl, 1999).

Meanwhile, Bass (1990) evaluated leadership as an universal phenomena. He defined it as an interaction of two or more members of a group that often involves a structuring of the situation and the perception and expectations of people (Lyne De Ver 2009:4). McShane and Von Glinow (2011:360) viewed leadership as influencing, motivating and enabling others to contribute toward the effectiveness and success of the organisation. Another definition depicted leadership as use of leading strategy to offer motive and enhance the staff potential for growth style and organisational performance (Fry, 2009:694).

However, some researchers have defined it as an art based as much on judgement and intuition as on pre-defined skills (Buchanan-Smith & Kim, 2011:6). The authors argued that leadership occurs when individuals engage completely with the situation and have the ability to judge when particular skills and approaches are relevant and desirable in a given context. This approach was supported by O'Regan and Ghobadian (2004:3), who characterised leadership as an art of influencing people so that they strive willingly towards achievement of group's mission. Other authors, Nel, Van Dyk, Haasbroek, Schultz, Sono and Werner (Chipunza, Samuel and Mariri, 2011:8339) also defined leadership as the process whereby one individual influences others to willingly and enthusiastically direct their efforts and abilities towards attaining defined group or organisational goals. This then, the authors cautioned against reducing leadership to any single list of competencies.

Another theory suggested by Takala (2005:24), considered leadership as a process which views leaders as part of the performing community as opposed to individuals in charge of followers. Supporting this view, Gallup Business Journal (2004:1), articulated leadership as a process which does not assume the sole characteristics of a leader but as process of coordinating efforts and moving together as a group.

Consequently, finding one specific definition of leadership is a very complex task as studies on this topic are varied. (Bass & Avolio, 1997:12). Therefore, the definition by Winston and Patterson (2006:4) was used in this study. These authors defined leadership as the process of selecting, equipping, training and influencing followers who have diverse gifts, abilities, and skills and focuses the followers to the organisation's mission and objectives. The process causes the followers to willingly and enthusiastically expend spiritual, emotional and physical energy in a concerted, coordinated effort to achieve the organisational goals.

2.1.2 Importance of leadership

The Department of Business Innovation and Skills (BIS)(2012:6) argued that the job of leading is getting harder. The challenges of 21st century leadership include working in an environment of constant change and the increasing complexity of

organisational structures (Yang, 2008:258). In addition, leaders must also deal with a tough economic climate and growing international competition (Riaz & Haider, 2010:29).

The ways in which an organisation meets these challenges can mean the difference between business success and failure. Successive studies have shown that getting the right mix of inspirational leadership and effective leadership practices can have a significant impact on organisational performance in terms of profit, sales, growth and survival (Khan & Malik, 2010:2). Is this the reason these days, we very often hear sentiments of how important good leadership is in running a country or a business entity. However, why? Why is good leadership essential for running a business (Gebhardt, *et al.*, 2003:3).

Leadership is all about setting direction and creating the right organisational conditions for heading in that direction (Thompson, *et al.*, 2012:70). Likewise, truly effective leaders have a clear vision of the future and the capability to communicate that vision to others so that they are inspired to share it and work collaboratively to achieve it (Riaz & Haider, 2010:29). It means ensuring that the right working conditions and physical resources are available but, more importantly, creating the culture, relationships and motivation to inspire people to make the most effective use of them. Lee and Chuang (2009:4) explained that excellent leaders inspire subordinates' potential to enhance efficiency in the process of achieving organisational goals. Furthermore, the ability for leadership to execute cooperated effort depends on leadership capability, (Shams, *et al.*, 2012:617).

Besides, leadership skills have a direct impact on effective employee commitment. This is critical because committed employees give a business its competitive edge. Furthermore, levels of employee engagement can correlate with performance and even more significantly, there is evidence that improving engagement correlates with improving performance (BIS, 2012:12).

A leader that guides and supervises production staff in an organisation has influence over productivity, morale and job satisfaction among all workers according to Sarwar and Aburgue (2013:23). In particular, the leader utilises a leadership style that is a product of his personality which should work well with the employees' skill levels and independence the author further articulated.

Organisations aim to make profit, pursue attainment of maturity and liquidity status. In pursuit of these objectives, organisations allocate scarce resources to competing ends. The extent to which members of the organisation contribute in harnessing the resources equally depends on how well the leadership plays its role (Obiwuru, *et al.*, 2011:101-102).

Mills (2005:10), posited that leaders bring change and make businesses successful. Further, the author explained that investors recognise the importance of business leadership. Investors comprehend that good leadership can turnaround a weak business plan. On the contrary, poor leadership can ruin even the best plan. Akbar (2012:156), wrote that Paul Anderson was brought in 1998, at a time when BHP Billiton was not doing well and with a range of well-thought-out strategies, brought about effective change.

Furthermore, a leader has to deal with a variety of people with different backgrounds, knowledge, qualifications, and skills. This therefore means the leader may find himself dealing with a number of situations, emergencies, events and happenings in a single day. As the followers and situations, which a leader comes across, are not the same, similarly, the leadership styles that he follows to motivate others and to get things done through them may have to change (Dogra, 2011:1).

Pirraglia (2010:2) summed it up and states that leadership has the most significant effects not only in small businesses but also in the world's largest corporations. It affects everyone from senior management to the newest employee. Leadership creates the corporate culture (how things are done here) that ultimately influences the organisation and its performance.

2.1.3 Review of Leadership Theories

Leadership theories have evolved over the years (Stone & Patterson, 2005:1; Khan & Malik, 2010:1). In this section, I first discussed how the leadership theory evolved. The description is cursory because the intention is not to dwell on historical perspectives. My intention, was therefore to discuss in detail four major theories, the situational, transactional, transformational and laissez- faize theories.

The evolution of these theories discussed below is presented in table one on page 25

2.1.3.1 Historical Perspective

According to Bolden, Gosling, Marturano and Dennison (2003:6), leadership is characterised by an evolving school of thoughts from the “Great Man’ and ‘Traits” theories to “Transformational” leadership.

Early theories tended to focus on individual characteristics and behaviours because history was being shaped by exceptional and successful individuals (Bass & Avolio, 1997:25). Thus, leadership researchers focused on identifying individual differences or traits that differentiated leaders from non-leaders (Leadership-Central, 2010:1). It was believed that through this approach, critical leadership traits could be isolated and people with such traits could be recruited into leadership, the author further argued.

However, the trait approach became irrelevant when interpretations from scholars became inconclusive as well as inconsistent. In the 1950s, the trait movement gave way to the behavioural styles and focused on the behaviours that leaders enacted and how they treated their followers (Riaz & Haider, 2010:30). It was suggested that the leader’s behaviour and not his personal traits, did more to influence followers (Hayward, 2005:19).

Table 1. A Review of Leadership Theories

Theory	Characteristics
The Great Man Theories	Based on the belief that leaders are exceptional people, born with innate qualities, destined to lead. The use of the term 'man' was intentional since until the latter part of the twentieth century leadership was thought of as a concept which is primarily male, military and Western. This led to the next school of Trait Theories
Trait Theories	The lists of traits or qualities associated with leadership exist in abundance and continue to be produced. They draw on virtually all the adjectives in the dictionary which describe some positive or virtuous human attribute, from ambition to zest for life
Behavioural Theories	These concentrate on what leaders actually do rather than on their qualities. Different patterns of behaviour are observed and categorised as 'styles of leadership'. This area has probably attracted most attention from practising managers
Situational/ Contingency Theories	This approach sees leadership as specific to the situation in which it is being exercised. For example, whilst some situations may require an autocratic style, others may need a more participative approach. It also proposes that there may be differences in required leadership styles at different levels in the same organisation
Transactional theories	This approach emphasises the importance of the relationship between leader and followers, focusing on the mutual benefits derived from a form of 'contract' through which the leader delivers such things as rewards or recognition in return for the commitment or loyalty of the followers
Transformational Theories	The central concept here is change and the role of leadership in envisioning and implementing the transformation of organisational performance

Source: Adapted from TL Publications (2007)

Leadership research was, again, in crisis because of the contradictory findings relating to this approach (Antonakis, *et al.*, 2008:7). This particular approach omitted the influence of situational factors on the performance of the leader (Nyengane, 2007:18). It suggested a one way approach to leadership to suit all situations

regardless of the prevailing environment. As a result, theorists began to focus on how a leader should operate in order to be effective.

According to Leadership-Central (2010:2), scholars agree that one cannot prescribe a single leadership style for all circumstances. As a consequence, contingency-situational theories were developed to show that leadership style was dependent on a plethora of factors such as the situation, people, the task, the organisation and other environmental variables. Thus this model states that effective leaders diagnose the situation, identify the leadership style that is most effective and then implement it. The major theories contributing to the contingency-situational theory are

- Fiedler's model
- Hersey-Blanchard model
- Tannenbaum and Schmidt's Continuum
- Adair's Action Centred Model

For the purposes of this study, only the Hersey-Blanchard model was discussed in detail.

2.1.3.2 Hersey-Blanchard Model

The leadership theory developed by Hersey and Blanchard involves four situational leadership styles: telling, selling, participating and delegating (McShane & Von Glinow, 2011:369). According to this theory, a situational leadership should be flexible and adaptable to the changing needs of the environment and situation. The theory is based on the amount of direction (task behaviour – extent to which leader directs) and relationship behaviour (extent to which he engages in two way communication) and maturity of the followers (Gebhardt, *et al.*, 2003:9).

Besides, leadership should be matched to the maturity of followers in relation to the task that leadership is trying to accomplish (Hilaire, 2008:4). Furthermore, as the maturity of followers increases, leadership should be more relationship than task oriented. Therefore, leadership behaviour can be categorised into directing or supportive behaviour.

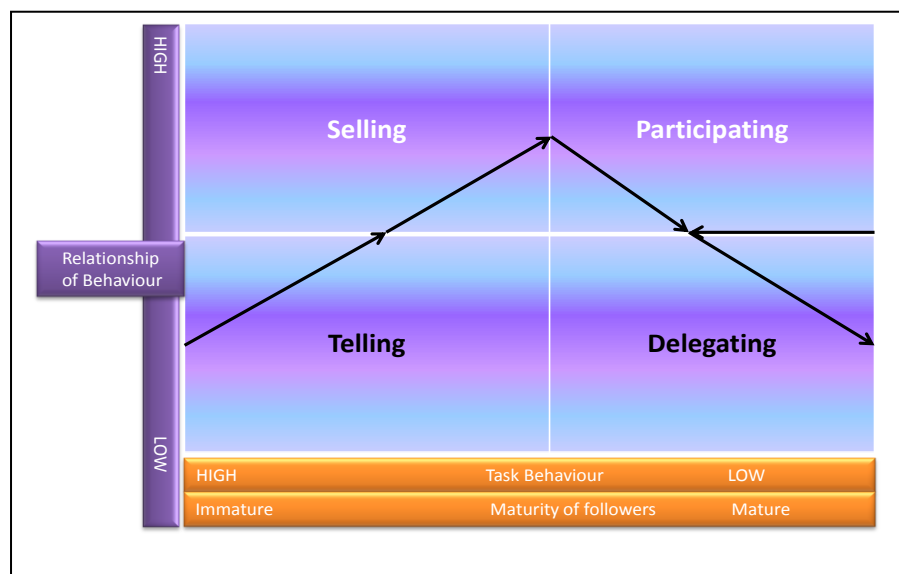
Table 2. Leadership behaviour

Directive Behaviour	Supportive Behaviour
One way communication	Two-way communication
Followers' roles spelled out	Listening, providing support and encouragement
Close supervision of performance	Facilitate interaction
	Involve follower in decision making

Source: Gebhardt, *et al.*, (2003:9)

As a result, four leadership variants arise when the theory is put onto a grid as shown in figure 3.

Figure 3. Situational grid table



Source: Gebhardt, *et al.*, 2003

These four stages are summarised below:

Table 3. Four stages of situational leadership

Style	Characteristics
Telling/Directing	▪ Appropriate when members are new or inexperienced. The leader provides clear instructions and specific directions (high task low relationship)
Selling/Coaching	▪ Most suitable with moderate follower readiness level-able to work but cannot do the task. Leader tries to build confidence and motivation. He still maintains responsibility and controls decision making
Participation /Supporting	▪ Supportive style when groups have the ability to do the job but may be unwilling to do it. Leader and followers share decision making and expects leadership not to be directive (high relationship, low task)
Delegating	▪ Appropriate when followers are competent and motivated to take full responsibility of their behaviour (low relationship and task)

Source: Bolden, *et al.*, (2003:12)

2.1.4 New Leadership Approaches

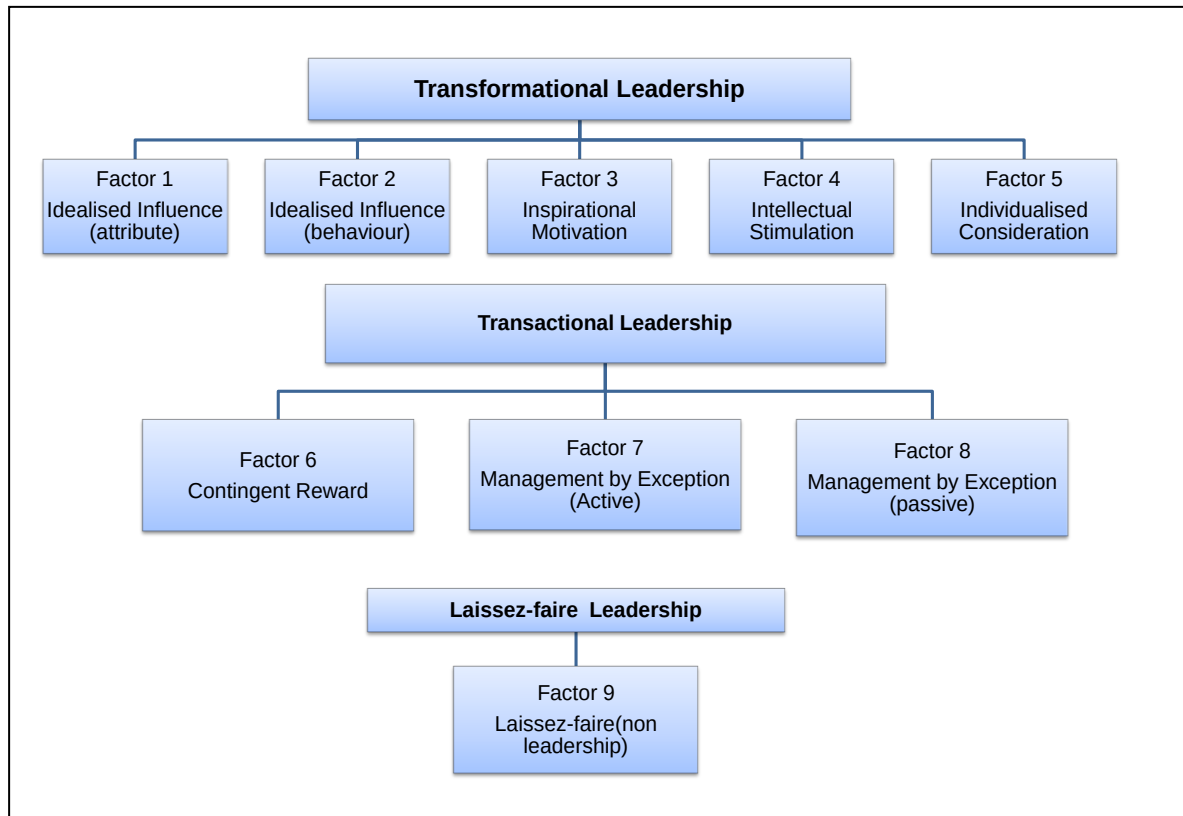
The concept of leadership changed direction in the 1980s (Hilare, 2008:10). Instead of considering leadership as an exclusively influence process, leadership is being viewed as creating meaning, as well as making sense of events. The popular theories are transactional, transformational and laissez-faire approaches. This is known as the Full Range Leadership Theory (FRLT). The FRLT has been deemed more successful in determining effective leadership because it has been widely accepted in leadership literature. Secondly, it is supported by empirical research and it is integrative (Hughes, 2005:43). FRLT views the leadership style as a multi-dimensional construct that includes five transformational leadership factors, three transactional leadership factors and laissez-faire leadership. This is shown in figure 4.

2.1.4.1 Transformational Approach

Transformational leadership has emerged as one of the most extensively researched leadership paradigms to date (Goertzen, 2008:84; Yang, 2008:258). This approach facilitates a redefinition of a people's mission and vision, a renewal of their commitment and the restructuring of their systems for goal accomplishment

(Mohammed, Othman and D'Silva, 2012:57). Furthermore, it is a relationship of mutual stimulation and elevation that converts followers into leaders and may convert leaders into moral agents (Bass, 2000:20).

Figure 4. The Full Range Leadership Theory



Source: Developed by researcher

According to McShane and Von Glinow (2011:371), the goal of transformational leadership is multi-pronged. It is to literally ‘transform’ people and organisations. This entails changing followers’ minds and hearts with a view of enlarging the vision and, the insight. Above and beyond this, it clarifies purposes, makes behaviour congruent with beliefs, principles, or values as well as bringing about changes that are permanent, self-perpetuating, and momentum building (QuickMBA, 2010:1).

Transformational leaders provide their subordinates with a sense of purpose that goes beyond a simple exchange of rewards (Lai, 2011:2). Likewise, leaders take proactive actions to raise followers’ awareness of critical and pivotal issues, raise

motivational maturity as well as promoting selfless dedication (Buchanan-Smith & Kim, 2011:10).

The Transformational-Leadership-Report (2007:4) posited that transformational leaders are upbeat in many different and distinctive ways. They strive to optimise sustainable organisational development in addition to operational performance. This development encompasses the maturation of ability, motivation, attitudes, and values (Alarifi & Althonayan, 2013:116). Furthermore, such leaders endeavour to elevate the maturity level of their associates. Therefore, they convince their associates to aim for a higher level of achievement as well as higher levels of moral and ethical standards. The end result, from this effort, is the optimisation and the development of the organisation. As summarised by Bolden, *et al.*, (2003:12), high performing associates build high performing organisations.

As declared by IAAP (2009:32), transformational leaders also accept that there will be failures and blind canyons along the way and will continue on as long as they sense progress is being made. According Shams, Aamer and Ishaque (2012:617), transformational leaders display behaviours associated with five transformational styles shown in table 4:

Table 4. Constructs of transformational leadership

Theory	Characteristics
Idealized Behaviours: living one's ideals	▪ Talk about their most important values and beliefs ▪ Specify the importance of having a strong sense of purpose ▪ Consider the moral and ethical consequences of decisions ▪ Talk about the importance of trusting each other
Inspirational Motivation: inspiring others	▪ Talk optimistically about the future ▪ Talk enthusiastically about what needs to be accomplished ▪ Articulate a compelling vision of the future ▪ Express confidence that goals will be achieved ▪ Provide an exciting image of what is essential to consider ▪ Take a stand on controversial issues

Table 4.(continued) Constructs of transformational leadership

Intellectual Stimulation: stimulating others	▪ Re-examine critical assumptions to question whether they are appropriate ▪ Seek differing perspectives when solving problems ▪ Get others to look at problems from many different angles ▪ Suggest new ways of looking at how to complete assignments ▪ Encourage non-traditional thinking to deal with traditional problems ▪ Encourage rethinking those ideas which have never been questioned before
Individualized Consideration: coaching and development	▪ Spend time teaching and coaching ▪ Treat others as individuals rather than just as members of the group ▪ Consider individuals as having different needs, abilities, and aspirations from others ▪ Help others to develop their strengths ▪ Listen attentively to others' concerns ▪ Promote self-development
Idealized Attributes: Respect, trust, and faith	▪ Instil pride in others for being associated with them ▪ Go beyond their self-interests for the good of the group ▪ Act in ways that build others' respect ▪ Display a sense of power and competence ▪ Make personal sacrifices for others' benefit ▪ Reassure others that obstacles will be overcome

Source: Alarifi & Althonayan (2013)

Bushra, Usman and Naveed (2011:262), stated that transformational leaders also help employees to become more creative, innovative and bring such new ideas which allow the organization to grow competitively and adapt itself to the changing external environment.

2.1.4.2 Transactional Approach

According to Reddy (2011:2), a transactional leadership approach pursues a cost benefit, economic exchange to meet subordinates current material and psychic needs in return for “contracted” services rendered by the subordinate. They are able to entice followers to perform and achieve desired outputs by promising those rewards and benefits for accomplishing the tasks. Riaz and Haider (2010:30) asserted that transactional leadership seeks to motivate followers by appealing to their interests. Transactional leaders use conventional reward and punishment to gain compliance from their followers.

Meanwhile, Babou (2008:2) articulated that transactional leaders define and communicate the work that should be done, how it should be done and the rewards that will follow after completing a particular task. This approach has different elements. Firstly, the leader recognises what subordinates want to get from their work in exchange for satisfactorily completing the task. Secondly, effective transactions and rewards are exchanged for employee’s effort (Lai, 2011:2). Lastly, the leader responds to his employees’ interests after completing the task. Equally as well, leaders, in politics announce benefits in their agenda in exchange for votes (Bass, 2000:21).

Research has shown that transactional leaders are best suited for stable business scenarios with little competition. In a stable environment, such leaders manage what they find and maintain the status quo (O'Regan & Ghobadian, 2004:78). Deepa (2013:2) contended that this method works in most of the cases provided the employees are motivated by rewards. It is a proven compliance strategy, which works best if the top most leaders in the hierarchy are capable of making most of the important decisions and has a strong personality. Thus, a powerful and assertive leader will find the transactional model conducive to his way of running things.

However, though leaders can create great followers, the growth of followers as leaders is stunted. When people get used to doing just what they are told and only

as much, they are told, they stop thinking 'out of the box'. Inadvertently, original thinking is dispirited in this system. Consequently, this leadership model creates a stressful work environment (Phatak, 2013:6). In addition, the current turbulent and competitive business environment requires a new style in order to ensure organisations stay afloat (McGee & Molloy, 2007:4). The subscales of transactional leadership are:

Table 5. Subscale of transactional leadership

Theory	Characteristics
Contingent Reward	Leaders behaviour is to emphasise and clarify effort rewarding relationships and involves exchange between leaders and followers.
Management by Exception (active)	A corrective transaction that occurs when followers deviate from the norm. Leaders actively monitor to ensure goals are met and do not wait for mistakes to happen.
Management by Exception (Passive)	Leaders do not actively monitor performance, but wait until deviations occur and then they implement corrective actions.

Source: Antonakis, *et al.*, (2011)

2.1.4.3 Transactional versus Transformational

IAAP (2009:19) stated that transactional leaders accept the goals, structure and culture of the existing organisation as this type of leadership is ineffective at bringing significant change. In support of this, McShane and Von Glinow (2011:371) explained that transactional leaders work within the organisational culture as it exists while the transformational leaders change the organisational culture.

In explaining the relationship between the two styles, Babou (2008:2) posited that transformational leadership style is mutually complementary to the transactional style. Furthermore, it is likely to be unsuccessful if not supported by a transactional relationship between leaders and subordinates. Riaz and Haider (2010:30), argued that both kinds of leadership are essential for an organisation and should run concurrently while Bolden, *et al.*, (2003:13), alluded that transactional leadership has

remained the desired model for many organisations that have not moved into or encouraged the transformational role needed to meet the challenges of the changing business environment. The following table shows the difference between transactional and transformational leadership

Table 6. Comparison of transactional and transformational leadership

Transactional Leadership	Transformational Leadership
Leaders are aware of the link between the effort and reward	Leaders arouse emotions in their followers which motivates them to act beyond the framework of what may be described as exchange relations
Leadership is responsive and its basic orientation is dealing with present issues	Leadership is proactive and forms new expectations in followers
Leaders rely on standard forms of inducement, reward, punishment and sanction to control followers	Leaders are distinguished by their capacity to inspire and provide individualized consideration, intellectual stimulation and idealized influence to their followers
Leaders motivate followers by setting goals and promising rewards for desired performance	Leaders create learning opportunities for their followers and stimulate followers to solve problems
Leadership depends on the leader's power to reinforce subordinates for their successful completion of the bargain	Leaders possess good visioning, rhetorical and management skills, to develop strong emotional bonds with followers
Supports structures and systems that reinforce the bottom line, maximise efficiency and guarantee short term profits	Leaders motivate followers to work for goals that go beyond self-interest. Aligns internal structures and systems to reinforce goals

Source: Babou, 2008

2.1.4.4 Laissez- Faire leadership approach

The word laissez-faire is defined in economics as an economic system that functions best when there is no interference from the government. It is a natural economic order according to the writings of Goodnight (2011:820). If a leader assume an

approach of non-interference, 'delegative' or hands off (you take care of the problem while I go elsewhere) when leading his followers, the laissez-faire form of leadership manifests (Nwafor, 2012:173). However, the leader is still responsible for the decisions taken.

The TL Publications, (2007) explained that laissez-faire leaders avoid attempting to influence their subordinates and they dodge supervisory duties. They bury themselves in paperwork and avoid situations that preclude any possibility of confrontation. Furthermore, they bestow too much responsibility on their subordinates, set no clear goals, and do not help their group to make decisions. Besides, they tend to let things drift, since their main aim is stay on good terms with everyone.

Similarly Robbins, Judge and Sanghet (2007:475), took a negative view of the laissez-faire style. They argued that it abdicates responsibilities and avoids making decisions. For the same reason, Luthans (2005:562), stated that this leadership style is uninvolved in the work unit. Likewise, Chaundry and Husnain (2012:259) opined that the laissez-faire leader believes in freedom of choice for the employees, leaving them alone so that they can choose what they want to do.

However, as a leadership tool, this style would be appropriate in situations where the subordinates are conversant and know the job more than the leader, according to Goodnight (2011:823). Furthermore, Nwafor (2012:173) suggested that this is a style to be used when the leader fully trusts and has confidence in the people.

2.1.4.5 Competencies of Effective Leaders

According to McShane and Von Glinow (2011:362), leadership researchers have returned to the notion that effective leaders possess specific characteristics. Instead of focusing on specific individuals, as in the 'Great Man' theory, the approach mirrors on accepted characteristics that should define effective leaders. The main categories are listed in table 7.

Table 7. Competencies of effective leaders

Leadership Competency	Description
Personality	▪ High levels of extroversion (outgoing, sociable and assertive) ▪ High conscientiousness (careful and self-disciplined)
Self-concept	▪ Leader's self-belief and positive evaluation about his/her skills and ability to achieve goals
Drive	▪ Leader's inner motivation to achieve goals
Integrity	▪ Leader's truthfulness and tendency to translate words into deeds
Leadership motivation	▪ Leader's need for socialised power to accomplish team and organisational goals
Knowledge of the business	▪ Leader's tacit and explicit knowledge about the company's environment, enabling the leader to make more informed decisions
Cognitive and practical intelligence	▪ Above average ability to process data and ability to solve real world problems by adapting to, shaping, or selecting appropriate environments
Emotional Intelligence	▪ Ability to monitor his/her own and other's emotions, discriminate among them and use information to guide his/her thoughts and actions

Source: McShane & Von Glinow, 2011:363

2.1.4.6 Conclusions

A broad overview of the evolution of leadership was given in this section. Numerous and different definitions, views and theories of leadership were described. However, there are enough similarities in these definitions and views to conclude that leadership is an effort of influence and power to induce compliance.

Leadership was defined as a collaborative process that requires control and direction. Leadership involves three interacting elements: a leader, a follower and a scenario (Goodnight, 2011:820). The leader's role therefore is to influence the followers to organisational success as articulated by Garcia-Morales, Llorens-Montes and Verdu-Jover (2008:300).

The early leadership theories that have developed over time were identified as the trait, behaviour and situational approaches. Each of these approaches and their constructs were presented in the chapter as well as their shortcomings. The situational/contingency theory was founded on the principle that the leader adapts his behaviour according to the maturity and capacity of followers to accomplish tasks (Hilaire, 2008:8). However, it does not specifically pay attention to the environment.

The transactional, transformational and laissez faire approaches were discussed. Essentially, transactional approach uses the reward system while transformation approach stimulates innovation and knowledge of the followers (Garcia-Morales, *et al.*, 2008:301). Furthermore, transformational leaders have charisma, inspiration as well as intellectual stimulation (IAAP, 2009:32)

Transformational leadership was found to be an extension of transactional leadership style. A leader may display various degrees of transactional or transformational leadership style depending on the situation. Literature has shown that desired results can be derived from subordinates by employing these approaches in tandem (Armstrong, 2008:).

The last approach (laissez faire) was seen to provide basic but minimal information and resources. Nwafor (2012:173) indicated that leaders practising this approach exert no pressure on production or people. In fact, Goodnight (2011:822), in his conclusions, stated that this leads to anarchy, chaos and inefficiency and therefore should be dismissed as useless. However, Bolden, *et al.*, (2003:12) concluded that it is an approach that should be used only with care as it is an extension of the situational approach at a delegating stage.

The literature review on leadership has shown that there are different approaches to leadership style. Each style has got its own merits and demerits. Furthermore, literature has recognised the influence of leadership on attaining organisational goal. It is therefore clear that leadership influences the fundamental attitudes and assumptions of an organisation's members, thus creating a common mentality to attain goals. Upon this basis, the next section will discuss the second variable within this reseach: organisational product quality.

2.2 Background to product quality

Product quality is a buzzword these days. Politicians, company executives, and even common people talk about quality (New Age Publishers, 2007:1). According to Chase & Jacobs(2011:336) product quality has become an important competitive issue.

Quality has been evident in human activities since time immemorial. The first stage of quality development at industrial scale was in the 1910s when the Ford Motor Company's 'T' Model car rolled off the production line according to Brun (2011:2). The company started to employ teams of inspectors to compare products with standards. This was applied at all production stages and delivery. The purpose of the inspection was to separate the poor quality products from the acceptable products and then scrap them, rework or sell as lower quality. Quality was not critical then. However, today it is non-negotiable (Serrano, 2012:).

Supporting the non-negotiability of quality is the the New Age Publishers (2007:1), who opined that the importance of product quality cannot be overemphasised in the global economy. Gutner and Adams (2012:8) concluded that it is no longer enough to have a perfect product or service as this is now an assumed requirement for success in the market place.

Upon this basis, this chapter seeks to define the concept of product quality and its constructs. Further, the chapter will give a product quality perspective from the ArcelorMittal Vereeniging Works and Cold Rolling Mills. It is not the intention of the chapter to review the theory of Total Quality Management.

2.2.1 Definition of quality

Quality, according to Stromgren (2007:15), can be defined as the characteristics, properties, and attributes of a product that influence the customer's perception of the grade of excellence. Others, like the United Nations Industrial Development Organisation (2008), defined quality in terms of parameters or characteristics, which

vary from product to product and should fulfil the customer's expectations. The New Age Publishers (2007:2) does not, however, restrict quality as just being fit for purpose but as a total and continuous satisfaction by the customer while using the product or service. Scholars agree that for a product to meet quality standards, it needs to have the following dimensions or constructs:

Table 8. Dimensions of quality products

Dimension	Characteristics
Performance	Primary operating characteristics of a product e.g. for a TV- picture clarity, signal reception, colour and acceleration for a car
Features	These are 'bells and whistles' of products (secondary characteristics supplementing the product – marketing related)
Reliability	Probability of a product failing within a specified time or under specified conditions
Conformance	Degree to which the product's design and operating characteristics match established standards. These include surface and internal defects. Manufacturing based.
Durability	Measure of a product's life. How long does it take before it is replaced
Serviceability	The speed, courtesy and competence of repair
Aesthetics	How the product looks, feels, sounds or taste (packaging e.g.)
Perceived Quality	Consumer judgement about a product's overall excellence

Source: Chase & Jacobs (2011:325)

According to Chase & Jacobs (2011:325), these dimensions cover a broad range of concepts. Several dimensions involve measurable product attributes; others reflect individual preferences while some are inherent characteristics of the products.

2.2.3 Importance of product quality

Certo (2009:1) asserted that organisations suffer when product quality is poor. Customers are inadvertently driven to look for alternatives as word of quality problems spreads. Eventually, the negative image drives away existing and potential clients.

In support of this, Morgan (2013:1), supposed that quality has a direct bearing on customer satisfaction. If a company produces a quality product, satisfied customers will rank that company higher in surveys. In contrast, dissatisfied customers are more vocal in their criticism if quality problems haunt an organisation. Furthermore, an organisation with poor reputation has harder times attracting new resources and talented employees because of perception issues (Certo, 2009:1).

According to Morgan (2013:2), poor quality costs a company money in terms of productivity problems as businesses spend millions of dollars each year on inspections, errors, rework and customer refunds. As such, poor quality results in much wasted time and resources as alluded by the New Age Publishers (2007:2).

Juran stated that it was the Japanese quality superiority that caused a dramatic shift in market share from the West to Japan in the US market. Gross (1996:299) mentioned that Harley-Davidson almost went under in the early 1980's because of quality problems. Throughout the years, he reckoned, the company's factory managers and line workers had concentrated on producing quantity and paid little attention to quality. As a result, more than half of the motorcycles from the assembly line subsequently failed inspection and required re-work. By contrast, only 5% of Japanese failed inspection. It was only through the adoption of the Japanese quality control methods that Harley-Davidson re-invented and improved their product quality such that by 1987, the company was competing in the global market place.

Seshadri and Tripathy (2007:131) took up the quality initiative argument and stated that the management of TATA steel pulled off an astounding 'turnaround' victory of the company by focusing on operational excellence and moving from price to a

‘value to the customer’ approach. TATA has received international recognition because of this approach to quality, the authors further added.

Besides survival issues, a manufacturer may have to recall products for replacement if poor quality goods are dispatched without detection. Worse still, poor products and services may result in lawsuits by injured or disgruntled customers. This results in damaged reputation. Recently, the United States witnessed its largest recall of beef: 143 million pounds suspected of contamination with *E.coli* bacteria. Therefore, companies cannot afford to let quality slide (Certo, 2009:3).

2.2.4 Product quality control

To circumvent the negative consequences of poor quality, organisations practice quality control with the aim of correcting defects in products (Chase & Jacobs, 2011:324). Product quality control can be carried out through inspections or prevention (Houston & Dockstader, 2009:25-28).

Inspections can be divided into: incoming, inline and final inspection (UNIDO, 2008:5). Through inspections, the focus is to produce goods and then sort the good from bad. With this approach, improvements efforts tend to concentrate on increasing throughput (Houston & Dockstader, 2009:25). Furthermore, the costs of this approach include that of performing the work the first time, inspections as well as recovering from failures.

Alternatively, quality can be controlled through prevention (Chase & Jacobs, 2011:324). This is based upon the assumption that quality is the outcome of the process used to manufacture the product. The process is defined as the interaction of people, machines, methods, material as well as leadership. If this process interaction works well, then high quality products are generated by the organisation. As a result, use of this approach deters failures, the cost of failure and the reliance on inspections. However, several reasons make the inspection approach attractive:

- Inertia in thinking that it is impossible to make changes that could prevent failures

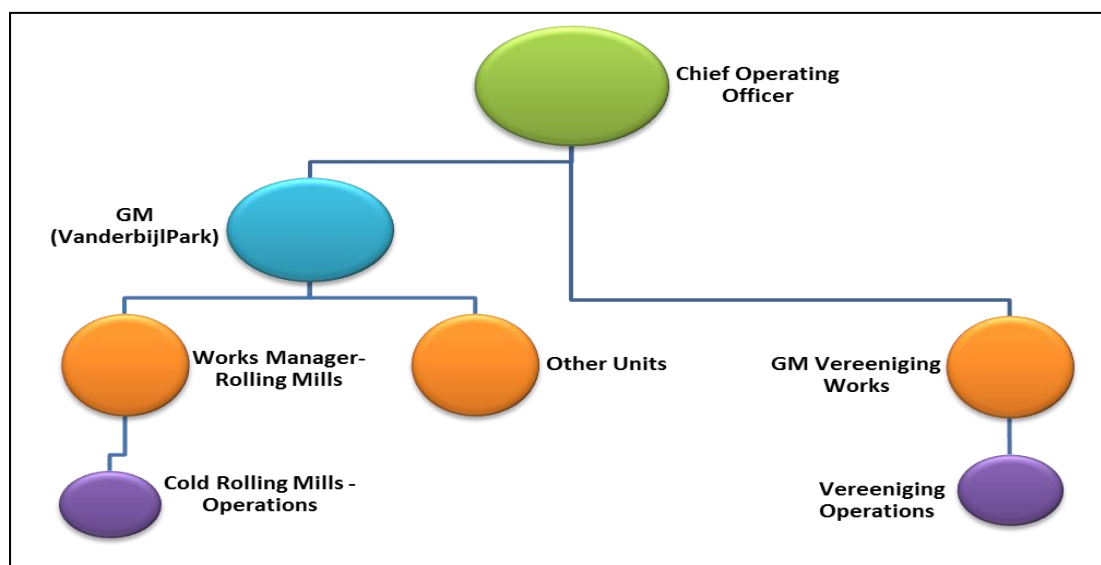
- Changes to new system involves risks (conservative thinking then prevails)
- It is easier to inspect

2.2.5 Product Quality Control At ArcelorMittal

ArcelorMittal, South Africa is the largest steel manufacturer on the African continent. It produces over 6.0 million tonnes of liquid steel per annum. The company has four business units namely Vanderbijlpark Works, Newcastle Works, Vereeniging Works, and Saldanha Works. A General Manager heads each of these business units and reports to the Chief Operating Officer (COO). The Vanderbijlpark Works is the largest operation accounting for 50% of total production. In comparison, it is ten times bigger than Vereeniging Works.

The Vanderbijlpark Works further splits into four major production divisions; Iron Making, Steel Making, Cold Rolling and Hot Rolling divisions. Each division is headed by a Works Manager. The Cold Rolling Mills division employs 1400 employees and is comparable to the Vereeniging Works, which has 1200 employees. As a result, the Cold Rolling Mills Works Manager is at the same level as the General Manager for Vereeniging Works as shown by the figure below.

Figure 5. Senior organisation structure for ArcelorMittal



Source: ArcelorMittal, 2013

2.2.5.1 Product Quality at Vereeniging Works

The Vereeniging Works is a major supplier of a wide range of special purpose rolled products. It has been a supplier to the motor industry for many years, producing almost all spring and forging quality steel conforming to prescribed international standards required by the industry. These standards include requirements such as cleanliness ratings, specific surface conditions, heat-treatment, hardness specifications, vacuum degassing and grain refinement (ArcelorMittal, 2013).

The rolled product range includes fastener steel, carbon constructional steel, alloy constructional steel, hollow drill steel, automotive spring steel, forging quality steel and special profiles for the agricultural industry. In order to attain the quality requirements, a quality assurance system based on and complying with the requirements of SANS ISO 9001: 2008 is strictly applied and observed.

Furthermore, Vereeniging Steel has extensive laboratory and inspection facilities. The chemical and metallurgical laboratories are equipped with spectrographic, microscopic, and mechanical testing equipment (ArcelorMittal, 2013). Inspection operations are carried out at various intermediate stages of production to ensure a satisfactory final product. Figures 6 and 7 show typical products from Vereeniging.

Figure 6. Typical motor industry applications of Vereeniging Steel (gears, shock absorbers and wheel hubs)



Source: ArcelorMittal (2013)

Figure 7. Stirring knuckles made from Vereeniging Steel



Source: ArcelorMittal (2013)

2.2.5.2 Product Quality at Cold Rolling Mills

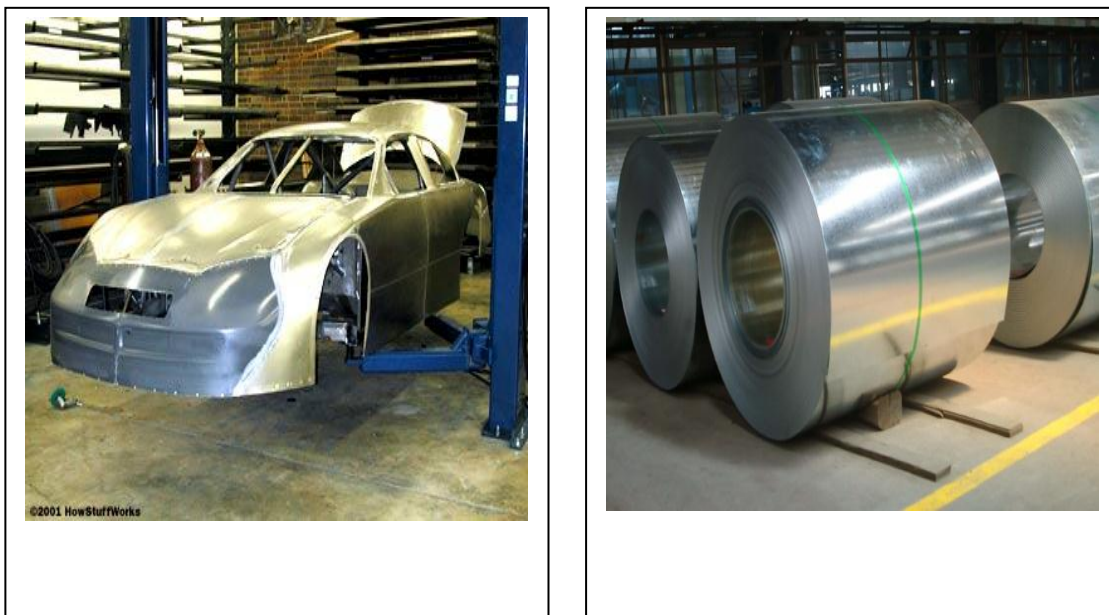
Cold rolled sheet is produced by processing Hot Rolled Strips through a cold rolling process to obtain thinner gauges and enhanced surface textures. The pickled hot rolled strip is cold reduced in a cold rolling mill to the specified thickness. The critical points at this stage are flatness and precise thickness. ArcelorMittal meets these criteria by using fully automated and computerised equipment (ArcelorMittal, 2013).

The cold rolled sheets are used in the manufacture of products such as electric appliances, car bodies, office equipment and containers. The trend today is towards greater diversity of products to meet more sophisticated needs and to realise increased efficiency in manufacturing the final product. Greater demands for performance and quality are thus being made on cold rolled steel sheet.

Vanderbijlpark Works cold rolled steel sheet range includes steels with excellent press formability as well as more general purpose steels conforming to the internal

as well as Euronorm, ASTM and JIS specifications. In all finishing units the thickness, width and surface quality of the product are checked. Product samples are taken and sent to the laboratory for testing of mechanical and other specified properties. Cold rolled steel sheet is supplied in two levels of surface quality namely standard surface finish and improved surface finish or ISF. The standard or non-ISF surface texture is suitable for unexposed applications while the ISF is intended for exposed applications like the automotive industry (see figure 8 for product use).

Figure 8. Sheet metal for forming car bodies from ArcelorMittal



Source: ArcelorMittal (2013)

2.2.6 Conclusions

Product quality is important. The race is to capture a bigger slice of the market pie with competition getting hard. An increasing number of companies are re-organising their focus on customer needs in order to keep them satisfied (New Age Publishers, 2007:3). Unmistakably, quality is the bandwagon. Quality is thus the charm wood for survival for both customers and suppliers.

Quality was defined as a total and continuous satisfaction by a customer and is characterised by seven dimensions ranging from performance to perceived quality. Product quality affects a company's bottom line and therefore a source of competitive advantage.

Product quality control can be either through inspections or through preventions. Both options are practised at ArcelorMittal (Vereeniging Works and Cold Rolling Mills). It was found out that quality is critical for ArcelorMittal as their products are used for safety and life-threatening applications.

After having defined quality in this section, I endeavour to explore another variable of how committed are employees to quality before looking at leadership styles that foster quality commitment.

2.3 EMPLOYEE COMMITMENT

2.3.1 Introduction

In the context of the rapidly changing global business arena, most corporations are undergoing revolutionary changes (Das, Kumar and Kumar, 2011:195). These changes are due to the unprecedented competition, exponential technological development, surging customer expectations and the changing labour market and characteristics. Today's workers' are better educated, increasingly mobile and are constantly seeking empowerment (Patterson, *et al.*, 2003:5).

The old work order of inherent job security and life-long loyalty is gone. This arrangement has been replaced by an unspoken mutual commitment contract between the employer and the employee. This new competitive battle and struggle among employers to retain committed workforce from an increasingly limited pool of available talent is becoming fierce (Vance, 2008:4). The need to do more with fewer employees is currently the biggest challenge.

The time has come for businesses to walk the talk and acknowledge that employees are its greatest assets (Batool, 2013:38; Holbeche, 2006:124). Businesses have realised that employees elect whether to contribute the minimum levels of performance required, or to sabotage, or go beyond the minimum required. Organisations are always looking for committed employees in order to achieve its strategic objectives and have acknowledged that commitment is a powerful and influencing indicator of employee's performance and turnover (Batool, 2013:38).

Therefore, this chapter seeks to define employee commitment and examine the nature of organisational commitment and the function and types of commitment, the sources of commitment and how it can be sustained.

2.3.2 Definition of employee commitment

As discussed by CIPD (2010:9), the concept of employee commitment has generated considerable interest in the business sector. According Shams, *et al.*, (2012:619) there are number of ways in which organisational commitment can be defined and there is no mutual agreement among the researchers on it.

Definitions of commitment or characteristics of committed workforce mainly focus on motivation, satisfaction, finding meaning at work, pride as well as advocacy at work. The Free Dictionary (n.d) defines commitment as the state of being bound emotionally or intellectually to a course of action. Meanwhile, Wadud (2013:2) and Vance (2008:4) articulated that commitment is dedication to a particular organisation, cause or belief and a willingness to get involved. In addition, true commitment to an organisation or effort is reflected by unwavering support.

However, a more concrete and popular definition of organisational commitment is a multi-dimensional approach of Huey and Bin Ahmed Kamarul (2009 cited in Shams, *et al.*, 2012:619). They defined organisational commitment as based on three facets:

- **Affective commitment** is an employee's emotional attachment to, identification with, and involvement in a particular organisation.
- **Continuance commitment** is commitment based on the costs level of leaving the organisation. Employees do not identify with the organisation but remain bound because it would be too costly to leave. This is often called calculative commitment.
- **Normative commitment** is commitment based on an employee's feelings and sense of obligation to stay and remain within the organisation.

Meanwhile Balfour and Wechsler (1996:275 cited in HR Nutshell, 2013:1) based overall employee commitment on three dimensions defined as:

- **Identification commitment:** employees readily associate themselves with the organisation.
- **Affiliation commitment:** commitment based on affiliation or pride in the organisation.

- **Exchange commitment:** commitment based on satisfactory exchange with the organization resulting in appreciation of the individual by the organization

The dimensions by Balfour and Wechsler were used in this study.

2.3.3 Importance of Commitment

McShane and Von Glinow (2011:112) deliberated that affective or identification commitment can be a source of competitive advantage while continuance commitment tends to be dysfunctional. Commitment ignites action and is the most important single factor in individual as well as organisational success (Shams, *et al.*, 2012:619).

Additionally, the quality of the organisation to its customers is largely based on the quality of commitment of the people. Furthermore, Anon (n.d:2) competed that commitment to a set of principles serves as a foundation to effectively maintain the commitment to product quality. Supporting this is Wadud (2013:3), who categorically asserted that the more people are committed to an organisation, the greater the momentum generated to get the job done. Moreover, commitment is the backbone of a group or organisation and is what gives a group its strength and impetus to achieve and aspire, he further articulated.

On one front, Manonmani, Mark, Karthikeyan and Uma (2013:59) indicated that a committed employee is aware of the business context, and works with colleagues to improve performance within the job, for the benefit of the organisation. Furthermore, Madigan, Norton and Testa (Naicker, 2008:24), reasoned that committed employees work diligently, conscientiously, provide value, promote the organisational products and seek continuous improvement. In exchange, they would expect a work environment that fosters growth and empowerment, allows for a better balance of personal and work life.

Additionally, Bushra, *et al.*, (2011:261) stated that commitment is the strongest motivator that decidedly affects persons' intentions to execute well, increases his

efficiency, and improves his skills. Inclusively, organisational commitment is important because it is a good predictor of organisational goals and objectives, productivity, absenteeism and turnover. By summarising the importance of commitment, Wadud (2013:4), raised the following points

- A large number of committed people are more effective in influencing others. If a whole group acts with determination and commitment, great numbers of people will align themselves to the organisational goals.
- People who are committed are not discouraged easily. They are determined. They set an example for those who don't have the confidence or experience to go through the hard times and hold out for the rewards of success
- People cooperate at a higher level when they share commitment. Commitment fosters comradeship, trust, and caring.
- If people are committed to an effort for a period, they will learn what they need to know to be more effective. People need time to try things out, make mistakes, and then figure out a strategy that works.

According to BIS (2012:12), a survey in the UK conducted by the MacLeod Review on Employee Engagement reported a range of business performance benefits associated with employee engagement, including:

- Committed employees had less sickness absence. In the UK engaged employees take an average of 2.69 sick days per year; the disengaged take 6.19.
- Committed employees understood customer needs. Seventy per cent indicate they had a good understanding of how to meet customer needs while only 17 per cent of non-engaged employees said the same.
- Committed employees were loyal. They are 87 per cent less likely to leave the organisation than the disengaged. The cost of high turnover among disengaged employees is significant; some estimates put the cost of replacing each employee at equal to annual salary

By summarising the evidence, the MacLeod report concluded that the “joint and consequential failure of leadership and management is the main cause of poor employee commitment “(BIS, 2012:14).

Shams, *et al.*, (2012:619) opined that employees who are willing to continue organisational citizenship behaviour are regarded as committed to an organization. Such employees willingly want to continue their positive association with the organisation and devote positive effort to achieving shared goals. Furthermore, the high levels of dedicated efforts used by such employees lead to positive performance and organisational level of effectiveness. McShane and Von Glinow (2011:314) mentioned that commitment is the strongest form of influence, whereby people identify with the influencer’s request and are highly motivated to implement it even when extrinsic sources of motivation are no longer existing.

2.3.4 Building Organisational Commitment

According to Steinhaus & Perry (2007:279), there are many ways to build organisational commitment. However, the most prominent ones are

- **Justice and support :**

identification commitment is higher in organisations that fulfil their obligations to employees and abide by humanitarian values such as fairness, courtesy, forgiveness and moral integrity

- **Shared values :**

Commitment is highest when employees believe their values are compatible with the organisation dominant values. Employees are more comfortable when they agree with the values underlying the organisation. This increases commitment.

- **Trust**

Employees identify with and feel obliged to work for an organisation only when they trust its leaders. This is why layoffs are often one of the greatest blows to employee loyalty. By reducing job security, companies reduce the trust employees have.

- **Organisational comprehension**

This refers to how well the employees understand the organisation, its strategic vision, social dynamics, and transparency in dealings. This is critical because one cannot commit to something he is not sure of.

- **Employee involvement**

This increases affective commitment by strengthening the employee's social identity with the organisation. Employees feel that they are part of the organisation when they participate in decisions affecting them.

However, the contrary is true to say when the above is absent - commitment decreases. When organisations do not communicate properly, when they do not build relationships and support one another, when they become embroiled in unresolved conflicts, when they do not live up to their principles, and leaders do not demonstrate commitment themselves, employee commitment unfortunately suffers (Wadud, 2013:5).

The CIPD (2010:9) reported that the benefits for pursuing employee commitment are high. They reported indisputable links between commitment and financial success in the private sector. Thus, for example, a US survey of 24 publicly listed companies with a total of over 250,000 employees conducted over five years found that the stock prices of the 11 companies with the highest employee morale increased an average of 19.4%. In addition, a Watson Wyatt study of 115 companies (2006, 2008) asserts that a company with highly committed employees typically achieves a financial performance four times greater than a company with poor employee commitment.

During these study, it was also noted, however, that while many people were keen to contribute more at work, the negative behaviour of their managers and culture of their organisation actively discouraged them from doing so (Towers Perrin, 2005 cited in CIPD, 2010:10).

2.3.5 Conclusions

The previous section has shown us that product quality gives an unquestionable competitive advantage to organisation and that without it, organisation are bound to be thrown into the dustbins of history.

This section has shown us that employee commitment is imperative to achieving organisational goals of which product quality is one of them. Organisational commitment was seen as employees' loyalty and faithfulness towards organisation and intentions to be the part of that organisation. It has significant importance because committed workers have less intention to quit the job, less often absent and highly motivated to perform at advanced level.

Perhaps, the crucial question is now, "what form of leadership creates or fosters product quality commitment among employees? The following section dwelt on this much talked about question.

2.4 LEADERSHIP AND COMMITMENT TO PRODUCT QUALITY

2.4.1 Introduction

Understanding the mechanisms behind employee commitment is an urgent matter for any leader. This is because the level of commitment to an organisation may be the difference between booming and faltering corporations (Schaller, 2011:1). Everywhere and all times, people face the choices of commitment. For example, some commitment is semi-conscious, like deciding which movie to watch. Yet some decisions, like who to marry, where to live and which school to send kids are very conscious and calculated affirmatives.

The decision to commit to an organisation is one of the toughest assessments people usually make. In addition to this, deciding whether to merely fulfil obligations at work or supersede narrow job definitions can be the difference between success or failure according to Moss (Schaller, 2011).

The preceding sections enumerated different leadership styles, explained employee commitment and its importance. It explained as well the pivotal role played by product quality to an organisation. The need for leadership to create organisational commitment that would, in turn, foster commitment to product quality was emphasised. However, the crucial question for organisations is now, 'What form of leadership fosters commitment to product quality'? Therefore, this section seeks to review the literature linking applied leadership styles to fostering commitment to product quality

2.4.2 Leadership Style and Commitment to Organisation and Quality

Leadership is all about setting direction and creating the right organisational conditions for heading in that direction (BIS, 2012). This is as true for the team leader as it is for the chief executive, although the scope and scale of the task varies significantly. Truly effective leaders have a clear vision of the future and the capability to communicate that vision to others so that they are inspired to share it

and work collaboratively to achieve it (Pipsc, n.d). It means ensuring that the right working conditions and physical resources are available but, more importantly, creating the culture, relationships and motivation to inspire people to do their best (BIS, 2012).

Best leaders face problems head on and have the confidence to propose sometimes innovative or difficult solutions. They also have the humility to accept that they do not have all the answers and will encourage others to make decisions by delegating authority and responsibility (Pipsc, n.d). Alongside this, they make sure the contribution of others is recognised and rewarded.

Firstly, Wadud (2013:3) mentioned that a leader can foster commitment in an organisation. Leonard (2010:2) stated that perhaps the leadership style that most relates to quality leadership, is transformational leadership which searches for ways to help motivate followers by satisfying high order needs and more fully engaging them in the process of work. Furthermore, transformational leaders are able to communicate and reinforce values and express an inspirational vision focusing on quality. In addition, they also encourage quality improvement by building trust and reducing fear, creating awareness of change, developing a culture of support (Luria, 2008:31).

In this regard, the emphasis is on creating the power of an environment of trust, openness and honest communication to encourage the development of quality improvement entrepreneurs (Feigenbaum, 2007:39). Furthermore, the leaders have the responsibility of specifically improving the system and make it possible for employees to do a better job. This then means quality is the responsibility of everyone and not the quality experts (Leonard, 2010:2). Such empowerment means that employees are motivated to improve the organisation, feel comfortable in decision making, and trust exists that the organisation is dedicated to the development of its employees.

Leonard (2010:2) further argued that the individual qualities of a leader that are necessary to implement and sustain progress towards a quality culture commitment include drive, motivation, honesty and integrity, self confidence, charisma and knowledge of the business.

Studies by Shams, *et al.*, (2012) on employees working in the educational sector of Pakistan revealed that both transformational and transactional leadership had positive relationship with the employee organisational commitment. This commitment led to better quality teaching in institutions. Furthermore, specific elements of the transformational leadership approach had a positive impact on organisational commitment. Elements such as inspirational motivation and individual consideration played a strong role in fostering organisational commitment.

Two independent studies on banking sector employees in Pakistan concluded that transformational leadership style strongly influenced employees' commitment towards their organisation (Bushra, *et al.*, 2011; Batool, 2013). The research showed that transformational leadership brought 16% change in organisational commitment. This led to better quality service. The results of this study concluded that if managers adopted transformational leadership behaviour, they could get committed employees.

Studies by Yiing and Bin Ahmad (2009) on MBA part time students in Malaysia concluded that the leader's directive, participative and supportive behaviours were found to have positive and significant relationship with organisational commitment. Employees can be highly committed to their organizations when they perceive their superiors as adopting consultative or participative leadership behaviours.

Researchers at the University of Pennsylvania analysed the productivity patterns at 3,000 companies in the US. They observed that when companies spent an amount equal to 10% of their revenues on capital improvements such as machinery and computer systems, their productivity grew by an average of 3.9%. However, when such companies spent a comparable amount on employee development, productivity

rose by as much as 8.5% because employees became committed (Certo, 2009). Leaders can influence productivity by motivating their employees to contribute their ideas and efforts toward improved output and efficiency. This is exemplified by a novel example of committed employees making a difference that occurred in Wilmington, Delaware at a General Motors factory.

General Motors decided to close the Wilmington factory because it was less productive than the other GM plants. Executives travelled to the plant and announced to the assembled workers the closure plans. After the executives left, the plant leadership appealed to the workers to make a difference. In turn, workers and managers collectively identified ways to improve quality and reduce costs. Union leaders cooperated with the factory's leadership in the improvement effort. The company provided weekly information about quality and costs. Within two years, the factory became GM's lowest-cost producer, and its cars had the company's lowest warranty costs. The company reversed its decision.

Research on the impact of top management commitment on total quality management in the Thailand garment industry found that employee involvement played a significant role in predicting the product quality (Chowdhury, Himangshu and Das, 2008). Firms with higher level of top management commitment produced higher quality products as compared to those with a low level of top management commitment. The study demonstrated that employee involvement in quality efforts is certainly critical for attaining high product quality. Furthermore, the mentoring and enabling role of top management commitment in creating an environment (customer focus, employee commitment, product innovation, etc.) needed for achieving superior product quality was also correlated. On the whole, it was revealed that firms with stronger commitment of top management exhibited more effective quality effort along all dimensions, and in turn, achieved higher product quality (Chowdhury, *et al.*, 2008).

Several other studies on applied leadership styles have been carried out by different researchers as summarised by Schaller (2011). Firstly, Allen, Bycio, and Hackett

(1995) examined the correlations between core constructs of transformational leadership to prediction of satisfaction, intent to leave, and organisational commitment. Their findings showed that individualised consideration (a core construct of transformational leadership) correlated strongly (0.90) as a predictor of organisational commitment.

Secondly, Crawford, Lok, and Westwood (2005:12) examined the link between leadership style and organisational commitment by focusing on 258 nurses within the Sydney Metropolitan area. The results supported the notion that leaders who adhere to consideration leadership styles foster high levels of affective organisational commitment. This confirmed that leadership style was a relevant antecedent of commitment. In their conclusion, these researchers went on to suggest that to genuinely change an organisation for the better, leaders must attend to their mode of leadership. The same study was extended to Asian and African countries where researchers were primarily concerned with the moderating effect of collectivism in regards to transformational leadership. They examined 213 employees from China, 206 from India, and 158 in Kenya totalling 577, from the banking and financial sectors (Walumbwa & Lawler, 2003:).

The findings pointed once again to a strong, positive correlation between leadership style and organisational commitment. The researchers even postulated that transformational behaviours accentuated collectivist attitudes and direct worker energy into even more collective achievement. This showed that transformational, and particularly supportive leadership styles, worked across cultural boundaries. Schaller (2011:12) stated that the research seemed to have endorsed the strength of transformational leadership, with an emphasis on consideration as probably the right choice for a modern leader to make in order to guide employees to commitment.

However, other scholars (Moss, Ritossa, and Ngu, 2006:14) opined a move towards situational leadership. Their study of 263 pairs of managers and subordinates found that supportive leadership should be reserved for subordinates exhibiting a promotion regulatory focus versus a prevention regulatory focus. The researchers

described promotion-oriented employees as having goals related to advancement, accomplishment, and aspirations. On the other hand, prevention-oriented focus manifested in job protection, safety, and responsibility. When employees rated highly on promotion, Moss, *et al.*, (2006) suggested that leaders use consideration style. If an organisation showed strong signs of prevention focus, initiation of structure style was hypothesized as a more effective mode for management. It was found that corrective-avoidant (transactional) leadership had a stronger effect on subordinates than transformational styles.

In an entirely new view, researcher Weymes (2002) suggested that leadership should be completely re-thought. He claimed that outdated language, rooted in military metaphors, was guiding leadership astray. The researchers suggested that relationships make organisations more effective. In *Relationships, Not Leadership, Sustain Successful Organisations*, Weymes (2002) completely disregards transformational or transactional styles and goes straight to the heart of why organisations and leaders exist.

On another front Deepa (2013), dwells on autocratic or authoritarian leadership style. Though this type of leadership style is not applicable in today's times, Deepa (2013) argues that many leaders prefer autocratic leadership style even in this modern world. This style entails one person presiding with complete authority over the followers or workers. Their decisions are final and never to be questioned or challenged. For instance, if a company has an authoritarian leader as the managing director, the employees in the company would have to work as per the rules set by him. They cannot participate in any kind of decision-making process. Some successful business magnates like Bill Gates and Steve Jobs adopted this style of leadership. Bill Gates followed the authoritarian style and steered Microsoft towards unbelievable success.

In an autocratic leadership, following a strict hierarchy, process management, and reporting systems ensure that the operations are conducted smoothly. Furthermore, many times, a capable autocratic leader is a visionary. With his foresight and ability

of accurate decision-making, an autocrat steers an organisation towards great success.

2.4.3 Conclusions

There is no doubt that leadership is complicated and situational, with no direct proven system of success (Schaller, 2011:2). Despite this, there is strong statistical support that certain ways of “being” will promote productivity, creativity, and strong commitment among employees.

By developing their leadership capability, managers can achieve outstanding results from ordinary people and businesses, getting the best out of their employees and benefiting from the knowledge and skills that often they are not even aware that they possess. Above all, leaders need to inspire trust in their capability to take the organisation in the right direction.

This chapter provided an insight into the effects of transformational and transactional leadership styles in fostering organisational commitment and quality in product and service output from several studies. It was demonstrated that transformational has a positive effect in fostering good product quality commitment in the employees.

The next chapter provided an overview of the research methodology of this study. The goals and the hypothesis of the research were presented. Furthermore, the research design, ethical considerations, the research population and sample as well as the instruments used and their reliabilities were discussed. In addition, the process of data collection and analysis was tabled.

CHAPTER THREE: RESEARCH METHODOLOGY

3.0 Introduction

Chapter two discussed the various theories on leadership styles. The chapter also discussed the theory on product quality and employee commitment to product quality. Besides that, it also discussed the Vereeniging Works and Cold Rolling Mills business units and their associated products.

This chapter discusses the research methodology used. Research is based on some underlying theoretical assumptions that constitutes 'valid' research and research method(s) that is/are appropriate for the development of knowledge. In order to conduct and evaluate any research, it is therefore important to know what these assumptions are (Yohannan, 2010:291). Therefore, the theoretical assumptions and the design strategies underpinning the study are outlined. Furthermore, the analyses of hypotheses, the population, the sample, the data collection tools, methods and the relevant statistical tools used are discussed.

The chapter ends with an ethics declaration and a summary.

3.1 Research Methodology

Research is a structured enquiry that uses acceptable scientific methodology to solve research problems and create new knowledge that is generally applicable. Scientific methods consist of systematic observation, classification and interpretation of data as outlined by Dawson (2002:3). Scientific research includes the following steps

- Formulation of a research problem
- Setting the research objectives
- Designing the research study
- Methods of data collection
- Statistical analysis
- Interpretation and dissemination of the results (Catholic Theological Union, 2010:5)

The research process can be descriptive, correlational, explanatory (empirical) or exploratory according to Dawson (2002:8). Empirical research is based more on

observation and experience than upon theory and abstraction (Moody, 2002:1). The research methodology describes the research approach.

As articulated by Kothari (2004:8) research methodology is a way to systematically solve the research problem. It considers the research methods and the logic behind these methods in the context of the study. Specifically, the methodology gives explanations to why the research was undertaken, how the research problem was defined and the basis the hypothesis was formulated. Furthermore, it explains what data was collected, the particular method used to collect the data as well as why a particular technique of analysing data was used in the study (Welman, *et al.*, 2011:52).

Although there are other research approaches, the most common classification is quantitative and qualitative (Yohannan, 2010:301). Quantitative research is based on measurement of specific variables to produce statistics to test hypotheses and make predictions (Johnson, 2008:34). Quantitative research makes use of questionnaires, surveys and experiments to gather data which is later characterised by the use of statistics. Qualitative research is theoretical and tries to understand and interpret social interactions (Litchman, 2006:7). It is naturalistic where the researcher engages the situation. The following section outlined the research problem, objectives, hypothesis and design.

3.1 Research Problem

Effective corporate leadership is critical for businesses (Arthur W Page Society, 2009:3). It is a way of achieving business goals. An effective leader can make a success of a weak business plan, but a weak leader can ruin even the best plan (Oracle Corporation, 2012:1). Therefore, successful organisations need leaders who influence, inspire, and drive people to a common goal.

ArcelorMittal aims to be the lowest cost producer of quality steel products. The Vereeniging Works loses out 2,1% (target is 1.1% max) of its annual turnover to

quality related problems while the Cold Rolling Mills 3.9% (target 2.3%). In an endeavour to reduce this leakage, the company relies on leaders to influence employees to produce quality products for the market. The company uses a strategy of changing business unit leaders frequently. As a result, the employees are subjected to different leadership styles. The effects of these leadership styles on the business units and specifically on employee organisational commitment and quality commitment have not been documented empirically.

Though the importance of leadership in quality management has been extensively discussed, an empirical examination of the degree and manner to which it affects the product quality specific outcome has not been investigated. A much better quality of products in companies with high leadership competencies and high organisational commitment would be expected as compared to the companies with low leadership competencies and low organisational commitment (Das, *et al.*, 2011:14). Therefore, as noted in chapter 1, the research questions that prompted the research methodology of this study are restated as:

- Is leadership style a significant factor in fostering commitment to product quality among employees at ArcelorMittal?
- Does high organisational commitment lead to high product quality commitment among employees?
- What types of leadership styles are being practised at the Vereeniging Works and Cold Rolling Mills and what are the levels of employee commitment to product quality and organisational commitment at these two units?
- Can a desirable leadership style be formulated for ArcelorMittal?

3.2 Research Objectives

The overall goal is to identify different elements of leadership style that have an effect on fostering commitment to quality. Thus, the main objective of the study is to investigate the relationship between various leadership styles and the levels of commitment in ensuring production of quality products. It seeks to answer the

question, “which leadership style is best suited to foster commitment to product quality among employees at ArcelorMittal?”

The study compares two independent units of ArcelorMittal and aims at comparing the applied leadership styles in these units and its effect on employees regarding quality commitment.

3.3 Research Hypothesis

The tentative solutions to the research problems stated in Chapter 1 are now stated as hypothesis in this section. Generally, a hypothesis is a tentative prediction about the nature of the relationship between two or more variables (Prasad, Rao & Rehani, 2001:8). The nature of the hypotheses should be that they can be tested (verified or falsifiable), are not moral or ethical questions, are neither too specific nor too general, and are a prediction of consequences (Welman, *et al.*, 2011:22).

There are two types of hypothesis: a null (H_{01}) and alternative (H_{a1}) hypothesis (Prasad, *et al.*, 2001:14). The null hypothesis represents a theory that has been put forward, either because it is believed to be true or because it is to be used as a basis for argument. However, it is not proved yet. On one hand, an alternative hypothesis is a statement of what a hypothesis test is set up to establish and it is reached when the null hypothesis is rejected.

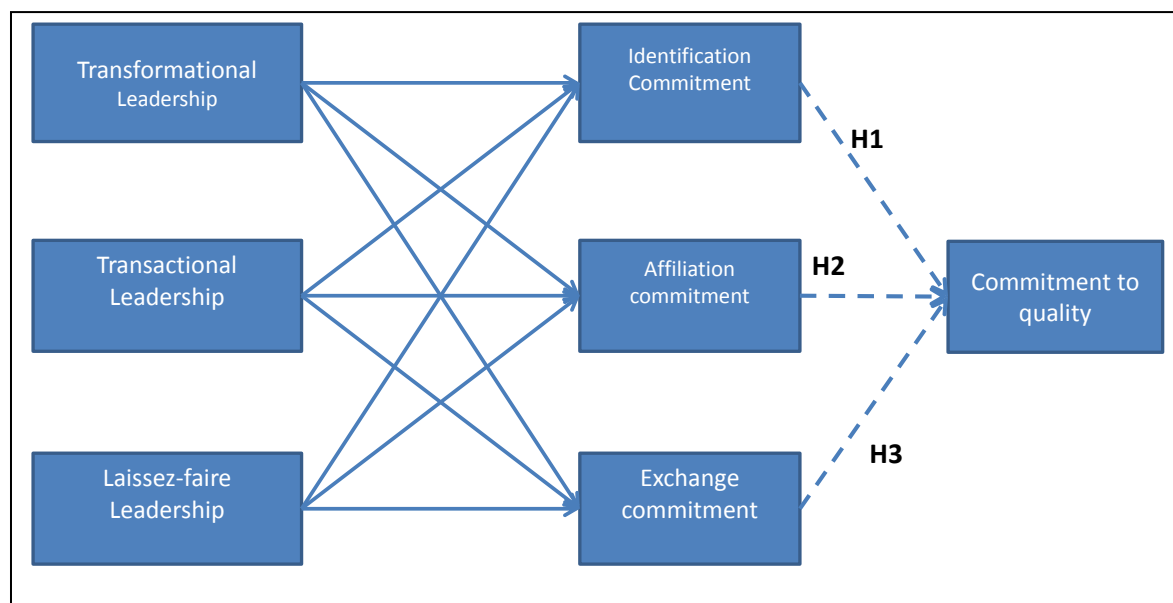
In this study, leadership style was selected as the independent variable (IV). As defined by Hamilton, (2001:2), the independent variable is that factor which the researcher selects and manipulates to determine its effect on the observed phenomena (the problem that is being investigated). This variable had three types namely a transactional, transformational and laissez faire leadership styles. From literature, these variables are known to impact on organisational commitment which in turn affects organisational outputs such as job performance and product quality.

Meanwhile, commitment to product quality was defined as the dependent variable (DV). A dependent variable was defined as the measured and observed factor that was affected by the independent variable (Samaranayake, 2010:1). This review of

the research problem (section 3.1) suggested the following hypothesis - the higher the level of the organisational commitment (good leadership competencies of top management) the better the product quality commitment within the company.

The research seeks to test the hypothesis that high organisational commitment (due to specific leadership styles) is good for product quality. The hypotheses framework was shown below.

Figure 9. Hypothesis summary



Source: Developed by researcher

From this, tentative statements or hypotheses for this research are as follows:

H₀₁: There is no statistical significant relationship between identification commitment level and commitment to product quality among employees at ArcelorMittal.

H_{a1}: There is statistical significant relationship between identification commitment level and commitment to product quality among employees at ArcelorMittal.

H₀₂: There is no statistical significant relationship between the affiliation commitment level and commitment to product quality among employees at ArcelorMittal.

H_{a2}: There is statistical significant relationship between affiliation commitment level and commitment to product quality among employees at ArcelorMittal.

H₀₃: There is no statistical significant relationship between the exchange commitment level and commitment to product quality among employees at ArcelorMittal.

H_{a3}: There is statistical significant relationship between exchange commitment level and commitment to product quality among employees at ArcelorMittal.

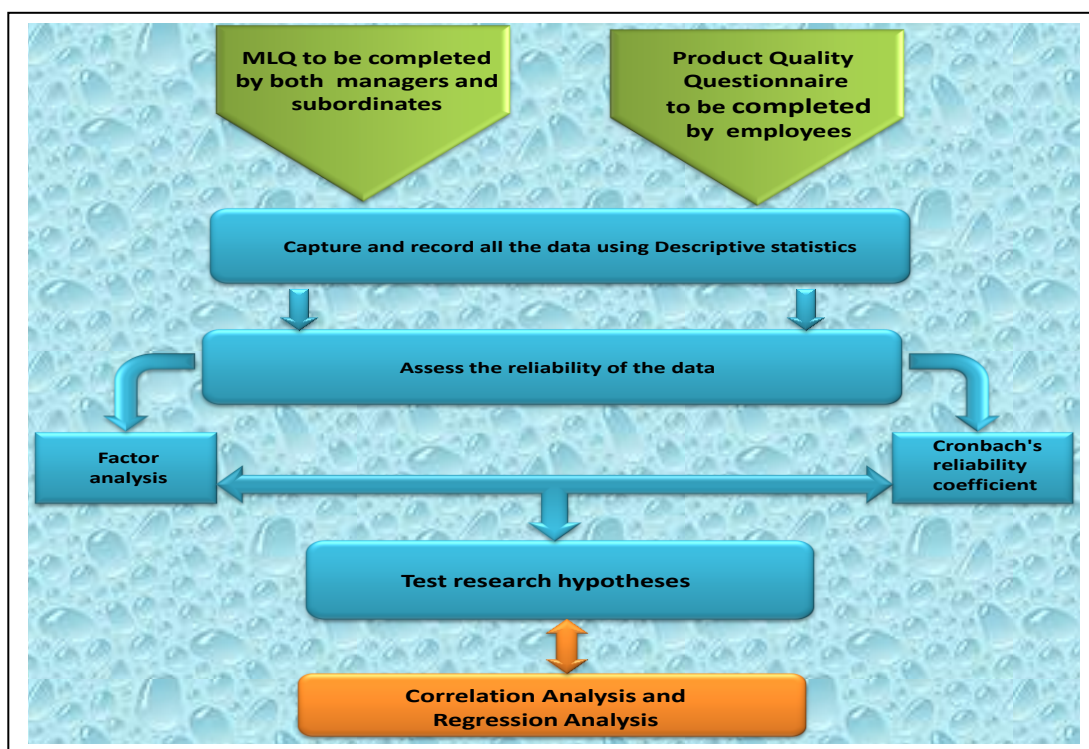
H₀₄: There is no statistical significant relationship between the leadership styles and organisational commitment types among employees at ArcelorMittal.

H_{a4}: There is statistical significant relationship between the leadership styles and organisational commitment types among employees at ArcelorMittal.

3.4 Research Design

As articulated by BusinessDictionary (2010:1), a research design is the plan according to which one obtains research participants and collects information from them. It typically includes how data is to be collected, what instruments to use, how the instruments will be used and the intended means for analysing data that has been collected. A quantitative research design that utilised two questionnaires to measure the independent and the dependent variables was used in this study.

Figure 10. A schematic representation of the Research Design



Source: Developed by researcher

3.5 Sampling Design

As stated by Castillo (2009:1), a research population encompasses the total collection of units of analysis about which a researcher wishes to make specific conclusions. It is a full set of cases from which a sample is taken.

In order to get reliable results in a quantitative study, the sample size should be reasonably large so that a subset of the larger population selected (Welman, *et al.*, 2011:52). Furthermore, samples can be either probability samples or non-probability samples. In probability sampling, each element has a known probability of being included in the sample. Probability sampling includes simple random sampling, systematic sampling, stratified sampling or cluster/area sampling. Conversely, non-probability samples are those based on convenience sampling, judgement sampling and quota sampling techniques (Kothari, 2004:15)

In this study, two populations were selected for study: Population 'A' and 'B'. Furthermore, samples were drawn from these populations and cluster sampling was used. The cluster sampling technique involved grouping the population into clusters and then selecting the target group or cluster rather than individual elements for inclusion in the sample (Ahmed, 2009:2). Three identical clusters namely: Engineering, Production and Support Services were drawn up. The production cluster was selected from these two populations for study.

Firstly, population 'A' was the Vereeniging Business Unit. The entire population 'A' consisted of 854 employees. The cluster sample (production) consisted of 226 employees in total and comprised of 48 managerial staff and 178 employees (table 9).

Table 9. Population 'A' and sample

	Managers	Subordinates	Total
Population A	123	731	854
Sample	48	178	226

Secondly, population 'B' was the Cold Rolling Mills Business Unit. The entire population 'B' consisted of 895 employees. The cluster sample (production and quality) consisted of 190 employees in total and comprised of 35 managerial staff and 155 employees (table 10).

Table 10. Population and sample

	Managers	Subordinates	Total
Population B	142	753	895
Sample	35	155	190

Therefore, the combined sample size was 416 from the two populations. The hypotheses in section 3.3 were tested in this manufacturing industry by comparing these two population samples

3.5.1 Response Rate

The completion rate or response rate in survey research refers to the ratio of the number of people who answered the survey to the total number in the sample. The total combined response was 274. Of these, 14 questionnaires for the employees and two for the managers were incomplete and unusable, resulting in 258 responses in total. The table below shows the breakdown information on the response rate for the two samples.

Table 11. Survey Response rates

	Vereeniging Works 'A'			Cold Rolling Mills 'B'		
	Size	Response	%Rate	Size	Response	%Rate
Managers	48	33	68.8	35	28	80.0
Employees	178	107	60.1	155	90	58.1
Total	226	140	61.9	190	118	62.1

From sample 'A' (VRN) the response rates for managers and employees were 68.8% and 60.1% respectively and the overall response rate was 61.9%. The response rates from sample 'B' (CRM) were 80% and 58.1% for managers and employees in that order. The overall rate for sample 'B' was 62.1%.

3.5.2 Demographic Information

The demographic data collected is summarised below. It included the gender, race, education, length of service and educational qualifications.

3.5.2.1 Gender

Out of the 258 combined respondents for both CRM and VRN, 17 (6.5%) were female. The CRM had 13.5% female respondents compared to 1.4% for VRN in total. Males dominated the samples. Table 12 summarises the gender distribution.

Table 12. Gender statistics

	Vereeniging Works 'A'			Cold Rolling Mills 'B'		
	Size	% Male	% Female	Size	% Male	% Female
Managers	100	97.0	3.0	100	96.2	3.8
Employees	100	99.1	0.9	100	83.3	16.7
Total	100	98.6	1.4	100	86.5	13.5

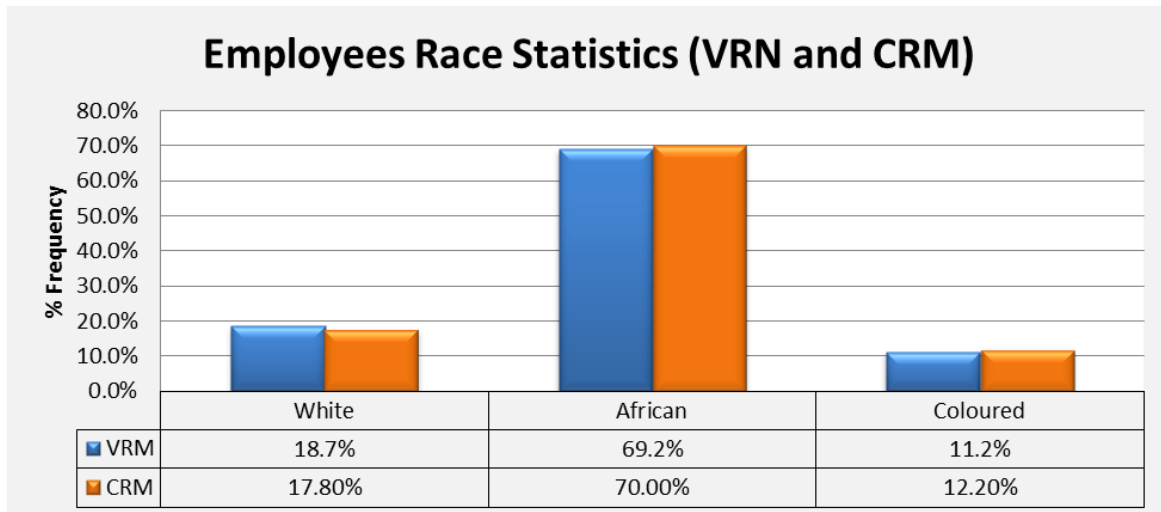
3.5.2.2 Race

The race demographics for employees and managers is summarised below.

3.5.2.2.1 Employees

Out of 258 respondents for both CRM and VRN, 36% were white and 55% were black. The employees composed of 69.2% and 70% black in VRN and CRM respectively. Blacks dominated the employees. Figure 11 shows the distribution.

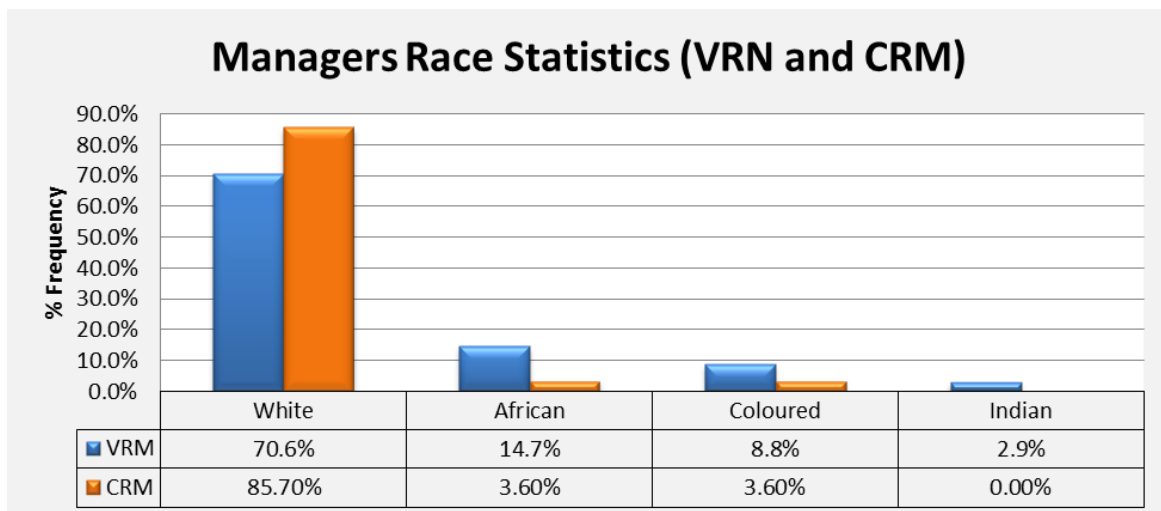
Figure 11. VRM and CRM race statistics for employees



3.5.2.2.2 Managers

Figure 12 below shows the race split for the management. The management consisted of 70% and 85.7% white for VRN and CRM in that order. Therefore, the management was predominantly white.

Figure 12. VRN and CRM race statistics (Managers)



3.5.2.3 Age Groups

The two business units had a young employees' workforce. The majority of respondents were aged between 20 years and 35 years (49.5%) for Vereeniging, and 48.9% for Cold Rolling Mills, 31% and 24% between 36 years and 45 years for VRN and CRM respectively. Table 13 summarised the various age groups.

The management teams of both business units were largely in their middle ages. About, 35% and 46% of the managers at VRN and CRM respectively were within the 36 to 45 years age group. Close to 50% of the CRM managers were between 46 and 55 years while VRN had 32% for the same age group. The CRM had no managers below 35 years. The management at CRM is relatively older than VRN team.

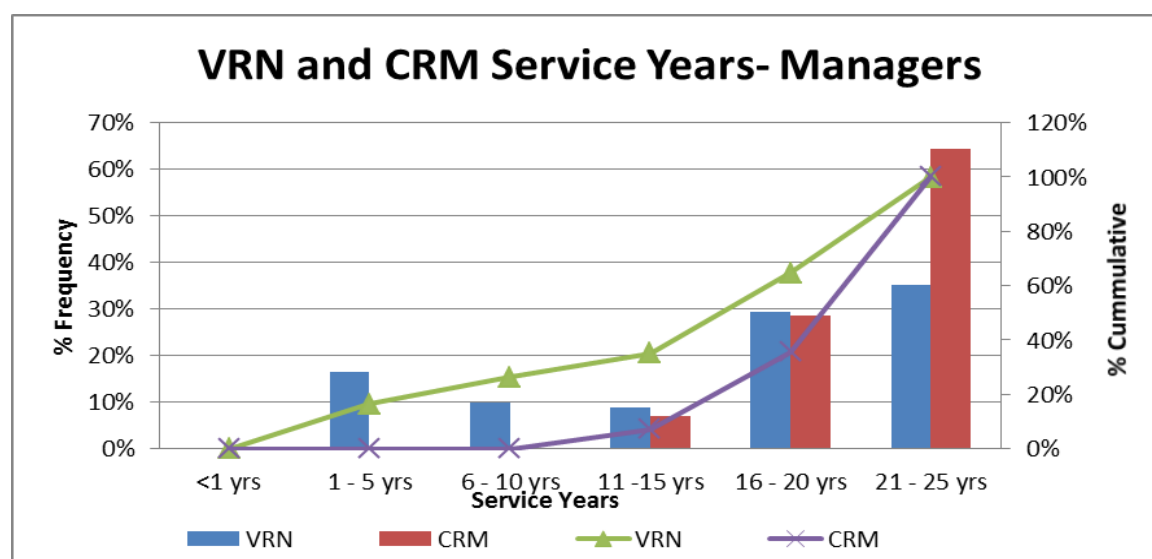
Table 13. Distribution of age groups

	Managers % Cumulative				Employees % Cumulative			
	VRN		CRM		VRN		CRM	
	%f	%Cumf	%f	%Cumf	%f	%Cumf	%f	%Cumf
Age group								
20 – 25	8.8	8.8	0	0	11.2	11.2	24.4	24.4
26 – 35	11.8	20.6	0	0	38.3	49.5	24.4	48.9
36 – 45	35.3	55.9	46.4	46.4	30.8	80.4	23.8	72.2
46 – 55	32.4	88.2	50	96.4	12.1	92.5	20.0	92.2
56 – 65	11.8	100	3.6	100	7.5	100	7.8	100

3.5.2.4 Length of employment

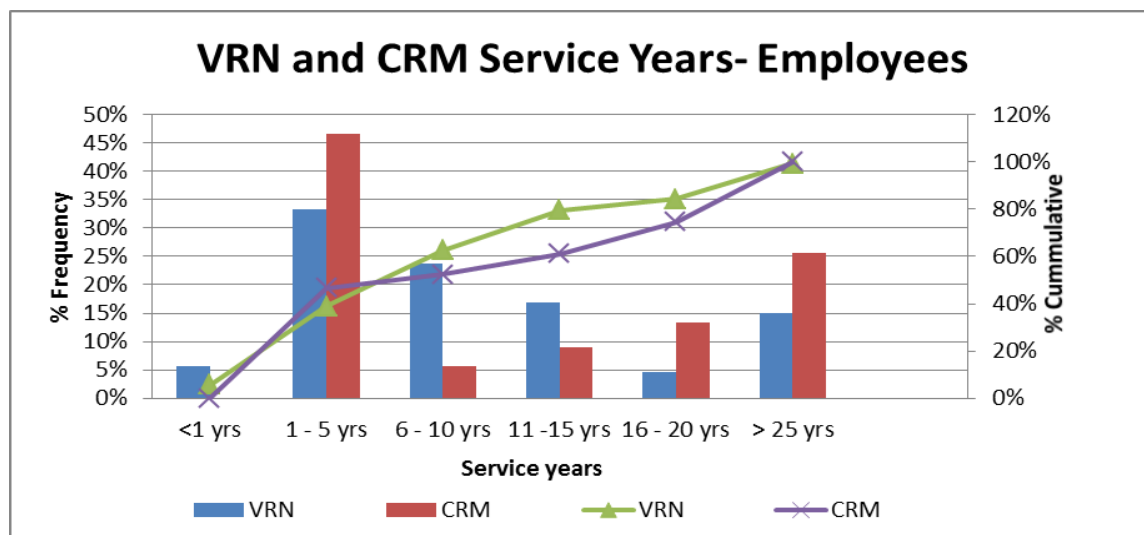
The managers at both units were well experienced with the majority having between 21 and 25 years of experience. This is shown in figure 13.

Figure 6. CRM and VRN service years for managers



The employees were predominantly young with the majority having less than 10 years experience. This group represented over 60% for both VRN and CRM. About 20% had over 25 years of experience. This is represented in figure 14.

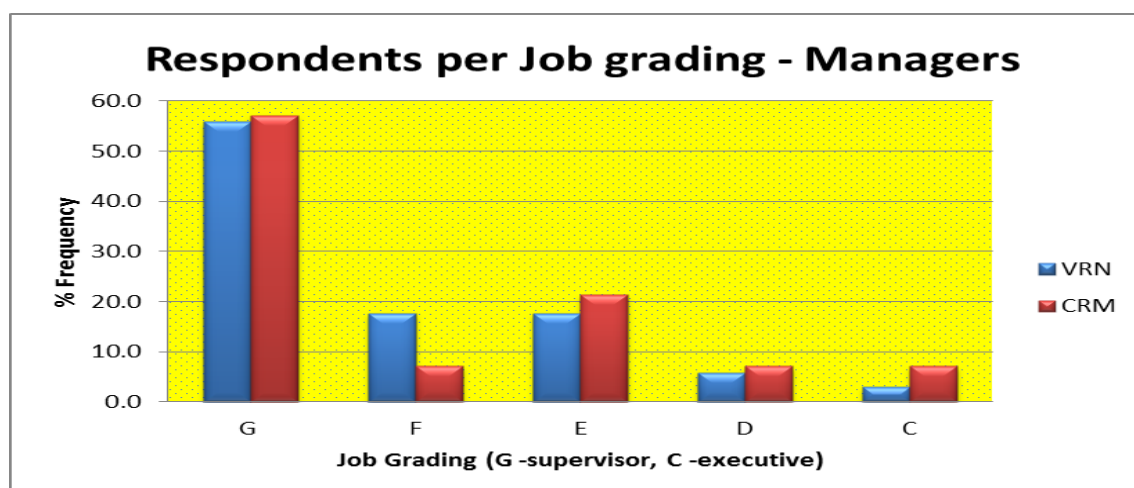
Figure 7. VRN and CRM service years for employees



3.5.2.5 Job Grading for managers

The majority of the management respondents were in the G role category for both units. This is the junior management category. This is shown in figure 15.

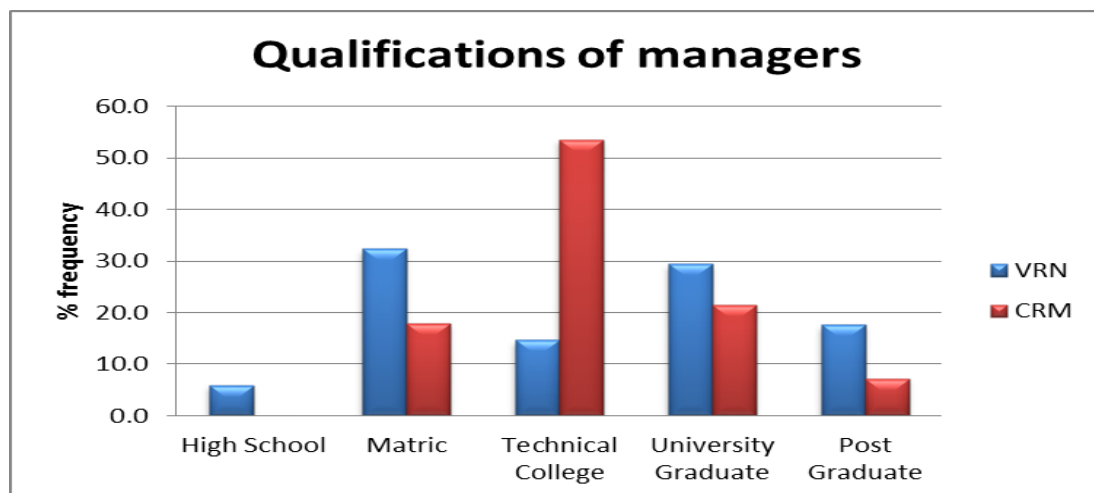
Figure 8. Job gradings for managers



3.5.2.6 Management Qualifications (level of education)

At CRM, over 50% of the managers had a technical college qualification, 30% had a university degree while 18% had matric. On the VRN side, 32% had a matric qualification while 29% possessed a university degree and 13% had a postgraduate qualification. This is shown in figure 16.

Figure 9. Qualifications of management



3.5.2.7 Summary of demographics

Males dominated both samples. The employees from both samples were relatively young with few years of experience and were predominantly black. Management was largely white. Whites were relatively old and with many years of accumulated work experience from both samples. The majority of managers had either a technikon qualification or matric.

3.6 Measurement Instruments

The Nursing Research (2012:1) defined an instrument as a device used to measure the concept of interest in a research project. An ideal measuring instrument is one which results in measures that are relevant, accurate, objective, sensitive and efficient. Research instruments can be classified into observation, surveys or contact methods (Dawson, 2002:21).

In contact methods, information can be collected by mail, telephone or personal interview. In this study, the mail questionnaire approach was used. According to Key (2007:4) a questionnaire is a means of eliciting the feelings, beliefs, experiences, perceptions, or attitudes of some sample of individuals. As a data collecting instrument, the questions can be structured or unstructured/open ended.

The advantages of questionnaires are as follows (University of Surrey, 2010)

- They are practical
- Large amounts of information can be collected from a large number of people in a short period of time and in a relatively cost effective way
- Can be carried out by the researcher or by any number of people with limited affect to its validity and reliability
- The results of the questionnaires can usually be quickly and easily quantified by either a researcher or through the use of a software package
- Can be analysed more 'scientifically' and objectively than other forms of research
- When data has been quantified, it can be used to compare and contrast other research and may be used to measure change
- Positivists believe that quantitative data can be used to create new theories and / or test existing hypotheses

The disadvantages of questionnaires are:

- Is argued to be inadequate to understand some forms of information - i.e. changes of emotions, behaviour, feelings, truthfulness, thoughtfulness etc.
- quantitative research is simply an artificial creation by the researcher, as it is asking only a limited amount of information without explanation
- People may read differently into each question and therefore reply based on their own interpretation of the question - i.e. what is 'good' to someone may be 'poor' to someone else, therefore there is a level of subjectivity that is not acknowledged

Despite this, questionnaires are extensively used (Kothari, 2004:17). Therefore, to fully measure the leadership styles presented in Chapter 2, the Multi-factor

Leadership Questionnaire was used to collect information on the independent variable (management/supervisory). The Employee Questionnaire was used to measure the level of employee organisational commitment and product quality commitment (dependent variable).

3.6.1 Multi-factor Leadership Questionnaire

Bass proposed the theory of transformational leadership in 1985. Avolio and Bass further developed it in 1995 and extended the theory by integrating a level-of-analysis framework (Alharbi & Yusoff, 2012:63). In addition, Avolio and Bass also developed Multi-factor Leadership Questionnaire (MLQ) whereby its latest version (Form-5x-short) includes the transformational, transactional, and laissez-faire. This version was used in the present study to measure leadership styles.

The Form 5X (Revised) contains 45 statements which identify and measure the key attributes of leadership and effectiveness behaviours which Bass and Avolio (1997) have shown to be associated with individual and organisational success. Each statement corresponds to one of the nine components of transactional, transformational or non-transactional leadership attributes. The MLQ assesses a full range of leadership behaviours. In the questionnaire, several questions are used to measure each of the component:

Transformational Leadership (TL)

1. Idealized attributes (IA): (Statements B10, B18, B21, B25)
2. Idealized behaviours (IB) (Statements B6, B14, B23, B34)
3. Inspirational motivation (IM) (Statements B9, B13, B26, B36)
4. Intellectual stimulation (IS) (Statements B2, B8, B30, B32)
5. Individual consideration (IC) (Statements B15, B19, B29, B31)

Transactional Leadership (TA)

6. Contingent reward (CR) (Statements B1, B11, B16, B35)
7. Management by exception (active) (Statements MBEA) (B4, B22, B24, B27)
8. Management by exception (passive) (Statements MBEP) (B3, B12, B17, B20)

Passive/Avoidant

9. Laissez Faire (LF) (Statements B5, B7, B28, B33)

The MLQ comprised of a 5 point Likert scale ranging from 0 to 4. According to Brown (2011:10), a Likert type scale is usually linked to a number of statements to measure attitudes or perceptions and 5- point or 7-point scale is often used.

0	1	2	3	4
Not at all	Once in a while	Sometimes	Fairly Often	Frequently if not always

The MLQ consists of a self-rater and a rater version, Appendix A and Appendix B respectively. These two versions consist of exactly the same statements, apart from the fact that they are written from different perspectives. The leader, for example, would be given the statement, “I provide others with assistance in exchange for their efforts whereas the follower’s questionnaire would say, “My leader provides me with assistance in exchange for my efforts.”

3.6.2 Reliability and Validity of the Mult-factor Leadership Questionnaire

According to Ghorbani and Alemorad (2013:1172), a measure of reliability or credibility interprets the authenticity, accuracy and dependability of measuring instrument. It measures whether the instrument is correctly designed for assessing the intended variable and feature (Miller, 2005:2).

The Cronbach Alpha method is one method for calculating reliability (Trochim, 2006:5). This method is applied for calculating the internal coordination of measurement instrument such as questionnaires. In this kind of instrument, answers for each question can have different values. In order to calculate Cronbach Alpha Index, firstly the variance of obtained values from subcategorised questions in the questionnaire should be obtained through subtest and total variance, then the Cronbach Alpha Index should be calculated (Kimberlin & Winterstein, 2008:5).

For the MLQ, the internal consistency, validity and reliability of the scale have been empirically tested before (Alharbi & Yusoff, 2012:63). The reliability for all items and

for each leadership factor scale was reported to range from 0.74 to 0.94 (Avolio & Bass, 1995) and exceed the standard reliability cut-off of 0.70, as recommended by Fornell and Larcker (1981, cited in Alharbi and Yusoff, 2012:63).

Furthermore, the MLQ has been tested in the South African context. Ackermann, Schepers, Lessing and Dannhauser (2000:21) utilised the MLQ to determine whether the factor structure of the MLQ as a measure of transformational leadership could be replicated in South Africa. The authors determined the reliability of the three main leadership scales within the MLQ, viz. transactional, transformational and non-transactional using Cronbach's Alpha coefficient. Scores of 0.736, 0.944 and 0.803 were obtained respectively. This indicated that the factor structure as developed by Bass (1985) was confirmed by the results of the authors.

3.7 Employee Commitment to Product Quality and Organisation

An adapted product-quality-commitment and organisational commitment questionnaire was used to capture data on this dependent variable. It consisted of 18 questions. The first nine questions as proposed by Balfour and Wechsler (1996:273) were designed to capture three dimensions of employee commitment. The three dimensions are as follows:

- **Identification commitment:** employees readily associate themselves with the organisation.
- **Affiliation commitment:** commitment based on affiliation or pride in the organisation.
- **Exchange commitment:** commitment based on satisfactory exchange with the organization resulting in appreciation of the individual by the organization.

Questions 10 to 13 were adapted from Rusbult, Martz and Agnew (1998) while 14 to 18 were developed by the researcher. These questions were designed to measure the level of commitment the employees have in producing quality products as articulated by the leaders. The questionnaire was presented in a Likert type scale with the following categories:

1 Strongly disagree	2 Disagree	3 Somewhat Disagree	4 Neutral	5 Somewhat agree	6 Agree	7 Strongly Agree
---------------------------	---------------	---------------------------	--------------	------------------------	------------	------------------------

Overall, the questionnaire was supposed to measure these three factors:

- Employee organisational commitment (Q1, Q2, Q3, Q4, Q5, Q6, Q7, Q8 and Q9)
- Employee Commitment to product quality (Q11, Q12, Q13, Q15, Q17, Q18)
- Employee Quality perception/views (Q10, Q14, Q16)

3.7.1 Reliability and Validity

As mentioned in the previous section, reliability measures a research instrument's consistency, and validity refers to whether the instrument measures what it claims to measure (Brown, 2011:11).

Coefficient alpha values were 0.81 for affiliation commitment, 0.72 for identification commitment and 0.83 for exchange commitment (Balfour & Wechsler, 1996:273). Rusbult, *et al.*, (1998:388) proved the validity and reliability of the commitment questionnaire with values of +0.80. This indicates that the questionnaire is usable. Kacmar, *et al.*, (1999) found through confirmatory factor analysis that the three dimensional model of the OCS fitted the data better than a one sided dimensional version.

3.8 Data Collection Procedure

As outlined by Bourque and Fielder (1995:8), there are usually four ways of administering questionnaires. These are a one-to-one approach, group approach, a semi-supervised approach, and an unsupervised approach. The methods are shown in table 14.

Table 14: Data collection approaches

Approach	Advantages	Disadvantages
One-to-one	▪ Researcher available to answer questions and provide extra data ▪ Maximise confidentiality	▪ Very costly
Group	▪ Large responses and consistent instructions and ensures completion	▪ Not practical with scattered sample
Semi-supervised	▪ Researcher can answer questions and ensure completion	▪ Degree of influence
Unsupervised	▪ Respondents free from working under pressure ▪ Suited for larger samples	▪ No control over respondents ▪ No clarification ▪ Low response rates

Source Bourque & Fielder (1995:8)

In the study, two approaches were used; the group approach to employees and unsupervised approach to management/supervisors. The questionnaires were handed out to each respondent personally by the researcher. A covering letter was attached to each questionnaire that served to introduce the researcher to the respondent and to explain the purpose of the study, as well as the intentions of the researcher.

The respondents were required to assess how frequently the behaviour described in the statements was exhibited and to mark the most suitable answer on the Likert scale. In both instruments, the respondents were informed that they could elect to leave a question blank if the question appeared ambiguous. The top managers completed the self-rater questionnaire, and their subordinates completed the rater questionnaire. For the final statistical analysis, the self-rater (leader) and rater (subordinate) versions were combined in order to provide a holistic and objective understanding of the leadership being practised within the company. The employees completed the employee commitment to quality questionnaire.

3.9 Ethical Considerations

Ethical considerations of confidentiality and privacy are critical. According to the Nursing Research (2012:12), factors that are important regarding the rights of the participants are confidentiality, anonymity and voluntary participation. These needed

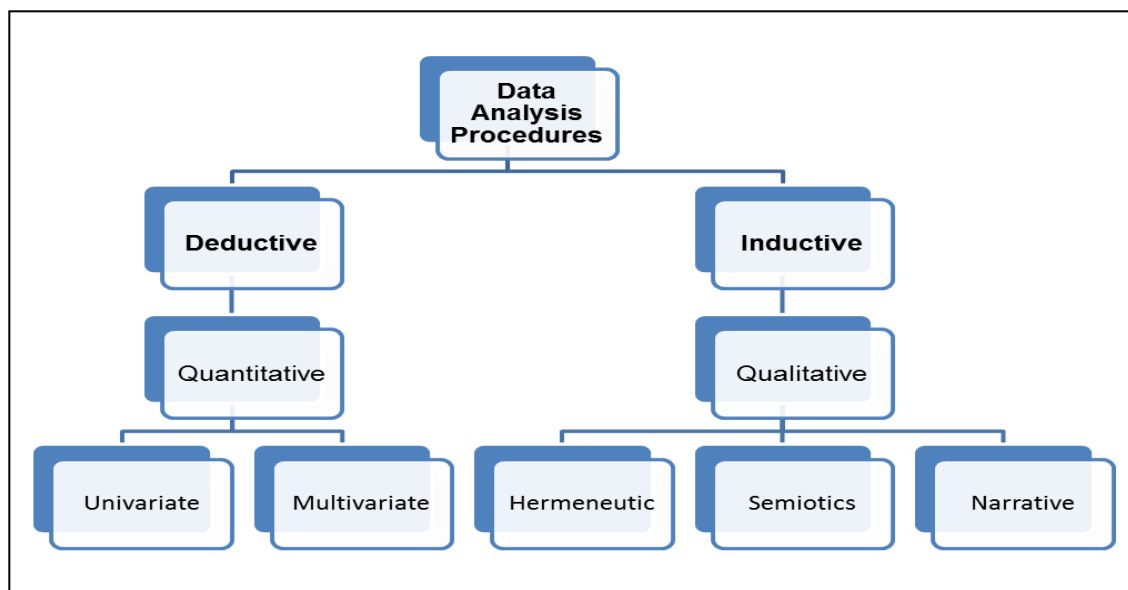
to be ensured. Firstly the study objectives were explained clearly and participation in the survey was voluntary. Secondly, the questionnaires were delivered in an envelope and completed anonymously to ensure all confidentiality. Above all, the author was not involved in the administration and collection of questionnaires as e was an interested party. This was done by the supervisors of the cluster samples.

3.10 Data Analysis

All fieldwork culminates in the analysis and interpretation of the data collected (Engelbrecht, 2010:4). Analysis involves breaking up the data into manageable themes, patterns, trends and relationships. The main goal of analysis is to understand the various constitutive elements through relationships between concepts, constructs or variables and see whether patterns are established (Cooper & Schindler, 2003:87).

Once survey data are collected from respondents, the next step is to input the data on the computer, do appropriate statistical analyses, interpret the data, and make recommendations pertaining to your research objectives (Efox, n.d:1). There are numerous ways under which data analysis procedures are broadly defined. The following diagram makes it evident (Bala, 2005:2).

Figure 10. Statistical data analysis methods



Source: Bala (2005:2)

Quantitative statistical analysis was carried out with the help of the the SPSS statistical program (SPSS Inc, 2007). Descriptive statistics and effect sizes were used to decide on the significance of the findings. The results are to be described and compared by way of mean and standard deviations. In this study, the mean is to be used to measure the central tendency of the results. The standard deviation presents the average distance of the individual scores from the mean.

The confirmatory exploration factor (CFA) and exploratory factor analysis (EFA) were used to determine the validity of the questionnaires. Firstly, a simple principal components analysis was conducted on the items of the questionnaires to determine the number of factors. For this purpose both the scree plot and eigen values were evaluated. Secondly, a principal axis factoring analysis with a direct Oblimin rotation was conducted in order to identify the factor loadings of the items on both questionnaires. Communalities ($r > 0.20$) were evaluated to determine the amount of variance each item explained in terms of the other items (Field, 2013). The factor correlation matrix was evaluated to determine if factors correlated with each other. In cases where factors were related ($r > 0.30$) an Oblimin rotation was employed while a Varimax rotation was employed when in cases where factors were not related ($r < 0.30$) (Field, 2013)..

Cronbach alpha co-efficients were used to assess the reliability of the constructs that are measured in this study. Pearson product-moment correlation coefficients were used to specify the relationship between the relevant variables. The product-moment co-efficient of correlation was used to calculate the relationship between sets of ordered pairs in order to obtain more precise approximations of the direction and degree of relationship. Product-moment co-efficient of correlation is based on the related variation of the members of sets of ordered pairs. If they vary together, it is said that there is a positive or negative correlation as the case may be. Thus, if a relationship exists between the variables, it can be termed a positive relationship. A negative relationship occurs when a decrease in the measurement of one variable leads to an increase in the other variable (Ferguson, 1981). If they do not co-vary, it is said that no relationship exists. In terms of statistical significance, a 95%

confidence value at interval level $p \leq 0.05$ is acceptable (The McGraw-Hill Companies, 2000)

Effect sizes (Cohen, 1988; Steyn, 1999) were used in addition to statistical significance to determine the practical significance of relationships. Effect sizes provide insight whether obtained results are important (while statistical significance may often show results which are of little practical relevance). The use of only statistical significance testing in a routine manner has been regarded as problematic and various editors have appealed to place more emphasis on effect sizes (Steyn, 1999). Cut-off points of 0.30 (medium effect, Cohen, 1988) and 0.50 (large effect) are set for the practical significance of correlation coefficients.

3.11 Chapter summary

This chapter provided a discussion of the research methodology applied to the present study. The steps in the research process were discussed. This included a comprehensive discussion of the scope of the survey, the sampling method and the organisation of the survey. Furthermore, the data collection technique used for the research study was also discussed and the rationale for using the selected methods of data collection (the questionnaire) was also highlighted. In addition, data processing and the statistical packages used to analyse data were highlighted. Finally, the chapter examined the reliability and validity of the research instrument as well as the ethical considerations which were followed.

The following chapter presents the research results. The chapter focuses on the responses provided by the respondents to the questions in the questionnaire. Tables will be used in conjunction with pie charts and bar graphs to aid in the analysis of data. Finally, results obtained on each question in the questionnaire will be compared with empirical studies to confirm their consistency or inconsistency. Hypotheses will also be tested using regression analyses to determine the relationship between leadership styles and employee commitment to product quality. Furthermore, the comparative leadership styles and commitment levels in the two business units are analysed.

CHAPTER FOUR – ANALYSIS OF RESULTS

4.1 Introduction

The previous chapter discussed the methodology followed in the research study. The goals of the research and the hypothesis were presented. A schematic description of the research design was represented in Figure 6. The chapter also alluded to ethical considerations; the research population and sample; the instruments used and their respective reliability and validity; the process of data collection, capturing and analysis; the calculation of Cronbach's Alpha coefficient and finally the hypothesis testing.

This chapter presents and interprets the empirical findings of the study. Firstly, demographic frequencies were analysed followed by descriptives and then the factor analysis. In the presentation of the results, the responses to each item on the questionnaire were presented and analysed. The hypotheses of this study were tested using statistical analysis and either accepted or rejected.

To assist in data analysis, tables and bar charts were used. Descriptive statistics was used to summarise quantitative data and relationships which are not apparent in the raw data. This helped to interpret and understand the results. The testing of the hypothesis was done using Statistical Package for Social Sciences (SPSS) with the assistance of the personnel at the Statistics Department at the North West University.

4.3 Descriptive statistics for Leadership Style

4.3.1 Leadership Style

The descriptive statistics output for the leadership style are presented in the table below. The 'N' is the number of cases used in the multivariate factor analysis while the mean is the average of the statement and standard deviation is the deviation of the variables measured.

The literature survey identified three leadership styles (transformational, transactional and laissez faire) with specific nine constructs that could be measured. This is summarised in table 15.

Table 15. Mean scores for the nine leadership constructs on a 5 point scale

Statement	COLD ROLLING MILLS			VEREENIGING		
	N	Mean	Std Deviation	N	Mean	Std Deviation
10. Instils pride in me for being associated with him/her	28	2.93	.940	34	2.47	1.161
18. Goes beyond self-interest for the good of the group	27	3.19	.681	34	2.82	1.141
21. Acts in ways that builds my respect	28	3.36	.678	34	2.76	1.046
25. Displays a sense of power and confidence	28	3.46	.744	32	2.72	.958
Idealised attributes		3.23	0.76		2.69	1.08
6. Talks about their most important values and beliefs	28	3.00	.943	33	2.48	1.121
14. Specifies the importance of having a strong sense of purpose	28	3.14	.651	34	2.97	.969
23. Considers the moral and ethical consequences of decisions	27	3.22	.801	33	2.94	.933
34. Emphasizes the importance of having a collective sense of mission	27	3.00	.679	33	2.67	1.137
Idealised behaviour		3.09	0.77		2.77	1.04
9. Talks optimistically about the future	28	3.14	.651	34	2.91	1.026
13. Talks enthusiastically about what needs to be accomplished	28	3.14	.591	33	2.97	.918
26. Articulates a compelling vision of the future	28	3.11	.737	34	2.62	1.015
36. Expresses confidence that goals will be achieved	28	3.25	.645	33	2.97	.847
Inspirational Motivation		3.16	0.66		2.87	0.95
2. Re-examines critical assumptions to question whether they are appropriate	28	3.11	.737	32	2.63	.976
8. Seeks differing perspectives when solving problems	28	3.00	.816	33	2.94	.933
30. Gets me to look at problems from many different angles	28	3.11	.737	34	2.76	1.017
32. Suggests new ways of looking at how to complete assignments	27	3.04	.759	34	2.59	1.234
Intellectual Stimulation		3.06	0.76		2.73	1.04
15. Spends time teaching and coaching	27	2.78	.892	34	2.38	1.231
19. Treats me as an individual rather than just as a member of a group	27	3.22	.751	34	2.71	1.219
29. Considers me as having different needs, abilities, and aspirations from others	28	2.79	1.031	34	2.68	1.199
31. Helps me to develop my strengths	28	3.11	1.031	34	2.56	1.307
Individualised Consideration		2.97	0.93		2.58	1.24
AV. TRANSFORMATIONAL		3.10	0.77		2.73	1.07

Table 15. Mean scores for the nine leadership constructs on a 5 point scale

	COLD ROLLING MILLS			VEREENIGING		
	N	Mean	Std Deviation	N	Mean	Std Deviation
1. Provides me with assistance in exchange for my efforts	28	2.96	.962	33	2.33	1.267
11. Discusses in specific terms who is responsible for achieving performance targets	27	3.44	.577	34	2.59	1.131
16. Makes clear what one can expect to receive when performance goals are achieved	28	2.86	1.044	34	2.47	1.237
35. Expresses satisfaction when I meet expectations	28	3.39	.737	33	2.76	1.146
Contingent Reward		3.16	0.83	33.50	2.54	1.20
4. Focuses attention on irregularities, mistakes, exceptions, and deviations from standards	28	2.86	.932	33	2.91	.805
22. Concentrates his/her full attention on dealing with mistakes, complaints, and failures	27	2.78	1.121	33	2.64	1.025
24. Keeps track of all mistakes	28	2.07	1.245	34	2.53	1.022
27. Directs my attention toward failures to meet standards	28	2.25	1.110	33	2.12	1.166
Management by Exception (Active)		2.49	1.10	33.25	2.55	1.00
3. Fails to interfere until problems become serious	28	1.57	1.289	34	1.56	1.186
12. Waits for things to go wrong before taking action	28	.39	.875	34	1.15	1.158
17. Shows that he/she is a firm believer in "if it ain't broke, don't fix it."	27	1.67	1.144	34	2.06	1.278
20. Demonstrates that problems must become chronic before taking action	27	.81	.962	34	1.82	1.403
Management by Exception (Passive)		1.11	1.07	34.00	1.65	1.26
AVERAGE TRANSACTIONAL		2.26	1.00		2.24	1.15
	COLD ROLLING MILLS			VEREENIGING		
	N	Mean	Std Deviation	N	Mean	Std Deviation
5. Avoids getting involved when important issues arise	27	.56	1.155	34	1.21	1.388
7. Is absent when needed	28	.54	.881	34	1.09	1.111
28. Avoids making decisions	28	.61	1.031	34	1.50	1.523
33. Delays responding to urgent questions	28	.89	1.066	33	1.73	1.420
AVERAGE LAISSEZ FAIRE		.65	1.03		1.38	1.36

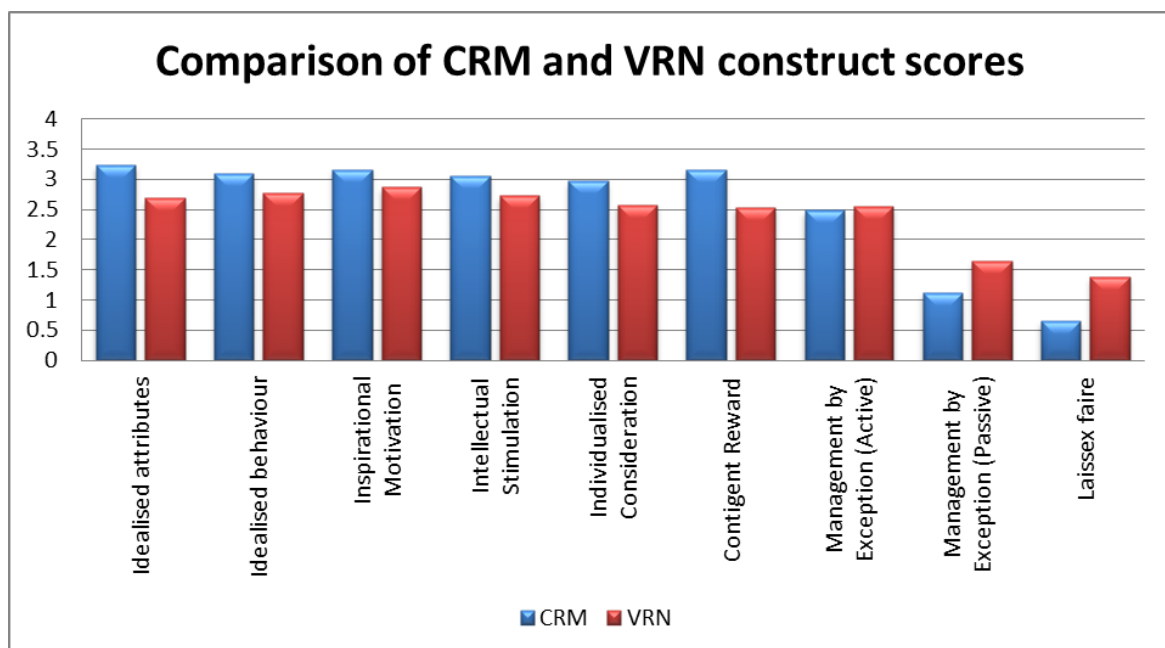
The mean scores suggested that a significant amount of central tendency existed, as the means for CRM and VRN were close to 3.00. However, VRN had higher standard deviations indicating a wider spread of the scores (table 15). The scores were summarised in table 15a and figures 15 and 16. These are to be compared to the factor analysis in section 4.3.2.

Table 15a. Summary of the nine leadership constructs on a 5 point scale

Leadership Construct	CRM	VRN
Idealised attributes	3.23	2.69
Idealised behaviour	3.09	2.77
Inspirational Motivation	3.16	2.87
Intellectual Stimulation	3.06	2.73
Individualised Consideration	2.97	2.58
Contigent Reward	3.16	2.54
Management by Exception (Active)	2.49	2.55
Management by Exception (Passive)	1.11	1.65
Laissex faire	0.65	1.38

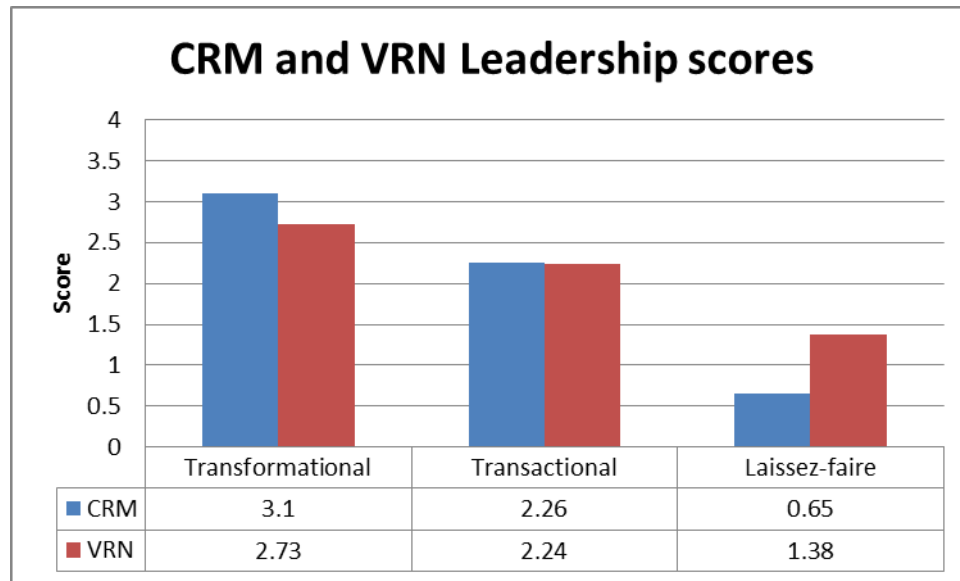
These constructs were plotted in figure 18 below.

Figure 11. Leadership styles summary scores



The overall summary after combining the nine leadership constructs into transformational, transactional and laissez faire is depicted in figure 19 below.

Figure 12. Leadership style summary scores



Furthermore, the other additional management constructs from the MLQ (extra effort, effectiveness, and satisfaction) were summarised in table 16 below.

Table 16. Extra three constructs results from the MLQ

Statement	COLD ROLLING MILLS			VEREENIGING		
	N	Mean	Std Deviation	N	Mean	Std Deviation
39. Gets me to do more than I expected to do	28	3.14	.891	33	2.70	1.287
42. Heightens my desire to success	28	3.25	.701	34	2.50	1.376
43. Increases my willingness to try harder	28	3.32	.723	34	2.71	1.268
45. Leads a group that is effective	28	3.64	.488	33	2.88	.992
Extra Effort		3.34	0.70		2.70	1.23
37. Is effective in meeting my job-related needs	28	2.96	.693	34	2.71	1.244
40. Is effective in representing me to higher authority	27	3.00	.920	33	2.39	1.298
44. Is effective in meeting organizational requirements	28	3.36	.621	34	3.00	1.101
Effectiveness		3.11	0.74		2.70	1.21
38. Uses methods of leadership that are satisfying	28	3.21	.686	33	2.55	1.148
41. Works with me in a satisfactory way	28	3.46	.637	34	2.91	1.138
Satisfaction		3.34	0.66		2.73	1.14

4.3.2 Factor Analysis for Leadership style

In order to meet the research objectives, the proposed theoretical constructs of leadership style had to be confirmed. The Confirmatory Factor Analysis (CFA) was used to investigate the intended scales in the questionnaires. Furthermore, the Kaiser-Maier-Oklin test and Bartlett's test of sphericity were conducted to evaluate sampling adequacy. The factor solutions were investigated for the factor loading characteristics and factor values of greater than 0.6 are acceptable (UCLA: Statistical Consulting Group., 2007):

- Communalities (proportion of each variable's variance that can be explained by the factors),
- Total variance explanations (Eigenvalues)
- Factor, Pattern, Structure and Factor correlation matrix,

In addition, the Eigenvalues and Cronbach's alphas were computed for each construct instead using the CFA and are summarised in the table below.

Table 17. Calculated Cronbach alphas, KMO and Eigenvalues

Construct/Factor	KMO	Eigenvalue Variance	Cronbach Alpha
Idealized attributes (IA)	0.832	74%	0.880
Idealized behaviours (IB)	0.783	63%	0.791
Inspirational motivation (IM)	0.712	62%	0.794
Intellectual stimulation (IS)	0.646	52%	0.677
Individual consideration (IC)	0.726	60%	0.768
Contingent reward (CR)	0.781	68%	0.831
Management by exception (active) (MBEA)	0.541	42%	0.507
Management by exception (passive) (MBEP)	0.643	48%	0.644
Laissez Faire (LF)	0.673	54%	0.716
Extra Effort	0.853	76%	0.893
Effectiveness	0.639	74%	0.797
Satisfaction	0.500	90%	0.885

The reliabilities of nine of the factors were well above 0.700 indicating strong reliability but three constructs (highlighted) gave factor reliabilities of 0.677, 0.507, and 0.644. An alpha value above 0.500 is however, acceptable in social sciences

(Field, 2009:675). From the analysis, 12 factors were confirmed successfully and therefore tables 16 and 17 were retained and used in the analysis.

4.3.3 Statistical Analysis of the Leadership variables

This section was designed to verify the nature and means of leadership style constructs and compare the two business units. In order to answer the first objective of assessing the leadership style within the two selected business units, the leadership style was studied and analysed in the view of the full range leadership theory, where leader's behaviour was assessed using nine styles grouped into three main categories: transformational (five factors), transactional (three factors) and laissez-faire. Bass and Avolio (1997) considered "ideal" levels for effective leadership scores to include a mean of 3.0 or higher for idealized influence (attributed), idealized influence (behaviour), inspirational motivation, and intellectual stimulation and individualised consideration.

4.3.3.1 Transformational Leadership Style

Transformational leadership is the development of a relationship of mutual needs, aspiration as well as values between the leader and followers. They put aside personal agendas and unite to pursue a common goal (Saqer, 2009:108). This style consists five relation oriented subscales.

4.3.3.1.1 Idealised Attributes

The leader is able to shift follower's self-interests, trust and respect to a global perspective that places the welfare of the business first (table 18).

Table 18. Idealised influence (attributes)

Questionnaire Statement	CRM		VRN		Ideal Score
	Mean	Std Deviation	Mean	Std Deviation	
10. Instils pride in me for being associated with him/her	2.93	.940	2.47	1.161	>3.0
19. Goes beyond self-interest for the good of the group	3.19	.681	2.82	1.141	>3.0
21. Acts in ways that builds my respect	3.36	.678	2.76	1.046	>3.0
35. Displays a sense of power and confidence	3.46	.744	2.72	.958	>3.0
Average	3.23	0.76	2.69	1.08	>3.0

From table 18, the scores for item 10 were below 3.0 for both CRM and VRN. The general feeling was that managers does not instill pride of association in the followers. It means that followers poorly identify with their leadership.

However, for statements 19, 21 and 35, CRM top management was effective in going beyond the barriers of self-interests, to build trust and display confidence for the sake of their business unlike VRN when dealing with issues of leadership. Therefore, idealised influence (attributes) is a dominant leadership style at CRM than at VRN.

4.3.3.1.2 Idealised influence (behaviour)

By reviewing the scores in table 19, CRM top management was viewed to positively influence the group by way of effective behaviour than VRN. The average score for all the elements was +> 3.00 for CRM and <3.00 for VRN. This meant that CRM top management articulated the most important values and beliefs, had a strong sense of purpose and emphasised a collective sense of mission, better than VRN managers. Therefore, idealised influence (behaviour) is a dominant leadership style at CRM.

Table 19. Idealised Influence (behaviour)

	CRM		VRN		Ideal Score
	Mean	Std Deviation	Mean	Std Deviation	
6. Talks about their most important values and beliefs	3.00	.943	2.48	1.121	>3.0
14. Specifies the importance of having a strong sense of purpose	3.14	.651	2.97	.969	>3.0
23. Considers the moral and ethical consequences of decisions	3.22	.801	2.94	.933	>3.0
34. Emphasizes the importance of having a collective sense of mission	3.00	.679	2.67	1.137	>3.0
Idealised behaviour	3.09	0.77	2.77	1.04	>3.0

4.3.3.1.3 Inspirational Motivation

Table 20 shows the comparative scores for each item under this relation-oriented subscale. The CRM management relatively expressed more confidence that goals will be achieved, spoke optimistically and enthusiastically about the future with a compelling vision when compared to VRN. All the VRN scores were < 3.0.

Table 20. Inspirational Motivation

	CRM		VRN		Ideal Score
	Mean	Std Deviation	Mean	Std Deviation	
9 Talks optimistically about the future	3.14	.651	2.91	1.026	>3.0
13 Talks enthusiastically about what needs to be accomplished	3.14	.591	2.97	.918	>3.0
26 Articulates a compelling vision of the future	3.11	.737	2.62	1.015	>3.0
36 Expresses confidence that goals will be achieved	3.25	.645	2.97	.847	>3.0
Inspirational Motivation	3.16	0.66	2.87	0.95	>3.0

Therefore, the CRM managers were characterised by having a more inspirational drive than VRN.

4.3.3.1.4 Intellectual Stimulation

From table 21, CRM managers were perceived to be effective in encouraging followers to question the status quo, inviting creative solutions in order to gain new perspectives by their scores of greater than 3.0 on all the elements. VRN scored less than 3.0 on all statements. This implied that the VRN top management was weakly

perceived to re-examine critical assumptions, to seek different perspectives and look from many angles when solving problems as well as suggesting new ways of looking at problems. Therefore, intellectual stimulation was a relatively dominant leadership style at CRM than VRN.

Table 21. Intellectual Stimulation

	CRM		VRN		Ideal Score
	Mean	Std Deviation	Mean	Std Deviation	
2 Re-examines critical assumptions to question whether they are appropriate	3.11	.737	2.63	.976	>3.0
8 Seeks differing perspectives when solving problems	3.00	.816	2.94	.933	>3.0
30. Gets me to look at problems from many different angles	3.11	.737	2.76	1.017	>3.0
32 Suggests new ways of looking at how to complete assignments	3.04	.759	2.59	1.234	>3.0
Intellectual Stimulation	3.06	0.76	2.73	1.04	>3.0

4.3.3.1.5 Individualised Consideration

This construct pertains to leaders who act as tutors and pay particular attention to individual needs for professional and personal growth. These leaders listen with empathy, delegate tasks, empower and actively monitor development (Saquer, 2009:110).

CRM showed ideal leadership when it came to treating followers as individuals and developing their individual strengths than VRN. These scores were above 3.0. However, both top management teams were not perceived as to spend enough time coaching and mentoring, attending to the different needs and aspirations of the followers. Therefore, individualised consideration was not a dominant leadership style at both units.

Table 22. Individualised Consideration

	CRM		VRN		Ideal Score
	Mean	Std Deviation	Mean	Std Deviation	
15 Spends time teaching and coaching	2.78	.892	2.38	1.231	>3.0
19 Treats me as an individual rather than just as a member of a group	3.22	.751	2.71	1.219	>3.0
29 Considers me as having different needs, abilities, and aspirations from others	2.79	1.031	2.68	1.199	>3.0
31 Helps me to develop my strengths	3.11	1.031	2.56	1.307	>3.0
Individualised Consideration	2.97	0.93	2.58	1.24	>3.0

4.3.3.2 Transactional Leadership Style

The second component is the transactional approach that either involves positive or negative exchange (task-oriented approach). It is on three sub-factors. The ideal score levels are 1.0 -2.0 for contingent reward and management by exception (active) while the ideal for management by exception (passive) is < 1.0 (Bass & Avolio, 1997).

4.3.3.2.1 Contingent Reward

Leaders articulate specific and desired outcomes as well as the rewards associated with these outcomes. This style is effective, however, to a lesser extent than transformational (McShane & Von Glinow, 2011:371).

Table 23. Contingent reward

	CRM		VRN		Ideal Score
	Mean	Std Deviation	Mean	Std Deviation	
1 Provides me with assistance in exchange for my efforts	2.96	.962	2.33	1.267	1.0 – 2.0
11 Discusses in specific terms who is responsible for achieving performance targets	3.44	.577	2.59	1.131	1.0 – 2.0
16 Makes clear what one can expect to receive when performance goals are achieved	2.86	1.044	2.47	1.237	1.0 – 2.0
35 Expresses satisfaction when I meet expectations	3.39	.737	2.76	1.146	1.0 – 2.0
Contingent Reward	3.16	0.83	2.54	1.20	

From table 23, all the scores for contingent reward elements in both units were above the ideal '1.0 – 2.0' levels considered for effective leadership. This implied that both units were over-driving a contingent reward approach. Such scores are

characteristic of a KPI system where the followers endeavour to reach the goals articulated by the leaders for positive evaluation.

The CRM was perceived to drive the reward system more than VRN. In addition, the leadership was viewed to discuss specific terms on performance and provide assistance for the efforts and express satisfaction when expectations are met in return. Therefore, the reward leadership style is dominant at both units.

4.3.3.2.2 Management by Exception (Active)

Leaders here are active vigilantes who ensure that deviations do not occur (Saqr, 2009:112). Leaders use this style in order to achieve their KPIs. From table 24, both top management teams were perceived to focus and concentrate on irregularities as well as directed the attention of employees towards their failure to meet standards.

Table 24. Management by Exception (active)

	CRM		VRN		Ideal Score
	Mean	Std Deviation	Mean	Std Deviation	
4 Focuses attention on irregularities, mistakes, exceptions, and deviations from standards	2.86	.932	2.91	.805	1.0 – 2.0
22 Concentrates his/her full attention on dealing with mistakes, complaints, and failures	2.78	1.121	2.64	1.025	1.0 – 2.0
24 Keeps track of all mistakes	2.07	1.245	2.53	1.022	1.0 – 2.0
27 Directs my attention toward failures to meet standards	2.25	1.110	2.12	1.166	1.0 – 2.0
Management by Exception (Active)	2.49	1.10	2.55	1.00	

In addition, the VRN team was perceived as prone to keeping track and file of all mistakes more than the CRM team. Therefore, management by exception (active) was found to be predominant in both units and above the recommended ideal measure of between 1.0 and 2.0. These findings augment the use of the contingent reward approach in section 4.3.3.2.1.

4.3.3.2.3 Management by Exception (Passive)

This leadership style characterises leaders as not active vigilantes but wait for problems to occur and then institute corrective actions.

From table 25, CRM scored <1.0 on elements 12 and 20. This meant that CRM is viewed to take action before things go wrong and that they intervened before problems became chronic. However, the scores on the same constructs indicated that VRN had a tendency to wait until things went wrong as well as wait until problems became chronic before they act.

Table 25. Management by exception (passive)

	CRM		VRN		Ideal Score
	Mean	Std Deviation	Mean	Std Deviation	
2 Fails to interfere until problems become serious	1.57	1.289	1.56	1.186	0.0 – 1.0
12 Waits for things to go wrong before taking action	.39	.875	1.15	1.158	0.0 – 1.0
17 Shows that he/she is a firm believer in ‘if it ain’t broke, don’t fix it.’	1.67	1.144	2.06	1.278	0.0 – 1.0
20 Demonstrates that problems must become chronic before taking action	.81	.962	1.82	1.403	0.0 – 1.0
Management by Exception (Passive)	1.11	1.07	1.65	1.26	

Managers from both units were perceived to fail to interfere until problems became chronic and firm believers in ‘if it ain’t broke, don’t fix it’ approach. The mean scores from table 25 showed that this style had higher scores than recommended by literature (between 0.0 and 1.0) (Bass & Avolio, 1997).

The scores were generally lower than those in management by exception (active) and this is complementary to the argument that the leaders were more active vigilantes than passive. However, leaders at both units practice this style of leadership above recommended levels with VRN using it more than CRM.

4.3.3.4 Laissez-faire Leadership Style

This leadership style resembles lack of leadership as it is not active or passive. However, it can be used as an extension of situational leadership when the followers have attained a correct level of maturity and responsibility (Nwafor, 2012:173).

Table 26. Laissez-faire

	CRM		VRN		Ideal Score
	Mean	Std Deviation	Mean	Std Deviation	
5. Avoids getting involved when important issues arise	.56	1.155	1.21	1.388	0.0 – 1.0
7. Is absent when needed	.54	.881	1.09	1.111	0.0 – 1.0
28. Avoids making decisions	.61	1.031	1.50	1.523	0.0 – 1.0
33. Delays responding to urgent questions	.89	1.066	1.73	1.420	0.0 – 1.0
LAISSEZ FAIRE	.65	1.03	1.38	1.36	

The CRM managers scored <1.00 while VRN managers scored > 1.00 on all the constructs defining laissez-faire. The use of this approach at CRM was commensurate with the recommended levels as shown in table 26.

However, VRN managers were viewed as having a strong tendency of avoiding involvement on important issues, being absent when needed, avoiding making decisions and delaying in responding to urgent questions. Furthermore, delays in responding to urgent questions and being indecisive scored 1.73 and 1.50 respectively, which was characteristically higher than the ideal values. Therefore, laissez-faire is prevalent at VRN than at CRM but not dominant at both plants.

4.3.3.4 Summary of Leadership Styles

The overall scores for the five relations-oriented subscales were generally higher for CRM than VRN. The CRM scores varied between 2.97 and 3.23 while those for VRN varied between 2.58 and 2.87.

Table 27. Final summary of scores for managers

Leadership Construct	CRM	VRN	Style	Ideal scores
Idealised attributes	3.23	2.69	Five relationship oriented approach	>3.0
Idealised behaviour	3.09	2.77		
Inspirational Motivation	3.16	2.87		
Intellectual Stimulation	3.06	2.73		
Individualised Consideration	2.97	2.58		
Contingent Reward	3.16	2.54	3 task oriented approach	1.0 – 2.0
Management by Exception (Active)	2.49	2.55		1.0 – 2.0
Management by Exception (Passive)	1.11	1.65		0.0 – 1.0
Laissez faire	0.65	1.38	Laissez faire	0.0 – 1.0
Extra Effort	3.34	2.70	Extra Effort	>3.0
Effectiveness	3.11	2.70	Effectiveness	>3.0
Satisfaction	3.34	2.73	Satisfaction	>3.0

The pattern of scores suggested that the CRM management exhibited more “ideal” levels of relations-oriented leadership behaviours (transformational) than VRN. These behaviours included engendering trust, inspiring a shared vision, generating enthusiasm, encouraging creativity, and providing coaching as well as building trust.

However, VRN scored higher for the two task oriented subscales (active and passive management) than CRM. These scores were higher than the suggested ‘ideal’ scores for effective leadership as shown in table (Bass & Avolio, 1997). Furthermore, the higher mean for contingent reward suggested that CRM managers were doing an above average job of clarifying expectations and recognizing accomplishments when compared to VRN. However, the higher mean for the management-by-exception (active) implied a view that VRN managers were more active vigilantes, out to look for irregularities and mistakes more than the CRM leadership.

On the other hand, mean scores for management-by-exception (passive) and laissez-faire suggested a view that VRN managers tended to wait too long before resolving a problem or taking corrective action than CRM managers in general. In general, CRM exhibited better transformational leadership approach than VRN. Both units scored above the ideal upper limit on the transactional approach while VRN

over used the laissez faire approach. The scores pointed to an ‘overuse’ of the transactional approach for both units.

Table 28. Summary of styles

Style	CRM	VRN	Ideal Score
Transformational	3.10	2.73	>3.0
Transactional	2.26	2.24	>1.0, <2.0
Laissez-faire	0.65	1.38	<1.0

However, VRN revealed an excessive use of the laissez-faire approach. This approach is suitable only when the followers are matured. In summary, the CRM and VRN top management were not seen as leaders having the charisma, inspiring, motivating, and stimulating towards achieving a challenging goal. Instead, these managers performed their duties and responsibilities giving reward for good performance and punishment for bad.

4.4 Descriptive statistics for employees

4.4.1 Employee Quality and Organisational Commitment

The descriptive statistics output for the employee commitment to quality are presented in the table below. The mean is the average of the statement from the two samples and standard deviation is the deviation of the variables used.

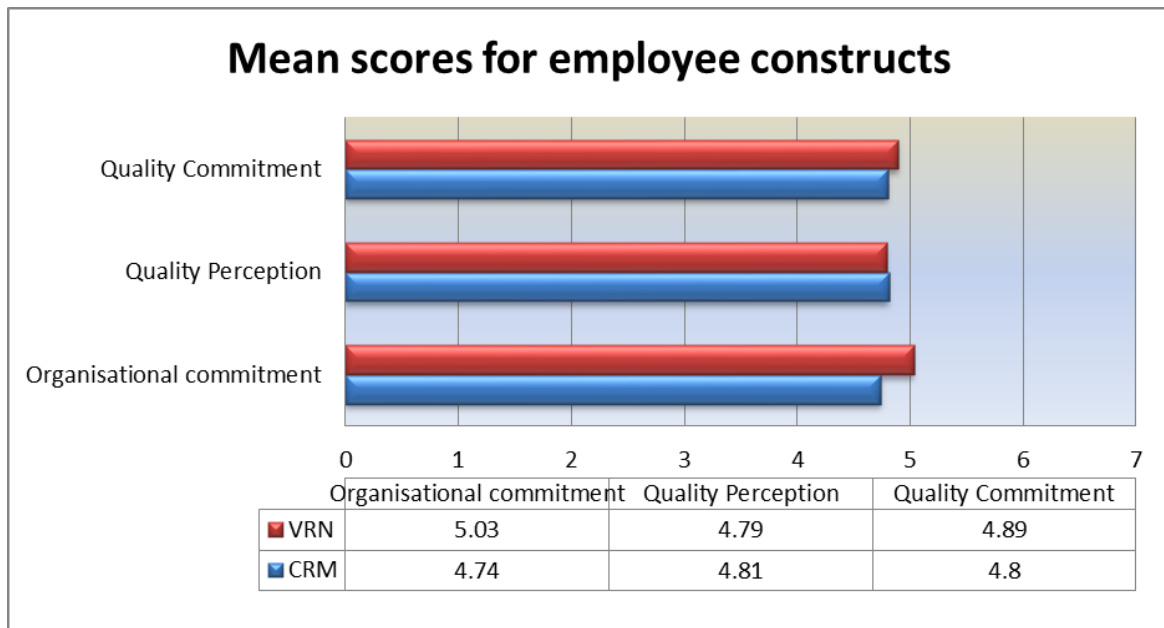
The literature survey identified three dependent theoretical factors as organisational commitment, commitment to product quality and employee quality perception. These factors were captured by the employee questionnaire. In order to score the factors, the individual questionnaire statements were re-arranged so that the individual factor could be scored as in table 30. These results were compared to the factor analysis in section 4.4.2.

Table 29. Scores of the theoretical factors on a 7 point scale

Statement	CRM		VRN	
	Mean	Std. Deviation	Mean	Std. Deviation
1. I am quite proud to be able to tell people who it is that I work for	5.02	1.884	4.94	1.975
2. What this organization stands for is important to me	4.92	1.561	5.47	1.461
3. I work for an organization that is incompetent and unable to accomplish its mission (R).	5.23	1.844	6.28	1.951
4. I feel a strong sense of belonging to this organization	4.51	1.856	5.14	1.794
5. I feel like part of the family at this organization	4.32	1.982	4.79	1.782
6. The people I work for do not care about what happens to me (R)	6.11	2.178	5.98	2.042
7. I feel a strong sense of belonging to this organization	4.36	1.951	4.48	1.900
8. I feel like part of the family at this organization	4.00	2.106	4.15	2.162
9. The people I work for do not care about what happens to me (R)	4.21	2.107	4.01	2.114
Organisational Commitment	4.74		5.03	
10. I find information on product quality readily available at my workplace	5.03	1.535	5.45	1.689
14. I find my manager talking more quality than production	5.01	1.722	4.81	1.708
16. I find my work mates more worried about production than product quality	4.38	1.920	4.11	2.114
Quality Perception	4.81		4.79	
	5.13	1.701	6.04	1.352
11. I am quite proud to tell people that our products are of high quality	5.58	1.718	5.98	1.500
12. I would feel very upset if I hear that the quality I produced is unacceptable by a customer.	5.72	1.805	5.41	1.845
13. Making production is more important to me	4.71	1.927	5.01	1.959
15. I will easily ignore quality problems if I am the only one aware of it	4.79	1.992	4.56	1.888
17. I always highlight quality problems to my manager freely	2.84	1.686	2.34	1.554
18. The Quality Department is too demanding	4.79	1.992	4.56	1.888
Quality Commitment	4.80		4.89	

The mean scores suggested similar scores for CRM and VRN, close to 4.80. However, the standard deviations were high indicating a wider spread of the scores. The summary of the scores are shown in figure 20 below.

Figure 20. Mean scores of the employee factors



4.4.2 Factor Analysis for Employee Commitment

In order to meet the research objectives, the proposed theoretical constructs of employee commitment had to be confirmed. Both the Confirmatory (CFA) and Exploratory Factor Analysis (EFA) were used to investigate the intended scales in the questionnaires. Furthermore, the Kaiser-Maier-Oklin test and Bartlett's test of sphericity were conducted to evaluate sampling adequacy. The following factor solutions were investigated for the factor loading characteristics and factor values of greater than 0.6 are acceptable (UCLA: Statistical Consulting Group., 2007):

- Communalities (proportion of each variable's variance that can be explained by the factors),
- Total variance explanations (Eigenvalues)
- Factor, Pattern, Structure and Factor correlation matrix,

The overall KMO value for the employee commitment questionnaire was 0.824 from the EFA. This showed sampling adequacy. The Bartlett's test for sphericity was significant indicating that the variables being investigated were correlated.

Furthermore, the CFA was used to prove the reliability and validity of the first nine questions in the employee questionnaire. These questions are standard ones used to measure commitment in the Balfour and Wechsler (1996:273) questionnaire. The constructs under measurement were:

- Identification commitment
- Affiliation commitment and
- Exchange commitment

The KMO values, Eigenvalues and Cronbach's alphas were computed for each construct using the CFA and are summarised below.

Table 30. CFA results on the standard section

Construct/Factor	KMO	Eigenvalue Variance	Cronbach Alpha
Identification commitment	0.553	56%	0.608
Affiliation commitment	0.569	62%	0.671
Exchange commitment	0.618	62%	0.698

The reliability of the three factors was well above 0.600 indicating acceptable reliability. These factors loaded successfully and therefore were retained and used in the analysis.

The EFA was then used to analyse questions 10 to 18. The KMO value was 0.693 indicating sampling adequacy. However, the factors loaded poorly with three factors accounting for 52% of the variance. Factors two and three did not make analytical sense and were subsequently discarded to remain with factor one. It was defined as employee commitment to quality. The factor had a Cronbach alpha of 0.572 based on standardised items.

Table 31. Pattern matrix loading for employees

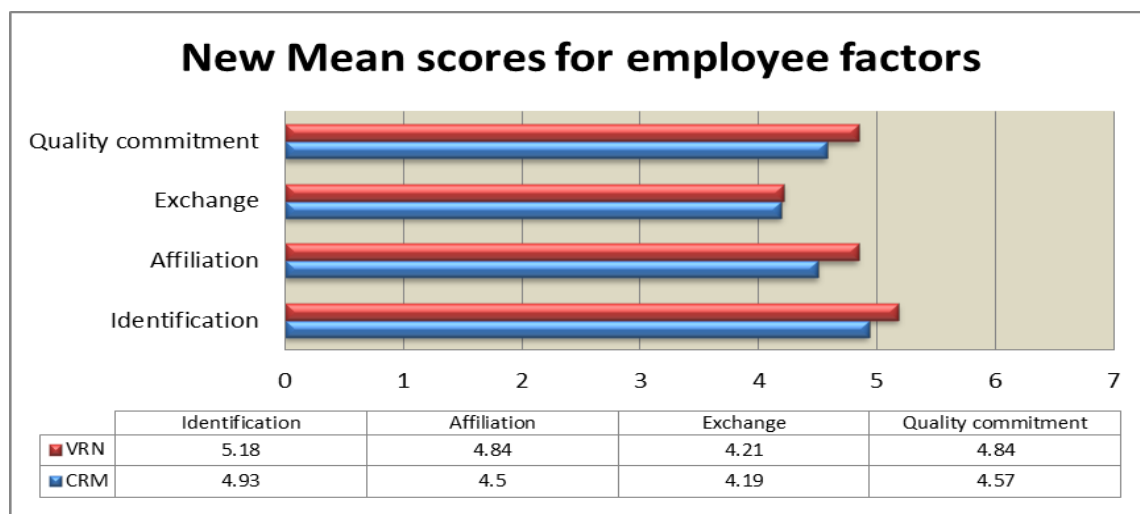
Question	Factors		
	1 (retained)	2	3
QUAL11	.696		
QUAL12	.678		
QUL113	.659		
QUAL17	.510		
QUAL16		.689	
QUAL15		.634	
QUAL18		.599	-.421
QUAL14			-.897
QUALLO	.308	-.346	-.424

As a result, two factors were retained from the questionnaire: organisational commitment and product commitment. Organisational commitment was split into three sub-factors and this gave four factors and was defined as

- Identification commitment
- Affiliation commitment
- Exchange commitment
- Employee quality commitment

The new mean scores for these factors were calculated using the new items per factor from the analysis (figure 21). These scores were similar from the scores calculated using the theoretical dimensions given in the literature.

Figure 21. New mean scores after factor analysis



4.4.3 Statistical Analysis of the commitment variables

This section was designed to verify the nature and means of employee commitment and compare the two business units. In order to answer the objective of assessing the employee product quality commitment and organisational commitment within the two business units, the variables were analysed by looking at two factors: product quality commitment and organisational commitment (identification, affiliation and exchange).

In describing the application of their Organizational Commitment Questionnaire (OCQ) scales, Balfour and Wechsler (1996:273) do not provide guidance about expected, desired, average, or ideal means for affective, continuance, and normative commitment. Instead, they examined whether there was a positive or negative relationship between the different types of organisational commitment and the outcomes that are being measured, as well as the pattern for those findings.

However, the desired pattern is highest scores for identification commitment, followed by affiliation commitment and then exchange commitment (McShane & Von Glinow, 2011:112).

4.4.3.1 Product Quality Commitment

Product quality commitment is a state of being bound to a course of action that ensures a desired product is realised. Item 13 was reverse scored for analysis.

Table 32. Product quality commitment

Statement	CRM		VRN	
	Mean	Std. Deviation	Mean	Std. Deviation
11. I am quite proud to tell people that our products are of high quality	5.13	1.701	6.04	1.352
12. I would feel very upset if I hear that the quality I produced is unacceptable by a customer.	5.58	1.718	5.98	1.500
13. Making production is more important to me (reverse)*	2.84	1.686	2.34	1.554
17. I always highlight quality problems to my manager freely	4.71	1.927	5.01	1.959
Average	4.57	1.76	4.84	1.59

*original scores were 5.26 and 5.75

To examine this construct, four questions were asked as in table 32. Employees at both units were indicatively proud to tell people that their products were of high quality and that they would be upset to hear of complaints from customers as seen by the scores of statements 11 and 12 (between 5 and 6). A score of '5' was 'somewhat agree' and a '6' was agree. In general, employees were able to highlight quality problems easier at VRN than at CRM.

However, employees indicated that making production was relatively more important to them (question 13* actual scores were 5.26 and 5.75). This implied that the production drive could be achieved at the expense of quality. Furthermore, question 18 (table 29) revealed that the employees found the Quality Department to be somewhat too demanding with its quality requirements (CRM - 4.79 and VRN - 4.56). Therefore, product quality commitment among employees at both plants was marginal. The statistical difference between the two means is 6% in favour of VRN.

4.4.3.2 Organisational Commitment

This type of commitment was measured by three constructs; identification, affiliation, and exchange type of commitment.

4.4.3.2.1 Identification Commitment

Identification commitment refers to an employee emotional attachment and involvement in an organisation (McShane & Von Glinow, 2011:112). Such employees remain in the organisation because they want to. Table 33 reviews this construct. Statement 3 was reverse scored in order to be averaged out.

From the scores, employees from both units were moderately proud to tell people who they worked for. Statement 1 had a mean score of 5.02 and 4.94 for CRM and VRN respectively. A score of '5' on the Likert scale meant "somewhat agree". Meanwhile VRN employees viewed that what the organisation stood for was quite important to them.

Table 33. Identification constructs of commitment

Statement	CRM		VRN		Desired
	Mean	Std. Deviation	Mean	Std. Deviation	
1. I am quite proud to be able to tell people who it is that I work for	5.02	1.884	4.94	1.975	+5.00
2. What this organisation stands for is important to me	4.92	1.561	5.47	1.461	+5.00
3. I work for an organisation that is incompetent and unable to accomplish its mission (R). *	4.85	1.844	5.15	1.951	+5.00
Average	4.93		5.18		

*Actual scores were 3.14 and 2.84 for statement 3

Furthermore, all employees somewhat agreed that the units they work for were competent and able to accomplish their mission as evidenced by the reversed scores of 4.85 and 5.15 for CRM and VRN respectively. Therefore, employees had a limited sense of belonging to the units and they were weakly attached to the organisations as seen by the average scores of 4.93 and 5.18.

4.4.3.2.2 Affiliation Commitment

Affiliation commitment is based on affiliation or pride employees have in the organisation. This was measured by the statements in table 34.

Table 34. Affiliation commitment

Statement	CRM		VRN	
	Mean	Std. Deviation	Mean	Std. Deviation
4. I feel a strong sense of belonging to this organisation	4.51	1.856	5.14	1.794
5. I feel like part of the family at this organisation	4.32	1.982	4.79	1.782
6. The people I work for do not care about what happens to me (R) *	4.67	2.178	4.59	2.042
Average	4.50		4.84	

*original scores were 3.67 and 3.59 for statement 6

From table 34, VRN employees felt a stronger sense of emotional attachment and “homeliness” to the company as well as being a part of the family when compared to

CRM employees as shown by the higher scores on elements 4, 5 and 6. A score of “5” meant “somewhat agree”.

However, statement 6 seem to have been misinterpreted judging by the high standard deviation (wider spread of responses). In general, employees had a moderate sense of affiliation to the organisation.

4.4.3.2.3 Exchange Commitment

This is commitment based on the satisfactory exchange with the organisation resulting in appreciation of the individual by the organisation. This was measured by the three constructs shown in table 35.

Table 35. Exchange commitment

Statement	CRM		VRN		Desired
	Mean	Std. Deviation	Mean	Std. Deviation	
7. This organisation appreciates my accomplishments on the job	4.36	1.951	4.48	1.900	+5.00
8. This organisation does all that it can to recognize employees for good performance	4.00	2.106	4.15	2.162	+5.00
9. My efforts on the job are largely ignored or overlooked by this organization (R)	4.21	2.107	4.01	2.114	+5.00
Average	4.19		4.21		

By reviewing table 35, both CRM and VRN were neutral to the exchange construct. The employees viewed both units as weakly appreciating their accomplishments on the job, neither ignoring nor recognising their good performance and that their efforts were not out-rightly accepted.

In general, employees had a neutral exchange commitment to the organisation. They neither agreed nor disagreed to this construct.

4.4.3.3 Summary of Employee Organisational Commitment

The mean scores for the data reflected in table 36 indicated a weak to marginal commitment to quality among employees from both units. Identification and affiliation commitments were higher among employees at VRN than at CRM. The exchange commitment was marginal with both employees

Table 36. Summary scores for employee constructs

Subscale Employee Construct	CRM	VRN	Construct
Commitment to quality	4.57	4.84	Quality commitment
Identification commitment	4.93	5.18	Organisational Commitment
Affiliation commitment	4.50	4.84	
Exchange commitment	4.19	4.21	

Analysing table 36 showed that identification commitment was the most dominant organisational commitment style followed by affiliation and the exchange. This indicated that the employees' 'desire' to work for the units was stronger than the 'need' or 'obligation' to work. This is a milestone result since identification commitment positively impacts on other outcomes like job performance, absenteeism and employee turnover, as well as competitive edge from previous studies and literature (McShane & Von Glinow, 2011:112).

In general, the study revealed weak to moderate levels of employees' commitment to organisational and quality commitment at both units.

4.5 Derived Demographic Relationships

T-tests and analysis of variance (ANOVA) were conducted to test whether the responses varied with the dimensions of the questionnaire. This was done in order to answer the objective of whether there was any significant differences, at $p < 0.05$ level to the way the respondents answered the questionnaires. P-values and d-values (effect sizes) were recorded and are discussed below. The section discussed the leadership style questionnaire first, followed by the employee questionnaire.

4.5.1 Race of the Leadership Style raters

The race dimension was narrowed to two categories: white and black/coloured/indian/other because of the small number of non-whites in the sample space as shown in table 37.

Table 37. T-test and ANOVA for race for managers

RACE_RECoded		N	Mean	Std. Deviation	p value	Effect Size (d)
Idealized Attributes	White	48	3.0677	.67189	0.16	0.46
	Black/Coloured/Indian/Other	11	2.4318	1.36972		
Idealized Behavior	White	48	2.9792	.65199	0.45	0.24
	Black/Coloured/Indian/Other	11	2.7045	1.13368		
Inspirational Motivation	White	48	3.0903	.54275	0.27	0.36
	Black/Coloured/Indian/Other	11	2.7045	1.07132		
Intellectual Stimulation	White	48	2.9444	.60737	0.38	0.28
	Black/Coloured/Indian/Other	11	2.6136	1.16921		
Individualized Consideration	White	48	2.8542	.82487	0.22	0.35
	Black/Coloured/Indian/Other	11	2.5000	1.02470		
Contingent Reward	White	48	2.9236	.83684	0.14	0.41
	Black/Coloured/Indian/Other	11	2.4773	1.09804		
Management Exception Active	White	48	2.5556	.66118	0.88	0.04
	Black/Coloured/Indian/Other	11	2.5909	.86799		
Management Exception Passive	White	48	1.2344	.77959	0.01	0.83
	Black/Coloured/Indian/Other	11	2.0227	.95167		
Laissez Faire	White	48	.9236	.83419	0.09	0.57
	Black/Coloured/Indian/Other	11	1.6212	1.21413		
Extra Effort	White	48	3.1563	.76774	0.06	0.66
	Black/Coloured/Indian/Other	11	2.2727	1.34376		
Effectiveness	White	48	3.0035	.77832	0.03	0.52
	Black/Coloured/Indian/Other	11	2.3636	1.22433		
Satisfaction	White	48	3.1146	.77349	0.24	0.38
	Black/Coloured/Indian/Other	11	2.5455	1.49088		

From the p-values in table 37, a large effect size and a low p value were recorded on the management by exception (passive) and effectiveness constructs only. This meant that race affected the responses to these two elements. Whites answered more positively than non-whites. In the other constructs, the respondents felt the

same. Therefore, race did not play a major role in the way questions were answered apart from the two factors.

4.5.2 Age of the leadership style raters

The age dimension was narrowed to two categories: below 46 years and above 46 years as shown in table 38.

Table 38. T-tests and ANOVA for age

AGE_RECODED		N	Mean	Std. Deviation	p value	Effect Size
Idealized Attributes	46 years and below	32	2.8594	.85179	.40088	0.21
	46 years and above	30	3.0417	.84354		
Idealized Behavior	46 years and below	32	2.8802	.69204	.67329	0.10
	46 years and above	30	2.9611	.80994		
Inspirational Motivation	46 years and below	32	3.0260	.50288	.80288	0.05
	46 years and above	30	2.9833	.81191		
Intellectual Stimulation	46 years and below	32	2.7969	.82657	.48593	0.16
	46 years and above	30	2.9278	.62158		
Individualized Consideration	46 years and below	32	2.6016	.91109	.13855	0.36
	46 years and above	30	2.9250	.77446		
Contingent Reward	46 years and below	32	2.6797	.92290	.19907	0.31
	46 years and above	30	2.9694	.82742		
Management Exception_Active	46 years and below	32	2.3438	.66524	.02695	0.56
	46 years and above	30	2.7389	.70668		
Management Exception Passive	46 years and below	32	1.2760	.87999	.13855	0.30
	46 years and above	30	1.5389	.81436		
Laissez_Faire	46 years and below	32	.9688	.85843	.47266	0.17
	46 years and above	30	1.1389	.99383		
Extra_Effort	46 years and below	32	2.8672	1.01993	.19907	0.26
	46 years and above	30	3.1333	.84520		
Effectiveness	46 years and below	32	2.6719	.96765	.04440	0.47
	46 years and above	30	3.1222	.73492		
Satisfaction	46 years and below	32	2.9688	.99950	.02695	0.10
	46 years and above	30	3.0667	.89763		

From the p-values in table 38, it can be concluded that for all the leadership factors except for two (management by exception and effectiveness), the p-values were

greater than 0.05 and effect sizes > 0.42 and this indicated that age did not have an influence in the responses. However, age affected the response to the management by exception (passive) construct. Younger raters responded more positively than older raters.

4.5.3 Level of education of the raters

The p values were greater than 0.05 and the effect sizes lower than 0.42 for all the constructs as shown in table 39. This meant that the level of education had no effect on the responses from the raters

Table 39. T-test and ANOVA results for level of education

		N	Mean	Std. Deviation	p value	Matric and below with	Technical/ College with
Idealized Attributes	Matric and below	18	3.0972	.87506	0.13		
	Technical/College	20	3.1375	.67607		0.05	
	University/Post Graduate	24	2.6771	.91032		0.46	0.51
	Total	62	2.9476	.84584			
Idealized Behavior	Matric and below	18	3.1574	.68235	0.22		
	Technical/College	20	2.9083	.69664		0.36	
	University/Post Graduate	24	2.7500	.81093		0.50	0.20
	Total	62	2.9194	.74627			
Inspirational Motivation	Matric and below	18	3.1991	.65688	0.06		
	Technical/College	20	3.1250	.57640		0.11	
	University/Post Graduate	24	2.7604	.68951		0.64	0.53
	Total	62	3.0054	.66511			
Intellectual Stimulation	Matric and below	18	3.0185	.68513	0.53		
	Technical/College	20	2.8375	.64008		0.26	
	University/Post Graduate	24	2.7604	.83886		0.31	0.09
	Total	62	2.8602	.73160			
Individualized Consideration	Matric and below	18	2.7639	.92939	0.99		
	Technical/College	20	2.7750	.94903		0.01	
	University/Post Graduate	24	2.7396	.74992		0.03	0.04
	Total	62	2.7581	.85647			
	Total	62	3.0161	.94508			

Table 39.(continued) T-test and ANOVA results for level of education

		N	Mean	Std. Deviation	p value	Matric and below with	Technical/ College with
Contingent Reward	Matric and below	18	2.9028	.90805	0.89		
	Technical/College	20	2.8042	.85809		0.11	
	University/Post Graduate	24	2.7708	.91757		0.14	0.04
	Total	62	2.8199	.88297			
Management Exception Active	Matric and below	18	2.7222	.73208	0.18		
	Technical/College	20	2.6083	.64725		0.16	
	University/Post Graduate	24	2.3333	.71728		0.53	0.38
	Total	62	2.5349	.70848			
Management Exception Passive	Matric and below	18	1.8056	.60970	0.05		
	Technical/College	20	1.2000	.92021		0.66	
	University/Post Graduate	24	1.2708	.87823		0.61	0.08
	Total	62	1.4032	.85227			
Laissez Faire	Matric and below	18	1.1296	.85950	0.69		
	Technical/College	20	.9042	.97643		0.23	
	University/Post Graduate	24	1.1146	.94690		0.02	0.22
	Total	62	1.0511	.92271			
Extra Effort	Matric and below	18	3.2222	.84839	0.27		
	Technical/College	20	3.0750	.84721		0.17	
	University/Post Graduate	24	2.7604	1.05932		0.44	0.30
	Total	62	2.9960	.94141			
Effectiveness	Matric and below	18	2.9815	.91803	0.87		
	Technical/College	20	2.8417	.80835		0.15	
	University/Post Graduate	24	2.8611	.95258		0.13	0.02
	Total	62	2.8898	.88550			
Satisfaction	Matric and below	18	3.2500	.80896	0.24		
	Technical/College	20	3.1000	.88258		0.17	
	University/Post Graduate	24	2.7708	1.06301		0.45	0.31
	Total	62	3.0161	.94508			

4.5.4 Level of Employment of the raters

Managers were split into two groups: G roles and A, B, C, D, E and F roles. From table 40, the p-value for management by exception (passive) was 0.045 with a 0.46 effect size. This indicated that the level of employment played a role in the

Table 40. T-test and ANOVA for level of employment

LEVEL_EMPLOY_RECODED		N	Mean	Std. Deviation	p value	Effect Size
Idealized_Attributes	G Role	35	3.0000	.94324	.58272	0.13
	(A B C D E F) Role	27	2.8796	.71175		
Idealized_Behavior	G Role	35	2.9571	.71611	.65363	0.11
	(A B C D E F) Role	27	2.8704	.79473		
Inspirational_Motivation	G Role	35	3.0881	.65365	.26835	0.28
	(A B C D E F) Role	27	2.8981	.67674		
Intellectual_Stimulation	G Role	35	2.8452	.85895	.84782	0.04
	(A B C D E F) Role	27	2.8796	.53874		
Individualized_Consideration	G Role	35	2.6571	.91371	.29457	0.25
	(A B C D E F) Role	27	2.8889	.77315		
Contingent_Reward	G Role	35	2.8024	.89959	.86059	0.04
	(A B C D E F) Role	27	2.8426	.87746		
Management_Exception_Active	G Role	35	2.6690	.71500	.08761	0.43
	(A B C D E F) Role	27	2.3611	.67344		
Management_Exception_Passive	G Role	35	1.5929	.94751	.04513	0.46
	(A B C D E F) Role	27	1.1574	.64729		
Laissez_Faire	G Role	35	1.1690	.96877	.25503	0.28
	(A B C D E F) Role	27	.8981	.85276		
Extra_Effort	G Role	35	2.9714	.99589	.81743	0.06
	(A B C D E F) Role	27	3.0278	.88343		
Effectiveness	G Role	35	2.7762	1.00077	.23251	0.26
	(A B C D E F) Role	27	3.0370	.70002		
Satisfaction	G Role	35	3.0429	1.03164	.80222	0.06
	(A B C D E F) Role	27	2.9815	.83760		

responses. Senior managers (A, B, C, D, E and F) answered significantly different from G role managers as shown in table 39 on this construct only.

4.5.5 Employee Commitment Demographics

4.5.5.1 Gender

A t-test was conducted to test whether males and females responded differently to the sections of the questionnaire. The results are shown in table below. CRM had 74 males and 15 females. VRN had 106 males and 1 female and therefore t-test on gender was not done.

From the p-values in table 41 for gender, it was concluded that for all the employee factors, the p-values were greater than 0.05 indicating the participants answered the questions in a significantly similar manner, statistically.

Table 41. T-Test results on gender

COLD ROLLING MILLS						
Factor/Construct		N	Mean	Std. Deviation	p value	Size effect
Exchange_Commitment	Male	74	4.00	1.65	0.40	0.24
	Female	15	4.39	1.60		
Identification_Commitment	Male	74	4.93	1.39	0.59	0.11
	Female	15	5.09	0.89		
Affiliation_Commitment	Male	74	4.32	1.59	0.22	0.35
	Female	15	4.87	1.55		
Quality_Commitment	Male	74	5.22	1.21	0.63	0.14
	Female	15	5.05	1.17		
	Female	15	5.00	2.236		

4.5.5.2 Race of employees for CRM

Table 42 shows results calculated for the dimensions as a function of race for CRM. According to the p-values, the participants answered the questions in a similar manner as the p-values were greater than 0.05 for all the variables. Therefore, race did not affect the responses for CRM.

For VRN (table 43), the p-values for exchange commitment and quality commitment were less than 0.05. This indicated that race affected the responses of the employees in a statistically significant manner.

The difference in responses between white and black is practically visible (effect size 0.54) as well as black to coloured (effect size 0.54) on the exchange factor. On the quality commitment factor, the difference between white and black is visible as well (effect size 0.55).

Table 42. CRM p-values and t-tests on race

CRM Factor/Construct		N	Mean	Std. Deviation	p value	Effect Size (d)	
						White with	Black with
ExchangeCommitment	White	16	3.8958	1.50908	0.88		
	Black	63	4.1190	1.64840		0.14	
	Coloured	11	4.0000	1.79505		0.06	0.07
	Total	90	4.0648	1.62681			
Identification Commitment	White	16	5.1042	.80479	0.75		
	Black	63	4.9286	1.37460		0.13	
	Coloured	11	4.7879	1.67513		0.19	0.08
	Total	90	4.9426	1.32232			
Affiliation Commitment	White	16	4.8750	1.14099	0.16		
	Black	63	4.3915	1.60704		0.30	
	Coloured	11	3.6667	1.90321		0.63	0.38
	Total	90	4.3889	1.59137			
Quality Commitment	White	16	5.2656	.98094	0.20		
	Black	63	5.2566	1.16602		0.01	
	Coloured	11	4.5682	1.54552		0.45	0.45
	Total	90	5.1741	1.19558			

Table 43 VRN p-values and t-tests on race

VRN Factor/Construct		N	Mean	Std. Deviation	p value	Effect Size (d)	
						White with	Black with
Exchange_Commitment	White	20	3.6167	1.29901	0.02		
	Black	74	4.4865	1.60970		0.54	
	Coloured	12	3.4444	1.91397		0.09	0.54
	Total	106	4.2044	1.63660			
Identification_Commitment	White	20	5.1667	1.15217	0.65		
	Black	74	5.2905	1.32189		0.09	
	Coloured	12	4.7778	1.88740		0.21	0.27
	Total	106	5.2091	1.36181			
Affiliation_Commitment	White	20	4.6167	1.38190	0.56		
	Black	74	4.9032	1.42387		0.20	
	Coloured	12	4.5278	1.44571		0.06	0.26
	Total	106	4.8066	1.41293			
Quality_Commitment	White	20	5.2125	1.21199	0.02		
	Black	73	5.8744	.88357		0.55	
	Coloured	12	5.5000	1.02247		0.24	0.37
	Total	105	5.7056	.99552			

4.5.5.3 Employees' Age

The analysis of variance indicated that age affected the responses (table 44). Significant differences across the age dimension for three factors: identification (0.011), affiliation (0.029) and quality commitment (0.002) were experienced. Older employees tended to have more organisational and quality commitment than younger employees did at CRM.

Table 44. T-tests and ANOVA for age for CRM employees

CRM		N	Mean	Std. Deviation	ANOVA	
Factor/Construct					F	Sig.
Exchange Commitment	20 - 25 years	22	3.8864	1.73920	1.292	.280
	26 - 35 years	22	4.1818	1.43548		
	36 - 45 years	21	4.0794	1.88534		
	46 - 55 years	18	3.6667	1.53393		
	56 - 65 years	7	5.2381	.83254		
	Total	90	4.0648	1.62681		
Identification Commitment	20 - 25 years	22	4.1212	1.19764	3.477	.011
	26 - 35 years	22	5.0303	1.35267		
	36 - 45 years	21	5.2619	1.19788		
	46 - 55 years	18	5.1852	1.36349		
	56 - 65 years	7	5.6667	.90267		
	Total	90	4.9426	1.32232		
Affiliation Commitment	20 - 25 years	22	3.6061	1.71713	2.851	0.029
	26 - 35 years	22	4.4242	1.56070		
	36 - 45 years	21	4.3492	1.49620		
	46 - 55 years	18	4.9444	1.51356		
	56 - 65 years	7	5.4286	.56811		
	Total	90	4.3889	1.59137		
Quality Commitment	20 - 25 years	22	4.3864	1.37738	4.567	0.002
	26 - 35 years	22	5.2045	1.14859		
	36 - 45 years	21	5.2976	1.08288		
	46 - 55 years	18	5.8333	.70711		
	56 - 65 years	7	5.4881	.93223		
	Total	90	5.1741	1.19558		

However, for VRN, age across the dimension was not significant as shown by the p-values greater than 0.05. This implied that age did not influence commitment with the VRN employees (table 45).

Table 45. T-test and ANOVA for VRN employees

VRN		N	Mean	Std. Deviation	ANOVA	
Factor/Construct					F	Sig.
Exchange Commitment	20 - 25 years	12	4.2500	1.80977	1.604	.179
	26 - 35 years	41	4.4878	1.66182		
	36 - 45 years	33	3.6566	1.28961		
	46 - 55 years	13	4.7179	2.07206		
	56 - 65 years	8	4.1667	1.39158		
	Total	107	4.2087	1.62947		
IdentificationCommit ment	20 - 25 years	12	5.1667	1.44600	.690	.601
	26 - 35 years	41	5.3333	1.42205		
	36 - 45 years	33	5.0707	1.28765		
	46 - 55 years	13	5.4359	1.37696		
	56 - 65 years	8	4.5625	1.44458		
	Total	107	5.1885	1.37209		
Affiliation Commitment	20 - 25 years	12	4.3889	1.85773	1.365	.251
	26 - 35 years	41	4.8089	1.49330		
	36 - 45 years	33	4.6869	1.16052		
	46 - 55 years	13	5.5641	1.04867		
	56 - 65 years	8	4.5000	1.58365		
	Total	107	4.7928	1.41344		
Quality Commitment	20 - 25 years	12	5.6042	.99692	.575	.682
	26 - 35 years	40	5.8688	.98708		
	36 - 45 years	33	5.6364	.78085		
	46 - 55 years	13	5.5962	1.17942		
	56 - 65 years	8	5.3854	1.53655		
	Total	106	5.6965	.99511		

4.5.5.4 Educational Level of the employees

Tables 46 and 47 summarised the significant values of how the employees answered with respect to their educational levels. For both the CRM and VRN, all p values were greater than 0.05. This meant that different educational levels among the employees did not play a role in influencing answers to the questionnaire.

Table 46. CRM t-tests and ANOVA for educational qualifications

CRM		N	Mean	Std. Deviation	ANOVA	
Factor /Construct	Education level				F	Sig.
Exchange Commitment	High School and Below	22	3.8636	1.59582	.714	.493
	Matric	45	4.2704	1.67923		
	Technical/College/Graduate/PostGraduate	23	3.8551	1.56936		
	Total	90	4.0648	1.62681	.911	.406
Identification Commitment	High School and Below	22	5.2727	.99542		
	Matric	45	4.8481	1.32851		
	Technical/College/Graduate/PostGraduate	23	4.8116	1.56614	1.782	.174
	Total	90	4.9426	1.32232		
Affiliation Commitment	High School and Below	22	4.9394	1.47155		
	Matric	45	4.1926	1.58670	.833	.438
	Technical/College/Graduate/PostGraduate	23	4.2464	1.65516		
	Total	90	4.3889	1.59137		
Quality Commitment	High School and Below	22	5.3939	.99774		
	Matric	45	5.1889	1.18484	0.764	.538
	Technical/College/Graduate/PostGraduate	23	4.9348	1.38420		
	Total	90	5.1741	1.19558		

Table 47. VRN t-test and ANOVA for educational qualifications

VRN		N	Mean	Std. Deviation	p-value	ANOVA	
Factor/Construct	Education level					F	Sig.
Exchange Commitment	High School and Below	39	4.2051	1.54393		.113	.894
	Matric	41	4.1220	1.80702			
	Technical/College/Graduate/PostGraduate	25	4.3200	1.52291			
	Total	105	4.2000	1.63339			
IdentificationCommitment	High School and Below	39	4.9701	1.37430		.731	.484
	Matric	41	5.3415	1.39142			
	Technical/College/Graduate/PostGraduate	25	5.1867	1.35428			
	Total	105	5.1667	1.37281			
Affiliation Commitment	High School and Below	39	4.9701	1.17221		.585	.559
	Matric	41	4.7398	1.59254			
	Technical/College/Graduate/PostGraduate	25	4.5867	1.52230			
	Total	105	4.7889	1.42667			

Table 47.(continued) VRN t-test and ANOVA for educational qualifications

Quality Commitment	High School and Below	39	5.5598	1.17602		1.483	.232
	Matric	40	5.9188	.85558			
	Technical/College/Graduate/PostGraduate	25	5.6000	.87797			
	Total	104	5.7075	.99770			

4.5.5.5 Experience Level

From table 48, the p values for identification and affiliation were less than 0.05. This indicated that the experience level played a role in the way the questions were answered. Employees with less experience had weak identification and affiliation commitment when compared to highly experienced employees for CRM

Table 48. CRM t-test and ANOVA for experience level

CRM		N	Mean	Std. Deviation	ANOVA	
Factor	Experience				F	Sig.
Exchange Commitment	Less than 5 years	42	3.9643	1.57278	.452	.771
	6 - 10 years	5	4.8667	1.64317		
	11 - 15 years	8	4.4167	1.80607		
	16 - 20 years	12	4.0556	1.66262		
	More than 20 years	23	3.9565	1.72124		
	Total	90	4.0648	1.62681		
Identification Commitment	Less than 5 years	42	4.5159	1.32150	3.950	.005
	6 - 10 years	5	5.9333	.86281		
	11 - 15 years	8	4.7917	1.23362		
	16 - 20 years	12	5.9167	.74026		
	More than 20 years	23	5.0507	1.34787		
	Total	90	4.9426	1.32232		
Affiliation Commitment	Less than 5 years	42	3.8333	1.64333	3.126	.019
	6 - 10 years	5	5.6000	.86281		
	11 - 15 years	8	5.0417	1.33853		
	16 - 20 years	12	4.9722	1.24282		
	More than 20 years	23	4.6087	1.55587		
	Total	90	4.3889	1.59137		
Quality Commitment	Less than 5 years	42	4.7798	1.34709	2.269	.068
	6 - 10 years	5	5.4500	.48088		
	11 - 15 years	8	5.5313	1.02153		
	16 - 20 years	12	5.5208	1.03605		
	More than 20 years	23	5.5290	.96551		
	Total	90	5.1741	1.19558		

Tables 49 summarised the t-tests and variances for VRN employees. The p values were greater than 0.05 for all the constructs. This indicated that the level of experience did not influence the responses.

Table 49. VRN t-test and ANOVA results for experience

VRN		N	Mean	Std. Deviation	ANOVA	
Factor	Experience				F	Sig.
Exchange Commitment	Less than 5 years	41	4.6260	1.70652	1.609	.178
	6 - 10 years	25	4.0533	1.51743		
	11 - 15 years	18	3.5000	1.50054		
	16 - 20 years	5	4.0000	1.54560		
	More than 20 years	16	4.2292	1.72442		
	Total	105	4.2063	1.64433		
Identification Commitment	Less than 5 years	41	5.4715	1.24939	1.104	.359
	6 - 10 years	25	5.1067	1.54776		
	11 - 15 years	18	4.8333	1.46528		
	16 - 20 years	5	5.6000	1.16428		
	More than 20 years	16	4.8646	1.28987		
	Total	105	5.1889	1.36951		
Affiliation Commitment	Less than 5 years	41	4.9309	1.52706	.292	.883
	6 - 10 years	25	4.7733	1.23123		
	11 - 15 years	18	4.5000	1.58114		
	16 - 20 years	5	4.6667	1.54560		
	More than 20 years	16	4.7500	1.31937		
	Total	105	4.7794	1.42184		
Quality Commitment	Less than 5 years	41	5.6098	1.10120	.544	.704
	6 - 10 years	24	5.9583	.69025		
	11 - 15 years	18	5.5833	1.06757		
	16 - 20 years	5	5.7000	.62249		
	More than 20 years	16	5.6458	1.17910		
	Total	104	5.6955	1.00227		

4.5.5.6 Hierarchy Level

As shown by table 50, the seniors among the employees (H and I roles) answered the questions in a different way from the junior employees (J, K and L) for CRM. The p values were below 0.05. The senior employees were more committed to the

organisation and to quality as shown by the average means (5.6 for identification and quality commitment) than the junior employees.

Table 50. CRM t-test and ANOVA for hierarchy

CRM		N	Mean	Std. Deviation	ANOVA	
Factor	Position				F	Sig.
Exchange Commitment	H Role	12	4.1111	2.00168	.629	.598
	I Role	12	3.8889	1.68375		
	J & K Role	41	4.2642	1.42252		
	Other	24	3.7083	1.75095		
	Total	89	4.0431	1.62282		
Identification Commitment	H Role	12	5.6389	1.14995	5.827	.001
	I Role	12	5.5833	1.07426		
	J & K Role	41	4.9959	1.25857		
	Other	24	4.1389	1.27752		
	Total	89	4.9307	1.32498		
Affiliation Commitment	H Role	12	4.8333	1.60492	3.057	.033
	I Role	12	4.8611	1.45268		
	J & K Role	41	4.5528	1.47876		
	Other	24	3.5833	1.64258		
	Total	89	4.3708	1.59104		
Quality Commitment	H Role	12	5.6389	.74139	5.828	.001
	I Role	12	5.6458	.75723		
	J & K Role	41	5.3659	1.07252		
	Other	24	4.3854	1.43136		
	Total	89	5.1760	1.20221		

However, the VRN employees responded in a similar way and therefore hierarchy did not seem influence to their perceptions on organisational and product quality commitment. The results are shown in table 51.

Table 51. VRN t-test and ANOVA for hierarchy for experience

VRN		N	Mean	Std. Deviation	ANOVA	
Factor	Position				F	Sig.
Exchange Commitment	H Role	14	3.9048	1.42282	.577	.632
	I Role	33	3.9495	1.64596		
	J & K Role	21	4.3810	1.77415		
	Other	36	4.3426	1.60057		
	Total	104	4.1667	1.61973		
Identification Commitment	H Role	14	5.4762	1.11489	.642	.590
	I Role	33	5.1818	1.47923		
	J & K Role	21	4.8333	1.38644		
	Other	36	5.1667	1.35576		
	Total	104	5.1458	1.36742		
Affiliation Commitment	H Role	14	4.4762	1.56191	1.110	.349
	I Role	33	5.1010	1.14408		
	J & K Role	21	4.5079	1.41272		
	Other	36	4.6713	1.54637		
	Total	104	4.7484	1.40656		
Quality Commitment	H Role	14	5.7143	1.27044	.347	.791
	I Role	33	5.7121	1.01381		
	J & K Role	20	5.8417	.61172		
	Other	36	5.5625	1.07467		
	Total	103	5.6853	1.00231		

4.5.6 Summary of Derived Relationships

For the management raters, age and race affected the responses in a significant way on one leadership constructs (management by exception-passive). In general, the demographic differences did not play a significant role in the way respondents answered on eight remaining leadership constructs.

Age and the years of work experience affected the way employees answered the questionnaire at CRM. Older and more experienced employees exhibited more organisational and product quality commitment. For VRN, only race affected the respondents with blacks viewed as more committed to the organisation and quality than whites and coloured.

4.6 Hypothesis Testing

4.6.1 Hypothesis testing at CRM

The correlations for CRM were computed and summarised in table 52. These were used to test the hypotheses. The alternative hypotheses were accepted when the p value was less than 0.05.

Table 52. Correlations for CRM variables.

		identification	affiliation	exchange	Product quality
identification	Pearson Correlation	1	.525**	.299**	.481**
	Sig. (2-tailed)		.000	.006	.000
	N	86	86	84	85
affiliation	Pearson Correlation	.525**	1	.499**	.420**
	Sig. (2-tailed)	.000		.000	.000
	N	86	90	88	87
exchange	Pearson Correlation	.299**	.499**	1	.368**
	Sig. (2-tailed)	.006	.000		.001
	N	84	88	88	85
Product quality	Pearson Correlation	.481**	.420**	.368**	1
	Sig. (2-tailed)	.000	.000	.001	
	N	85	87	85	87

** . Correlation is significant at the 0.01 level (2-tailed).

The first hypothesis H1 was restated as:

H₀₁: There is no statistical significant relationship between the identification commitment level and product quality among employees at CRM.

H_{a1}: There is statistical significant relationship between identification commitment level and product quality among employees at CRM.

Reviewing table 52, the Pearson correlation was 0.481 at a p value of 0.00 which was smaller than the level of significance (0.05). This meant that there was a

significant positive relationship between identification commitment and product quality commitment. Therefore, accept alternative hypothesis.

The second hypothesis H2 was restated as:

H₀₂: There is no statistical significant relationship between the affiliation commitment level and product quality among employees at CRM.

H_{a2}: There is statistical significant relationship between affiliation commitment level and product quality among employees at CRM.

Reviewing table 52, the Pearson correlation was 0.420 at a p value of 0.00 which was smaller than the level of significance (0.05). This meant that there was a significant positive relationship between affiliation commitment and product quality commitment. Therefore, accept alternative hypothesis

The third hypothesis H3 was restated as:

H₀₃: There is no statistical significant relationship between the exchange commitment level and product quality among employees at CRM.

H_{a3}: There is statistical significant relationship between exchange commitment level and product quality among employees at CRM.

Reviewing table 52, the Pearson correlation was 0.368 at a p value of 0.01 which was smaller than the level of significance (0.05). This meant that there was a significant positive relationship between affiliation commitment and product quality commitment. Therefore, accept alternative hypothesis

All the levels of commitment were found to have a strong positive relationship with product commitment. Identification commitment had the strongest correlation, followed by affiliation and then exchange for CRM.

4.6.2 Hypothesis testing at VRN

The correlations for VRN were computed and summarised in table 53. These were used to test the hypotheses. The alternative hypotheses were accepted when the p value was less than 0.05

Table 53. Pearson correlations for VRN

		Identification	Affiliation	exchange	Product quality
Identification	Pearson Correlation	1	.361**	.462**	.305**
	Sig. (2-tailed)		.000	.000	.002
	N	102	100	100	101
Affiliation	Pearson Correlation	.361**	1	.292**	.232*
	Sig. (2-tailed)	.000		.003	.019
	N	100	104	102	102
exchange	Pearson Correlation	.462**	.292**	1	.167
	Sig. (2-tailed)	.000	.003		.090
	N	100	102	105	104
Product quality	Pearson Correlation	.305**	.232*	.167	1
	Sig. (2-tailed)	.002	.019	.090	
	N	101	102	104	105

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

The first hypothesis H1 was restated as:

H₀₁: There is no statistical significant relationship between the identification commitment level and product quality among employees at VRN.

H_{a1}: There is statistical significant relationship between identification commitment level and product quality among employees at VRN.

From table 53, the Pearson correlation was 0.305 at a p value of 0.019 which was smaller than the level of significance (0.05). This meant that there was a significant positive relationship between identification commitment and product quality commitment. Therefore, the alternative hypothesis was accepted.

The second hypothesis H3 was restated as:

H₀₂: There is no statistical significant relationship between the affiliation commitment level and product quality among employees at VRN.

H_{a2}: There is statistical significant relationship between affiliation commitment level and product quality among employees at VRN.

From table 53, the Pearson correlation was 0.209 at a p value of 0.02 which was smaller than the level of significance (0.05). This meant that there was a significant positive relationship between affiliation commitment and product quality commitment. Therefore, the alternative hypothesis was accepted.

The third hypothesis H3 was restated as:

H₀₃: There is no statistical significant relationship between the exchange commitment level and product quality among employees at VRN.

H_{a3}: There is statistical significant relationship between exchange commitment level and product quality among employees at VRN.

Reviewing table 53, the Pearson correlation was 0.167 at a p value of 0.09 which was greater than the level of significance (0.05). Therefore, the alternative hypothesis was rejected. This meant that there was no significant positive relationship between exchange commitment and product quality commitment.

It was found out that identification and affiliation commitment had positive correlation with product quality commitment. Exchange commitment did not have any relationship with product quality commitment.

4.7 Discussion of findings

The primary objective of this research was to investigate the effect of applied leadership style on employee-commitment and product quality on two business units. It was a comparative study. The approach was to find out whether leadership style was a significant factor in fostering product quality commitment at ArcelorMittal.

To achieve the primary objective, specific objectives were determined and analysed through statistical properties of the two measuring instruments (MLQ and Employee Commitment), namely to determine their construct validity, reliability as well as the correlations, and to determine the demographic differences between the sample groups in the way they responded to the questionnaires.

The factor analysis of the MLQ loaded nine constructs with Cronbach Alpha reliabilities of between 0.507 and 0.900. For transformational leadership, five factors loaded and these were idealized influence (attributed), idealized influence (behaviour), inspirational motivation, and intellectual stimulation and individualised consideration. Three factors, namely contingent reward, management by exception (active), management by exception (passive) loaded for transactional leadership while laissez-faire loaded separately.

Statistical analysis revealed that transformational and transactional leadership styles were dominant at both the CRM and VRN business units. CRM exhibited slightly higher transformational leadership approach than VRN. Both units tended to 'overuse' the transactional leadership style in managing followers while VRN was viewed to over-apply the laissez-faire approach (table 54).

Table 54. Leadership Style summary

Style	CRM	VRN	Ideal Score
Transformational	3.10	2.73	Above 3.0
Transactional	2.26	2.24	Between 1.0 and 2.0
Laissez-faire	0.65	1.38	Less than 1.0

In general, the CRM and VRN top management teams were not seen as leaders having the necessary charisma, inspiration, motivation, and stimulation towards achieving a challenging goal. Instead, they were perceived as managers who dutifully performed their roles and responsibilities of giving reward for good performance and punishment for bad.

The Employee Questionnaire successfully loaded two factors with Cronbach Alpha reliabilities of greater than 0.600. These were product quality commitment and organisational commitment. Organisational commitment was further split into three: identification, affiliation and exchange commitment. Statistical analysis revealed that product quality commitment among employees at both plants was marginal. The average scores were between 4 (neutral) and 5 (somewhat agree) (table 55).

Regarding organisational commitment, identification, affiliation and exchange commitments were higher among employees at VRN than at CRM. In particular the identification commitment was between 5 (somewhat agree) and 6 (agree) for VRN. VRN employees indicated better commitment on all variables than CRM (table 55).

Table 55. Employee commitment summary

Subscale Employee Construct	CRM	VRN	Construct
Commitment to quality	4.57	4.84	Quality commitment
Identification commitment	4.93	5.18	Organisational Commitment
Affiliation commitment	4.50	4.84	
Exchange commitment	4.19	4.21	

Identification commitment was the most dominant organisational commitment style followed by affiliation and the exchange. This showed that the employee 'desire' to work for the units was more than just the 'need' or 'obligation' to work. This is a milestone result since identification commitment positively impacts on other outcomes like job performance, absenteeism, and employee turnover.

The male population dominated the descriptive statistics of both samples. The employees from both samples were relatively young with few years of experience and were predominantly black. Management was largely white. Whites were relatively old and with many years of accumulated work experience from both samples. The majority of managers had either a technikon qualification or matric.

Pertaining to the demographics, race and age among the respondents of the top leadership questionnaires affected the responses. Non-whites and the younger

leadership raters responded more negatively on the management by exception construct. The other factors like education, work experience and organisational hierarchy did not play a significant part.

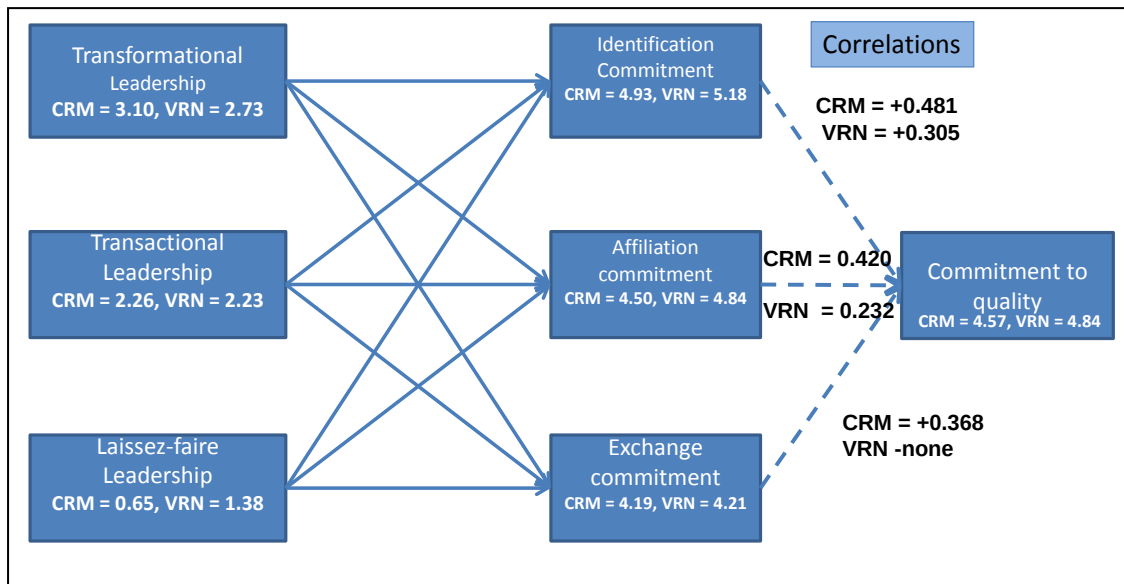
On the employees' side, the demographics of race and education did not affect the way the CRM employees responded to the questionnaire. Age, work experience and hierarchy among employees affected the responses. At VRN, only race affected the way questions were answered. Black employees answered the questions more positively than their white counterparts.

The computed leadership average values revealed that transformational leadership scored the highest mean for both units, followed by transactional for both units and then laissez-faire for both units as well. On one hand, identification commitment was the highest for both units, followed by affiliation commitment and then exchange commitment. This ranking is supported by literature for ideal employee organisational commitment.

The hypotheses testing showed that all the levels of organisational commitment were found to have strong positive correlations with product quality commitment at CRM. However, identification commitment had the strongest correlation, followed by affiliation and then exchange. At VRN, it was found out that identification and affiliation commitment had positive correlations with product quality commitment. However, exchange commitment did not have any relationship with product quality commitment.

To conclude on this section, the final relationships and correlations are shown in the figure below and these show that the intended objectives of the research were met.

Figure 22. Summary of correlations



4.8 Identified Relationships from the Study

This section established relationships between leadership styles, employee organisational commitment, and commitment to product quality by employees. These were derived from the statistical means and hypothesis testing from the empirical study as represented by figure 22.

Relationship one

- Higher levels of demonstrated transformational leadership style led to higher levels of identification, affiliation, and exchange commitment among employees at both CRM and VRN Works.
- Transformational leadership style was dominant at both production units followed by transactional and then lastly the laissez-faire style.
- Therefore, the higher the levels of transformational leadership approach, the higher the levels of commitment to the organisation among the employees.

For effective leadership, literature supports this typical ranking (Chou, 2013:48, McShane & Von Glinow, 2011:372, Christy, 2009:60, Ahmadi, Seyyed and Zohrabi, 2012:259). Studies by Chou (2013:48) revealed that transformational leadership was

positively associated with work attitudes and behaviours at individual and organisational level. Leadership was seen as one of the most important variables affecting work attitudes such as organisational identification commitment.

Ahmadi, *et al.*, 2012:259) found out a positive relationship between the transformational leadership style and the organisational commitment. In other words if managers adopted transformational leadership style, the organisational commitment will be promoted accordingly. In addition, it was found out that charismatic or transformational leadership was positively related to the effectiveness of the leader, subordinate's effort, and job satisfaction and to the subordinate's organisational commitment (Ramachandran & Krishnan, 2009:35). Furthermore, Shams, *et al.*, (2012:621) found that transformational leadership has a slightly higher correlation value with organisational commitment than transactional leadership.

Relationship two

- Employee identification commitment to the organisation had the strongest correlation with employee commitment to quality for both plants. Higher levels of identification commitment led to higher levels of product quality commitment among employees.
- Exchange commitment was found not to have any relationship with commitment to product quality among employees at VRN Works. However, there was a weak positive relationship between exchange commitment and product quality at CRM Works.
- The relationships between identification, affiliation and exchange commitment to product quality were stronger with CRM employees than VRN employees.
- Therefore, higher the level of identification commitment among employees leads to higher levels of commitment to product quality.

Organisational commitment is a very powerful predictor for outcomes like job satisfaction and intention to quit. Job satisfaction is a multi-dimensional construct and includes satisfaction with co-workers, with supervisors and with work in general (Walumbwa & Lawler, 2003:12). Shams, *et al.*, (2012:618) stated that organisational

commitment is a key source that determines the organisational performance as committed employees are the most important asset of any organisation.

Furthermore, organisational commitment of followers is influenced by transformational leadership (Lok & Crawford, 2004). Transformational leadership theory emphasizes the role of empowerment as a central mechanism of building commitment to the organization's objectives (Bass, 1999). Empowered employees are more likely to reciprocate with higher levels of commitment to their organisation (Ramachandran & Krishnan, 2009:24). Therefore, commitment becomes a significant competitive edge. Committed employees have higher work motivation and better job performance (McShane & Von Glinow, 2011:112)

Therefore, the order of the statistical results of the leadership style and organisational commitment from the empirical study attested the expected findings from literature: the higher the level of transformational style in the top management team, the higher the level of identification commitment among the employees.

CHAPTER FIVE – CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter outlined the findings of this study and their relationship with regards to the research objectives. Based on the results obtained from the study, a discussion of the theoretical and practical implications was presented. Recommendations to the management of the selected company, about improving employee commitment and adopting a leadership style are also presented. Furthermore, limitations that have been identified throughout the course of the study are discussed.

5.2 Findings from the literature study

Specific objective one: conduct literature survey on applied leadership styles and effects on organisational commitment and product quality commitment among employees. Show the link between leadership and organisational commitment.

Organisational commitment has important implications for employees, organisations, and society as a whole. In fact, the commitment of employees is the key factor that determines the success of a company in the modern world. Businesses are faced with ever growing competition and the constant implementation of new technologies and a company needs to have well-qualified and reliable personnel to maintain its position in the market (UKessays.com, 2012). As such, the effective functioning of an organisation highly depends on the commitment of its employees.

Organisational commitment focuses on employees' commitment to the organisation in three areas: (a) identification commitment exists when employees stay with the organisation because they want to, (b) affiliated commitment exists when employees stay with the organisation because they need to, and (c) exchange commitment exists when employees stay with the organisation because they feel they ought to (Balfour & Wechsler, 1996). Identification commitment results in better performance and more meaningful contributions, followed by affiliation commitment and then by exchange commitment (DeLoria, 2001:80,91).

In workplaces, there are many factors that can influence organisational commitment such as age, sex, race, personality, attitudes, climate, culture, values, fairness of policies, leadership decentralisation, competence, job challenges, degree of autonomy, and variety of skills used (UKessays.com, 2012). Despite all these factors, commitment to the organisation is probably most reflective of how employees feel about leaders and the behaviours they exhibit. The decision to commit to an organisation is one of the toughest assessments people usually make. In addition to this, deciding whether to merely fulfil obligations at work or supersede narrow job definitions can be the difference between success or failure according to Schaller (2011).

Leadership is all about setting direction and creating the right organisational conditions for heading in that direction (BIS, 2012:12). Truly effective leaders have a clear vision of the future and the capability to communicate that vision to others so that they are inspired to share it and work collaboratively to achieve it. It means ensuring that the right working conditions and physical resources are available. More importantly, it creates the culture, relationships and motivation to inspire people to make the most effective use of them. Relations-oriented leadership behaviours focus on the quality of the relationship with followers, whereas, task-oriented leadership behaviours focus on the task to be accomplished by followers. Relations-oriented leadership behaviours are considered the most effective, followed by task-oriented leadership behaviours (Bass, 1998; Bass & Avolio, 1995)

Leadership involves three interacting elements: a leader, a follower and a scenario (Goodnight, 2011:820). The leader's role therefore is to influence the followers to organisational success. It can assume a situational, transformational, transactional or laissez faire approach. Leonard (2010:2) stated that perhaps the leadership style that most relates to quality leadership, is transformational leadership which searches for ways to help motivate followers by satisfying high order needs and more fully engaging them in the process of work. Furthermore, transformational leaders are able to communicate and reinforce values and express an inspirational vision

focusing on quality. In addition, they also encourage quality improvement by building trust and reducing fear, creating awareness of change, developing a culture of support (Luria, 2008:31).

In such a situation, employees' commitment turns to be of a paramount importance since it is due to the high commitment of employees they can perform positively, increase effectiveness and productivity. On one hand, low commitment leads to poor functioning of the entire organisation. Inadvertently, it leads to poor product quality. Product quality is critical in business because it helps to ensure customer satisfaction and improves the perception of an organization's brand. Product quality provides a strong competitive advantage and is an essential requirement for doing business with certain customers the importance of product quality and that the successful implementation of a quality strategy can facilitate increased profitability in both a focus and a market share context (Manhgani, 2011:34)

Today market is more competitive and customer driven. Today's customer is more aware and educated. They demand quality products and services. Quality plays an important role in this new era of globalisation because it has certain benefits such as reduction of wastage, cost effective, increases market share, better profitability, better control in the process, social responsibility, enhances competition as well as increasing the company's reputation (a quality company earns good name and reputation) (Thap, 2009:1).

5.3 Findings from the empirical study

This section restated the identified specific or secondary objectives of the study and assessed whether the empirical study met them.

Specific objective two: Assess the dominant leadership styles at both units by use of statistical means from the MLQ.

It was found out that transformational leadership style dominated both the CRM and VRN business units followed by the transactional leadership style. This was in line with literature for effective leadership. In general, CRM exhibited a slightly stronger transformational leadership approach than VRN (table 56).

Furthermore, both units tended to 'overuse' the transactional approach. The study revealed that the scores were above the recommended ideal levels for effective leadership. In addition, VRN overused the laissez-faire approach as well (table 56).

Table 56. Summary of styles

Style	CRM	VRN	Ideal Score
Transformational	3.10	2.73	>3.0
Transactional	2.26	2.24	>1.0, <2.0
Laissez-faire	0.65	1.38	<1.0

In summary, the CRM and VRN managers teams were not seen as leaders having that strong charisma, inspiration, drive and stimulation towards achieving challenging goals. Instead, these were perceived as managers who performed their duties and responsibilities of giving reward for good performance and punishment for bad.

Specific objective three: Assess the employee organisational commitment by using statistical means from the Employee Questionnaire.

From the means in table 57, identification commitment was the most dominant organisational commitment style followed by affiliation and exchange in both units. This indicated that the employees 'desire' to work for the units was stronger than the 'need' or 'obligation' to work.

This is a milestone result since identification commitment has been found to positively impact on other outcomes like job performance, absenteeism and employee turnover as well as offering a competitive edge (McShane & Von Glinow,

2011:112). However, the level of commitment was slightly higher in VRN than in CRM.

Table 57. Summary scores for employee constructs

Subscale Employee Construct	CRM	VRN	Construct
Identification commitment	4.93	5.18	Organisational Commitment
Affiliation commitment	4.50	4.84	
Exchange commitment	4.19	4.21	

In general, the study revealed weak to moderate levels of employees' organisational commitment at both units.

Specific objective four: Empirically assess the product quality commitment among employees statistically from the Employee Questionnaire.

The results indicated a weak to marginal commitment to quality among employees for both units: 4.84 mean score for VRN and 4.57 mean score for CRM. The highest score that would have indicated strong commitment was 7.0 on the Likert scale.

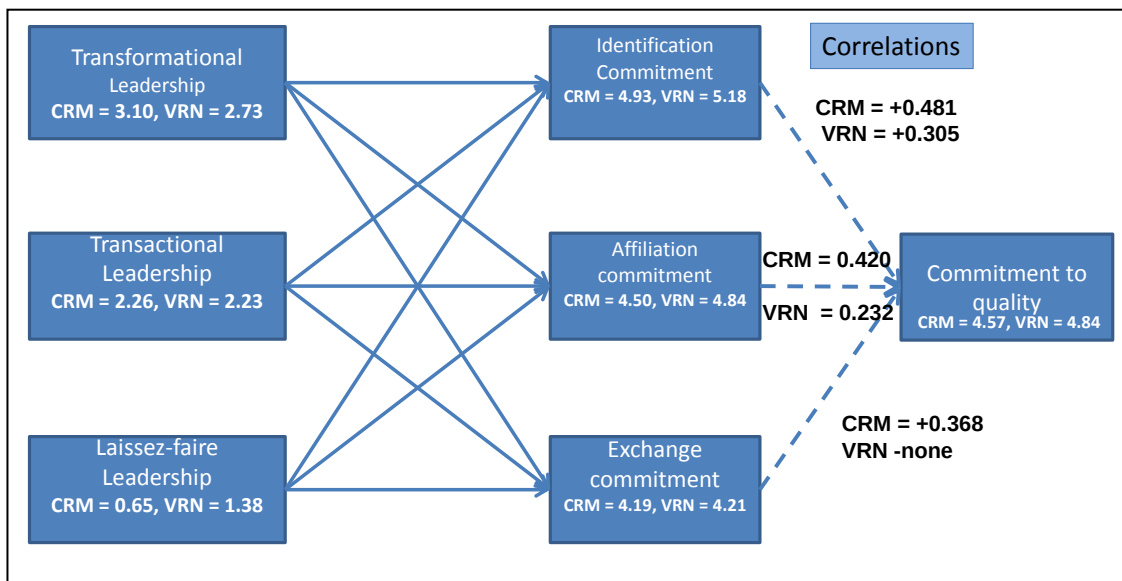
Specific objective five: To determine any relationships between leadership style, organisational commitment and product quality among employees.

By reviewing figure 22 or 23 from the empirical study, the following relationships were established

- Higher levels of transformational leadership style led to higher levels of identification, affiliation, and exchange commitment at both CRM and VRN Works.
- Identification commitment had the strongest correlation with employee commitment to quality for both plants. Higher levels of identification commitment led to higher levels of product quality commitment among employees.

- Exchange commitment was found not to have any relationship with commitment to quality among employees at VRN Works.
- The relationships between identification, affiliation and exchange commitment to product quality were stronger with CRM employees than VRN employees.

Figure 13. Hypothesis summary



Specific objective six: Is there any relationship between organisational commitment to product quality commitment (hypothesis testing)

The hypotheses testing results in table 58 revealed that in both units, there was a significant positive correlation between product quality commitment and identification commitment and affiliation commitment among employees. Secondly, there was positive correlation between product quality commitment and exchange commitment at CRM and there was no correlation between these two at VRN.

Table 58. Correlations summary

	Correlations		
	Identification (H1)	Affiliation (H2)	Exchange (H3)
Product Quality (CRM)	0.481 (+ve)	0.420 (+ve)	0.368 (+ve)
Product Quality (VRN)	0.305 (+ve)	0.232 (+ve)	No correlation

In general, CRM had stronger correlations than VRN. Therefore, objective six was met. Yes, there is relationship between product quality commitment and organisational commitment among employees.

To answer the primary objective: Is leadership style a significant factor in fostering commitment to product quality among employees?.

I would say 'yes'. Transformational leadership and identification commitment are regarded as the ideal conditions for an organisation (Chou, 2013:49). Both units had higher levels of transformational leadership (when compared to other styles) and this led to higher levels of identification commitment among employees. In turn, identification commitment had the highest correlations with product quality commitment among the employees.

Therefore, transformational style is a significant factor in fostering commitment to product quality. Transformational leaders change the organisation's strategies and culture so that they have a better fit with the surroundings. These are change agents who energise and direct employees to a new set of corporate values, goals and behaviour. They succeed in letting go employees of their self-interests to pursue a common agenda (McShane & Von Glinow, 2011:370).

Transactional leadership style is managing and doing things right (Christy, 2009:49). It improves organisational efficiency, as it is associated with active vigilance and a reward system. However, it is less effective as it is based on a "give and take principle". Transactional leadership was higher at CRM than at VRN. This may explain why there are lower levels of identification and affiliation commitment at CRM than at VRN.

The leadership style at VRN had some high elements of laissez-faire. Is this the reason why product commitment is higher at VRN than at CRM despite the lower transformational score for VRN?. From the literature, laissez-faire was identified to be an extension of situational leadership where the employees have matured (Bolden, *et al.*, 2003:12). Situational leaders vary their style with the 'readiness' of

the followers. VRN employees' demographics indicated that they largely answered the questionnaire in a similar fashion. This showed a higher level of maturity than CRM employees. Therefore, the application of the laissez-faire approach seemed to impact positively on the organisational commitment.

At CRM, both transformational and transformational leadership styles were being practised while at VRN, all three were being practised (transformational, transactional, and laissez-faire)

5.4 Recommendations to the organisation

From the study, it seemed clear from the data that the leadership style is not at the ideal levels for effective leadership at both units. In addition, it was also clear that the employees were not at the ideal levels of organisational and product quality commitment at both plants. Effective leadership should understand this. Based on the above, the following recommendations are presented to the leadership of both the CRM and VRN units:

- It is recommended that the leadership style should be taken as a key organisational strategic initiative where resources should be invested to this effect.
- The current managers should be coached towards transformational leadership approach. The fact that employees viewed their managers as uninspiring and people who are just dutifully performing their roles and responsibilities of giving reward for good performance and punishment for bad points to the need those managers should be trained to assume and practice this style.

Both units have a relatively young workforce and the seasoned managers should practise transformational leadership approach in order to re-orient the workforce to the ideals of the ArcelorMittal.

- Furthermore, a situational leadership (an extension of laissez faire) should be practised for matured employees with years of work experience. It was concluded that for VRN, despite having lower scores in transformational leadership, the employee quality commitment is higher than CRM because of the laissez faire approach. Mature employees are inclined to accept this approach of leadership.
- The business units should move away from the reward system based on Key Performance Indicators (KPIs) where employees are rewarded on agreed targets. The KPI system tends to, unfortunately reinforce the transactional leadership approach. Instead, the business units should come up with matrix to measure transformational leadership for the employees. This should encourage the development of transformational leadership within the business units
- Employees want “direction, trust and hope” for them to follow and leaders must provide these three things. ArcelorMittal has a need for such dedicated leaders who are not only willing, but excited by the very complex and turbulent arena within which companies compete today. Leaders continue to face competitive forces such as trying to keep up with the fast pace of technological change, technical work-force shortages, and changing labour and environment laws and other unpredictable stakeholder moves.
- In addition, the demographics of the workforce is another issue challenging industrial leadership. Social issues impact industries due to generational replacement. The younger generation expects to be well paid, but has a different mental psychological model relevant to the degree of commitment required for the pay. Many individuals entering the technical work force tend to be more independent, less formal, participate in a very active social life outside the company, and expect a pleasant work climate and environment.

In order to encapsulate the recommendations on transformational leadership style required for ArcelorMittal and produce employees who are highly committed to both the organisation and product quality, the following leadership model is proposed as a

recommended approach. This recommendation should be driven as a strategy for AMSA:

1. Create a Shared Vision

Being forward-looking—envisioning exciting possibilities and enlisting others in a shared view of the future—is the attribute that distinguishes leaders from non-leaders. (Kouzes & Posner, 2009)

Leaders should establish an all-encompassing vision for the units' future that engages employees to achieve the intended objectives. The vision should be attractively and realistically shaped so that it bonds all employees together and focuses their energy there. This is the substance of a transformational leader.

1 Appreciate Cultural Diversity

Culture shapes the leaders' values, norms, greatly influence decisions, and actions. Cultural norms also shape the expectations that followers have on the leader. An executive who behaves outside cultural expectations is more likely to be perceived as ineffective. In the study, 70% of the followers were black while 80% of the managers were white. Issues of culture play a significant role.

2 Develop and Empower People

Followers on the front line must be individually developed and empowered to make decisions based upon their own knowledge and experience because the quality and complexity of operational information means that leaders may no longer have it readily available to decide. The leadership of the two units had poor scores on individualised consideration.

4. Live the Values/Walk the talk

Leaders should do things that model or symbolise their vision as this builds employees' trust. Leaders should walk the talk through significant events such as directly engaging employees and living up to their promises.

The most effective way to teach employees is to exemplify that which leaders want to teach. From the time leaders enter into the offices, their appearance and disposition, as well as how they handle problems, talk to followers, work ethics, and how they demonstrate commitment to their people as their leaders, sends an unwritten message to followers (Rosen, 2013)

5. Embrace Change

Things have changed in society and at the workplace. South Africa is now a rainbow nation. Leaders should not be rigid but demonstrate this change in words and deeds. The management of both units is middle-aged while the employees are relatively of a younger generation.

According to Clark (2013), the best kind of change comes when you envision, initiate and control it. That type of change creates opportunities, transforms companies and ignites growth otherwise one is faced with the damaging prospect of a change that happens without the leader, rather than because of the leader.

7. Build Teamwork and Partnerships

Building strong teams and establishing greater trust within those teams and between the people that work together are essential steps to building a culture of accountability where people collaborate and focus on the task of achieving the result. This takes away time-wasting actions and attitudes that are defensive, blame oriented and non-productive.

Studies in America showed that 79% of the executives polled identified teamwork and trust as a major organisational challenge that causes failure. These issues of teamwork and trust were further emphasized with another major poll that found that one in four working Americans describe their workplace as a dictatorship with only half feeling that their boss treated subordinates well. Employee satisfaction is at an all-time low at 45%. Indeed, teamwork and trust are challenges in today's workplace (Partners In Leadership, 2011).

8. Personality

Leaders should have high levels of extroversion, drive and possess a high knowledge of the business. In addition, they should have above average ability to process data and ability to solve real world problems by adapting to, shaping, or selecting appropriate environments. Leaders should have the ability to monitor his/her own and other's emotions, discriminate among them and use information to guide his/her thoughts and actions.

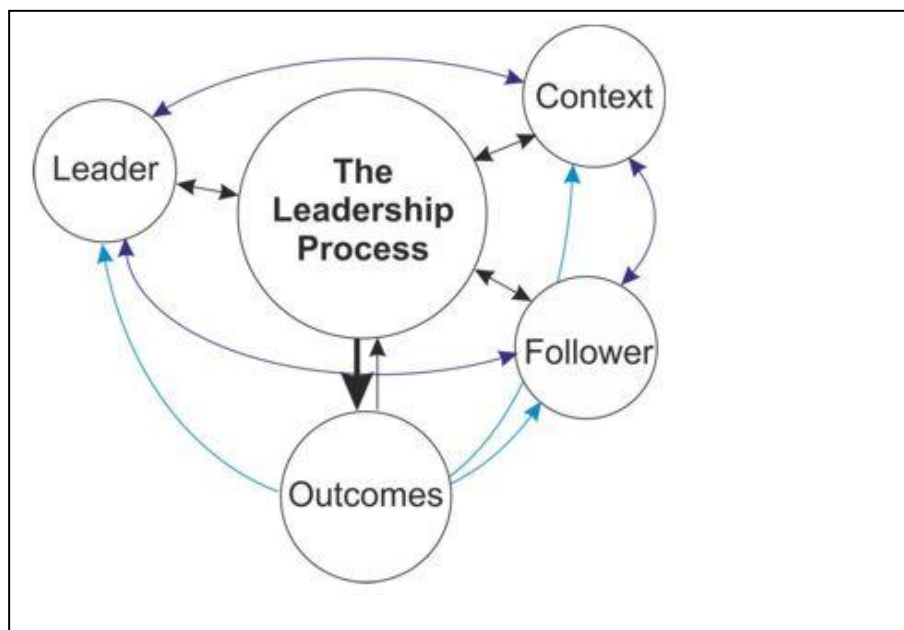
5.5 Proposed Leadership Mode

The model shows the relationship between four key factors that contribute to leadership success or failure as in figure 24. These are:

The Leader: This is the person who takes charge, and directs the group's performance.

Followers: These are the people who follow the leader's directions on tasks and projects.

Figure 24. Proposed leadership model



Source: Mind Tools (2013)

The Context: The work is performed and is either the CRM or VRN with its physical environment, cultural diversity, age diversity, resources and processes in this situation.

Outcomes: These are the results of the process. Outcomes could be reaching a particular goal, developing a high-quality product, or resolving a customer service issue. They can also include things like improved trust and respect between the leader and followers, or higher team morale.

The model shows the way in which the leader, the followers, and the context interact to affect the outcomes. It also shows how the outcomes feed back to affect the leader, the followers, and the context. Most importantly, the model highlights that leadership is a dynamic and on-going process. Therefore, it's important to be flexible depending on the context and outcomes, and to invest continually in the relationship with followers. Accordingly, the model can also help one understand:

- How actions as a leader influences the followers, depending on the context and the outcome.
- How the followers influences the leader.
- How the context and outcomes influence the leaders and the followers.

Essentially, everything affects everything else. In a very real way, negative actions feed back to negatively affect future performance, and positive actions improve future performance.

How to Apply the Model (Mind Tools, 2013)

- Provide Regular Feedback

Probably the most important thing that the Leadership Process Model highlights is how important it is to give good feedback so that the team can grow and develop. Feedback to the team influences the context and helps to improve the outcome. This then cycles back to influence the leaders and the team in a positive way. Regular feedback also helps to keep followers in the right direction, as outcomes and the context change.

- Be Aware of Actions and Reactions

The model makes it clear that, no matter what a leader does, the decisions, behaviour, and actions directly affect the followers. Every action has a reaction. The leader, the followers, the context, and the outcome are all tied together in a dynamic relationship. As a leader, it's essential to keep in mind at all times that there will be consequences if one says something thoughtless or lashes out at a team member. Those consequences might include diminished performance, reduced morale, increased absenteeism, and accelerated staff turnover. This is why it's important to control emotions at work, and be a good role model.

- **Lead Honestly and Ethically**

The model also illustrates the relationships between leader and followers. If this relationship is built on mutual trust and respect, then the context and outcomes will get better. However, if the relationship is based on animosity, resentment, or even fear, the effect on context and outcomes will be negative. The followers need and deserve a leader who they can trust and look up to, which is why it's important to be an ethical leader. Employees will follow instructions from a leader who they trust will do the right thing, and they'll go above and beyond for such a one because the relationship is deeper. This makes the difference between an average team and a great team.

In addition, leaders should be authentic in their actions and communication, and lead with integrity and humility. These qualities will inspire the trust of the people and strengthen the relationship. It's also important to build trust actively with the team members, to support their needs, and always keep one's word with them.

- **Lead with the Right Style**

In business, transformational leadership is often the best leadership style to use. Transformational leaders have integrity, they set clear goals, they communicate well with their team members, and they inspire people with a shared vision of the future. However, one needs to occasionally adopt different leadership approaches to fit a particular follower, outcome, or context. This is why it helps to be able to use other styles when appropriate.

- **Consciously Assign Tasks**

Do the people get to use their skills and strengths on a regular basis? If one assigns tasks and projects in an ad-hoc way, then this answer might be no. Followers are happiest when they can use their strongest skills on a regular basis. Try to assign tasks that fit the unique skills of everyone on the team.

- **Focus on Relationship Development**

As a leader, one often depends on the people more than they depend on you. The working relationships should therefore be built on trust, respect, and transparency. The deeper the relationship with your team, the better a leader you'll be.

5.6 Limitations of the study

The main limitation was that the study was carried out using a sample of employees working for one Steelmaking Company. This might not represent the industry as a whole. In addition, there is no way of capturing the feelings of the respondents, how truthful they were is, how much thought was put in and whether they were thinking within the full context of the situation

The questionnaires were available only in English. Most of the respondent's first language is not English and this may have had an influence on the interpretation of some of the questions.

5.7 Future Research prospects

It is recommended that larger samples with a more powerful sampling method be utilised to enable generalisation of the findings to other similar groups in the manufacturing industry. Longitudinal research is recommended to establish levels of commitment and leadership style over a period of time.

Participants in different demographic groups experienced different levels of commitment. Possible reasons for this should be established by further research.

Managerial participants that were non-whites and those who were older answered in a different way from the others. Further research is needed to determine exactly which attitudes they possess at this stage and what elements made them respond in that manner.

The demographics showed that 70% of the employees were black and 80% of the managers were white. Further research can be interesting to find out why.

5.8 Chapter summary

In this chapter conclusions regarding the theoretical and empirical objectives were made. The limitations of the research were pointed out and recommendations were made for the organisation in which the study took place, as well as for future research. All theoretical and empirical objectives formulated for this research, have been attained.

6.0 BIBLIOGRAPHY

AHMADI, S. A. A., AHMADI, F., ZOHRABI, M., 2012. Effect of the Leadership Styles on the Organizational Commitment Given. The Case study: Iran's State Retirement Organization. *Journal of interdisciplinary contemporary research in business*. 4(1):247-268.

AHMED, S., 2009. Methods in Sample Surveys: Cluster Sampling. [Online] Available at: <http://ocw.jhsph.edu/courses/statmethodsfor> [Accessed 18 September 2013].

AKBAR, A., 2012. The Crucial Role of Leadership in Organisations: A Review of Literature. *Journal of international independent research and studies*, 4(4):153-161.

AKKAYA, F. M., 2007. GLOBAL MARKETING STRATEGIES. [Online] Available at: <http://www.ekonomi.gov.tr/> [Accessed 13 September 2013].

ALARIFI, S. & ALTHONAYAN, A., 2013. The Effects of Transformational Leadership on Follower's Creativity in Public Sector. Dubai, 2nd International Conference on Management, Behavioural Science and Economics Issues.

ALHARBI, M. & YUSOFF, R. Z., 2012. Leadership styles and their relationship with quality practices in public hospitals in Saudi Arabia. *International Journal of Economics and Management Sciences*, 1(12):59-67.

ANON, 2007. The Transformational Leadership Report.

ANON, N.D. COMMITMENT. [Online] Available at: <http://www.prismltd.com> [Accessed 26 July 2013].

ANTONAKIS, J., CIANCIOLO, A. T., STERNBERG, R. J., 2011. Leadership Past, Present, and Future. In: The Nature of Leadership. Thousand Oaks, CA: SAGE Publications:3-25p.

ARCELORMITTAL, 2013. *ArcelorMittal*. [Online] Available at: <http://www.corporate.arcelormittal.com> [Accessed 26 July 2013].

ARMSTRONG, M., 2008. How to Manage People. 1st ed. London: Kogan Page Limited.

ARTHUR W PAGE SOCIETY, 2009. The Dynamics of Public Trust in Business— Emerging Opportunities for Leaders A Call to Action to Overcome the Present Crisis of Trust in Business, New York: Business Roundtable Institute for Corporate Ethics.

BABOU, 2008. Leadership Champions: Transactional vs Transformational Leadership. [Online] Available at: <http://leadershipchampions.wordpress.com> [Accessed 12 June 2013].

BALA, M., 2005. Data Analysis Procedures. [Online] Available at: http://www.celt.mmu.ac.uk/researchmethods/Modules/Data_analysis/index.php [Accessed 20 September 2013].

BALFOUR, D. & WECHSLER, B., 1996. Organisational Commitment: Antecedents and outcomes in public organisations.. Public Productivity and Management Review, Issue 29:256-277.

BASS, B. M., 1985. Leadership and Performance Beyond Expectations. New York: Free Press.

BASS, B. M., 1990. Handbook of leadership: A survey of theory and research. New York: Free Press.

BASS, B. M., 2000. The Future of Leadership in Learning Organizations. *Journal of leadership and organizational Studies*, 7(3):18-40.

BASS, B. M. & AVOLIO, B. J., 1997. The full range of leadership development: Manual for Multi-factor Questionnaire, New York: Bass/Avolio & Associates.

BATOOL, B. F., 2013. An Empirical Study on Effect of Transformational Leadership: On Organizational Commitment In The Banking Sector Of Pakistan. *Journal of business and management*, Jan- Feb, 8(2):38-44.

BIS, 2012. Leadership & management in the UK - the key to sustainable growth. [Online] Available at: <http://www.bis.gov.uk> [Accessed 13 August 2013].

BOLDEN, R., GOSLING, J., MARTURANO, A., DENNISON, P., 2003. A Review of a Report for Chase Consulting and the Management Standards Centre, Exeter: University of Exeter.

BOURQUE, L. & FIELDER, E., 1995. User Friendly Questionnaires and Response Categories: How to Conduct Self-Administered and Mail Surveys. Sage, California: Sage Publishers.

BOYD, M. H., 2011. FACTORS FOR SUCCESSFUL STRATEGIC PLANNING IN THE HUMAN RESOURCE MANAGEMENT FUNCTION.. [Online]

Available at: <https://docs.google.com>.

[Accessed 4 June 2013].

BROOKS, R. G., 2008. *The Role of Leadership in Commitment to Quality*, EzineArticles.

BROWN, J. D., 2011. Likert items and scales of measurement. SHIKEN: JALT Testing & Evaluation SIG Newsletter, 15(1):10-14.

BRUN, A., 2011. TOTAL QUALITY MANAGEMENT. Quality Culture, Leadership and Motivation, Milano: s.n.

BUCHANAN-SMITH, M. & KIM, S., 2011. Leadership In Action: Leading effectively in humanitarian operations, London: ALNAP Study.

BUSHRA, F., USMAN, A., NAVEED, A., 2011. Effect of Transformational Leadership on Employees' Job Satisfaction and Organizational Commitment in Banking Sector of Lahore (Pakistan). *journal of international business and social science*, 2(18):261-267.

BUSINESSDICTIONARY, 2010. *Research Design*. [Online]

Available at: <http://www.businessdictionary.com/definition/research-design.html>

[Accessed 19 September 2013].

CALISKAN, E. N., 2010. The Impact of strategic human resource management on organizational performance. *Naval Science and Engineering*, 6(2):100-116.

CASTILLO, J. J., 2009. *Research Population*. [Online]

Available at: <http://explorable.com/research-population>

[Accessed 19 September 2013].

CATHOLIC THEOLOGICAL UNION, 2010. Basic Research Methodology. [Online]

Available at: <http://www.ctu.edu.vn/>

[Accessed 18 September 2013].

CERTO, A., 2009. Quality and Productivity. [Online]

Available at: <http://mhanswers-auth.mhhe.com/management/supervision/quality-and-productivity>

[Accessed 23 July 2013].

CHASE, R. B. & JACOBS, R. F., 2011. Operations and Supply Chain Management. 13th ed. New York: MacGraw-Hill/Irwin.

CHAUNDRY, A. A. & HUSNAIN, J., 2012. Impact of Transactional and Laissez faire Leadership Style on Motivation. *Journal of business and social science*, 3(7):258-265.

CHETTY, T., 2010. The Drivers and Inhibitors of Strategy Execution, Pretoria: University of Pretoria.

CHIPUNZA, C., SAMUEL, M. O., MARIRI, T., 2011. Leadership style, employee motivation and commitment: Empirical evidence from a consolidated retail bank operating un a depressed economy. *Journal of African Business Management*, 16 September, 5(20):8338-8346.

CHOU, P., 2013 . The Effect of Transformational Leadership on Follower's Affective Commitment to Change. *Journal of World social sciences*, 3(1):38 – 52.

CHOWDHURY, M., PAUL, H., DAS, A., 2008. The Impact of top management commitment on total quality management practice: An exploratory study in the Thai Garment industry.

CHRISTY, G., 2009. Leadership. In: Managing and Leading People. London: CIPD:47-66.

CIPD, 2010. Engaging leadership: Creating organisations that maximise the potential of their people, CIPD.

CLARK, D., 2013. How The Best Leaders Embrace Change. [Online] Available at: <http://www.forbes.com/sites/dorieclark/2013/11/05/how-the-best-leaders-embrace-change/>[Accessed 11 November 2013].

COHEN, J., 1988. Statistical power analysis for the behavioral sciences. 2nd ed. New Jersey : Lawrence Erlbaum. .

COLLINSON, M. R., EDWARDS, C. P., INNES, L., 2009. Involving Employees in Total Quality Management: Employee attitudes and Organisational Context in Unionised Environments., Coventry: University of Warwick.

COOPER, D. R. & SCHINDLER, P. S., 2003. Business Research Methods. New York: McGraw-Hill/Irwin..

CORTINA, J. M., 1993. What is coefficient alpha? An examination of theory and applications. *Journal of Applied Psychology*, Vol 78(1), Feb 1993, 98-104., 78(1):98-104.

DAS, A., KUMAR, V., KUMAR, U., 2011. The role of leadership competencies for implementing TQM: An empirical study in Thai manufacturing industry. *International Journal of Quality & Reliability Management*, 108(2):195 - 219.

DAWSON, C., 2002. Research Methodology (for private circulation only). [Online] Available at: http://www.ihmgwalior.net/pdf/research_methodology [Accessed 19 September 2013].

DEEPA, K., 2013. *Buzzle: Autocratic Leadership*. [Online] Available at: <http://www.buzzle.com> [Accessed 29 July 2013].

DELORIA, J. E., 2001. A COMPARATIVE STUDY OF EMPLOYEE COMMITMENT: CORE AND CONTRACT EMPLOYEES IN A FEDERAL AGENCY, Falls Church, VA: Virginia Polytechnic Institute and State University.

DOGRA, A., 2011. Types of Leadership Roles. [Online] Available at: <http://www.buzzle.com/articles/types-of-leadership-roles.html> [Accessed 19 August 2013].

DOLATABADI, R. H., SAFA, M., 2010. The effect of directive and participative leadership style on employees' commitment to service quality. *International Bulletin of Business Administration. EuroJournals*, June.3(9).

EFOX, N.D. *Survey Research – Data Analysis*. [Online] Available at: <http://efox.cox.smu.edu/mktg3342/dataanalysis> [Accessed 20 September 2013].

ENGELBRECHT, S., 2010. The role of gender specific communication style of leaders in organisational communication, Pretoria: University of Pretoria.

FEIGENBAUM, A. V., 2007. The international growth of quality. *Quality Progress*, 40(2):36-40.

FIELD, A., 2013. *Discovering Statistics using IBM SPSS Statistics*. 4th ed. :SAGE Publications. California. 245p

FRY, L. W., 2009. Towards a Theory of Spiritual Leadership. *The Leadership Quarterly*, 14 June:693-727.

FURNHAM, A., 2005. *Leadership*. In *The psychology of behaviour at work: The individual in the organisation*. New York: Psychology Press.

GALLUP BUSINESS JOURNAL, 2004. *Leadership Is a Process, Not a Role*. [Online] Available at: <http://businessjournal.gallup.com/content/10102/leadership-process-role.aspx>. [Accessed 21 June 2013].

GARCIA-MORALES, V. J. & LIORENS-MONTES, F. J., 2008. The Effects of Transformational Leadership on Organisation Performance through Knowledge and Innovation. *British Journal of Management*, 89(12):299-319.

GARVIN, D. A., 1984. What Does "Product Quality" Mean?. [Online]
Available at: <http://www.sloanreview.mit.edu>
[Accessed 2 July 2013].

GEBHARDT, A., HEINRINCI, F., PAVAN, A., 2003. Important Theories of Leadership and Management in Organisations, Oslo: Hogskolen in Oslo.

GHORBANI, M. & ALEMORAD, M., 2013. Study of the Relationship Between Management Commitment to Service Quality (MCSQ) and Services Receiving Performance in Public and Private Hospitals. *World Applied Sciences Journal* , 21(8):1167-1175.

GOERTZEN, B. J., 2008. Contemporary Theories of Leadership. In: *Leadership Theories*. s.l.:Jones & Bartlett Learning LLC:83-100.

GOODNIGHT, R., 2011. Laissez Faire Leadership. In: *Encyclopedia of Leadership* 2004. :SAGE Publications, pp. 820-825.

GROSS, D., 1996. GREATEST BUSINESS STORIES OF ALL TIMES: The Turnaround at Harley-Davidson. New York: John Wiley and Sons Inc.

GUTNER, T. & ADAMS, M., 2012. A Leadership Prescription for the Future of Quality, New York: The Conference Board.

HAMILTON, K. E., 2001. Introduction to Psychology. [Online]
Available at: <http://webhome.idirect.com/~kehamilt/psy1.html>
[Accessed 19 September 2013].

HANI, 2009. Empirical Research. [Online]
Available at: <http://explorable.com/empirical-research>
[Accessed 13 September 2013].

HAYWARD, B. A., 2005. Relationship between employee performance, Leadership and emotional intelligence in a South African Parastatal Organisation, Grahamstown: Rhodes University.

HILAIRE, F. S., 2008. Leadership Theories: Towards a Relational Model, Quebec: University Laval.

HOCHSCHILD, F., 2010. In and above Conflict: A Study on Leadership in the United Nations, Geneva: United Nations.

HOLBECHE, L., 2006. Understanding Change: Theory, Implementation and Success. Cornwall: MPG Books Ltd.

HOUSTON, A. & DOCKSTADER, S. L., 2009. Total Quality Leadership: A Primer, Washington: Total Quality Leadership Office.

HR Nutshell, 2013. Organisational Commitment Questionnaire. [Online]
Available at: <http://www.hrnutshell.com>
[Accessed 4 September 2013].

IAAP, 2009. Leadership Theories and Styles, IAAP.

IMD, 2013. Facing Globalisation: A chaotic Transition to Uncertainty, s.l.: The Evian Group.

JAROSLAV, B., 2013. The Leadership Style and the Productiveness of Employees in the Banking Sector in Slovakia. *Journal Of Competitiveness*, 5(1):39-52.

JOHNSON, B. C. L., 2008. Educational Research: Quantitative, qualitative and mixed approaches. Thousand Oaks, CA: Sage Publications.

JORGENSEN, C., 2008. GREAT BATTLES: Decisive Battles That Shaped History. 1st ed. Bath: Parragon. Queen Street House.

JURAN, M. J., 1994. Product Quality: A Prescription for the West, : Juran Institute.

KARIM, N. H. A. & NOOR, H. N. M., 2006. EVALUATING THE PSYCHOMETRIC PROPERTIES OF ALLEN AND MEYER'S ORGANIZATIONAL COMMITMENT SCALE: A CROSS CULTURAL APPLICATION AMONG MALAYSIAN ACADEMIC LIBRARIANS. *Malaysian Journal of Library & Information Science*, 11(1):89-101.

KELCHER, L., 2013. Leadership Styles in Production Management. [Online]
Available at: <http://www.smallbusiness.chron.com>
[Accessed 19 August 2013].

KEY, J. P., 2007. DATA TOOLS: MODULE R8: QUESTIONNAIRE AND INTERVIEW AS DATA-GATHERING TOOLS. [Online]
Available at:
<http://www.okstate.edu/ag/agedcm4h/academic/aged5980a/5980/newpage16.htm>
[Accessed 17 August 2013].

KHAN, F. N. & MALIK, K. A., 2010. Analysis of Leadership Taxonomies and Organisational Outcomes by using Multifactor Leadership Questionnaire, Karachi: Sindh Madrasatul Islam University.

KHAN, M. A., 2011. The Reasons behind Corporate Collapse: A Case Study of Enron, Nowshera: University of Malakand.

KIMBERLIN, C. & WINTERSTEIN, A., 2008. Validity and reliability of measurement instruments used in research. [Online]
Available at: <http://www.ncbi.nlm.nih.gov/pubmed/19020196>
[Accessed 13 September 2013].

KOTHARI, C. R., 2004. Research Methodology: An Introduction. 2nd ed. New Delhi: New Age International Limited Publishers.

KOUZES, P. J. & Posner, B. Z., 2009. To Lead, Create a Shared Vision. [Online] Available at: <http://hbr.org/2009/01/to-lead-create-a-shared-vision/ar/1> [Accessed 12 November 2013].

LAI, A., 2011. Transformational - Transactional Leadership Theory, AHS Capstone Projects.

LEADERSHIP-CENTRAL, 2010. Leadership Theories. [Online] Available at: <http://www.leadership0central.com/> [Accessed 19 May 2013].

LEE, C. & CHUANG, S., 2009. The Impact of Leadership Style on Job Stress and Turnover Intention: Taiwan Insurance Industry as an Example. [Online] Available at: <http://www.hclee@ttu.edu.tw> [Accessed 12 May 2013].

LEHNER, J., 2004. Strategy implementation tactics. *Management Review*, 15(20):127-134.

LEONARD, D., 2010. Quality Leadership, Texas: Quality Texas Foundation.

LITCHTMAN, M., 2006. Qualitative Research in education: A user's guide. Thousand Oaks, CA: Sage Publishers.

LURIA, G., 2008. Controlling for quality: climate, leadership and behaviour. *Quality Management Journal*, 15(1):27-40.

LUTHANS, F., 2005. Organisational Behaviour. 10th ed. s.l.:McGrwa - Hill/Irwin Publication.

LYNE De Ver, H., 2009. Concepts of Leadership, New York: Developmental Leadership Program. Policy and Practice for Developmental Leaders, Elites and Coalitions.

MANHGANI, K., 2011. Quality assurance: Importance of systems and standard operating procedures. *Perspectives in clinical Research*, 2(1):34-37.

MANONMANI, P., MARK, J., KARTHIKEYAN, R., UMA, V., 2013. A Study on Employee Engagement with special reference to Steel casting manufacturing company, Coimbatore, Tamilnadu. *Journal of Business and Management Invention*, January, 2(1):59-61.

MCGEE, C. & MOLLOY, K., 2007. Getting Results Through Organization Design, Anon: Copyright 2008, Craig McGee and Kathy Molloy.

MCSHANE, S. L. & VON GLINOW, M. A., 2011. Organizational Behaviour. 5th ed. New York: McGraw-Hill/Irwin.

MILLER, M. J., 2005. Reliability and Validity. [Online]
Available at:
http://www.michaeljmillerphd.com/res500_lecturenotes/reliability_and_validity.pdf
[Accessed 13 September 2013].

MILLS, Q. D., 2005. The Importance of Leadership. In: Q. D. Mills, ed. *Leadership: How to lead, How to live*. D Quinn Mills. All Rights Reserved:10-18.

MIND TOOLS, 2013. Dunham and Pierce's Leadership Process Model: Taking an Intelligent, Long-Term Approach to Leadership. [Online]
Available at: <http://www.mindtools.com/pages/article/leadership-process.htm>
[Accessed 11 November 2013].

MOHAMMED, K. A., JAMILAH, O. & L, D. J., 2012. The Influence of Leadership Styles On Organizational Commitment: A Study of Public University Lecturers in Nigeria. *INTERNATIONAL JOURNAL OF ACADEMIC RESEARCH*,4(4):56-61.

Moody, D., 2002. EMPIRICAL RESEARCH METHODS. [Online]
[Accessed 13 September 2013].

MORGAN, R., 2013. What Are the Four Ways in Which Quality Can Affect a Company. [Online]
Available at: <http://smallbusiness.chron.com>
[Accessed 9 February 2013].

MULLER, J., 2012. Toyota's Huge Recall Is Not The Biggest Risk It Faces. [Online]
Available at: <http://www.forbes.com/sites/joannmuller>
[Accessed 12 June 2013].

NAICKER, N., 2008. Organizational culture and employee, durban: Durban University of Technology.

NATIONAL ECONOMIC COUNCIL, W., 2009. A Strategy for American Innovation: Driving Towards Sustainable Growth and Quality Jobs. [Online]
Available at: www.whitehouse.gov
[Accessed 20 July 2013].

NEL, P. S. et al., 2004. Human Resources Management. 6th ed. New York: Oxford University Press.

NEW Age Publishers, A., 2007. Importance of Quality. In New Age Publishers, :2-22.

NORTHERN ARIZONA UNIVERSITY, 2004. Module 2: Methods of Data Collection - Chapters 2. [Online]

Available at:

http://www.prm.nau.edu/prm447/methods_of_data_collection_lesson.htm

[Accessed 17 August 2013].

NURSING RESEARCH , 2012. Introduction to Nursing Research: Research Instruments. [Online]

Available at: http://nursingplanet.com/Nursing_Research/e-book/instruments.html

[Accessed 12 August 2013].

NWAFOR, S. O., 2012. The Essential Leadership styles for effective administration of universities in nigeria. *Journal of Asian Social Sciences & Humanity*, 1(3):173-180.

NYENGANE, M. H., 2007. The relationship between leadership style and employee commitment: an explanatory study in an electricity utility of south africa, Grahamstown: Rhodes University.

OBIWURU, T. C., OKWU, A. T., AKPA, V. O., NWANKWERE, I. A., 2011. effects of leadership style on organizational performance: a survey of selected small scale enterprises in ikosi-ketu council development area of lagoon state, nigeria. *Journal of Australian Business and Management Research*, Volume Vol.1 No.7:100-111.

ORACLE CORPORATION, 2012. *Seven Steps for Effective Leadership Development*, Redwood Shores: Oracle Corporation.

O'REGAN, N. & GHOBADIAN, A., 2004. Leadership and Strategy: Making it happen. *Journal of General Management*, Vol.29(3):76-92.

PARTNERS IN LEADERSHIP, 2011. Teamwork and Trust. [Online]

Available at: <http://www.ozprinciple.com/services/teamwork-and-trust/>

[Accessed 11 November 2013].

PATERSON, J., 2009. Winning Strategies driven by Global Procurement Transformation: IBM. [Online]

Available at: <http://www-03.ibm.com>

[Accessed 18 July 2013].

PHATAK, O., 2013. Buzzle: Pros and Cons of Leadership Theories. [Online]

Available at: <http://www.buzzle.com/articles/leadership-theories-pros-and-cons.html>

[Accessed 30 July 2013].

PIPSC, n.d. Pocket Guide on Leadership. [Online]

Available at: <http://pipsc.ca>

[Accessed 16 August 2013].

PIRRAGLIA, W., 2010. The Effects of Leadership Styles on the Organization. [Online]

Available at: <http://www.smallbusinesses.chron.com>

[Accessed 12 July June 2013].

PRASAD, S., RAO, A., REHANI, E., 2001. DEVELOPING HYPOTHESIS AND RESEARCH QUESTIONS. [Online]

Available at: <http://www.public.asu.edu/>

[Accessed 19 September 2013].

PRETORIUS, B., 2013. In The Driving Seat: Lessons in Leadership. 1st ed.

Tafelberg: NB Publishers, Division of Media24, Boeke (Pty)Ltd.

PUSCAS, D., 2002. A Guide to the Enron Collpase: A Few Points for a Clearer Understanding. [Online]

Available at: <http://www.polarisinstitute.org>

[Accessed 3 June 2013].

QuickMBA, 2010. QuickMBA.com/Management. [Online]

Available at: <http://www.quickmba.com/mgmt/7hab/>

[Accessed 29 July 2013].

RAMACHANDRAN, S. & KRISHNAN, V. R., 2009. Effect of Transformational Leadership on Followers' Affective and Normative Commitment: Culture as Moderator. *Great Lakes Herald*, 3(1), pp. 23-38.

RATHOD, V., 2013. Pandodaily. [Online]

Available at: <http://www.pandodaily.com>

[Accessed 23 July 2013].

REDDY, A., 2011. impact of transformational and transactional leadership on employee job performance and job satisfaction in uae banking sector. *ZENITH International Journal of Business Economics & Management Research*, 1(2):1-19.

REID, D. D. & SANDERS, N. R., 2010. Operations Management. 4th ed. New York: John Wiley & Sons.

RIAZ, A. & HAIDER, M. H., 2010. Role of transformational and transactional leadership on job satisfaction and career satisfaction. *Peer-reviewed & Open access journal. BEH Business Economic Horizons*, 1(1):29-38.

ROBBINS, S., JUDGE, T. A., SANGHI, S., 2007. Organisational Behaviour. 12th ed. India: Pearson: Prentice Hall.

ROBINSON, D., HOOKER, H., 2007. Engagement: The continuing story, s.l.: Brighton: Institute of Employment Status.

ROSENBERG, J., n.d. Sinking of the Titanic. [Online]
Available at: <http://history1900s.about.com/od/1910s/p/titanic.htm>
[Accessed 20 July 2013].

ROSEN, K., 2013. Authentic Leadership – Walk the Talk or Live the Lie. [Online]
Available at: <http://keithrosen.com/2013/09/authentic-leadership-walk-the-talk/>
[Accessed 10 November 2013].

RUSBULT, C. E., MARTZ, J. O. M., AGNEW, C. R., 1998. The Investment Model Scale: Measuring commitment level, satisfaction level, quality of alternatives, and investment size. *Personal Relationships*, 5(1):357-391.

SAMARANAYAKE, V. A., 2010. Independent and Dependent Variables: What the heck are they?. [Online]
Available at: <http://www.seql.mst.edu/2010/followup/>
[Accessed 18 September 2013].

SAQER, H. O., 2009. The Effects of Perceived Leadership Style on Organisational Commitment: An Empirical Study on UNRWA Staff, Gaza: Islamic University of Gaza.

SARWAR, S. & ABURGUE, J., 2013. The Influence of Rewards and Job Satisfaction on Employees in the Service Industry. *The Business & Management Review*, Vol.3 Number-2, January 2013, 3(2):22-31.

SCARBOROUGH, J. D., 2001. Transforming Leadership in the Manufacturing Industry. *Journal of Industrial Technology*, 17(2):2-13.

SCHALLER, J., 2011. Industrial-Organizational Psychology in Action : Leadership Style and Organizational Commitment. [Online]
Available at: <http://www.siop.org/>
[Accessed 22 July 2013].

SERRANO, A. L., 2012. Adjustment in the PV Sector: Quality is non-negotiable. [Online]
Available at: <http://thesuninmotion.net/2012/10/30/adjustment-in-the-photovoltaic-sector-quality-is-non-negotiable/>
[Accessed 12 June 2013].

SESHADRI, D. V. R. & TRIPATHY, A., 2007. Reinventing a Giant Corporation: The Case of Tata Steel. *Vikalpa*, 31(3):131-135.

SHAMS, U. R., AAMER, S., ARFAN, M. , ISHAQUE, A., 2012. Perceived leadership styles and organizational commitment. *Interdisciplinary journal of contemporary research in business*, 4(1):616-629.

SHERMAN, A. J., 2005. RAISING CAPITAL: Get the Money You Need to Grow Your Business. 2nd ed. New York: AMACOM.

SIEMENS, 2010. Competence in LD(BOF) Steelmaking - Industry Sector Siemens. [Online]

Available at: www.industry.siemens.com

[Accessed 21 July 2013].

SPIRIG, R., 2011. International, Market Driven Expansion Strategies in General and in Private Banking Specifically - Achieving Sustainable Growth in Times of Uncertainty, Munich: University of St Gallen.

STEINHAUS, C. S. & PERRY, J. L., 2007. Organizational Commitment: Does Sector Matter?. *Public Productivity & Management Review*, 18(3):278-288..

STONE. G. A., & PATTERSON, K. 2005. The history of Leadership focus.School of Leadership Studies: Servant Leadership Research Roundtable. Virginia Beach, Regent University.

STONE, G. A. & PATTERSON, K., 2005. The History of Leadership Focus. s.l., Regent University.

STROMGREN, O., 2007. Analyzing Service Quality: A study among Peruvian Resort Hotels, Peru: Lulea University of Technology.

SUCCESSFACTORS, 2013. The Incredible Power of Company-Wide Goal Alignment & Organizational Business Goals. [Online]

Available at: http://www.successfactors.com/en_us/lp/articles/corporate-goal-alignment.html

[Accessed 9 September 2013].

SUHR, D. D., 2006. Exploratory or Confirmatory Factor Analysis?. San Francisco, California , University of Northern Colorado.

TAKALA, T., 2005. Charismatic Leadership and Power:Problems and perspectives in management. *Problems* , Vol.3(22):23-27.

TAVAKOL, M. & DENNICK, R., 2011. Making sense of Cronbach's alpha. *International Journal of Medical Education.*, 2:53-55.

THAP, S., 2009. Quality and Its Importance. [Online]

Available at: <http://www.shvoong.com/business-management/human-resources/1955474-quality-importance/>

[Accessed 4 November 2013].

THE MCGRAW-HILL COMPANIES, 2000. *Confidence Intervals and Sample Size*. [Online] Available at: www.mhhe.com/math/stat/blumanbrief/ [Accessed 16 June 2013].

THOMPSON, A. A. J., PETERAF, M. A., GAMBLE, J. E. & STRICKLAND, A. J., 2012. *Crafting and Executing Strategy. The quest for competitive advantage: Concepts AND CASES.. 18TH ED.* BOSTON: MCGRAW-HILL..

TL Publications, 2007. *The Transformational Leadership Report*, New York: TL Publications.

TRANSFORMATIONAL- LEADERSHIP- REPORT, 2007. *The Transformational Leadership Report*, New York: Transfomational leadership.net.

TROCHIM, W. M. K., 2006. *Types of Reliability*. [Online] Available at: <http://www.socialresearchmethods.net/kb/reotypes.php> [Accessed 19 September 2013].

UCLA: Statistical Consulting Group. , 2007. *Introduction to SAS*. UCLA: Statistical Consulting Group.. [Online] Available at: <http://www.ats.ucla.edu/stat/sas/notes2/> [Accessed 12 October 2013].

UKESSAYS.COM, 2012. *Factors affecting employee commitment*. [Online] Available at: <http://www.ukessays.com/essays/management/factors-affecting-employee-commitment-management-essay.php> [Accessed 2 November 2013].

UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANISATION, J., 2008. *Product Quality: A guide for small and medium-sized enterprises*, Vienna: UN.

UNIVERSITY OF SURREY, 2010. *Module 9 : Introduction to Research*. [Online] Available at: <http://libweb.surrey.ac.uk/library/skills/ 51.htm> [Accessed 13 September 2013].

VANCE, R. J., 2008. *Employee Engagement and Commitment: A guide to understanding. measuring and increasing engagement in your organisation*, Alexandria VA: SHRM FOUNDATION.

VROOM, V. H. & JAGO, A. G., 2007. *The Role of the Situation in Leadership*. *American Psychologist Association*, 62(12):17–24.

WADUD, E., 2013. *The Community Tool Box: Building and Sustaining Commitment*. [Online] Available at: <http://www.ctb.ku.edu> [Accessed 26 July 2013].

WAGGONER, D., 2011. COMPETITIVE ADVANTAGE. [Online]
Available at: <http://www.referenceforbusiness.com/management/Bun-Comp/Competitive-Advantage.html>
[Accessed 11 November 2013].

WELMAN, C., KRUGER, F. & MITCHEL, B., 2011. Research Methodology. 3rd ed. Capetown: Oxford University Press: Southern Africa.

WILL G HOPKINS , 2013. A New View of Statistics. [Online]
Available at: <http://www.sportsci.org/resource/stats/effectmag.html>
[Accessed 4 November 2013].

WINSTON, B. E. & PATTERSON, K., 2006. An Integrative Definition of Leadership. *International Journal of Leadership Studies*, 1(2):6-66.

WISEGEEK, 2013. WiseGeek: What is Strategic Vision. [Online]
Available at: <http://www.wisegeek.com>
[Accessed 7 September 2013].

WU, A. D & ZUMBO, B. D. Understanding and using mediators and moderators. *SOCIAL INDICATORS RESEARCH*, 87(3):367-392

YANG, C.W., 2008. The Relationships Among Leadership Styles, Entrepreneurial Orientation, and Business Performance. *Managing Global Transitions*, VI(3):257-275.

YIING, L. H. & BIN AHMAD, K. Z., 2009. The moderating effects of organizational culture on the relationships between leadership behaviour and organizational commitment and between organizational commitment and job satisfaction and performance. *Journal of eadership & Organization Development Journal*, 30(1):53-86.

YOHANNAN, T. P., 2010. Towards developing a web-based blended learning environment at the University of Botswana, Pretoria: University of South Africa.

YUKL, G., 1999. Leadership in organizations. third ed. New Jersey: Englewood Cliffs.