Electricity price hikes: Managing for sustainable value creation in a mining company

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ABSTRACT

Companies are faced with challenges constraining the achievement of set budgets, goals, profit and cost of product, to name a few, on a daily basis. These challenges influence value creation and sustainable value creation. Value-based management is an integrated management tool which may assist in achieving sustainable value creation within a company. Achieving sustainable value creation will result in benefits for both the shareholders and the various stakeholders.

In 2008 and 2009 Eskom, South Africa's sole electricity provider announced a major shortage of electricity and consequently major price increases. Since electricity consumption is a crucial part of the production process, this announcement had a devastating effect on mining companies.

The primary objective of the current study is to investigate whether a local mining company is focusing on applicable endeavours to overcome the electricity constraint and price hikes in order to sustain value creation.

This was done by studying the company's financial & management reports, public announcements and media coverage, in conjunction with a quantitative study, collecting primary data by using standardised questionnaires distributed among the mining company's employees.

The results from this study indicate that the selected company is focusing on relevant projects to overcome the electricity constraints. Further, the conclusion made from the results of the questionnaires shows that the higher staff levels are more informed and aware of value-based management. It also points out that the lower levels and employees from the production and mining departments are less informed and aware of value-based management.

Key terms: Value-based management, Sustainable value creation, Stakeholders, Broad-Based Black Economic Empowerment, Production costs, Wealth creation, Profit maximization.

UITTREKSEL

Maatskappye ondervind daagliks uitdagings ten opsigte van bereiking van vasgestelde begrotings, doelwitte, wins en laagste produksiekoste, om net 'n paar te noem. Hierdie uitdagings beïnvloed waardeskepping en volhoubare waardeskepping. Waardegebaseerde bestuur is ‘n ge-integreerde bestuursinstrument wat mag help om volhoubare waardeskepping te bereik en te onderhou in ‘n maatskappy. Die bereiking van volhoubare waardeskepping sal gevolglik voordelig wees vir die aandeelhouers sowel as ander belanghebbendes van die maatskappy.

In 2008 en 2009 het Eskom, Suid-Afrika se enigste kragvoorsiener, groot elektrisiteitstekortkominge bekend gemaak gevolg deur aansienlike stygings in die koste van elektrisiteit. Aangesien elektrisiteitsverbruik in produksieprosesse kritiek is, het hierdie aankondiging ‘n geweldige impak op maatskappye in die myn-industrie gehad.

Die primêre doelwit van die studie is om vas te stel of 'n plaaslike mynmaatskappy wel fokus op toepaslike voorbereidingsplanne om elektrisiteits-beperkings en prysstygings aan te spreek ten einde volhoubare waardeskepping te bevorder.

Dit is gedoen deur bestudering van finansiële- en bestuursverslae, publieke aankondings, mediadekking en daarmee saam ‘n kwantitatiewe studie wat uitgevoer is deur primêre data in te samel vanaf gestandaardiseerde vraelyste wat uitgedeel is aan die maatskappy se werknemers.

Die resultate dui daarop dat die geselekteerde maatskappy wel fokus op relevante projekte om die elektrisiteitstekort en prysverhogings aan te spreek ten einde die effek daarvan op die maatskappy te minimaliseer. Verder kan die gevolgtrekking gemaak word uit die resultate van die vraelyste dat hoër vlak posisies meer ingelig en bewus is van die begrip 'waarde-gebaseerde bestuur'. Die resultate het ook uitgewys dat die laer vlakke en veral werknemers in die produksie - en myndepartmente, minder ingelig en bewus is van waarde-gebaseerde bestuur.

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- VBM: Value-based management
- EVA: Economic value added
- DCF: Discounted cash flow
- COP: Cost of production
- ISO: International Standards Organization
- EPS: Earnings per share
- ROE: Return on shareholders' equity
- ROIC: Return on invested capital
- NOPAT: Net operating profit after tax
- WACC: Weighted average cost of capital
- B-BBEE: Broad-Based Black Economic Empowerment
- PDAC: Prospectors and Developers Association of Canada
- CICA: Canadian Institute of Chartered Accountants
- DMR: Department of Mineral Resources

CHAPTER 1

EFFECT OF ELECTRICITY SHORTAGE AND PRICE HIKES ON VALUE CREATION

1.1 BACKGROUND

South Africa is seen as one of the countries playing a vital role in the global ferro alloy industry (Basson & Gericke, 2007:1). As per the directory website of Ferro Alloy in India (Research and markets, 2008), ferro alloys refer to a range of alloys of iron with proportions of rudiments, manganese or silicon. With listed companies such as Kumba Iron Ore, Anglo American South Africa, Impala Platinum Holdings Ltd. (Implats), Samancor Chrome, Exxaro Coal (Pty) Ltd., Lonmin PLC, International Ferro Metals (SA) (Pty) Ltd., just to name a few, it is evident that South Africa is not only a role player in the ferro alloy industry, but also in commodities such as gold, platinum and coal which form part of the main export products of the mining companies in South Africa.

The reasons for South African mining companies' leading position, especially in the ferro alloys market industry is large quantities of natural resources and comparatively low electricity rates (Basson & Gericke, 2007:1). Electricity rates were regarded as being "comparatively low" up to 2009 when it has become evident that Eskom, South Africa's sole provider of electricity, would no longer be able to supply the required demand to consumers. This directly influenced the mining industry, as electricity utilisation and the cost thereof are essential in all production processes.

The situation worsened when Eskom proposed to increase its tariffs by 45% over three years after already increasing the rates by 31% in 2009. Needless to say, this caused some major concerns and upsets amongst mining industry companies (Seccombe, 2009:1).

Management of companies in the mining industry were therefore not only forced to revisit company strategies, forecasts and future plans, but were also forced to further utilise resources to the maximum. The latter probably compelled management to be innovative in developing new ways of cost saving, while continuing to add value in the way the company is managed.

This research will study one of the South African local mining company's approaches on maintaining sustainable value creation within the current electricity shortage and price hike period.

According to O' Malley (2008:1) value creation entails:

- the capability of a company to provide continuous supply of quality services and production to the company's customers;
- being able to create resources and successfully utilise these resources in maintaining the sustainable advantage the company has; and
- simultaneously improve the potential and drive of the company's working force.

Ultimately value creation, in conjunction with the above, is the process that attempts to maintain and increase an attractive return on investment for the company's shareholders.

It is clear that tremendous demands are put on management at all levels and divisions within a company to maintain value creation. Management within each division of the company needs to focus on how limited resources, specifically electricity, can be utilised to the maximum; by incorporating the working force and maintaining quality of service and production.

1.2 PROBLEM STATEMENT

Against the above background, it is has become difficult to sustain an on-going value creation and growth environment in the mining industry; especially due to commodity prices led by the market. Therefore mining companies are obliged to find ways in prevail over the challenges of electricity shortages and price hikes in South Africa by managing factors that can in fact be controlled.

1.3 OBJECTIVE

1.3.1 Main objective

The objective of this study is to research whether the actions taken by a certain local mining company to manage controllable factors, are influencing profit as well

as wealth creation, in order to uphold continuous value creation. In conjunction with the above, the main objective is to investigate the level of understanding the concept of value-based management within the selected company.

1.3.2 Sub-objectives

1.3.2.1 Sub-objective 1

The first sub-objective of this study is to inspect how the selected company attempts to minimise the electricity constraints influencing the financial position.

1.3.2.2 Sub-objective 2

The second sub-objective of this study is to investigate whether the attempts thus far have been filtered through to all the different position levels and various departments in order to achieve sustainable value creation.

1.4 RESEARCH DESIGN AND METHODOLOGY

The research methods of this study consist of a literature and an empirical study.

Literature study

The literature study focuses mainly on what value-based management, sustainable value creation and wealth creation is. It will also give an overview of the reasons for the electricity shortage in South Africa and background of the selected South African company under review, and its current industry field.

The study will also look into how the company has attempted to compensate for the electricity shortage and price increase, and what further ventures by management have been endeavoured to maintain value creation within the company and its wider industry.

Empirical study

The empirical study focuses on the possible effects of the electricity shortage and price hikes on the company and on-going project planning and costs for 2009 to

2011 in order to determine whether the attempts toward sustainable value creation was successful. This information/data will be obtained from:

a) Official published financial reports.
b) The Johannesburg Stock Exchange (JSE).
c) The London Stock Exchange (LSE); and
d) Results of questionnaires distributed to and completed by employees of the applicable mining company.

1.5 SCOPE OF THE STUDY

The field of study for this research is financial management. This study will focus on a specific company in the South African mining sector, and how the recent Eskom electricity supply shortage and price increases affected the company's financial position; what has been done and is currently being done to buffer against these price hikes; and to evaluate the success thus far in the project's endeavours to sustain value creation for the specific company.

1.6 LIMITATIONS

A limitation in this study is that it covers only one company in the mining industry. Therefore, other sectors affected by the electricity price hikes are not taken in account.

Financial and project cost data are confidential and may not be supplied at all times or in detail as required. Also, some of the projects are still in developing phases, resulting in the final benefit, cost saving and success thereof not being determined within the period the research and study is being executed.

1.7 LAYOUT OF THE STUDY

This study is layout as follows:

Chapter 1

Chapter 1 formulates the background, the problem statement as well as the main and sub-objectives. The chapter also gives a description of the scope of

the study and sets out the limitations. It concludes with a layout of the dissertation.

Chapter 2

This chapter contains the literature study conducted to ascertain the theoretical basis of this dissertation. This chapter focuses on what value creation, value-based management (VBM) and wealth creation entail. It also covers the reason for electricity shortages and why Eskom has increased electricity rates. Further hereto, the chapter considers the role of stakeholders versus shareholders and how wealth creation applies to all parties involved.

Chapter 3

This chapter looks into reasons why these changes affect the selected South African company. Ultimately, it studies how these challenges are managed in order to sustain value creation for the company.

Chapter 4

The results from the examination of the questionnaires are analysed and assessed to conclude the selected South African company’s working force's knowledge/ view/attitude towards VBM and electricity constraints.

Chapter 5

Chapter 5 assesses the results of Chapters 3 and 4 in order to conclude whether sustainable value creation is viable with the current management techniques implemented and projects launched. Recommendations and conclusions will be made based on the results of Chapters 2, 3 and 4. The outcome of the questionnaires completed by the employees and how it matches with the current actions taken to sustain value creation are also discussed and recommendations as to what the company may add to current actions taken will also be covered.

CHAPTER 2
INVESTIGATING MAINTENANCE OF SUSTAINABLE VALUE CREATION IN ELECTRICITY SHORTAGE CONDITIONS

2.1 FOREWORD

This chapter contains the literature study conducted to ascertain the theoretical basis of this dissertation. In this chapter the difference between profit maximization and wealth management is being investigated. Evaluating these differences will facilitate the understanding of sustainable value creation. In the process of sustainable value creation, factors such as utilising limited resources to the maximum (for example skilled employees and shortage on electricity supply) are fundamental. Pertaining to this study, the shortage of electricity plays an important role, especially in the ferrochrome industry. Therefore further explorations are done on the reasons for electricity shortages and Eskom's increased rates. Ultimately, this study will focus on the influence of the before-mentioned occurrences on a selected company in the South African mining industry.

2.2 PROFIT MAXIMIZATION VERSUS WEALTH CREATION

The drive for companies has always been to obtain the maximum profit with little consideration for the effect on the long term benefits. Opposed to profit maximisation, wealth creation has become a more viable option for companies to consider in order benefiting over the long term existence of the company. Further explorations on these two terms are provided below.

2.2.1 Profit maximisation

For years the goal in companies applicable to this study, being mining companies, appeared to be profit maximisation. The question may be asked, whether profit maximisation is the maximisation of sales prices and/or volume or the minimizing of a company's production cost? Anderson and Ross (2005:33) are of the opinion that to maximize profit, the organisation must find the equilibrium between producing the maximum output at the minimum product cost to the right customers. The website, businessblog360.com (2007), further defines profit

maximization as the process by which a firm determines the price and output level that returns the most profit. It is evident from the mentioned definitions that profit maximization can be a combination of maximising revenue and minimizing costs, not neglecting the concept of customer specification. Further, it seems evident that thorough cost analysis and control may enhance profitability, leading to profit maximization. According to Garrison *et al.* (2008:233) the cost-volume-profit (CVP) equation which enables managers to focus on how profits may be enhanced proves to be a valuable financial tool. It is mentioned that the CVP analysis is influenced by selling prices, sales volume and cost of production (COP).

It is therefore clear that the three dominant factors in maximizing profits are selling prices, sales volumes and cost of production (COP). A further look into the three dominant factors is necessary and will be discussed below.

2.2.1.1 Selling prices

Selling prices are determined in various ways and may be influenced by external and internal factors. Especially for commodities sold by mining companies, selling prices are determined by competitive forces and regulations (PDAC, 2011:3). Further, global demand and supply of commodities also affect the sales price of a product. Commodity market sales prices are negotiated on a quarterly basis and are affected by the demand and availability of the product. If there is a huge demand of a product and low supply, the sales prices may respond by increasing. The opposite is also true; where demand is lower and the production availability is high, sales prices are likely to decrease.

Other factors such as currencies, exchange rates and sales terms also play a role in sales price determination. Basson & Gericke (2007:21) mention that the volatility of the South African currency has been prominent over the past years and must be considered when selling prices are negotiated for the commodity at stake. Currencies in conjunction with exchange rates influence the sales prices as it affects the currency value of the sale. For example: If a South African mining company sells a product to an international company based in the United States of America, the sale will be classified as an export sale on the date that risk and ownership were transferred from the seller to the buyer. It is important to recognize

the sale at the rand value converted by using exchange rate on the date of sale (Vorster *et al.*, 2006:314). Applicable to this study, the effect of the currencies and exchange rates may have an influence on profit maximization where these two factors are being controlled.

Sales terms as listed below are also to be considered:

- Free on transport (FOT), which means the exporter (the mining company in the case of this research) is responsible for the risk, ownership and costs involved relating to the product, up until the product is loaded on the transporter vehicle (i.e. when the product is loaded by road, rail or air).
- Free on board (FOB), which means the exporter (the mining company in the case of this research) is responsible for the risk, ownership and costs involved relating to the product, until it is loaded on the vessel.
- Costs including insurance and freight (CIF), which means the exporter (the mining company in the case of this research), is responsible for the risk, ownership and costs involved up until the product arrives at the customer's premises.

Sales terms therefore may have a direct influence on the selling prices of products; especially in mining companies where there is limited control over sales price determination. The restricted control on sales prices affect the ability of a company to generate profit, but may be managed by sales agreements negotiated according to the applicable companies' best selling practices.

2.2.1.2 Cost of Production (COP)

The other factor influencing the maximization of profit according to businessblog360.com and Garrison *et al.* (2008:233) is the COP. Vorster *et al.* (2006:71) define the cost of production as all the costs involved in the process of getting the product in its saleable form. For the sake of profit maximization, this results in the COP being influenced by factors that can be managed.

Costs directly involved in the production process are referred to as variable costs. Garrison *et al.* (2008:52) refer to variable cost as cost that fluctuates in total,

directly according to the quantity levels produced for a period. These costs can be stated as rand per tonne, rand per litre, and rand per unit according to the commodity the company produces. Variable costs differ according to the activities required to produce the product and can include cost like salaries of employees, raw materials and electricity costs. As pointed out in the previous paragraph, management can attempt to control these costs by implementing procedures and measures to contain production cost at all levels in the organization. These cost control efforts may have a direct influence on the maximization of profits as cost of product influences the gross profit of the company.

The gross profit can be calculated by total net sales minus cost of production of the units sold (Libby *et al.*, 2009:245).

Companies in the same industry supplying to the same customers, can increase the company's competitive advantage by having the lowest cost of production. In general, companies with the lowest cost of production are immediately put in a position to offer customers lower sales prices in order to increase units of product sold. One should keep in mind, though, specifically in the mining industry, that companies are price takers and not price makers due to set market sales prices of commodities.

There are various ways in which companies can lower the cost of production, amongst others by including some of the activities listed below:

- Negotiate reasonable prices for raw material.
- Construct the optimum production recipe to obtain the best quality and lowest cost of production.
- Actively revise efficiency and effective production processes; and
- Utilize the company's workforce to the fullest by involving employees in cost saving endeavours.

The above steps may be implemented to lower cost of production and involves management of variable costs directly linked to the product. However, one has to keep in mind that other costs within the company also influence cost of production, namely fixed costs. Garrison *et al.* (2008:53) mention that fixed costs are those expenses that remain the same, despite the increase or decrease in production

levels. These costs are indirectly linked to the production of goods and may also affect the profit maximization of the company. Fixed costs include items such as depreciation, rental of machinery, audit fees, administrative salary costs and others specific to a company. Both variable and fixed costs can be controlled by a continuous drive of lower production cost.

It is evident that profit maximisation focuses on increasing selling prices and lowering cost of production, to achieve the highest turnover.

2.2.1.3 Sales volume

According to Jacobs *et al*. (2009:102), the higher volumes of units are sold the better chance the company stands to maximise profits. The production and selling of more volume units further influence the distribution of the fixed cost; hence the fixed cost per unit dilutes as the volume increases (Garrison *et al.,* 2008:254).

It is clear that the more units are sold, the higher the gross percentage will be, which will have a favourable effect on the net profit.

2.2.2 Wealth creation

Although the traditional approach of financial management was all about profit maximization, it has become increasingly important to focus on wealth creation. According to Enderle (2009:281) management needs to revisit what wealth creation entails.

Kilroy (1999:1) emphasizes that it has become evident that wealth creation is now more a requirement of shareholders than a mere goal. It requires management to constantly be innovative and to successfully implement these new innovations. Therefore management of a company is necessitated to create a management system which involves every aspect of the organization's objectives and strategy, in order to improve wealth creation over the short and long term.

It is important to observe and evaluate the effect of the implementation of the management system on the short term wealth creation objectives. Hart and

Milstein (2003:65) mention that short-term wealth creation will be difficult to achieve in projects which will only show positive growth over the long term. It is also important for management to realise not to neglect short term achievements in aid of realising long term wealth creation objectives. Hence, the management system should also incorporate the short term effects of any wealth creation strategies initiated by management. Bown (2007:17) suggests some of the features a management system should consist of in aid of achieving long term wealth creation (Figure 2.1):

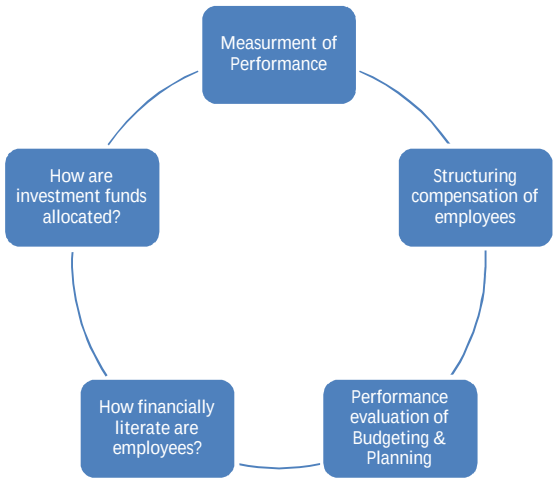

Figure 2.1: Features of a management system (source: Bown, 2007).

It is clear that wealth creation involves all parties in the workforce structure of an organization. Management may come up with new ideas, but it is through thorough execution and implementation of these ideas that they become successful. Wealth creation involves a long term intention to improve productivity gains, employment growth and higher wages. Consequently all stakeholders benefit (including the company workforce) and not only shareholders and management of the company.

2.3 VALUE CREATION AND VALUE-BASED MANAGEMENT

Free (2011:1) states that adding value is the goal of all businesses in an attempt to provide, sustain and improve services and/or products to customers at a profit. In other words, businesses are in a constant process to improve their current product, in order to sustain the needs of customers. Businesses also aim to enhance production processes in order to lower the cost of production and at the same time

increase output levels. Ultimately, businesses attempt to keep on creating value that benefits the shareholders and all parties involved in the company.

It is likely for a company to excel if the aim of an organisation is to create value for its customers, employees and investors (O'Malley, 1998:1). Therefore, by creating value for all stakeholders involved, value creation for the company as a whole may be achieved as investors are not the only ones who will benefit if the organization succeeds. Customers, employees, investors in the company, and even the company's surrounding communities can be referred to as stakeholders. It is, however, vital to realize even though value for each stakeholder is created differently, it cannot be created unless all the stakeholders benefit in the process. For example: if a company aims to provide a product fulfilling the need of a customer, the company requires skilled employees and adequate resources which may result in investors receiving attractive returns on their investments due to increased profits.

In the end wealth creation intends to optimise a company's profit in the long term and support wealth creation for all stakeholders involved. All stakeholders should benefit and this goal may be achieved when:

- management, in conjunction with employees, develop a steady stream of products and services that offer unique benefits to the needs of the market;
- management and employees develop a strategy whereby resources effectively match the opportunities presented to the company in order to maximize the benefits of these prospects; and
- the created process develops the employees' capabilities and motivation to buy into the creation of the value concept; therefore it is vital to involve both management and employees in developing, executing and sustaining the strategies.

As mentioned by L.E.K. Consulting (S.A.), management may achieve creating value and ultimately increase a company's profit if:

- time and money is devoted to value creating growth opportunities,
- investment is made into operating efficiency,
- investments and time in value destroying activities is decreased and

- capital expenditure on non-essential current projects are reduced.

According to Jordaan (2005:21) value creation is triggered by occurrences such as changes in the focus of management, changes in the economical environment and changes in the relationship of the environment. By attaining profits, a company's management will be in a position to centre the attention to the mentioned occurrences in order to sustainably create value. This may be achieved by management of a company following a value based management (VBM) strategy.

Ryan and Trahan (1999:47) explain VBM as a strategy whereby management uses analytical tools and procedures to achieve a company's objectives, for example addressing methods to optimise raw material consumption and lower cost consumption. Analytical tools refer to evaluation methods to compute for variances between the actual raw materials consumed and compare the results to the company's forecasts and budget. The procedures referred to by Ryan and Trahan support management's attempts at achieving value creation. VBM becomes vital when variances, as a result of the analytical methods used, are unfavourable. VBM entails the alignment of the company's strategy, performance ratings and employee compensation. By achieving the alignment of these three concepts, members of the company will act as stakeholders in order to maximise the company's value (Athanassakos, 2007:1397).

Defining VBM will consist of a wide spectrum of facts and one will still not be able to point out a clear definition thereof. Ittner and Larcker (2001:535) propose that VBM can be achieved by the following basic steps:

a) Select clear internal objectives for the company that will lead to shareholder value creation. Management, in conjunction with employees, need to be involved in this process. Even though management makes the final decisions, the input of employees is vital to ensure that the selection of the internal objectives align with the practical execution thereof.
b) Choose strategies and designs fit for the company's organisation, consistent with achieving the selected objectives. The strategies should be designed in

such a way that it can be attained within the day to day tasks of management and employees.

c) Classify distinctive performance variables creating value in the business based on the company's operating processes. It is important to link the performance indicators to the applicable process within the production chain. This will make the evaluation and improvement procedure less complicated.

d) Develop action plans, performance measures and goals based on the variables identified. Clear action plans will enhance the outcome of VBM; hence detail and logical set-out of plans is very important to achieve the set goals. It is also vital to develop the action plans executable for specific individuals and/or departments where the outcome of the action plans are relevant.

e) Monitor and evaluate the success of the action plans and apply organisational and managerial performance appraisals. This is a vital phase in the VBM process. The monitoring and evaluation process ensure that direction is maintained and everything is on schedule. During this phase possible delays and mistakes can be identified, prevented and/or corrected.

f) Assess the in-progress validity of the organisation's internal objectives, strategies, goals and control systems - keeping in mind the current outcomes and adapt as required.

One of the main focuses of the proposed research is based on step (c) which is to identify variables affecting the creation of value in the business based on the company's business strategy and operating activities. Value based methods in slight contrast with traditional financial analysis methods differ even though the objectives are the same. The traditional financial reporting consists of basic calculations and analysis of financial ratios derived from information on the financial statements. Libby *et al.* (2007:714) state that financial statement analysis entails more than just a summary of numbers and that before analysing the numbers, one should understand what the financial statements report on. Financial statements mainly consist of the balance sheet, income statement and cash flow statement. Balancesheetwalk.com demonstrates that the balance sheet, income statement and cash flow statement are linked and not independent from each other, and assist in analysing any company's financial status.

The balance sheet reflects a summary of a company's assets, liabilities and shareholder equity at a specific point in time. These three components indicate what the company's resources and obligations are. It also shows the amount invested by the company's shareholders. Financial ratios which are based on the information reflected on the balance sheet likely to be used in the traditional manner of financial reporting are:

a) **Working Capital:** Working capital is calculated by deducting the company's current liabilities from the company's current assets. This ratio indicates whether a company meets its current liabilities and gives an overall indication of the profitability of the company (Libby *et al.*, 2009:471). By managing the working capital, management can maximize the company's short-term liquidity as there is a direct link between business performance and managing the working capital. Therefore, effective management of an organisation's current liabilities and current assets can assist in achieving and maintaining sustainable value creation. For example, by focusing on minimizing stock handling losses, part of the inventory in current assets, the profitability of a company can be favourably influenced.

b) **Current Ratio:** The current ratio is calculated by current asset/current liabilities and gives the relationship of current assets to current liabilities. The norm for a good current ratio is 3:1, but depends on the strategy a company follows and should be kept in mind when analysing a specific industry such as mining (Libby *et al.*, 2009:462). Mining companies are more reluctant to export inventory than sell the product locally. The effect of having export sales result in the product reaching the destination or customer much later than what the case may be for a local sale, hence customers settle debt after a longer period which influences a company's current ratio by increasing current assets.

c) **Quick Ratio (Acid Test):** The quick ratio is similar to the current ratio except that inventory, supplies and prepaid expenses are excluded from the calculation, in order to calculate the assets which can be turned into cash quickly against the company's current liabilities (Libby *et al.*, 2009:719).

The Current and Quick Ratios can serve as an indication of a company's liquidity status.

d) **Debt to Equity:** The Debt-Equity ratio indicates the proportion of a company's assets supplied by the company's creditors opposed to the amount supplied by the company's shareholders (Libby *et al.*, 2009:719).

This ratio shows the level of solvency of the company and especially shareholders are interested in this ratio. The ideal is for the company's assets to be profitably applied to buy its assets and not on credit as this raises an interest liability to the company affecting the profit margin percentage on the income statement.

The income statement reflects a summary of a company's income and expenses for a period ending. The income statement reflects the revenue earned by the company over a specific period (US Securities and Exchange Commission, 2007). There are some limitations as the income statement adheres to accounting principles. For example it includes depreciation which is not a physical outflow of cash, but a fictitious decrease of the assets used to bring forth the income produced. Financial ratios which are based on the information reflected on the income statement are also key in the traditional manner of financial reporting and I point out some of the commonly used ones:

i. **Gross margin percentage:** The gross margin percentage is calculated by the gross profit divided by net sales and gives the percentage of the sales available for expenditures and profit after the cost of production for the specific period is deducted from sales (Vigario, 2002:180). This gross margin indicates the effective control of a company's cost of sales for a specific period. This ratio can assist management on monitoring effectiveness of decisions made within the production period to increase either sales volume and/or decrease costs of production.

ii. **Profit margin percentage:** The profit margin percentage expresses the profit per currency ZAR (South African Rand), USD (United States Dollar), GBP (Great Britain Pound) etc.) after all expenditures are deducted from total sales and is calculated by net income after tax divided by net sales (Libby *et al*., 2009:719). The profit margin calculation factors are derived from the income statement items. This ratio can give an indication of proper

management on items such as interest payments, salaries or any costs reflected on the income statement affecting the profit of a company.

iii. **Earnings per share (EPS):** The earnings per share is calculated by net income after tax divided by weighted average number of common shares outstanding and expresses a company's net income after taxes on a per share of common stock basis. This calculation requires the average number of shares of common stock during the period the net income is calculated (Libby *et al.*, 2009:719).

iv. **Times interest earned:** This calculation requires the earnings for the year before interest and income tax expense divided by interest expense for the year and indicates a company's ability to oblige to the interest payments on its debt (Libby *et al.*, 2009:719).

v. **Return on shareholders' equity - ROE:** This ratio discloses the percentage of profit after income tax that the company earned on its average common shareholders balance during the year. The ROE is calculated by the net income for the year divided by the average shareholders' equity during the year (Megginson *et al.*, 2009:46-48).

As per Share Trader Forums (2008) and Penttinen *et al.* (2009) a detailed calculation of ROE consists of:

= [Net results / Turnover] * [Turnover / Assets] * [Assets / Equity]
= [Profit margin] * [Capital turnover] * [Financial Leverage]

Whereby the first term represents profitability, the second multiplier, capital turnover, represents asset turnover, and the third financial leverage. The ROE can thus be improved by increasing profitability, using assets more efficiently and increasing financial leverage.

The above ratios and the explanation thereof are vital, but are based on historical information and do not assist in future value based management. The more modern method of financial reporting is to take into account future risk and time-value of money. Modern reporting also emphasise captivating value creation, the progress thereof and how it is managed within a company which can be simulated as value based management.

Value-based management is, in a nutshell, the management approach that ensures businesses are run consistently to sustain value creation. It may be perceived that consistent value is profit maximization; others believe it is wealth creation. The difference and what VBM goal(s) are will be discussed later.

In order to be able to calculate and measure value based management, methods were developed focusing on the concept that the underlying financial performances of a company is best represented by the change in its economic value. Koller (1994:87) describes this as the change in the net present value of a company's expected future cash flows. As mentioned previously value-based management refers to adopting a corporate strategy of enhancing shareholder value. Wang *et al*. (2006:39) go as far as stating that in order to realize the maximum enterprise value, it's necessary to minimize the risk that the enterprise face and maximize the cash flow and the ability of continuing operations.

But how does one actually calculate or measure whether a company creates value or not? As research shows, there are many methods of calculating value creation and according to Ryan and Trahan (1999:47) some examples of the VBM metrics developed are:

a) **Discounted cash flow (DCF):** The DCF is the value someone is willing to pay today in order to receive the anticipated cash flow in future years. DCF further means converting future earnings to today's value of money. The DCF method is an approach of valuation, whereby projected cash flow is 'discounted' at an interest rate, which reflects the perceived riskiness of the cash flow. This discount rate has to reflect two things, namely time value of money and a risk premium. Because investors have to wait for the cash flow to realise, they must be compensated for the delay, and the discounted rate has to reflect the extra return investors demand because they want to be compensated for the risk that the cash flow might not materialise after all.

b) **Return on invested capital (ROIC):** According to Porter (2008:83) the ROIC measures profitability for strategy formulation and equity investors may use this as a guiding tool to determine the historical performance of a company. A simple method of calculating the ROIC is net income after tax divided by

invested capital. To have a more adequate ROIC, one can calculate it as: net operating earnings before interest and amortisation costs divided by total assets minus excess cash minus none-interest-bearing current liabilities.

c) **Economic value added (EVA):** In 1982 Joel Stern and G. Bennett Stewart III established Stern Stewart & Co. and initiated the concept of EVA (Phillips, 2007:6). Today this concept is adopted and used by companies globally. Phillips mentions that although theories made will always be criticized, EVA is correct in its hypothesis, and proves it can be used in conjunction with traditional accounting (Kudla, 2000; Stewart, 1999).

Dodd and Johns (1999:14) conclude that value creation can be measured by calculating the economic value added (EVA) of a company. It is therefore a financial performance method to calculate the true economic profit of a business. The EVA is calculated by deducting a company's cost of capital from the net operating profits after tax (NOPAT). The resultant EVA quantitatively captures the extent of value creation by the company in the short term. The following formula sets out the calculation for EVA: NOPAT minus WACC; whereby

- NOPAT is the net operating profit after tax. The net operating profit is obtained from the income statement of the financial statements and is calculated by the sales minus the variable and fixed cost of sales. NOPAT represents the profit of the company for a specific period.
- WACC represents the weighted average cost of capital and reflects the capital structure of a company and the return required by the shareholders after allowing for risks (Vigario, 2002:57). It is calculated by the after tax weighted average required rate of return on all types of securities issued by the company, where the weights equal percentage of each type of financing in the company's overall capital structure (Megginson *et al.*, 2009:140-141).

The above methods present ways of calculating value-based management and are just a few examples of how to measure a company's value-based management.

2.4 THE BENEFITS AND CRITIQUE OF VALUE CREATION AND VALUE BASED MANAGEMENT

As in every economic trade-off, managers are confronted with optimising the allocation of scarce resources like electricity, raw materials, and skilled employees. The current economic and social environment, characterized by countless changes and evolutions (Young & O'Byrne, 2000) provides management and more particularly those in management accounting and management control functions, with new challenges. Those challenges not only reveal inefficiencies in the existing management systems but also support the need for an integrated management tool. According to Martin and Petty (2000:1) value-based management consists of a set of management tools that can assist in managing a firm's operations in a way that enhances shareholders' return on investment.

It has become more relevant over the years to keep in mind factors such as the time value of money, future risk of investments, skilled work force and the effect of operation on the environment within the value creation framework. This is where value based management is beneficial as most of its calculation methods take these important factors into account. Value-based management includes: a) creating value, b) managing for value and c) measuring value in order to maximize shareholder value (Value-Based Management, 2008).

Critique against value-based management is that it has not been 100% confirmed that companies adopting this approach guarantee value creation and shareholder maximization (Martin & Petty, 2000:101). The probability of value-based management to be successful in a company may be amplified when intensive focus is put on accurate calculation of revenue growth as well as on research and development investments as emphasized by O'Byrne (1998:94) in his studies on valuation and executive compensation.

2.5 IMPACT OF VALUE CREATION WITHIN A COMPANY AND ITS SURROUNDING ENVIRONMENT

Often value creation is referred to as simply "making money" or vaguely as "adding value". Over the past 10 years and especially in the mining industry it has become

evident that value creation stretches much further than just maximizing profit. Companies are expected to care about the impact on the environment, to defend autonomy and support the surrounding communities in which the company operates. Enderle (2009:292) goes as far as saying that value creation is more than financial capital by including physical, human and social capital. Value creation does not only include private wealth, but it also encompasses public wealth as various parties are involved in the existence of an organisation.

As more companies have realised the importance of public wealth, they have developed a division solely focusing on social development which undertakes community uplifting projects and also the safety, health, environment and quality of the company's operation and employees. In South Africa, the Department of Minerals and Resources (DMR), has become more and more visible and dominant in governing and regulating businesses affecting the environment and the communities around them. The government has over the years increased the regulations to which companies, especially in the mining industry, has to abide. Companies have to submit continuous reports on new projects running and progress on existing projects and development. More emphasis is also placed on rehabilitation measures and provision of costs thereof, should the company close its operations. By law a company has to make adequate financial provision to cover all the costs to recuperate the environment it has operated in over the years. The initiative for this rule is to ensure the environment is returned to its original state (as it was before operations commenced).

In the light of such rigorous legislation by the South African Government, it is evident that value creation has become more relevant and important than only profit maximization, the reason being that value creation should be shared between all stakeholders involved and should be beneficial to the company, the shareholders, employees, environment and the surrounding community.

Table **2.1** below is a good example of an organisation's stakeholder portfolio and how each stakeholder benefits when value creation is reached and sustained.

Table 2.1: The eight disciplines of sustainable value.

Stakeholders	Potential Sources of Shareholder Value
Investors	Access to socially responsible investor capital; potentially lower weighted average cost of capital (WACC).
Employees	Hiring and retention of talent. Improved employee morale and productivity.
Customers	Brand loyalty and reputation; goodwill and intangible value. Collaboration in developing new products.
Business partners	Access to strategic resources and capabilities.
Unions	Improved labour relations and conflict resolution.
Value chain associates	Cost-reducing/value-enhancing collaboration throughout value chain.
Regulatory authorities	Validation of specific product/service quality levels. Lobbying regulations in company's favour. Increased flexibility with regulators.
Governments	Favourable fiscal and industry-specific environmental and social policies.
Local communities and citizens	Mutual support and accommodation. "License to operate." Reasonable treatment with respect to local taxes and service fees
Other organisations	Constructive collaboration with individual organizations and groups. Favourable public opinion environment. "License to operate."

Source: Laszlo (2005:119).

Value creation has a massive impact on all the management and employee levels and including key stakeholders is what will enable sustainable value creation within a company (Laszlo, 2005:45). Furthermore, the created effect should be valued in a global context from moral and cultural to the surrounding environment. By endeavours to create value, customers' preferences are fulfilled and growth in the employees' individual performance is attained. Simultaneously, achieving the before-mentioned will result in an increase on the ROI for the investors, which in turn will benefit all the stakeholders. In order to attain these endeavours it is clear that all management levels/divisions within a company are and should be involved.

Managers in all kinds of organizations and levels are nowadays faced with the challenges of reconciling value creation for the competing claims on wealth creation by both shareholders and stakeholders. Kotter (1995:59-67) notes, however, that most of the change processes implemented, have failed to produce the results expected for the reason of lack of corresponding changes in the business managing process as well as in the organizational culture. It is therefore imperative for all management levels to be included and informed on the road to sustainable value creation when an organization embarks on such.

As mentioned above, the different management levels/divisions are all involved in the value creation for the organization. Each level plays a different though vital role and can be distinguished in categories as described in the following paragraphs.

2.5.1 Executive & senior management

This management level mainly focuses on creating and maintaining shareholder value and consequently the value creation commences from the upper level of top management. Ultimately, according to Koller (1994:87) executive and senior management must have a solid analytical understanding of which performance variables drive the value of the company. At this level management should include and emphasize the importance of incorporating all facets of the business in the strategy. The strategy should accommodate facets such as the shareholders, the employees, the community and the environment.

They must know whether more value is created by increasing revenue growth or by improving margins, and they must ensure that their strategy focuses resources and attention in the right direction. Even within the realm of financial goals, senior management are often confronted with many decisions shifting from boosting earnings per share, maximizing the price/earnings per share ratio or market-to-book ratio, and increasing the return on assets.

An important part of VBM is a deep understanding of the performance variables that will actually create value for the business - the key value drivers. Such an understanding is essential because an organization cannot act directly on value. It has to act on things it can influence – customer satisfaction, capital expenditures

etc. Moreover, it is through these drivers of value that senior management learn to understand the rest of the organisation and to establish a dialogue about what it expects to be accomplished.

2.5.2 Marketing, sales & logistics

This management level mainly focuses on the growth drivers such as new customers, new price compilations, and new products. Based on the strategy approved by the board of directors and executive management, this division must at all times align their goals with the company's strategy. For example, if a new product is launched, a full study should be executed as to how it will benefit the shareholders, employees, communities as well as the environment. This level of management should align their approach to the overall aim which is to create improved shareholder value through the development of appropriate relationships with the key customers of the organization. It is vital to establish profitable, long-term relationships with customers and stakeholders. According to Payne & Frow (2005:168) this requires a cross-functional integration of processes, people, operations and marketing capabilities that is enabled through the correct information, technology and applications thereof.

2.5.3 Operations management

This management level focuses on the efficiency drivers such as available raw material, resources, electricity usage, water usage, manpower etc. This division is the heart of where costs can be managed and resources can be utilized to the fullest. This level of management is very important as the core of the company’s business occur within in the production phase. Knight (1997:264) emphasises that management involved at this level must not only provide verbal support but must also be perceived as taking action in order to prevail their commitment to the working force in order to sustain value creation. It is therefore evident that this is probably the department which have a direct influence in achieving the optimum profit maximization, if a balance between a company’s lowest costs of production and best quality product is attained.

2.5.4 Treasury & finance management

All sector companies are increasingly exposed to volatile economies, shareholder demands, and arduous regulatory and accounting mandates. While many companies are prepared to take action, hasty change requires additional emphasis on cash management, risk strategy, analytics, systems and governance. Additionally, as volatility of commodity, energy and raw material prices reach and sustain record levels, companies are pressured to evaluate and build capabilities to treat these and other non-financial risks.

This management level is responsible for budgets, maintaining financial forecasts, approving capital of new projects and provides financial variances between budgets and actual expenditures. It is important at this level that the treasury and finance divisions also abide to the set strategy, whereby the company should budget for social development and community uplifting projects.

In their investigation of six consulting firms, Ameels *et al.* (2002:34) found that the observation of the VBM approach appears to be closely related with communication within an organization and improved management productivity. By involving all levels of management and in effect, the employees, a holistic understanding will be attained on how activities are linked to value based management and wealth creation.

According to Pandit (2012:2) value-based management essentially aims to produce a balance between moral values with material values by:

- formatting structures of corporate governance and management based on the shared vision and mission of the company;
- maximizing value for the customer by a combination of increased quality and decrease prices. This mechanism involves both management and employees in achieving this VBM goal; and,
- constructing the company's compensation system to reward all stakeholders involved for their input.

Ultimately, the above aims of VBM and achievement thereof will encourage employees from top management to the lowest employee level to feel they own,

benefit and share in the results as a team. Pandit (2012:2) further emphasize that this mechanism may give value to all stakeholders involved and will enhance profit maximisation and wealth creation.

In part of their study, Chatain and Zemsky (2009:26) researched whether companies can invest in resources and capabilities that can improve value creation in the company even more. It was evident that resources are developed in relation to the value it can add or create to customers and eventually shareholders, relative to the existing competition. It is in return crucial to manage the available resources optimally to sustain value creation. Therefore, applicable to this study, the electricity usage factor plays a vital role; especially in the mining sector and more so in the selected company in the ferrochrome industry.

2.6 CORPORATE GOVERNANCE AND THE SOCIAL ENVIRONMENT ASPECT IN SOUTH AFRICA

Traditionally, business firms have placed the highest priority on earning profits, and concern for the employees, the community and human values have typically received less precedence. However, the corporate sector has now started realizing the importance of maintaining social values. This recognition has been emphasized by du Plessis (2009:9) in his overview of the King III report effective from 1 March 2010. According to Ambilikumar (2011:1), this may be the reason for the recognition of corporate governance and social environment.

In addition to ensure ongoing development of society, it is vital to attain economic efficiency, protection of the surrounding environment and adhere to social responsibilities. Koshijima (2004:1) mentions that it is however difficult to achieve the optimum solution of these attainments; hence it is important to combine the best possible sustainability oriented value chain with the corporate activities in order to sustain value based management

Further, acknowledging the essence of creating wealth for both the shareholders as well as other stakeholders, explicit attention needs to be given to the environmental and societal impact of companies; especially for companies in the mining sector of South Africa. This mechanism is supported by the South African

government and is driven by its Department of Minerals and Resources. It is this department's responsibility to ensure that companies are abiding to the regulations and legislation in place to support and ensure surrounding communities and the environment are being protected.

Another phenomenon which are slowly establishing its mark in the global economic environment, are the International Standards Organisation (ISO) standards for business, government and society (ISO, 2011), of which ISO 9001 (quality management systems) is applicable to companies referenced in this study. ISO has instituted quality control guidelines known as the ISO 9001 standards. The aim of the institution is to establish a set of standards entities must prove compliance to in order to qualify for receiving certification under ISO 9001. This trend is growing and is becoming a requirement in the global international trading environment. According to Garrison *et al.* (2008:71) companies in the United States of America exporting to Europe, are increasingly expecting suppliers to conform to ISO 9001.

In order to obtain an ISO 9001 certification, companies have to undergo an audit executed by a certified ISO 9001 agency. Companies must exhibit that:

- Quality control systems are in place and used by the company. The system must visibly define the expected level of quality.
- The system is utilised in the company's operational process and must be supported with detailed documentation of quality controlled procedures.
- The proposed level of quality is being achieved. This must be done on a sustained and consistent basis. In other words, applying ISO 9001 standards is an on-going process which does not end once the certification is obtained.

Departments like the Department of Mineral Resources (DMR) and standards such as ISO 9001 are playing a more important role in South Africa. This observable occurrence enhances the adherence of companies to corporate governance and highlights the needs of social responsibility and government regulations.

2.7 THE INCREASING RELEVANCE OF SHAREHOLDER AND STAKEHOLDER VALUE CREATION

What are the bounds of the responsibility of companies? This question has been and will be debated for years. Various viewpoints exist, such as that companies' first and foremost responsibility is to generate returns for owners - shareholders in the case of publicly listed companies. Some are of the opinion that a company is responsible for generating returns for all stakeholders. Opinions differ about what groups are considered to have a legitimate stake in the company, but employees, customers, shareholders, suppliers, local communities and governments are typically included. Although this picture is an over-simplification of reality - many companies for example do acknowledge the prime importance of stakeholders - the significance of the stakeholders go with the emergent magnitude of corporate governance and the social environment.

According to Young and O'Byrne (2000:18), companies that overlook the importance of value creation for stakeholders cannot deliver value to the shareholders. Because of companies' focus on shareholders, many companies have implemented value-based management. Through value-based management, companies try to align their internal management system with the external views of shareholders. Shareholder value, however, is seen as a compulsory pointer of the success of a company rather than as the prevailing business objective. Superior shareholder value in this view is the result of successful balancing of the diverse interests of the various stakeholders. The interests of shareholders and stakeholders are thus seen to be more in line rather than in contradiction to each other.

Some companies go as far as protecting natural resources as part of value-based management, like one of the companies in the insurance industry who takes extra precaution of environmental issues, operating an environmental management system (ISO 14001) in addition to their work processes.

Watkins (2008:2) found that one of the greatest challenges facing the world today is integrating industrial activities such as mining with environmental integrity and social concerns. Resembling the importance of the above, the government

implemented legislation, monitored by the DMR in order to minimise the environmental pollution caused by business operations. Therefore, within the mining sector it has become vital to incorporate the stakeholders' needs within this path to achieve value creation. In keeping with that goal, companies need to reduce consumption of paper, water and energy. Companies are further obliged to achieve these goals in accordance with the highest technical standards and legislation wherever economically feasible in order to create and sustain value creation for shareholders as well as stakeholders.

Increasing value creation for stakeholders of a company goes hand in hand with adherence to corporate governance, focus on social development and caring for the environment and surrounding communities. It is evident that all these actions will direct the company creation of value and wealth which will benefit the stakeholders and the shareholders.

2.8 CONCLUSION

This chapter in essence attempts to give an understanding of how a company's decision makers must use a VBM system in order to generate sustainable value creation.

The concepts of profit maximization and wealth creation have been discussed in order to understand the difference between them. It is evident that profit maximization focuses on mainly the "here and now". This emphasises that companies can no longer just focus on maximum profit from which only shareholders benefit. It has become important to create value for all stakeholders involved in and around the company's business environment.

The important fact to notice about wealth creation is that it will be difficult to obtain if there is not a proper VBM system in place. Further, it is important that management and the workforce must understand and be involved in the VBM process in order to maintain a sustainable value creation environment. The various financial matters and items influencing the measure of VBM have been examined. Financial items such as selling prices, cost of production and financial ratios have been reviewed with regard to how existing literature explains the importance and

understanding thereof. All of these items contribute to the calculation of economic value added (EVA) which is a calculation tool used to measure value creation.

The next chapter investigates the action plans and projects a selected company embarked on, in order to buffer electricity constraints. It also focuses into other projects the company became involved with, in order to address and maintain sustainable value creation for shareholders and stakeholders of the organisation.

CHAPTER 3

SUSTAINABLE VBM: THE SELECTED COMPANY'S SITUATION

3.1 INTRODUCTION

Today companies, and applicable to this study, especially in the mining industry, are faced with numerous challenges in maintaining sustainable value-based management. Key for management of mining companies in South Africa is to sustain the management of the variable factors they have control over.

In chapter 3 the following sub objectives are addressed:

- investigate how the company attempts to minimise the electricity constraints that influence its financial position;
- inspect what the selected local mining company has done to effectively manage electricity usage.

3.2 THE SELECTED COMPANY'S BACKGROUND

The selected company (hereafter referred to as "the Company") is an integrated ferrochrome producer, listed on the London Stock Exchange (LSE). The Company's mission is to develop and operate sustainable, profitable and efficient mining and mineral processing operations. The Company focuses mainly on the international steel industry. Also important for the Company, is to strive in the process to utilise ethically, environmentally and socially responsible methods.

The Company's integrated ferrochrome mining and production facilities use the latest technology ensuring that its product is of international quality and is a low-cost producer. The Company benefits from a relationship with a major shareholder of the company, which is also owned by the Chinese Government. Further the Company has guaranteed off-take agreements in place for over 60% of both current production and the planned expanded production with one of the New York Stock Exchange (NYSE) listed metals traders.

The Company commenced official production in 2006 and management has always strived to maintain their goal of producing a quality product at the lowest cost possible.

3.2.1 The ferrochrome smelter process

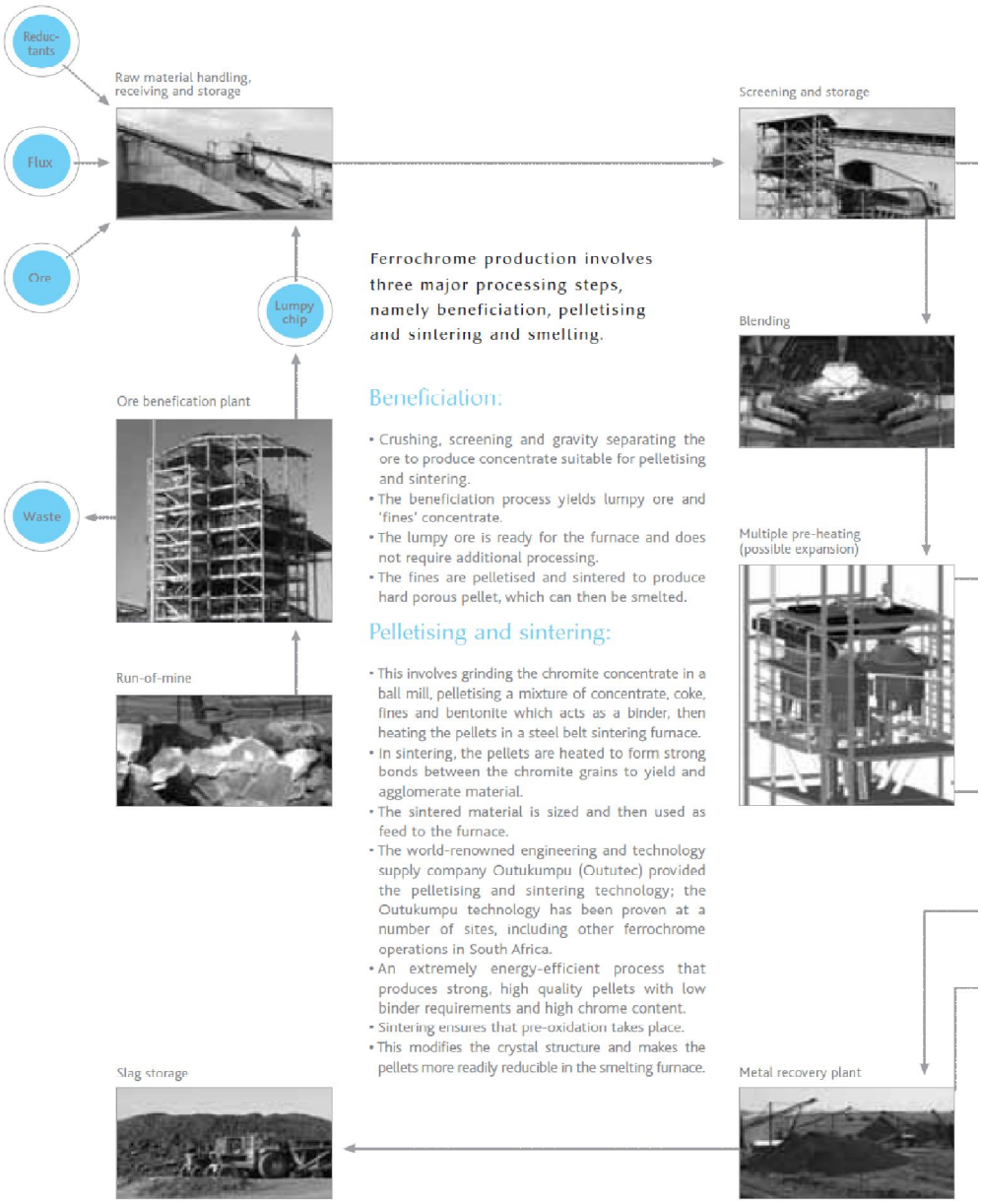

Figure 3.1: The three major ferrochrome processing steps.

Source: Company website published report.

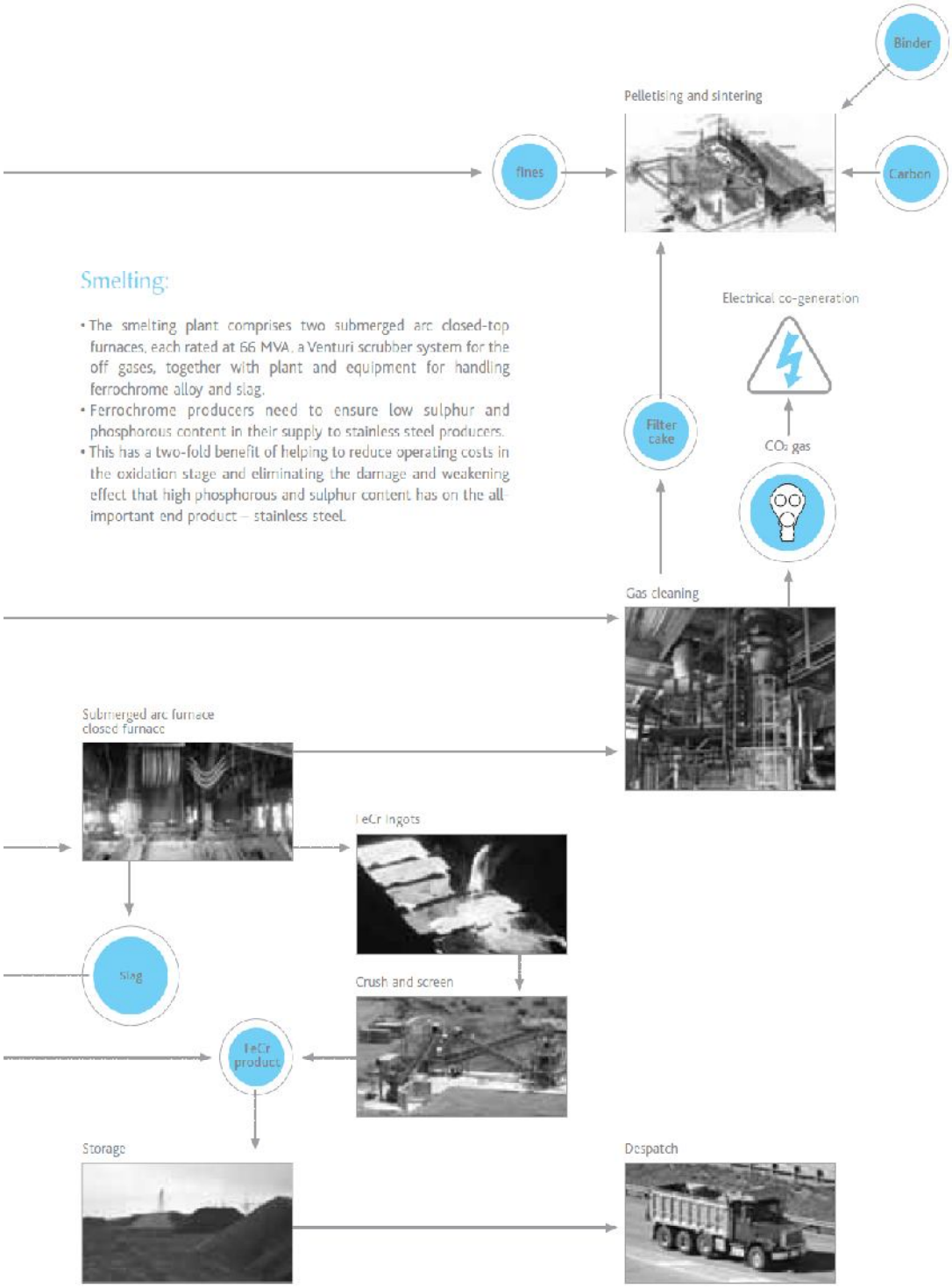

Figure 3.2: The ferrochrome process.

Source: Company website published report

From the above process description, it is evident that the major cost drivers in a ferrochrome smelter operation are:

- redundant, ore and the raw material “coke”, which are the main raw material “ingredients” in the ferrochrome recipe;
- mine labour, which will always be a cost driver; and
- electricity, which is vital for the smelter process in producing ferrochrome.

3.2.2 The market review

Up to mid 2008, the demand for ferrochrome was fuelled by stainless steel production. It was the first full year of operation of the integrated facility which corresponded with record demand which was beneficial for high supply and high sales prices.

The result of the above market occurrence made it possible for the Company to move from the Alternative Investment Market (AIM) to the main Board of the London Stock Exchange on 31 August 2007. This prestigious accomplishment was followed by the Company’s admission to the FTSE 250, resulting in the company to be the first Australian company to be admitted to the exalted UK index. This opened up major benefits for the Company as it allowed the Company to open up a larger share register to a larger section in the investment community.

During the final months of 2008, the world was hit by a global recession. The Company was, as all the mining companies, hit hard by the global decline in stainless steel production.

The power crisis in early 2008 also had a serious impact on all ferrochrome producers in South Africa. As electricity forms part of the major cost drivers in the ferrochrome production process, it is evident that Eskom’s price hikes would cause an increase in cost of product.

3.3 ATTEMPTS TO ADDRESS CHALLENGES IN ATTAINING SUSTAINABLE VBM

It is evident the Company was bombarded with challenges in maintaining the Company's goal in producing a quality product at the lowest possible cost of product.

The Company embarked on several projects enabling management to sustain value-based management. The nature of these projects will now be looked at as well as the benefits it may bring forth.

3.3.1 The new mining project

The Company obtained rights to a bordering mining property and its large ore reserves and, in conjunction with all parties involved, is preparing to commence a new mining operation.

The success of this project will ensure that the Company remains self-sufficient in ore supply for in excess of 40 years (Patel, 2011:1). This endeavour will add to lowering the cost of raw material consumption as the purchase of more expensive third party material will be minimised. This will result in a direct increase in the gross margin percentage and profit margin percentage. Ultimately, the benefit will filter through to the EVA of the company.

The other benefit of this new mining project is that there will be sufficient supply of ore to feed the additional furnaces in event of overcoming the current shortage problem in South Africa and obtaining the go-ahead for the expansion.

The mining project also adds to value creation for stakeholders involved as new job opportunities will be available and the surrounding community will be involved in training in lower band positions. This will enable them to gain work experience and be in a position to improve their skills, which may lead to better job opportunities.

3.3.2 Co-generation project

In August 2009, the Company embarked on the construction of its Clean Development Mechanism (CDM) compliant electricity co-generation plant. The Company aims to generate an average of about 13.7 MW, being 11% of the company's overall electricity requirements, which will reduce costs and allow the Company to achieve 100% production capacity. This is an increase from the Eskom constraint of 90% of normal electricity usage due to the shortage of electricity.

The motivation at the time was the environment credits the Company would have earned. This project will abate approximately 136,000 tonnes of carbon emissions per annum, generating an estimated annual income stream from sale of Carbon Emission Reductions (Carbon Credits) under the Kyoto framework of €2.6 million at current prices.

The electricity generated from the off-gas generation plant will help to resolve the longer term issue of Eskom's industry-wide enforced operation at 90% of contractual electricity supply.

The self-generation of electricity will buffer the current constraints of electricity supply. Not only will the company be able to continue with part of the production processes, but the company will also save on electricity costs. This will improve a more favourable EVA result and encourage shareholder investment.

3.3.3 Broad-Based Black Economic Empowerment (B-BBEE) project

In April 2009 the Company lodged its intended B-BBEE transaction with the former South African Department of Mineral and Energy (DME), now the Department of Mineral Resources (DMR) as the final element of its previously submitted application to convert its old order mining rights to new order mining rights under the South African Minerals and Petroleum Resources Development Act (MPRDA). The transaction envisages the sale of the business and assets of the Company's South African subsidiary to a new company subsidiary ("Newco") with consideration for the purchase to be fully funded by the issue of debentures and

preference shares. The issue of these instruments results in Newco having a nominal net asset value upon implementation, enabling it to issue 26% of its equity to B-BBEE partners for a nominal amount. The B-BBEE partners are the surrounding communities, the personnel of the company and an entrepreneur. The effective date of the transaction will be shortly after the DMR converted the old mining rights.

The B-BBEE project indicates that the Company explores initiatives to involve all stakeholders within the company and attempts to create not only profit maximization, but also wealth creation.

3.3.4 UG2 supply agreement project

The Company's fourth project entails an agreement with another local mining company in the same mining region.

With this agreement, the Company will pay for the erection of a chrome re-treatment plant (CRP) to treat the tailings arising from other company's UG2 concentrator situated close to the Company's premises. The CRP's primary objective will be to extract chromite from the tailings. The CRP will be constructed and commissioned by an EPCM Contractor and owned, maintained and operated by RPM.

The Company will be entitled to 15,000 tonnes of chromite per month (tpm) at no cost other than the cost of transporting the concentrate to its production facilities based on the Company's premises, which is about 50 km from the CRP. The 15,000 tpm will lead to a significant decrease in production cost as it is almost 30% of the selected company's current concentrate needs and the effective cost of the concentrate will be significantly below the company's current internal mining cost (source: Company website).

The contract is for ten years from commencement of the project and the Company is entitled to 15,000 tpm from the date of commissioning of the CRP. It is estimated that the Company will therefore receive concentrate for a period of nine years.

This project will further contribute to the other cost saving initiatives and will strengthen the effect on increasing a favourable EVA.

3.4 VALUE-BASED MANAGEMENT AT THE SELECTED COMPANY

One of the Company's main objectives from the very beginning is to produce quality ferrochrome as a final product by using the latest advanced technology, and operating at the lowest cost of production in order to maximise profit. In conjunction with this goal, the company strives to achieve this goal by utilising ethically, environmentally and socially responsible methods.

The theory in value-based management centres on shareholder returns, which are driven by the company's financial performance. Also it centres on strategies of buffering against external occurrences which may affect the company's financial performance.

The before-mentioned and discussed endeavours the Company has embarked on, are all in aid of accomplishing sustainable value management throughout the current challenges the Company is facing.

3.5 ACHIEVABLE EFFECT OF SUCCESS ON ENDEAVOURS TAKEN TO ENSURE SUSTAINABLE VALUE-BASED MANAGEMENT

The combination and individual achievable effect of the specific four endeavours embarked on will align with the outcome of sustainable value based management, as the Company will:

- continue producing quality products to their customers;
- maintain the Company's goal in producing the product at the lowest cost possible; and
- in event thereof, profits will increase. This will eventually improve return on investments to shareholders. These shareholders are not only external shareholders, but also employees of the company as well as the surrounding communities.

Another benefit of the electricity co-generation project is that this process assists in utilising a harmful off-gas to generate electricity. This benefit adds to the goal of the Company's sustainable development context when it comes to the environment.

3.6 SUMMARY

From the projects and endeavours taken by the Company's board of directors and management team, it is evident that the company is actively embarking on projects to sustain and maintain value creation. It is also evident that specific attempts were made to buffer against electricity shortages and price hikes.

One last aspect this study intends to investigate is how aware the Company's employees are of the value-based management as well as the current electricity constraints and the effect it may have on the Company's sustainability. As per result of the theoretical investigation of value-based management, involving the working force within a company is vital for successfully maintaining sustainable value creation.

This investigation will be discussed in Chapter 4.

CHAPTER 4
INVESTIGATION ON KNOWLEDGE, VIEW AND AWARENESS OF THE WORKING FORCE ON VBM AND ELECTRICITY CONSTRAINTS

4.1 INTRODUCTION

The purpose of this research is to investigate whether the actions taken by one of the local South African mining companies (in this research referred to as "the Company"), are managing controllable factors influencing profit as well as wealth creation, in order to uphold continuous value creation. Subsequently the activities to minimise the electricity constraints and effectively manage electricity consumption were investigated in Chapter 3. The awareness and understanding of the meaning of value based management and the effect of the electricity constraints on the Company's performance and effect on the working force were inspected and are discussed in this chapter.

4.2 DATA SPECIFICATION/PREPARATION OF RESEARCH CONDUCTED

A quantitative study was done to collect primary data through the use of standardised questionnaires that were distributed to respondents at the selected South African subsidiary Company to three different level positions and four different departments within the Company.

The researcher made use of the North-West University's Statistical Services to interpret the results. The questionnaires were submitted manually. For each concept and/or question stated, tables were drawn up to show the descriptive distribution of the answers received.

4.3 DESCRIPTIVE EMPIRICAL RESEARCH FINDINGS

A detailed and self-administered questionnaire was designed for the purpose of this study. This questionnaire, titled "Electricity price hikes: Managing for sustainable value creation in a mining company", consisted of questions that were designed to determine the research objectives. Participants were requested to select one of the position codes and department applicable to him or her with

regard to section A. For the remainder of the questionnaire, the participants were required to rate their view/understanding/attitude per statement or question phrase stated in the questionnaire.

A number of 280 questionnaires were distributed at the Company's working environment of which 108 were completed questionnaires and used for this research study.

The questionnaire consisted of the following sections:

Section A - Demographic information.
Section B - Attempts to evaluate the knowledge of the concept value-based management.
Section C - Analyse the understanding of financial matters relating to value-based management.
Section D - Test the individual's awareness of the current electricity situation affecting the company they are employed by.
Section E - Test the employees' view of successful implementation of the value-based management of the company.
Section F - Intend to test the participant's attitude towards enhancing the value-based management strategy management follows.

4.4 FREQUENCIES AND DESCRIPTIVE STATISTICS

4.4.1 Frequency results on Section A

The purpose of section A was to give an indication of the demographic information of the participants working for the company. The first part of section A was to determine the different levels under which the participants resort within the Company. The results are summarized in **Table 4.1**.

Table 4.1: Section A - Demographic information for position levels.

Different levels	% Representation
Head Office/ Executive Management (levels E & levels F)	6%
Senior & Line Management (levels D & level s E)	30%
Other (level s B & levels C)	64%
	100%
Total participants:	107

A response of 107 (*N* = 107) was received from the Company's personnel, from which 6% form part of the head office and executive management, 30% resort under senior and line management and 64% under the remainder of the working force.

The second part of section A was to determine the different departments in which the participants work within the Company. The results are summarized in **Table 4.2**:

Table 4.2: Section A - Demographic information for the different departments.

	Head Office/Key Management Personnel	Furnaces, Pellet & Sinter, Engineering Department	Mining and Beneficiation Plant Department	Supporting Services (Admin, HR, SHEQ, Marketing)	Total Participants
Head Office and Executive Participants (E & F Levels)	6	-	-	-	**6**
Senior and Line Management (D & E Levels)	-	13	6	13	**32**
Other (B & C Levels)	-	20	18	31	**69**

From the demographic information supplied by participants, it is observed that of these 107 participants, 6 resorts under the head office and key personnel. These employees fulfil the highest position and have a substantial impact on decision-making of the company's endeavours. One executive management employee formed part of the high level positions and works in the marketing department; hence for the purpose of discretion and confidentiality, the employee's results will not be revealed and discussed in the study.

Further apparent from **Table 4.2** above, 13 of the senior and line management work in the furnaces, pellet and sinter and engineering department; 6 work at the mining and beneficiation plant and 13 in the support services departments such as administration, human resources, safety and marketing departments.

Of the B and C level participants, 20 are employed in furnaces, pellet and sinter and engineering department, 18 in the mining and beneficiation plant and 31 in the support services departments such as administration, human resources, safety and marketing departments.

4.4.2 Frequency results on Section B

Section B of the questionnaire attempts to evaluate the knowledge of the concept "value-based management".

Results for all different levels and then for the departments are summarized in the tables below.

4.4.2.1 Position levels

Table 4.3: Section B - Results for position levels.

Section B - Attempts to evaluate the knowledge of the concept value-based management						
		Strongly disagree	**Disagree**	**Agree**	**Strongly agree**	**Total Participants**
3.1	I am not familiar with the term "value-based management".	21%	37%	41%	2%	106
3.2	The company cares for its people.	1%	12%	75%	11%	106
3.3	The company adds value to the quality of its employees' lives.	1%	14%	70%	15%	106
3.4	Value is created for a company's shareholders.	0%	6%	79%	15%	102
3.5	A company is managed in a way that is ethical.	1%	11%	76%	11%	106
3.6	A company is managed in a low-cost strategy	2%	9%	66%	24%	105
3.7	A company is managed in a way that ensures continuous supply of quality services and products to customers.	1%	4%	50%	46%	105
4.1	Maximizing profits in the short term	10%	51%	35%	4%	102
4.2	Maximizing value in the short term	10%	46%	40%	4%	106
4.3	Maximizing profits over a long term	3%	6%	51%	40%	104
4.4	Maximizing value over a long term	0%	4%	46%	50%	106
5.1	An integrated management approach	0%	4%	73%	23%	107
5.2	A management approach that focuses on customers	0%	8%	81%	11%	106
5.3	A management approach that focuses on employees	0%	6%	85%	10%	105
5.4	A management approach that focuses on shareholders	0%	2%	74%	24%	105
5.5	A management approach that focuses on community upliftment	1%	7%	86%	7%	105
6.1	The financial well-being of the employees	3%	30%	56%	12%	104
6.2	The financial well-being of the shareholders	0%	4%	59%	37%	106
6.3	The financial well-being of the management	0%	12%	65%	23%	106
7.1	It is a financial framework only	20%	71%	8%	1%	105
7.2	It is not only a financial management framework	2%	9%	87%	2%	89
7.3	It is an integrated strategic management tool	0%	2%	70%	28%	106
7.4	Is a management tool aimed to uphold business sustainability	0%	3%	51%	46%	106

Table 4.3 (continued).

Section B - Attempts to evaluate the knowledge of the concept value-based management						
		Not important	**Slightly important**	**Important**	**Vital**	**Total Participants**
8.1	Provide a continuous supply of quality services and product to its customers.	0%	2%	27%	72%	107
8.2	Focus on resourcing its own raw material	2%	6%	50%	42%	107
8.3	Generate its own electricity	1%	14%	47%	38%	107
9.1	Necessary to improve motivation of its working force.	1%	2%	37%	60%	107
9.2	Necessary to focus on improving skills development of employees.	0%	2%	39%	59%	107
9.3	Needed to improve the potential of its working force.	0%	7%	44%	49%	107

According to the above results, it appears that the majority of the respondents on the different position levels believe they have an understanding of the concept of value-based management.

4.4.2.2 Departments

Table 4.4: Section B - Head office and executive participants (E and F Levels) - Head office and key management personnel.

Section B - Attempts to evaluate the knowledge of the concept value-based management						
		Strongly disagree	**Disagree**	**Agree**	**Strongly agree**	**Total Participants**
3.1	I am not familiar with the term "value-based management".	83%	0%	17%	0%	6
3.2	The company cares for its people.	0%	0%	83%	17%	6
3.3	The company adds value to the quality of its employees' lives.	0%	0%	83%	17%	6
3.4	Value is created for a company's shareholders.	0%	0%	67%	33%	6
3.5	A company is managed in a way that is ethical.	0%	0%	67%	33%	6
3.6	A company is managed in a low-cost strategy	0%	0%	67%	33%	6
3.7	A company is managed in a way that ensures continuous supply of quality services and products to customers.	0%	17%	17%	67%	6
4.1	Maximizing profits in the short term	33%	67%	0%	0%	6
4.2	Maximizing value in the short term	33%	50%	17%	0%	6
4.3	Maximizing profits over a long term	0%	0%	50%	50%	6
4.4	Maximizing value over a long term	0%	0%	17%	83%	6
5.1	An integrated management approach	0%	0%	33%	67%	6
5.2	A management approach that focuses on customers	0%	0%	83%	17%	6
5.3	A management approach that focuses on employees	0%	0%	83%	17%	6
5.4	A management approach that focuses on shareholders	0%	0%	83%	17%	6
5.5	A management approach that focuses on community upliftment	0%	0%	83%	17%	6
6.1	The financial well-being of the employees	0%	33%	33%	33%	6
6.2	The financial well-being of the shareholders	0%	17%	50%	33%	6
6.3	The financial well-being of the management	0%	33%	50%	17%	6
7.1	It is a financial framework only	83%	17%	0%	0%	6
7.2	It is not only a financial management framework	0%	0%	33%	67%	6
7.3	It is an integrated strategic management tool	0%	0%	17%	83%	6
7.4	Is a management tool aimed to uphold business sustainability	0%	0%	17%	83%	6

Table 4.4 (continued)

Section B - Attempts to evaluate the knowledge of the concept value-based management						
		Not important	**Slightly important**	**Important**	**Vital**	**Total Participants**
8.1	Provide a continuous supply of quality services and product to its customers.	0%	0%	0%	100%	6
8.2	Focus on resourcing its own raw material	0%	0%	67%	33%	6
8.3	Generate its own electricity	0%	33%	50%	17%	6
9.1	Necessary to improve motivation of its working force.	0%	0%	33%	67%	6
9.2	Necessary to focus on improving skills development of employees.	0%	25%	13%	63%	6
9.3	Needed to improve the potential of its working force.	0%	0%	17%	83%	6

The results concluded a comprehensible understanding of the concept of value-based management by the participants employed in the head office department and/or who fulfil a key management position.

Table 4.5: Section B - Senior and line management (D and E Levels) - Furnaces, Pellet and Sinter, Engineering department.

Section B - Attempts to evaluate the knowledge of the concept value-based management						
		Strongly disagree	**Disagree**	**Agree**	**Strongly agree**	**Total Participants**
3.1	I am not familiar with the term "value-based management".	8%	62%	31%	0%	13
3.2	The company cares for its people.	0%	0%	92%	8%	13
3.3	The company adds value to the quality of its employees' lives.	0%	0%	85%	15%	13
3.4	Value is created for a company's shareholders.	0%	0%	92%	8%	12
3.5	A company is managed in a way that is ethical.	0%	15%	77%	8%	13
3.6	A company is managed in a low-cost strategy	0%	8%	77%	15%	13
3.7	A company is managed in a way that ensures continuous supply of quality services and products to customers.	0%	0%	54%	46%	13
4.1	Maximizing profits in the short term	8%	42%	50%	0%	12
4.2	Maximizing value in the short term	8%	31%	62%	0%	13
4.3	Maximizing profits over a long term	0%	0%	58%	42%	12
4.4	Maximizing value over a long term	0%	0%	33%	67%	12
5.1	An integrated management approach	0%	0%	62%	38%	13
5.2	A management approach that focuses on customers	0%	0%	85%	15%	13
5.3	A management approach that focuses on employees	0%	0%	85%	15%	13
5.4	A management approach that focuses on shareholders	0%	0%	85%	15%	13
5.5	A management approach that focuses on community upliftment	0%	0%	85%	15%	13
6.1	The financial well-being of the employees	0%	15%	38%	46%	13
6.2	The financial well-being of the shareholders	0%	0%	46%	54%	13
6.3	The financial well-being of the management	0%	8%	46%	46%	13
7.1	It is a financial framework only	15%	77%	8%	0%	13
7.2	It is not only a financial management framework	0%	8%	46%	46%	13
7.3	It is an integrated strategic management tool	0%	0%	62%	38%	13
7.4	Is a management tool aimed to uphold business sustainability	0%	8%	15%	77%	13

Table 4.5 (continued)

Section B - Attempts to evaluate the knowledge of the concept value-based management						
		Not important	**Slightly important**	**Important**	**Vital**	**Total Participants**
8.1	Provide a continuous supply of quality services and product to its customers.	0%	0%	15%	85%	13
8.2	Focus on resourcing its own raw material	0%	0%	31%	69%	13
8.3	Generate its own electricity	0%	8%	23%	69%	13
9.1	Necessary to improve motivation of its working force.	0%	8%	31%	62%	13
9.2	Necessary to focus on improving skills development of employees.	0%	8%	31%	62%	13
9.3	Needed to improve the potential of its working force.	0%	8%	31%	62%	13

The respondents on senior and line management level employed in the furnace, pellet and sinter and engineering department indicated that they have a fair understanding of the concept of value-based management.

Table 4.6: Section B - Senior and line management (D and E Levels) - Mining and Beneficiation Plant department.

Section B - Attempts to evaluate the knowledge of the concept value-based management						
		Strongly disagree	**Disagree**	**Agree**	**Strongly agree**	**Total Participants**
3.1	I am not familiar with the term "value-based management".	0%	80%	20%	0%	5
3.2	The company cares for its people.	17%	0%	50%	33%	6
3.3	The company adds value to the quality of its employees' lives.	17%	0%	50%	33%	6
3.4	Value is created for a company's shareholders.	0%	17%	67%	17%	6
3.5	A company is managed in a way that is ethical.	0%	0%	83%	17%	6
3.6	A company is managed in a low-cost strategy	17%	0%	50%	33%	6
3.7	A company is managed in a way that ensures continuous supply of quality services and products to customers.	17%	0%	0%	83%	6
4.1	Maximizing profits in the short term	0%	33%	67%	0%	6
4.2	Maximizing value in the short term	0%	33%	67%	0%	6
4.3	Maximizing profits over a long term	0%	17%	50%	33%	6
4.4	Maximizing value over a long term	0%	17%	67%	17%	6
5.1	An integrated management approach	0%	0%	100%	0%	5
5.2	A management approach that focuses on customers	0%	17%	67%	17%	6
5.3	A management approach that focuses on employees	0%	0%	83%	17%	6
5.4	A management approach that focuses on shareholders	0%	0%	50%	50%	6
5.5	A management approach that focuses on community upliftment	0%	17%	83%	0%	6
6.1	The financial well-being of the employees	0%	50%	50%	0%	6
6.2	The financial well-being of the shareholders	0%	0%	83%	17%	6
6.3	The financial well-being of the management	0%	33%	67%	0%	6
7.1	It is a financial framework only	0%	100%	0%	0%	6
7.2	It is not only a financial management framework	0%	0%	100%	0%	6
7.3	It is an integrated strategic management tool	0%	17%	67%	17%	6
7.4	Is a management tool aimed to uphold business sustainability	0%	83%	17%	0%	6

Table 4.6 (continued)

Section B - Attempts to evaluate the knowledge of the concept value-based management						
		Not important	**Slightly important**	**Important**	**Vital**	**Total Participants**
8.1	Provide a continuous supply of quality services and product to its customers.	0%	17%	50%	33%	6
8.2	Focus on resourcing its own raw material	0%	0%	50%	50%	6
8.3	Generate its own electricity	0%	0%	67%	33%	6
9.1	Necessary to improve motivation of its working force.	0%	0%	33%	67%	6
9.2	Necessary to focus on improving skills development of employees.	0%	0%	50%	50%	6
9.3	Needed to improve the potential of its working force.	0%	17%	17%	67%	6

The respondents on senior and line management level employed in the mining and beneficiation plant department indicated that they fairly understand the concept of value-based management.

Table 4.7: Section B - Senior and line management (D and E Levels) - Supporting Services (Admin, HR, SHEQ, Marketing).

Section B - Attempts to evaluate the knowledge of the concept value-based management						
		Strongly disagree	**Disagree**	**Agree**	**Strongly agree**	**Total Participants**
3.1	I am not familiar with the term "value-based management".	36%	55%	9%	0%	11
3.2	The company cares for its people.	0%	17%	75%	8%	12
3.3	The company adds value to the quality of its employees' lives.	0%	8%	67%	25%	12
3.4	Value is created for a company's shareholders.	0%	8%	75%	17%	12
3.5	A company is managed in a way that is ethical.	0%	8%	67%	25%	12
3.6	A company is managed in a low-cost strategy	0%	17%	58%	25%	12
3.7	A company is managed in a way that ensures continuous supply of quality services and products to customers.	0%	8%	38%	54%	13
4.1	Maximizing profits in the short term	18%	82%	0%	0%	11
4.2	Maximizing value in the short term	18%	82%	0%	0%	11
4.3	Maximizing profits over a long term	0%	0%	58%	42%	12
4.4	Maximizing value over a long term	0%	0%	31%	69%	13
5.1	An integrated management approach	0%	0%	54%	46%	13
5.2	A management approach that focuses on customers	0%	17%	83%	0%	12
5.3	A management approach that focuses on employees	0%	8%	92%	0%	12
5.4	A management approach that focuses on shareholders	0%	8%	83%	8%	12
5.5	A management approach that focuses on community upliftment	0%	8%	92%	0%	12
6.1	The financial well-being of the employees	0%	25%	75%	0%	12
6.2	The financial well-being of the shareholders	0%	15%	62%	23%	13
6.3	The financial well-being of the management	0%	25%	75%	0%	12
7.1	It is a financial framework only	42%	50%	8%	0%	12
7.2	It is not only a financial management framework	0%	17%	75%	8%	12
7.3	It is an integrated strategic management tool	0%	0%	77%	23%	13
7.4	Is a management tool aimed to uphold business sustainability	0%	8%	33%	58%	12

Table 4.7 (continued)

Section B - Attempts to evaluate the knowledge of the concept value-based management						
		Not important	**Slightly important**	**Important**	**Vital**	**Total Participants**
8.1	Provide a continuous supply of quality services and product to its customers.	0%	0%	15%	85%	13
8.2	Focus on resourcing its own raw material	0%	0%	62%	38%	13
8.3	Generate its own electricity	0%	31%	62%	8%	13
9.1	Necessary to improve motivation of its working force.	0%	0%	54%	46%	13
9.2	Necessary to focus on improving skills development of employees.	0%	0%	31%	69%	13
9.3	Needed to improve the potential of its working force.	0%	8%	54%	38%	13

The respondents on senior and line management level employed in the supporting services departments indicated that they fairly understand the concept of value-based management.

Table 4.8: Section B - Other (B & C Levels) - Furnaces, Pellet and Sinter, Engineering department.

Section B - Attempts to evaluate the knowledge of the concept value-based management						
		Strongly disagree	**Disagree**	**Agree**	**Strongly agree**	**Total Participants**
3.1	I am not familiar with the term "value-based management".	15%	20%	65%	0%	20
3.2	The company cares for its people.	0%	5%	80%	15%	20
3.3	The company adds value to the quality of its employees' lives.	0%	5%	80%	15%	20
3.4	Value is created for a company's shareholders.	0%	5%	80%	15%	20
3.5	A company is managed in a way that is ethical.	0%	10%	85%	5%	20
3.6	A company is managed in a low-cost strategy	0%	10%	2%	25%	20
3.7	A company is managed in a way that ensures continuous supply of quality services and products to customers.	0%	0%	60%	40%	20
4.1	Maximizing profits in the short term	10%	35%	55%	0%	20
4.2	Maximizing value in the short term	10%	35%	55%	0%	20
4.3	Maximizing profits over a long term	0%	5%	40%	55%	20
4.4	Maximizing value over a long term	0%	0%	45%	55%	20
5.1	An integrated management approach	0%	5%	90%	5%	20
5.2	A management approach that focuses on customers	0%	0%	90%	10%	20
5.3	A management approach that focuses on employees	0%	5%	85%	10%	20
5.4	A management approach that focuses on shareholders	0%	0%	85%	15%	20
5.5	A management approach that focuses on community upliftment	0%	0%	95%	5%	20
6.1	The financial well-being of the employees	0%	25%	75%	0%	20
6.2	The financial well-being of the shareholders	0%	0%	55%	45%	20
6.3	The financial well-being of the management	0%	0%	80%	20%	20
7.1	It is a financial framework only	0%	95%	5%	0%	20
7.2	It is not only a financial management framework	0%	25%	65%	10%	20
7.3	It is an integrated strategic management tool	0%	0%	70%	30%	20
7.4	Is a management tool aimed to uphold business sustainability	0%	0%	55%	45%	20

Table 4.8 (continued)

Section B - Attempts to evaluate the knowledge of the concept value-based management						
		Not important	**Slightly important**	**Important**	**Vital**	**Total Participants**
8.1	Provide a continuous supply of quality services and product to its customers.	0%	0%	25%	75%	20
8.2	Focus on resourcing its own raw material	0%	0%	55%	45%	20
8.3	Generate its own electricity	0%	10%	45%	45%	20
9.1	Necessary to improve motivation of its working force.	0%	0%	35%	65%	20
9.2	Necessary to focus on improving skills development of employees.	0%	0%	30%	70%	20
9.3	Needed to improve the potential of its working force.	0%	0%	50%	50%	20

The respondents on other levels employed in the furnaces, pellet & sinter and engineering departments indicated they are not too familiar with the concept of value-based management, but their views indicated that there may be some understanding of what value-based management entails.

Table 4.9: Section B - Other (B & C Levels) - Mining and Beneficiation Plant departments.

Section B - Attempts to evaluate the knowledge of the concept value-based management						
		Strongly disagree	**Disagree**	**Agree**	**Strongly agree**	**Total Participants**
3.1	I am not familiar with the term "value-based management".	22%	17%	56%	6%	18
3.2	The company cares for its people.	0%	11%	83%	6%	18
3.3	The company adds value to the quality of its employees' lives.	0%	11%	83%	6%	18
3.4	Value is created for a company's shareholders.	0%	0%	89%	11%	18
3.5	A company is managed in a way that is ethical.	0%	11%	83%	6%	18
3.6	A company is managed in a low-cost strategy	0%	0%	78%	22%	18
3.7	A company is managed in a way that ensures continuous supply of quality services and products to customers.	0%	0%	61%	39%	18
4.1	Maximizing profits in the short term	6%	56%	33%	6%	18
4.2	Maximizing value in the short term	6%	50%	28%	17%	18
4.3	Maximizing profits over a long term	6%	0%	39%	56%	18
4.4	Maximizing value over a long term	0%	0%	41%	59%	17
5.1	An integrated management approach	0%	0%	89%	11%	18
5.2	A management approach that focuses on customers	0%	6%	89%	6%	18
5.3	A management approach that focuses on employees	0%	0%	94%	6%	18
5.4	A management approach that focuses on shareholders	0%	0%	67%	33%	18
5.5	A management approach that focuses on community upliftment	6%	0%	94%	0%	18
6.1	The financial well-being of the employees	6%	22%	61%	11%	18
6.2	The financial well-being of the shareholders	0%	0%	71%	29%	17
6.3	The financial well-being of the management	0%	11%	72%	17%	18
7.1	It is a financial framework only	17%	83%	0%	0%	18
7.2	It is not only a financial management framework	0%	0%	94%	6%	18
7.3	It is an integrated strategic management tool	0%	0%	83%	17%	18
7.4	Is a management tool aimed to uphold business sustainability	0%	6%	50%	44%	18

Table 4.9 (continued)

Section B - Attempts to evaluate the knowledge of the concept value-based management						
		Not important	**Slightly important**	**Important**	**Vital**	**Total Participants**
8.1	Provide a continuous supply of quality services and product to its customers.	0%	6%	44%	50%	18
8.2	Focus on resourcing its own raw material	0%	22%	44%	33%	18
8.3	Generate its own electricity	0%	17%	44%	39%	18
9.1	Necessary to improve motivation of its working force.	6%	0%	39%	56%	18
9.2	Necessary to focus on improving skills development of employees.	0%	6%	61%	33%	18
9.3	Needed to improve the potential of its working force.	0%	22%	50%	28%	18

The respondents on other levels employed in the mining and beneficiation plant departments indicated they are not too familiar with the concept of value-based management, but their views indicate that there is some understanding of what value-based management entails.

Table 4.10: Section B - Other (B & C Levels) - Supporting Services (Admin, HR, SHEQ, Marketing).

Section B - Attempts to evaluate the knowledge of the concept value-based management						
		Strongly disagree	**Disagree**	**Agree**	**Strongly agree**	**Total Participants**
3.1	I am not familiar with the term "value-based management".	13%	43%	43%	0%	30
3.2	The company cares for its people.	0%	29%	61%	11%	28
3.3	The company adds value to the quality of its employees' lives.	0%	39%	50%	11%	28
3.4	Value is created for a company's shareholders.	0%	15%	69%	15%	26
3.5	A company is managed in a way that is ethical.	0%	18%	71%	11%	28
3.6	A company is managed in a low-cost strategy	4%	11%	59%	26%	27
3.7	A company is managed in a way that ensures continuous supply of quality services and products to customers.	0%	7%	52%	41%	27
4.1	Maximizing profits in the short term	8%	50%	35%	8%	26
4.2	Maximizing value in the short term	10%	45%	41%	3%	29
4.3	Maximizing profits over a long term	7%	15%	59%	19%	27
4.4	Maximizing value over a long term	0%	10%	62%	28%	29
5.1	An integrated management approach	0%	7%	72%	21%	29
5.2	A management approach that focuses on customers	0%	11%	71%	18%	28
5.3	A management approach that focuses on employees	0%	11%	78%	11%	27
5.4	A management approach that focuses on shareholders	0%	0%	67%	33%	27
5.5	A management approach that focuses on community upliftment	0%	15%	74%	11%	27
6.1	The financial well-being of the employees	8%	46%	38%	8%	26
6.2	The financial well-being of the shareholders	0%	3%	55%	41%	29
6.3	The financial well-being of the management	0%	11%	54%	36%	28
7.1	It is a financial framework only	19%	63%	15%	4%	27
7.2	It is not only a financial management framework	7%	0%	76%	17%	29
7.3	It is an integrated strategic management tool	0%	0%	78%	22%	27
7.4	Is a management tool aimed to uphold business sustainability	0%	0%	71%	29%	28

Table 4.10 (continued)

Section B - Attempts to evaluate the knowledge of the concept value-based management						
		Not important	**Slightly important**	**Important**	**Vital**	**Total Participants**
8.1	Provide a continuous supply of quality services and product to its customers.	0%	0%	27%	73%	30
8.2	Focus on resourcing its own raw material	3%	7%	50%	40%	30
8.3	Generate its own electricity	3%	10%	52%	34%	29
9.1	Necessary to improve motivation of its working force.	0%	3%	34%	62%	29
9.2	Necessary to focus on improving skills development of employees.	0%	0%	43%	57%	28
9.3	Needed to improve the potential of its working force.	0%	3%	48%	48%	29

The respondents on other levels employed in the supporting services departments indicated that 43% are not familiar with, while another 43% are familiar with, the concept of value-based management. Their view indicates there is some an understanding of what value-based management may entail.

4.4.3 Frequency results on Section C

Section C analyses the understanding of financial matters relating to value-based management. Results for all different levels and then for the departments are summarized in the tables below.

4.4.3.1 Position levels

Table 4.11: Results for the position levels in the company per section C of the questionnaire.

Section C - Analyse the understanding of financial matters relating to value-based management						
		Not important	**Slightly important**	**Important**	**Vital**	**Total Participants**
10.1	Fixed Asset Management	1%	2%	64%	33%	89
10.2	Management of the company's finished product	0%	3%	38%	59%	90
10.3	Operating profit Management	0%	2%	51%	47%	91
10.4	Net profit Management	0%	4%	40%	56%	90
10.5	Cost Management	1%	0%	27%	72%	89
11.1	Assets purchased must be fit for the purpose it is bought	0%	2%	45%	52%	86
11.2	Fixed Assets are utilized to obtain the minimum use over the asset's lifetime	51%	11%	22%	16%	82
11.3	Fixed Assets are utilized to obtain the optimum usage over the asset's lifetime	1%	1%	35%	62%	85
11.4	Amortization of assets must be aligned with its useful life period.	0%	1%	60%	38%	81
12.1	Maximise sales volumes	0%	1%	46%	53%	83
12.2	Control cost of sales	0%	2%	38%	60%	84
12.3	Control cost of sales without effecting quality of the product	0%	0%	25%	75%	84
12.4	Increase sales prices	2%	27%	47%	24%	83
12.5	Control electricity cost	0%	6%	35%	60%	84
13.1	Analysing electricity cost behaviour on a monthly basis	1%	1%	36%	62%	89
13.2	Scrutinize variances between budget and actual costs	0%	3%	40%	57%	90
13.3	Analyse under budget expenses	1%	14%	50%	34%	90
13.4	Analyse costs which were budgeted for, but not spent	4%	13%	51%	31%	89

Table 4.11 (continued)

Section C - Analyse the understanding of financial matters relating to value-based management						
		Strongly disagree	**Disagree**	**Agree**	**Strongly agree**	**Total Participants**
14.1	A request for any expenditure exceeding R1,000.00 must be motivated in writing	3%	29%	56%	11%	96
14.2	Accounts receivable outstanding for 60 days should not be followed up	67%	19%	11%	3%	95
14.3	The Dollar/Rand exchange rate does not influence your company's cash flow	68%	20%	5%	6%	95
15.1	invest in self-generating electricity equipment	0%	3%	36%	61%	107
15.2	consider diversification in different products	2%	10%	48%	40%	107
15.3	continue with its current process	2%	23%	58%	17%	107

Respondents were given the option to ignore section C where they were unfamiliar with the terms and/or statements made. The results indicated there are indeed employees who are unfamiliar with the terms and statements made. The majority of the employees in the different position levels, who have responded, indicated that they understand financial matters relating to value-based management.

4.4.3.2 Departments

Table 4.12: Section C - Head Office and Executive Participants (E and F Levels) - Head Office and Key Management Personnel

Section C - Analyse the understanding of financial matters relating to value-based management						
		Not important	**Slightly important**	**Important**	**Vital**	**Total Participants**
10.1	Fixed Asset Management	0%	0%	33%	67%	6
10.2	Management of the company's finished product	0%	17%	33%	50%	6
10.3	Operating profit Management	0%	0%	50%	50%	6
10.4	Net profit Management	0%	17%	50%	33%	6
10.5	Cost Management	0%	0%	0%	100%	5
11.1	Assets purchased must be fit for the purpose it is bought	0%	0%	17%	83%	6
11.2	Fixed Assets are utilized to obtain the minimum use over the asset's lifetime	83%	0%	0%	17%	6
11.3	Fixed Assets are utilized to obtain the optimum usage over the asset's lifetime	0%	0%	17%	83%	6
11.4	Amortization of assets must be aligned with its useful life period.	0%	0%	33%	67%	6
12.1	Maximise sales volumes	0%	0%	50%	50%	6
12.2	Control cost of sales	0%	17%	17%	67%	6
12.3	Control cost of sales without effecting quality of the product	0%	0%	17%	83%	6
12.4	Increase sales prices	0%	17%	67%	17%	6
12.5	Control electricity cost	0%	0%	50%	50%	6
13.1	Analysing electricity cost behaviour on a monthly basis	0%	0%	33%	67%	6
13.2	Scrutinize variances between budget and actual costs	0%	0%	17%	83%	6
13.3	Analyse under budget expenses	0%	17%	17%	67%	6
13.4	Analyse costs which were budgeted for, but not spent	0%	17%	17%	67%	6

Table 4.12 (continued)

Section C - Analyse the understanding of financial matters relating to value-based management						
		Strongly disagree	**Disagree**	**Agree**	**Strongly agree**	**Total Participants**
14.1	A request for any expenditure exceeding R1,000.00 must be motivated in writing	0%	33%	67%	0%	6
14.2	Accounts receivable outstanding for 60 days should not be followed up	83%	17%	0%	0%	6
14.3	The Dollar/Rand exchange rate does not influence your company's cash flow	100%	0%	0%	0%	6
15.1	invest in self-generating electricity equipment	0%	0%	33%	67%	6
15.2	consider diversification in different products	0%	0%	33%	67%	6
15.3	continue with its current process	0%	50%	50%	0%	6

Respondents were given the option to ignore section C where they were unfamiliar with the terms and/statements made. All the employees in the head office and/or key management departments indicated that they understand financial matters relating to value-based management.

Table 4.13: Section C - Senior and Line Management (D and E Levels) - Furnaces, Pellet and Sinter, Engineering Department

Section C - Analyse the understanding of financial matters relating to value-based management						
		Not important	**Slightly important**	**Important**	**Vital**	**Total Participants**
10.1	Fixed Asset Management	0%	0%	91%	9%	11
10.2	Management of the company's finished product	0%	0%	73%	27%	11
10.3	Operating profit Management	0%	0%	73%	27%	11
10.4	Net profit Management	0%	0%	73%	27%	11
10.5	Cost Management	0%	0%	55%	45%	11
11.1	Assets purchased must be fit for the purpose it is bought	0%	0%	42%	58%	12
11.2	Fixed Assets are utilized to obtain the minimum use over the asset's lifetime	67%	0%	17%	17%	12
11.3	Fixed Assets are utilized to obtain the optimum usage over the asset's lifetime	0%	0%	50%	50%	12
11.4	Amortization of assets must be aligned with its useful life period.	0%	0%	75%	25%	12
12.1	Maximise sales volumes	0%	0%	27%	73%	11
12.2	Control cost of sales	0%	0%	9%	91%	11
12.3	Control cost of sales without effecting quality of the product	0%	0%	9%	91%	11
12.4	Increase sales prices	0%	9%	36%	55%	11
12.5	Control electricity cost	0%	9%	9%	82%	11
13.1	Analysing electricity cost behaviour on a monthly basis	0%	0%	42%	58%	12
13.2	Scrutinize variances between budget and actual costs	0%	0%	25%	75%	12
13.3	Analyse under budget expenses	0%	8%	42%	50%	12
13.4	Analyse costs which were budgeted for, but not spent	0%	8%	42%	50%	12

Table 4.13 (continued)

Section C - Analyse the understanding of financial matters relating to value-based management						
		Strongly disagree	**Disagree**	**Agree**	**Strongly agree**	**Total Participants**
14.1	A request for any expenditure exceeding R1,000.00 must be motivated in writing	8%	33%	58%	0%	12
14.2	Accounts receivable outstanding for 60 days should not be followed up	75%	17%	8%	0%	12
14.3	The Dollar/Rand exchange rate does not influence your company's cash flow	58%	25%	17%	0%	12
15.1	invest in self-generating electricity equipment	0%	0%	23%	77%	13
15.2	consider diversification in different products	0%	0%	38%	62%	13
15.3	continue with its current process	0%	15%	77%	8%	13

Respondents were given the option to ignore section C where they were unfamiliar with the terms and/statements made. The results indicated that there are employees who are unfamiliar with the terms and statements made. Nonetheless, most of the employees on senior and line management in the furnaces, pellet & sinter and engineering departments indicated they understand financial matters relating to value-based management.

Table 4.14: Section C - Senior and Line Management (D and E Levels) - Mining and Beneficiation Plant Department

Section C - Analyse the understanding of financial matters relating to value-based management						
		Not important	**Slightly important**	**Important**	**Vital**	**Total Participants**
10.1	Fixed Asset Management	0%	20%	40%	40%	5
10.2	Management of the company's finished product	0%	0%	40%	60%	5
10.3	Operating profit Management	0%	0%	100%	0%	5
10.4	Net profit Management	0%	0%	0%	100%	5
10.5	Cost Management	0%	0%	20%	80%	5
11.1	Assets purchased must be fit for the purpose it is bought	0%	50%	50%	0%	4
11.2	Fixed Assets are utilized to obtain the minimum use over the asset's lifetime	25%	0%	25%	50%	4
11.3	Fixed Assets are utilized to obtain the optimum usage over the asset's lifetime	0%	0%	50%	50%	4
11.4	Amortization of assets must be aligned with its useful life period.	0%	0%	25%	75%	4
12.1	Maximise sales volumes	0%	0%	0%	100%	4
12.2	Control cost of sales	0%	50%	50%	0%	4
12.3	Control cost of sales without effecting quality of the product	0%	0%	25%	75%	4
12.4	Increase sales prices	0%	25%	50%	25%	4
12.5	Control electricity cost	0%	0%	25%	75%	4
13.1	Analysing electricity cost behaviour on a monthly basis	0%	0%	25%	75%	4
13.2	Scrutinize variances between budget and actual costs	0%	0%	25%	75%	4
13.3	Analyse under budget expenses	0%	0%	50%	50%	4
13.4	Analyse costs which were budgeted for, but not spent	0%	0%	50%	50%	4

Table 4.14 (continued)

Section C - Analyse the understanding of financial matters relating to value-based management						
		Strongly disagree	**Disagree**	**Agree**	**Strongly agree**	**Total Participants**
14.1	A request for any expenditure exceeding R1,000.00 must be motivated in writing	20%	20%	60%	0%	5
14.2	Accounts receivable outstanding for 60 days should not be followed up	60%	20%	20%	0%	5
14.3	The Dollar/Rand exchange rate does not influence your company's cash flow	80%	0%	20%	0%	5
15.1	invest in self-generating electricity equipment	0%	33%	67%	0%	6
15.2	consider diversification in different products	0%	17%	33%	50%	6
15.3	continue with its current process	0%	0%	100%	0%	6

Respondents were given the option to ignore section C where they were unfamiliar with the terms and/statements made. Although the results indicate that there are employees who are unfamiliar with the terms and statements made, most of the employees on senior and line management in the mining and beneficiation plant departments indicated that they understand financial matters relating to value-based management.

Table 4.15: Section C - Senior and Line Management (D and E Levels) - Supporting Services (Admin, HR, SHEQ, Marketing)

Section C - Analyse the understanding of financial matters relating to value-based management						
		Not important	**Slightly important**	**Important**	**Vital**	**Total Participants**
10.1	Fixed Asset Management	0%	8%	54%	38%	13
10.2	Management of the company's finished product	0%	8%	38%	54%	13
10.3	Operating profit Management	0%	0%	69%	31%	13
10.4	Net profit Management	0%	8%	46%	46%	13
10.5	Cost Management	0%	0%	31%	69%	13
11.1	Assets purchased must be fit for the purpose it is bought	0%	0%	62%	38%	13
11.2	Fixed Assets are utilized to obtain the minimum use over the asset's lifetime	50%	33%	17%	0%	12
11.3	Fixed Assets are utilized to obtain the optimum usage over the asset's lifetime	0%	0%	33%	67%	12
11.4	Amortization of assets must be aligned with its useful life period.	0%	0%	70%	30%	10
12.1	Maximise sales volumes	0%	0%	45%	55%	11
12.2	Control cost of sales	0%	0%	50%	50%	12
12.3	Control cost of sales without effecting quality of the product	0%	0%	33%	67%	12
12.4	Increase sales prices	8%	33%	50%	8%	12
12.5	Control electricity cost	0%	8%	33%	58%	12
13.1	Analysing electricity cost behaviour on a monthly basis	0%	0%	33%	67%	12
13.2	Scrutinize variances between budget and actual costs	0%	8%	58%	33%	12
13.3	Analyse under budget expenses	8%	8%	67%	17%	12
13.4	Analyse costs which were budgeted for, but not spent	8%	0%	75%	17%	12

Table 4.15 (continued)

Section C - Analyse the understanding of financial matters relating to value-based management						
		Strongly disagree	**Disagree**	**Agree**	**Strongly agree**	**Total Participants**
14.1	A request for any expenditure exceeding R1,000.00 must be motivated in writing	0%	50%	33%	17%	12
14.2	Accounts receivable outstanding for 60 days should not be followed up	75%	17%	8%	0%	12
14.3	The Dollar/Rand exchange rate does not influence your company's cash flow	83%	17%	0%	0%	12
15.1	invest in self-generating electricity equipment	0%	8%	62%	31%	13
15.2	consider diversification in different products	0%	8%	54%	38%	13
15.3	continue with its current process	0%	23%	62%	15%	13

Respondents were given the option to ignore section C where they were unfamiliar with the terms and/statements made. The results indicate there are some employees who are unfamiliar with the terms and statements made. Nevertheless, most of the employees on senior and line management in the supporting services departments indicated that they understand financial matters relating to value-based management.

Table 4.16: Section C - Other (B & C Levels) - Furnaces, Pellet and Sinter, Engineering Department

Section C - Analyse the understanding of financial matters relating to value-based management						
		Not important	**Slightly important**	**Important**	**Vital**	
10.1	Fixed Asset Management	0%	0%	42%	58%	12
10.2	Management of the company's finished product	0%	0%	42%	58%	12
10.3	Operating profit Management	0%	0%	75%	25%	12
10.4	Net profit Management	0%	0%	50%	50%	12
10.5	Cost Management	0%	0%	0%	100%	11
11.1	Assets purchased must be fit for the purpose it is bought	0%	0%	64%	36%	11
11.2	Fixed Assets are utilized to obtain the minimum use over the asset's lifetime	36%	9%	27%	27%	11
11.3	Fixed Assets are utilized to obtain the optimum usage over the asset's lifetime	0%	0%	18%	82%	11
11.4	Amortization of assets must be aligned with its useful life period.	0%	0%	55%	45%	11
12.1	Maximise sales volumes	0%	0%	42%	58%	12
12.2	Control cost of sales	0%	0%	25%	75%	12
12.3	Control cost of sales without effecting quality of the product	0%	0%	17%	83%	12
12.4	Increase sales prices	0%	33%	25%	42%	12
12.5	Control electricity cost	0%	0%	50%	50%	12
13.1	Analysing electricity cost behaviour on a monthly basis	0%	0%	17%	83%	12
13.2	Scrutinize variances between budget and actual costs	0%	8%	8%	83%	12
13.3	Analyse under budget expenses	0%	8%	17%	75%	12
13.4	Analyse costs which were budgeted for, but not spent	0%	0%	42%	58%	12

Table 4.16 (continued)

Section C - Analyse the understanding of financial matters relating to value-based management						
		Strongly disagree	**Disagree**	**Agree**	**Strongly agree**	
14.1	A request for any expenditure exceeding R1,000.00 must be motivated in writing	0%	25%	67%	8%	12
14.2	Accounts receivable outstanding for 60 days should not be followed up	42%	17%	17%	25%	12
14.3	The Dollar/Rand exchange rate does not influence your company's cash flow	58%	17%	8%	17%	12
15.1	invest in self-generating electricity equipment	0%	0%	5%	95%	20
15.2	consider diversification in different products	5%	0%	30%	65%	20
15.3	continue with its current process	0%	25%	30%	45%	20

Respondents were given the option to ignore section C where they were unfamiliar with the terms and/statements made. The results indicate there are employees who are unfamiliar with the terms and statements made. More than 50% of the employees on B and C position levels in the furnaces, pellet and sinter and engineering departments indicated that they understand financial matters relating to value-based management.

Table 4.17: Section C - Other (B & C Levels) – Mining and Beneficiation Plant Department

Section C - Analyse the understanding of financial matters relating to value-based management						
		Not important	**Slightly important**	**Important**	**Vital**	**Total Participants**
10.1	Fixed Asset Management	7%	0%	71%	21%	14
10.2	Management of the company's finished product	0%	0%	36%	64%	14
10.3	Operating profit Management	0%	7%	43%	50%	14
10.4	Net profit Management	0%	7%	43%	50%	14
10.5	Cost Management	7%	0%	21%	71%	14
11.1	Assets purchased must be fit for the purpose it is bought	0%	7%	43%	50%	14
11.2	Fixed Assets are utilized to obtain the minimum use over the asset's lifetime	79%	0%	21%	0%	14
11.3	Fixed Assets are utilized to obtain the optimum usage over the asset's lifetime	7%	0%	36%	57%	14
11.4	Amortization of assets must be aligned with its useful life period.	0%	0%	71%	29%	14
12.1	Maximise sales volumes	0%	0%	50%	50%	14
12.2	Control cost of sales	0%	7%	29%	64%	14
12.3	Control cost of sales without effecting quality of the product	0%	0%	21%	79%	14
12.4	Increase sales prices	7%	14%	64%	14%	14
12.5	Control electricity cost	0%	7%	21%	71%	14
13.1	Analysing electricity cost behaviour on a monthly basis	7%	0%	40%	53%	15
13.2	Scrutinize variances between budget and actual costs	0%	0%	53%	47%	15
13.3	Analyse under budget expenses	0%	33%	60%	7%	15
13.4	Analyse costs which were budgeted for, but not spent	13%	47%	33%	7%	15

Table 4.17 (continued)

Section C - Analyse the understanding of financial matters relating to value-based management						
		Strongly disagree	**Disagree**	**Agree**	**Strongly agree**	**Total Participants**
14.1	A request for any expenditure exceeding R1,000.00 must be motivated in writing	0%	19%	69%	13%	16
14.2	Accounts receivable outstanding for 60 days should not be followed up	75%	19%	6%	0%	16
14.3	The Dollar/Rand exchange rate does not influence your company's cash flow	56%	44%	0%	0%	16
15.1	invest in self-generating electricity equipment	0%	0%	50%	50%	18
15.2	consider diversification in different products	0%	11%	72%	17%	18
15.3	continue with its current process	0%	6%	89%	6%	18

Respondents were given the option to ignore section C where they were unfamiliar with the terms and/statements made. The results indicate there are some employees who are unfamiliar with the terms and statements made. More than 50% of the employees on B and C position levels in the mining and beneficiation plant departments indicated they understand financial matters relating to value-based management.

Table 4.18: Section C - Other (B & C Levels) - Supporting Services (Admin, HR, SHEQ, Marketing)

Section C - Analyse the understanding of financial matters relating to value-based management						
		Not important	**Slightly important**	**Important**	**Vital**	**Total Participants**
10.1	Fixed Asset Management	0%	0%	73%	27%	26
10.2	Management of the company's finished product	0%	4%	23%	73%	26
10.3	Operating profit Management	0%	0%	38%	62%	26
10.4	Net profit Management	0%	4%	23%	73%	26
10.5	Cost Management	0%	0%	30%	70%	27
11.1	Assets purchased must be fit for the purpose it is bought	0%	4%	39%	57%	23
11.2	Fixed Assets are utilized to obtain the minimum use over the asset's lifetime	29%	19%	33%	19%	21
11.3	Fixed Assets are utilized to obtain the optimum usage over the asset's lifetime	0%	4%	42%	54%	24
11.4	Amortization of assets must be aligned with its useful life period.	0%	5%	64%	32%	22
12.1	Maximise sales volumes	0%	4%	61%	35%	23
12.2	Control cost of sales	0%	0%	61%	39%	23
12.3	Control cost of sales without effecting quality of the product	0%	0%	35%	65%	23
12.4	Increase sales prices	0%	36%	45%	18%	22
12.5	Control electricity cost	0%	9%	39%	52%	23
13.1	Analysing electricity cost behaviour on a monthly basis	0%	4%	42%	54%	26
13.2	Scrutinize variances between budget and actual costs	0%	4%	52%	44%	27
13.3	Analyse under budget expenses	0%	12%	62%	27%	26
13.4	Analyse costs which were budgeted for, but not spent	4%	12%	62%	23%	26

Table 4.18 (continued)

Section C - Analyse the understanding of financial matters relating to value-based management						
		Strongly disagree	**Disagree**	**Agree**	**Strongly agree**	**Total Participants**
14.1	A request for any expenditure exceeding R1,000.00 must be motivated in writing	3%	30%	50%	17%	30
14.2	Accounts receivable outstanding for 60 days should not be followed up	66%	21%	14%	0%	29
14.3	The Dollar/Rand exchange rate does not influence your company's cash flow	69%	14%	3%	14%	29
15.1	invest in self-generating electricity equipment	0%	6%	45%	48%	31
15.2	consider diversification in different products	0%	24%	55%	21%	29
15.3	continue with its current process	7%	31%	45%	17%	29

Respondents were given the option to ignore section C where they were unfamiliar with the terms and/statements made. The results indicated there are employees who are unfamiliar with the terms and statements made. More than 60% of the employees on B and C position levels in the supporting services departments indicated that they understand financial matters relating to value-based management.

4.4.4 Frequency results on Section D

Section D attempts to test participant's awareness of the current electricity situation affecting the selected Company. Results for all different levels and then for the departments are summarized in the tables below.

4.4.4.1 Position levels

Table 4.19: Section D - Results for the position levels.

Section D - Test the individual's awareness of the current electricity situation affecting the company they are employed by						
		Not aware at all	**Somewhat aware**	**Fairly aware**	**Totally aware**	**Total Participants**
16.1	Are you aware of the electricity shortages in South Africa?	0%	2%	19%	79%	107
16.2	Are you aware of the electricity tariff increases in South Africa?	1%	0%	21%	78%	107
16.3	Do you believe Eskom's electricity tariff increases will affect the company you are working for?	2%	2%	10%	86%	107
		Devastating impact	**Huge impact**	**Slight impact**	**No impact**	**Total Participants**
17.1	Concerning monthly expenditures	20%	63%	17%	0%	107
17.2	Concerning your relationship with your family	3%	14%	41%	43%	107
17.3	Concerning your quality of living	5%	32%	48%	15%	107
17.4	Concerning your social life	4%	17%	43%	36%	107
18.1	Concerning assertiveness to electricity usage at work	22%	53%	22%	4%	106
18.2	View on assistance on cost saving initiatives	15%	63%	21%	2%	107
18.3	Enthusiasm to go to work	7%	17%	31%	45%	105
19.1	Cost of production	43%	53%	3%	1%	106
19.2	Appointment of new employees	9%	41%	39%	10%	107
19.3	Affect on the development of employees' skills	7%	43%	40%	10%	106
19.4	The company's strategy towards electricity usage	26%	64%	8%	2%	107
19.5	The company's strategy towards cost saving	30%	64%	6%	0%	107

Majority of the respondents indicated they are aware of the current electricity situation, and even though it does not have a significant effect on their personal lives, it does have an effect on the company's operations and value-based management implementation.

4.4.4.2 Departments

Table 4.20: Section D - Head Office and Executive Participants (E and F Levels) - Head Office and Key Management Personnel.

Section D - Test the individual's awareness of the current electricity situation affecting the company they are employed by						
		Not aware at all	**Somewhat aware**	**Fairly aware**	**Totally aware**	**Total Participants**
16.1	Are you aware of the electricity shortages in South Africa?	0%	0%	0%	100%	6
16.2	Are you aware of the electricity tariff increases in South Africa?	0%	0%	0%	100%	6
16.3	Do you believe Eskom's electricity tariff increases will affect the company you are working for?	0%	0%	0%	100%	6
		Devastating impact	**Huge impact**	**Slight impact**	**No impact**	**Total Participants**
17.1	Concerning monthly expenditures	33%	33%	33%	0%	6
17.2	Concerning your relationship with your family	0%	0%	67%	33%	6
17.3	Concerning your quality of living	0%	17%	83%	0%	6
17.4	Concerning your social life	17%	67%	17%	0%	6
18.1	Concerning assertiveness to electricity usage at work	50%	33%	17%	0%	6
18.2	View on assistance on cost saving initiatives	50%	33%	17%	0%	6
18.3	Enthusiasm to go to work	17%	33%	17%	33%	6
19.1	Cost of production	83%	17%	0%	0%	6
19.2	Appointment of new employees	50%	17%	33%	0%	6
19.3	Affect on the development of employees' skills	0%	83%	17%	0%	6
19.4	The company's strategy towards electricity usage	50%	50%	0%	0%	6
19.5	The company's strategy towards cost saving	50%	50%	0%	0%	6

All of the respondents in the head office and executive departments indicated they are aware of the current electricity situation, and even though it does not significantly affect their personal lives, it does have an effect on the company's operations and value-based management implementation.

Table 4.21: Section D - Senior and Line Management (D and E Levels) - Furnaces, Pellet and Sinter, Engineering Department.

Section D - Test the individual's awareness of the current electricity situation affecting the company they are employed by						
		Not aware at all	**Somewhat aware**	**Fairly aware**	**Totally aware**	**Total Participants**
16.1	Are you aware of the electricity shortages in South Africa?	0%	15%	85%	0%	13
16.2	Are you aware of the electricity tariff increases in South Africa?	0%	0%	23%	77%	13
16.3	Do you believe Eskom's electricity tariff increases will affect the company you are working for?	0%	0%	8%	92%	13
		Devastating impact	**Huge impact**	**Slight impact**	**No impact**	**Total Participants**
17.1	Concerning monthly expenditures	46%	38%	15%	0%	13
17.2	Concerning your relationship with your family	8%	8%	8%	77%	13
17.3	Concerning your quality of living	8%	8%	46%	38%	13
17.4	Concerning your social life	8%	8%	46%	38%	13
18.1	Concerning assertiveness to electricity usage at work	54%	23%	23%	0%	13
18.2	View on assistance on cost saving initiatives	54%	23%	23%	0%	13
18.3	Enthusiasm to go to work	8%	8%	15%	69%	13
19.1	Cost of production	69%	31%	0%	0%	13
19.2	Appointment of new employees	0%	69%	23%	8%	13
19.3	Affect on the development of employees' skills	0%	69%	23%	8%	13
19.4	The company's strategy towards electricity usage	54%	38%	8%	0%	13
19.5	The company's strategy towards cost saving	46%	54%	0%	0%	13

The majority of the respondents in the senior and line management positions of the furnaces, pellet and sinter and engineering departments indicated they are aware of the current electricity situation, and even though it does not have a significant effect on their personal lives, it does have an effect on the company's operations and value-based management implementation.

Table 4.22: Section D - Senior and Line Management (D and E Levels) - Mining and Beneficiation Plant Department.

Section D - Test the individual's awareness of the current electricity situation affecting the company they are employed by						
		Not aware at all	**Somewhat aware**	**Fairly aware**	**Totally aware**	**Total Participants**
16.1	Are you aware of the electricity shortages in South Africa?	0%	0%	33%	67%	6
16.2	Are you aware of the electricity tariff increases in South Africa?	0%	0%	33%	67%	6
16.3	Do you believe Eskom's electricity tariff increases will affect the company you are working for?	0%	0%	17%	83%	6
		Devastating impact	**Huge impact**	**Slight impact**	**No impact**	**Total Participants**
17.1	Concerning monthly expenditures	33%	50%	17%	0%	6
17.2	Concerning your relationship with your family	17%	33%	50%	0%	6
17.3	Concerning your quality of living	17%	33%	50%	0%	6
17.4	Concerning your social life	0%	50%	33%	17%	6
18.1	Concerning assertiveness to electricity usage at work	17%	50%	33%	0%	6
18.2	View on assistance on cost saving initiatives	17%	50%	33%	0%	6
18.3	Enthusiasm to go to work	17%	17%	17%	50%	6
19.1	Cost of production	33%	50%	17%	0%	6
19.2	Appointment of new employees	33%	17%	50%	0%	6
19.3	Affect on the development of employees' skills	33%	33%	33%	0%	6
19.4	The company's strategy towards electricity usage	17%	67%	17%	0%	6
19.5	The company's strategy towards cost saving	17%	67%	17%	0%	6

The majority of the respondents in the senior and line management positions of the mining and beneficiation departments indicated they are aware of the current electricity situation, and even though it does not significantly affect their personal lives, it does have an effect on the company's operations and value-based management implementation.

Table 4.23: Section D - Senior and Line Management (D and E Levels) - Supporting Services (Admin, HR, SHEQ, Marketing).

Section D - Test the individual's awareness of the current electricity situation affecting the company they are employed by						
		Not aware at all	**Somewhat aware**	**Fairly aware**	**Totally aware**	**Total Participants**
16.1	Are you aware of the electricity shortages in South Africa?	0%	0%	8%	92%	13
16.2	Are you aware of the electricity tariff increases in South Africa?	0%	0%	15%	85%	13
16.3	Do you believe Eskom's electricity tariff increases will affect the company you are working for?	0%	0%	8%	92%	13
		Devastating impact	**Huge impact**	**Slight impact**	**No impact**	**Total Participants**
17.1	Concerning monthly expenditures	0%	85%	15%	0%	13
17.2	Concerning your relationship with your family	0%	23%	46%	31%	13
17.3	Concerning your quality of living	15%	23%	54%	8%	13
17.4	Concerning your social life	8%	23%	31%	38%	13
18.1	Concerning assertiveness to electricity usage at work	25%	58%	8%	8%	12
18.2	View on assistance on cost saving initiatives	8%	83%	8%	0%	12
18.3	Enthusiasm to go to work	8%	17%	17%	58%	12
19.1	Cost of production	42%	50%	8%	0%	12
19.2	Appointment of new employees	8%	17%	67%	8%	12
19.3	Affect on the development of employees' skills	0%	36%	55%	9%	11
19.4	The company's strategy towards electricity usage	8%	92%	0%	0%	12
19.5	The company's strategy towards cost saving	17%	83%	0%	0%	12

The majority of the respondents in the senior and line management positions of the supporting services departments indicated that they are aware of the current electricity situation, and even though it does not have a significant effect on their personal lives, it does have an effect on the company’s operations and value-based management implementation.

Table 4.24: Section D - Other (B & C Levels) - Furnaces, Pellet and Sinter, Engineering Department.

Section D - Test the individual's awareness of the current electricity situation affecting the company they are employed by						
		Not aware at all	**Somewhat aware**	**Fairly aware**	**Totally aware**	
16.1	Are you aware of the electricity shortages in South Africa?	0%	0%	15%	85%	20
16.2	Are you aware of the electricity tariff increases in South Africa?	0%	0%	15%	85%	20
16.3	Do you believe Eskom's electricity tariff increases will affect the company you are working for?	0%	5%	0%	95%	20
		Devastating impact	**Huge impact**	**Slight impact**	**No impact**	
17.1	Concerning monthly expenditures	10%	55%	35%	0%	20
17.2	Concerning your relationship with your family	0%	5%	55%	40%	20
17.3	Concerning your quality of living	0%	20%	60%	20%	20
17.4	Concerning your social life	0%	5%	55%	40%	20
18.1	Concerning assertiveness to electricity usage at work	10%	75%	10%	5%	20
18.2	View on assistance on cost saving initiatives	10%	70%	15%	5%	20
18.3	Enthusiasm to go to work	5%	5%	55%	35%	20
19.1	Cost of production	5%	95%	0%	0%	20
19.2	Appointment of new employees	0%	30%	65%	5%	20
19.3	Affect on the development of employees' skills	5%	10%	65%	20%	20
19.4	The company's strategy towards electricity usage	5%	95%	0%	0%	20
19.5	The company's strategy towards cost saving	15%	85%	0%	0%	20

The majority of the respondents in lower positions of the furnaces, pellet and sinter and engineering departments indicated they are aware of the current electricity situation, and even though it does not have a significant effect on their personal lives, it does have an effect on the company’s operations and value-based management implementation.

Table 4.25: Section D - Other (B & C Levels) - Mining and Beneficiation Plant Department.

Section D - Test the individual's awareness of the current electricity situation affecting the company they are employed by						
		Not aware at all	**Somewhat aware**	**Fairly aware**	**Totally aware**	**Total Participants**
16.1	Are you aware of the electricity shortages in South Africa?	0%	6%	39%	56%	18
16.2	Are you aware of the electricity tariff increases in South Africa?	0%	0%	33%	67%	18
16.3	Do you believe Eskom's electricity tariff increases will affect the company you are working for?	6%	0%	17%	78%	18
		Devastating impact	**Huge impact**	**Slight impact**	**No impact**	**Total Participants**
17.1	Concerning monthly expenditures	33%	61%	6%	0%	18
17.2	Concerning your relationship with your family	0%	11%	39%	50%	18
17.3	Concerning your quality of living	0%	22%	61%	17%	18
17.4	Concerning your social life	0%	6%	24%	71%	17
18.1	Concerning assertiveness to electricity usage at work	18%	59%	18%	6%	17
18.2	View on assistance on cost saving initiatives	6%	76%	18%	0%	17
18.3	Enthusiasm to go to work	0%	24%	24%	53%	17
19.1	Cost of production	61%	39%	0%	0%	18
19.2	Appointment of new employees	6%	72%	22%	0%	18
19.3	Affect on the development of employees' skills	6%	67%	17%	11%	18
19.4	The company's strategy towards electricity usage	28%	61%	6%	6%	18
19.5	The company's strategy towards cost saving	33%	61%	6%	0%	18

The majority of the respondents in lower positions of the mining and beneficiation departments indicated they are aware of the current electricity situation, and even though it does not significantly affect their personal lives, it does have an effect on the company’s operations and value-based management implementation.

Table 4.26: Section D - Other (B & C Levels) - Supporting Services (Admin, HR, SHEQ, Marketing).

Section D - Test the individual's awareness of the current electricity situation affecting the company they are employed by						
		Not aware at all	**Somewhat aware**	**Fairly aware**	**Totally aware**	**Total Participants**
16.1	Are you aware of the electricity shortages in South Africa?	0%	3%	17%	80%	30
16.2	Are you aware of the electricity tariff increases in South Africa?	3%	0%	20%	77%	30
16.3	Do you believe Eskom's electricity tariff increases will affect the company you are working for?	3%	0%	16%	81%	31
		Devastating impact	**Huge impact**	**Slight impact**	**No impact**	**Total Participants**
17.1	Concerning monthly expenditures	13%	77%	10%	0%	30
17.2	Concerning your relationship with your family	3%	17%	45%	34%	29
17.3	Concerning your quality of living	6%	61%	23%	10%	31
17.4	Concerning your social life	3%	28%	45%	24%	29
18.1	Concerning assertiveness to electricity usage at work	14%	45%	38%	3%	29
18.2	View on assistance on cost saving initiatives	3%	63%	30%	3%	30
18.3	Enthusiasm to go to work	7%	25%	32%	36%	28
19.1	Cost of production	45%	48%	3%	3%	29
19.2	Appointment of new employees	10%	38%	41%	10%	29
19.3	Affect on the development of employees' skills	7%	38%	45%	10%	29
19.4	The company's strategy towards electricity usage	32%	45%	19%	3%	31
19.5	The company's strategy towards cost saving	33%	50%	17%	0%	30

The majority of the respondents in lower positions of the supporting services departments indicated they are aware of the current electricity situation, and even though it does not have a significant effect on their personal lives, it does have an effect on the company’s operations and value-based management implementation.

4.4.5 Frequency results on Section E

Section E attempts to test the employees' view of successful implementation of value-based management concerning various aspects listed in the questionnaire. Results for all different levels and then for the departments are summarized in the tables below.

4.4.5.1 Position levels

Table 4.27: Section E - Results for the position levels in the company.

Section E - Test the employees' view of successful implementation of value-based management of the company concerning the below						
		Devastating impact	**Huge impact**	**Slight impact**	**No impact**	**Total Participants**
21.1	Production quantities	27%	59%	14%	0%	107
21.2	Quality of product	32%	53%	10%	5%	106
21.3	Raw Material utilization	20%	63%	11%	6%	105
21.4	Absentees of employees (AWOPS)	8%	45%	37%	9%	107
21.5	Electricity consumption	37%	55%	7%	2%	106
21.6	Machinery availability	19%	74%	7%	1%	106
21.7	Overtime hours worked	6%	51%	42%	2%	106
22.1	Tonnages sold	35%	48%	9%	8%	106
22.2	Cost of production per tonne	38%	46%	15%	1%	107
22.3	Electricity cost	32%	63%	5%	0%	105
22.4	Labour cost	12%	59%	28%	1%	105
22.5	Fixed Cost	12%	59%	27%	3%	104
22.6	Cash flow analysis	28%	49%	21%	2%	103
22.7	Utilization of Fixed Assets	16%	62%	20%	2%	103
22.8	Meeting budget requirements	23%	62%	15%	0%	106
22.9	Community and Social Development Programs	6%	29%	58%	7%	106
22.10	Involvement of all employees in Strategic planning	5%	39%	47%	9%	106

Table 4.27 (continued)

Section E - Test the employees' view of successful implementation of value-based management of the company concerning the below						
		Not important	**Slightly important**	**Important**	**Vital**	**Total Participants**
23.1	Minimization of waste product will lower cost of production.	5%	10%	61%	24%	103
23.2	Systematic inspection electricity consumption will lower the cost of production.	0%	11%	57%	32%	103
23.3	Monitoring waste management is unnecessary	29%	27%	27%	17%	100
23.4	Maintenance shutdowns must be scheduled during summer period when electricity tariffs are lower	59%	12%	13%	16%	101
23.5	Maintenance shutdowns must be scheduled during winter period when electricity tariffs are higher	10%	5%	18%	67%	103
		Not achieving	**Achieves somewhat**	**Achieves mostly**	**Outstanding achievement**	**Total Participants**
24.1	Initiatives of cost saving exercises	5%	25%	61%	10%	104
24.2	Restriction of communication to the Board of Directors	30%	30%	38%	3%	104
24.3	Communication are limited to the Board of Directors and Senior Management	20%	42%	32%	6%	103
24.4	Communication are limited to the Board of Directors, Senior Management Line Management	20%	40%	37%	3%	100
24.5	Encourage communication from Board level to the employees in general	17%	38%	35%	10%	103
24.6	Encourage communication-session involving line-management and employees to participate in discussions.	17%	38%	35%	10%	102

Table 4.27 (continued)

Section E - Test the employees' view of successful implementation of value-based management of the company concerning the below						
		Strongly disagree	**Disagree**	**Agree**	**Strongly agree**	**Total Participants**
25.1	Only the members of the Board of Directors	44%	37%	13%	6%	106
25.2	Only the Senior Management Team	41%	41%	11%	7%	105
25.3	Only the Senior- and Line Management Team	38%	42%	11%	9%	104
25.4	Only the Line Management- and Production Team	40%	42%	10%	9%	103
25.5	Every individual, employed by the company	0%	3%	16%	81%	107

Generally the respondents are of opinion that managing the above items will have an effect on successful implementation of VBM.

4.4.5.2 Departments

Table 4.28: Section E - Head Office and Executive Participants (E and F Levels) - Head Office and Key Management Personnel.

Section E - Test the employees' view of successful implementation of value-based management of the company concerning the below						
		Devastating impact	**Huge impact**	**Slight impact**	**No impact**	**Total Participants**
21.1	Production quantities	67%	33%	0%	0%	6
21.2	Quality of product	33%	67%	0%	0%	6
21.3	Raw Material utilization	50%	50%	0%	0%	6
21.4	Absentees of employees (AWOPS)	17%	50%	33%	0%	6
21.5	Electricity consumption	67%	33%	0%	0%	6
21.6	Machinery availability	33%	67%	0%	0%	6
21.7	Overtime hours worked	17%	50%	33%	0%	6
22.1	Tonnages sold	100%	0%	0%	0%	4
22.2	Cost of production per tonne	83%	17%	0%	0%	6
22.3	Electricity cost	83%	17%	0%	0%	6
22.4	Labour cost	17%	83%	0%	0%	6
22.5	Fixed Cost	17%	83%	0%	0%	6
22.6	Cash flow analysis	83%	17%	0%	0%	6
22.7	Utilization of Fixed Assets	33%	50%	17%	0%	6
22.8	Meeting budget requirements	67%	33%	0%	0%	6
22.9	Community and Social Development Programs	0%	100%	0%	0%	6
22.10	Involvement of all employees in Strategic planning	0%	33%	67%	0%	6

Table 4.28 (continued)

Section E - Test the employees' view of successful implementation of value-based management of the company concerning the below						
		Not important	**Slightly important**	**Important**	**Vital**	**Total Participants**
23.1	Minimization of waste product will lower cost of production.	0%	0%	40%	60%	5
23.2	Systematic inspection electricity consumption will lower the cost of production.	0%	0%	40%	60%	5
23.3	Monitoring waste management is unnecessary	25%	25%	50%	0%	4
23.4	Maintenance shutdowns must be scheduled during summer period when electricity tariffs are lower	100%	0%	0%	0%	4
23.5	Maintenance shutdowns must be scheduled during winter period when electricity tariffs are higher	0%	0%	0%	100%	5
		Not achieving	**Achieves somewhat**	**Achieves mostly**	**Outstanding achievement**	**Total Participants**
24.1	Initiatives of cost saving exercises	0%	0%	100%	0%	6
24.2	Restriction of communication to the Board of Directors	83%	17%	0%	0%	6
24.3	Communication are limited to the Board of Directors and Senior Management	33%	33%	33%	0%	6
24.4	Communication are limited to the Board of Directors, Senior Management Line Management	33%	33%	33%	0%	6
24.5	Encourage communication from Board level to the employees in general	0%	17%	67%	17%	6
24.6	Encourage communication-session involving line-management and employees to participate in discussions.	0%	17%	67%	17%	6

Table 4.28 (continued)

Section E - Test the employees' view of successful implementation of value-based management of the company concerning the below						
		Strongly disagree	**Disagree**	**Agree**	**Strongly agree**	**Total Participants**
25.1	Only the members of the Board of Directors	50%	50%	0%	0%	6
25.2	Only the Senior Management Team	50%	50%	0%	0%	6
25.3	Only the Senior- and Line Management Team	50%	50%	0%	0%	6
25.4	Only the Line Management- and Production Team	50%	50%	0%	0%	6
25.5	Every individual, employed by the company	0%	0%	0%	100%	6

Generally the respondents in decision-making positions are of opinion that managing the above items will have an effect on successful implementation of value-based management.

Table 4.29: Section E - Senior and Line Management (D and E Levels) - Furnaces, Pellet and Sinter, Engineering Department.

Section E - Test the employees' view of successful implementation of value-based management of the company concerning the below						
		Devastating impact	**Huge impact**	**Slight impact**	**No impact**	**Total Participants**
21.1	Production quantities	23%	69%	8%	0%	13
21.2	Quality of product	31%	62%	8%	0%	13
21.3	Raw Material utilization	23%	69%	8%	0%	13
21.4	Absentees of employees (AWOPS)	0%	46%	54%	0%	13
21.5	Electricity consumption	23%	69%	8%	0%	13
21.6	Machinery availability	15%	77%	8%	0%	13
21.7	Overtime hours worked	0%	69%	31%	0%	13
22.1	Tonnages sold	23%	62%	15%	0%	13
22.2	Cost of production per tonne	46%	38%	15%	0%	13
22.3	Electricity cost	42%	58%	0%	0%	12
22.4	Labour cost	23%	54%	23%	0%	13
22.5	Fixed Cost	23%	46%	23%	8%	13
22.6	Cash flow analysis	33%	58%	8%	0%	12
22.7	Utilization of Fixed Assets	23%	54%	15%	8%	13
22.8	Meeting budget requirements	23%	62%	15%	0%	13
22.9	Community and Social Development Programs	8%	23%	54%	15%	13
22.10	Involvement of all employees in Strategic planning	31%	54%	15%	0%	13

Table 4.29 (continued)

Section E - Test the employees' view of successful implementation of value-based management of the company concerning the below						
		Not important	**Slightly important**	**Important**	**Vital**	**Total Participants**
23.1	Minimization of waste product will lower cost of production.	0%	15%	69%	15%	13
23.2	Systematic inspection electricity consumption will lower the cost of production.	0%	23%	54%	23%	13
23.3	Monitoring waste management is unnecessary	31%	15%	38%	15%	13
23.4	Maintenance shutdowns must be scheduled during summer period when electricity tariffs are lower	77%	8%	15%	0%	13
23.5	Maintenance shutdowns must be scheduled during winter period when electricity tariffs are higher	0%	0%	23%	77%	13
		Not achieving	**Achieves somewhat**	**Achieves mostly**	**Outstanding achievement**	**Total Participants**
24.1	Initiatives of cost saving exercises	8%	62%	23%	8%	13
24.2	Restriction of communication to the Board of Directors	23%	54%	23%	0%	13
24.3	Communication are limited to the Board of Directors and Senior Management	15%	62%	23%	0%	13
24.4	Communication are limited to the Board of Directors, Senior Management Line Management	15%	46%	38%	0%	13
24.5	Encourage communication from Board level to the employees in general	8%	54%	31%	8%	13
24.6	Encourage communication-session involving line-management and employees to participate in discussions.	8%	46%	38%	8%	13

Table 4.29 (continued)

Section E - Test the employees' view of successful implementation of value-based management of the company concerning the below						
		Strongly disagree	**Disagree**	**Agree**	**Strongly agree**	**Total Participants**
25.1	Only the members of the Board of Directors	23%	54%	23%	0%	13
25.2	Only the Senior Management Team	23%	54%	15%	8%	13
25.3	Only the Senior- and Line Management Team	23%	54%	15%	8%	13
25.4	Only the Line Management- and Production Team	23%	62%	8%	8%	13
25.5	Every individual, employed by the company	0%	8%	23%	69%	13

Generally the respondents on senior and line management level, in the furnaces, pellet and sinter and engineering departments, are of opinion that managing the above items will have an effect on successful implementation of value-based management.

Table 4.30: Section E - Senior and Line Management (D and E Levels) - Mining and Beneficiation Plant Department

Section E - Test the employees' view of successful implementation of value-based management of the company concerning the below						
		Devastating impact	**Huge impact**	**Slight impact**	**No impact**	**Total Participants**
21.1	Production quantities	33%	50%	17%	0%	6
21.2	Quality of product	33%	67%	0%	0%	6
21.3	Raw Material utilization	17%	67%	17%	0%	6
21.4	Absentees of employees (AWOPS)	33%	50%	17%	0%	6
21.5	Electricity consumption	33%	67%	0%	0%	6
21.6	Machinery availability	33%	67%	0%	0%	6
21.7	Overtime hours worked	17%	67%	17%	0%	6
22.1	Tonnages sold	33%	67%	0%	0%	6
22.2	Cost of production per tonne	33%	67%	0%	0%	6
22.3	Electricity cost	33%	67%	0%	0%	6
22.4	Labour cost	17%	83%	0%	0%	6
22.5	Fixed Cost	33%	50%	17%	0%	6
22.6	Cash flow analysis	17%	50%	33%	0%	6
22.7	Utilization of Fixed Assets	17%	67%	17%	0%	6
22.8	Meeting budget requirements	33%	33%	33%	0%	6
22.9	Community and Social Development Programs	0%	67%	17%	17%	6
22.10	Involvement of all employees in Strategic planning	0%	50%	17%	33%	6

Table 4.30 (continued)

Section E - Test the employees' view of successful implementation of value-based management of the company concerning the below						
		Not important	**Slightly important**	**Important**	**Vital**	**Total Participants**
23.1	Minimization of waste product will lower cost of production.	0%	33%	33%	33%	6
23.2	Systematic inspection electricity consumption will lower the cost of production.	0%	33%	33%	33%	6
23.3	Monitoring waste management is unnecessary	17%	50%	33%	0%	6
23.4	Maintenance shutdowns must be scheduled during summer period when electricity tariffs are lower	50%	0%	17%	33%	6
23.5	Maintenance shutdowns must be scheduled during winter period when electricity tariffs are higher	33%	0%	17%	50%	6
		Not achieving	**Achieves somewhat**	**Achieves mostly**	**Outstanding achievement**	**Total Participants**
24.1	Initiatives of cost saving exercises	33%	17%	50%	0%	6
24.2	Restriction of communication to the Board of Directors	33%	0%	67%	0%	6
24.3	Communication are limited to the Board of Directors and Senior Management	0%	50%	33%	17%	6
24.4	Communication are limited to the Board of Directors, Senior Management Line Management	17%	33%	50%	0%	6
24.5	Encourage communication from Board level to the employees in general	33%	33%	33%	0%	6
24.6	Encourage communication-session involving line-management and employees to participate in discussions.	33%	0%	67%	0%	6

Table 4.30 (continued)

Section E - Test the employees' view of successful implementation of value-based management of the company concerning the below						
		Strongly disagree	**Disagree**	**Agree**	**Strongly agree**	**Total Participants**
25.1	Only the members of the Board of Directors	50%	17%	17%	17%	6
25.2	Only the Senior Management Team	33%	33%	33%	0%	6
25.3	Only the Senior- and Line Management Team	17%	50%	17%	17%	6
25.4	Only the Line Management- and Production Team	17%	50%	17%	17%	6
25.5	Every individual, employed by the company	0%	17%	0%	83%	6

Generally the respondents on senior and line management level, in the mining and beneficiation plant departments, are of opinion that managing the above items will have an effect on successful implementation of value-based management.

Table 4.31: Section E - Senior and Line Management (D and E Levels) - Supporting Services (Admin, HR, SHEQ, Marketing)

Section E - Test the employees' view of successful implementation of value-based management of the company concerning the below						
		Devastating impact	**Huge impact**	**Slight impact**	**No impact**	**Total Participants**
21.1	Production quantities	17%	75%	8%	0%	12
21.2	Quality of product	33%	58%	8%	0%	12
21.3	Raw Material utilization	8%	83%	8%	0%	12
21.4	Absentees of employees (AWOPS)	8%	25%	58%	8%	12
21.5	Electricity consumption	42%	50%	8%	0%	12
21.6	Machinery availability	17%	75%	0%	8%	12
21.7	Overtime hours worked	0%	50%	50%	0%	12
22.1	Tonnages sold	33%	58%	8%	0%	12
22.2	Cost of production per tonne	33%	67%	0%	0%	12
22.3	Electricity cost	17%	83%	0%	0%	12
22.4	Labour cost	8%	50%	33%	8%	12
22.5	Fixed Cost	0%	75%	25%	0%	12
22.6	Cash flow analysis	25%	67%	8%	0%	12
22.7	Utilization of Fixed Assets	0%	83%	17%	0%	12
22.8	Meeting budget requirements	33%	50%	17%	0%	12
22.9	Community and Social Development Programs	17%	8%	75%	0%	12
22.10	Involvement of all employees in Strategic planning	17%	33%	42%	8%	12

Table 4.31 (continued)

Section E - Test the employees' view of successful implementation of value-based management of the company concerning the below						
		Not important	**Slightly important**	**Important**	**Vital**	**Total Participants**
23.1	Minimization of waste product will lower cost of production.	17%	8%	75%	0%	12
23.2	Systematic inspection electricity consumption will lower the cost of production.	0%	25%	67%	8%	12
23.3	Monitoring waste management is unnecessary	36%	55%	9%	0%	11
23.4	Maintenance shutdowns must be scheduled during summer period when electricity tariffs are lower	75%	0%	17%	8%	12
23.5	Maintenance shutdowns must be scheduled during winter period when electricity tariffs are higher	17%	8%	17%	58%	12
		Not achieving	**Achieves somewhat**	**Achieves mostly**	**Outstanding achievement**	**Total Participants**
24.1	Initiatives of cost saving exercises	8%	42%	42%	8%	12
24.2	Restriction of communication to the Board of Directors	33%	17%	33%	17%	12
24.3	Communication are limited to the Board of Directors and Senior Management	17%	50%	33%	0%	12
24.4	Communication are limited to the Board of Directors, Senior Management Line Management	27%	18%	55%	0%	11
24.5	Encourage communication from Board level to the employees in general	45%	27%	18%	9%	11
24.6	Encourage communication-session involving line-management and employees to participate in discussions.	45%	27%	9%	18%	11

Table 4.31 (continued)

Section E - Test the employees' view of successful implementation of value-based management of the company concerning the below						
		Strongly disagree	**Disagree**	**Agree**	**Strongly agree**	**Total Participants**
25.1	Only the members of the Board of Directors	58%	25%	17%	0%	12
25.2	Only the Senior Management Team	50%	33%	17%	0%	12
25.3	Only the Senior- and Line Management Team	42%	33%	25%	0%	12
25.4	Only the Line Management- and Production Team	50%	25%	17%	8%	12
25.5	Every individual, employed by the company	0%	0%	25%	75%	12

Generally the respondents on senior and line management level in the supporting services departments are of opinion that managing the above items will have an effect on successful implementation of value-based management.

Table 4.32: Section E - Other (B & C Levels) - Furnaces, Pellet and Sinter, Engineering Department.

Section E - Test the employees' view of successful implementation of value-based management of the company concerning the below						
		Devastating impact	**Huge impact**	**Slight impact**	**No impact**	**Total Participants**
21.1	Production quantities	10%	50%	40%	0%	20
21.2	Quality of product	15%	40%	20%	25%	20
21.3	Raw Material utilization	10%	35%	25%	30%	20
21.4	Absentees of employees (AWOPS)	5%	20%	45%	30%	20
21.5	Electricity consumption	20%	65%	10%	5%	20
21.6	Machinery availability	10%	85%	5%	0%	20
21.7	Overtime hours worked	0%	30%	70%	0%	20
22.1	Tonnages sold	10%	35%	25%	30%	20
22.2	Cost of production per tonne	15%	30%	50%	5%	20
22.3	Electricity cost	10%	75%	15%	0%	20
22.4	Labour cost	0%	35%	65%	0%	20
22.5	Fixed Cost	0%	45%	50%	5%	20
22.6	Cash flow analysis	15%	35%	45%	5%	20
22.7	Utilization of Fixed Assets	10%	65%	25%	0%	20
22.8	Meeting budget requirements	11%	74%	16%	0%	19
22.9	Community and Social Development Programs	0%	10%	80%	10%	20
22.10	Involvement of all employees in Strategic planning	5%	20%	65%	10%	20

Table 4.32 (continued)

Section E - Test the employees' view of successful implementation of value-based management of the company concerning the below						
		Not important	**Slightly important**	**Important**	**Vital**	**Total Participants**
23.1	Minimization of waste product will lower cost of production.	0%	0%	45%	55%	20
23.2	Systematic inspection electricity consumption will lower the cost of production.	0%	0%	30%	70%	20
23.3	Monitoring waste management is unnecessary	20%	30%	20%	30%	20
23.4	Maintenance shutdowns must be scheduled during summer period when electricity tariffs are lower	25%	35%	10%	30%	20
23.5	Maintenance shutdowns must be scheduled during winter period when electricity tariffs are higher	10%	5%	15%	70%	20
		Not achieving	**Achieves somewhat**	**Achieves mostly**	**Outstanding achievement**	**Total Participants**
24.1	Initiatives of cost saving exercises	0%	11%	84%	5%	19
24.2	Restriction of communication to the Board of Directors	16%	42%	42%	0%	19
24.3	Communication are limited to the Board of Directors and Senior Management	26%	58%	16%	0%	19
24.4	Communication are limited to the Board of Directors, Senior Management Line Management	26%	58%	16%	0%	19
24.5	Encourage communication from Board level to the employees in general	11%	79%	5%	5%	19
24.6	Encourage communication-session involving line-management and employees to participate in discussions.	11%	74%	16%	0%	19

Table 4.32 (continued)

Section E - Test the employees' view of successful implementation of value-based management of the company concerning the below						
		Strongly disagree	**Disagree**	**Agree**	**Strongly agree**	**Total Participants**
25.1	Only the members of the Board of Directors	60%	15%	10%	15%	20
25.2	Only the Senior Management Team	55%	15%	10%	20%	20
25.3	Only the Senior- and Line Management Team	55%	15%	5%	25%	20
25.4	Only the Line Management- and Production Team	50%	20%	10%	20%	20
25.5	Every individual, employed by the company	0%	5%	10%	85%	20

Generally the respondents on lower position levels in the furnaces, pellet and sinter and engineering departments, are of opinion that managing the above items will have an effect on successful implementation of value-based management.

Table 4.33: Section E - Other (B & C Levels) – Mining and Beneficiation Plant Department.

Section E - Test the employees' view of successful implementation of value-based management of the company concerning the below						
		Devastating impact	**Huge impact**	**Slight impact**	**No impact**	**Total Participants**
21.1	Production quantities	39%	50%	11%	0%	18
21.2	Quality of product	39%	50%	11%	0%	18
21.3	Raw Material utilization	28%	56%	17%	0%	18
21.4	Absentees of employees (AWOPS)	0%	61%	39%	0%	18
21.5	Electricity consumption	39%	50%	6%	6%	18
21.6	Machinery availability	22%	67%	11%	0%	18
21.7	Overtime hours worked	6%	56%	33%	6%	18
22.1	Tonnages sold	50%	44%	6%	0%	18
22.2	Cost of production per tonne	44%	44%	11%	0%	18
22.3	Electricity cost	41%	53%	6%	0%	17
22.4	Labour cost	6%	67%	28%	0%	18
22.5	Fixed Cost	6%	65%	24%	6%	17
22.6	Cash flow analysis	18%	65%	18%	0%	17
22.7	Utilization of Fixed Assets	25%	56%	19%	0%	16
22.8	Meeting budget requirements	6%	83%	11%	0%	18
22.9	Community and Social Development Programs	0%	39%	61%	0%	18
22.10	Involvement of all employees in Strategic planning	0%	39%	56%	6%	18

Table 4.33 (continued)

Section E - Test the employees' view of successful implementation of value-based management of the company concerning the below						
		Not important	**Slightly important**	**Important**	**Vital**	**Total Participants**
23.1	Minimization of waste product will lower cost of production.	11%	83%	6%	0%	18
23.2	Systematic inspection electricity consumption will lower the cost of production.	0%	6%	72%	22%	18
23.3	Monitoring waste management is unnecessary	28%	22%	44%	6%	18
23.4	Maintenance shutdowns must be scheduled during summer period when electricity tariffs are lower	83%	0%	11%	6%	18
23.5	Maintenance shutdowns must be scheduled during winter period when electricity tariffs are higher	6%	0%	33%	61%	18
		Not achieving	**Achieves somewhat**	**Achieves mostly**	**Outstanding achievement**	**Total Participants**
24.1	Initiatives of cost saving exercises	0%	6%	88%	6%	16
24.2	Restriction of communication to the Board of Directors	11%	44%	44%	0%	18
24.3	Communication are limited to the Board of Directors and Senior Management	6%	39%	50%	6%	18
24.4	Communication are limited to the Board of Directors, Senior Management Line Management	6%	50%	44%	0%	18
24.5	Encourage communication from Board level to the employees in general	0%	33%	67%	0%	18
24.6	Encourage communication-session involving line-management and employees to participate in discussions.	0%	33%	61%	6%	18

Table 4.33 (continued)

Section E - Test the employees' view of successful implementation of value-based management of the company concerning the below						
		Strongly disagree	**Disagree**	**Agree**	**Strongly agree**	**Total Participants**
25.1	Only the members of the Board of Directors	33%	61%	0%	6%	18
25.2	Only the Senior Management Team	33%	67%	0%	0%	18
25.3	Only the Senior- and Line Management Team	35%	65%	0%	0%	17
25.4	Only the Line Management- and Production Team	39%	61%	0%	0%	18
25.5	Every individual, employed by the company	0%	0%	22%	78%	18

Generally the respondents on lower position levels in the mining and beneficiation plant departments are of opinion that managing the above items will have an effect on successful implementation of value-based managment.

Table 4.34: Section E - Other (B & C Levels) - Supporting Services (Admin, HR, SHEQ, Marketing).

Section E - Test the employees' view of successful implementation of value-based management of the company concerning the below						
		Devastating impact	**Huge impact**	**Slight impact**	**No impact**	**Total Participants**
21.1	Production quantities	30%	63%	7%	0%	30
21.2	Quality of product	41%	48%	10%	0%	29
21.3	Raw Material utilization	21%	75%	4%	0%	28
21.4	Absentees of employees (AWOPS)	10%	59%	28%	3%	29
21.5	Electricity consumption	48%	45%	7%	0%	29
21.6	Machinery availability	21%	69%	10%	0%	29
21.7	Overtime hours worked	10%	52%	38%	0%	29
22.1	Tonnages sold	43%	50%	7%	0%	28
22.2	Cost of production per tonne	45%	48%	7%	0%	29
22.3	Electricity cost	34%	62%	3%	0%	29
22.4	Labour cost	21%	68%	11%	0%	28
22.5	Fixed Cost	18%	57%	25%	0%	28
22.6	Cash flow analysis	33%	44%	19%	4%	27
22.7	Utilization of Fixed Assets	15%	59%	22%	4%	27
22.8	Meeting budget requirements	24%	62%	14%	0%	29
22.9	Community and Social Development Programs	11%	29%	54%	7%	28
22.10	Involvement of all employees in Strategic planning	7%	54%	36%	4%	28

Table 4.34 (continued)

Section E - Test the employees' view of successful implementation of value-based management of the company concerning the below						
		Not important	**Slightly important**	**Important**	**Vital**	**Total Participants**
23.1	Minimization of waste product will lower cost of production.	4%	15%	63%	19%	27
23.2	Systematic inspection electricity consumption will lower the cost of production.	0%	7%	70%	22%	27
23.3	Monitoring waste management is unnecessary	38%	15%	19%	27%	26
23.4	Maintenance shutdowns must be scheduled during summer period when electricity tariffs are lower	54%	12%	12%	23%	26
23.5	Maintenance shutdowns must be scheduled during winter period when electricity tariffs are higher	11%	7%	15%	67%	27
		Not achieving	**Achieves somewhat**	**Achieves mostly**	**Outstanding achievement**	**Total Participants**
24.1	Initiatives of cost saving exercises	3%	28%	55%	14%	29
24.2	Restriction of communication to the Board of Directors	43%	14%	43%	0%	28
24.3	Communication are limited to the Board of Directors and Senior Management	33%	19%	37%	11%	27
24.4	Communication are limited to the Board of Directors, Senior Management Line Management	24%	28%	40%	8%	25
24.5	Encourage communication from Board level to the employees in general	29%	14%	39%	18%	28
24.6	Encourage communication-session involving line-management and employees to participate in discussions.	26%	30%	30%	15%	27

Table 4.34 (continued)

Section E - Test the employees' view of successful implementation of value-based management of the company concerning the below						
		Strongly disagree	**Disagree**	**Agree**	**Strongly agree**	**Total Participants**
25.1	Only the members of the Board of Directors	41%	34%	21%	3%	29
25.2	Only the Senior Management Team	39%	39%	14%	7%	28
25.3	Only the Senior- and Line Management Team	36%	43%	14%	7%	28
25.4	Only the Line Management- and Production Team	38%	38%	15%	8%	26
25.5	Every individual, employed by the company	0%	0%	17%	83%	29

Generally the respondents on lower position levels in the supporting services departments are of opinion that managing the above items will have an effect on successful implementation of value-based management.

4.4.6 Frequency results on Section F

Section F intends to test the participants' attitudes towards enhancing the value-based management strategy management introduces. Results for all different levels and then for the departments are summarized in the tables below.

4.4.6.1 Position levels

Table 4.35: Section F - Results for the position levels in the company.

Section F - Intend to test the participant's attitude towards enhancing the value-based management strategy management enrols						
		Strongly disagree	Disagree	Agree	Strongly agree	Total Participants
26.1	My opinion can add value.	1%	4%	64%	32%	107
26.2	The effect of electricity price increases cannot be buffered.	20%	45%	25%	10%	104
26.3	I cannot avoid incidents relating to Safety, Environment and Quality	25%	58%	10%	7%	106
26.4	I can assist in optimum utilization of electricity	1%	5%	73%	21%	107
26.5	The company will never be able to lower operating costs.	31%	48%	21%	1%	107

Most of the respondents on all position levels have a positive attitude towards enhancing value-based management introduced by management strategies.

4.4.6.2 Departments

Table 4.36: Section F - Head Office and Executive Participants (E and F Levels) - Head Office and Key Management Personnel.

Section F - Intend to test the participant's attitude towards enhancing the value-based management strategy management enrols						
		Strongly disagree	**Disagree**	**Agree**	**Strongly agree**	**Total Participants**
26.1	My opinion can add value.	0%	0%	17%	83%	6
26.2	The effect of electricity price increases cannot be buffered.	67%	33%	0%	0%	6
26.3	I cannot avoid incidents relating to Safety, Environment and Quality	100%	0%	0%	0%	6
26.4	I can assist in optimum utilization of electricity	0%	0%	33%	67%	6
26.5	The company will never be able to lower operating costs.	67%	33%	0%	0%	6

Most of the respondents in high level positions have a positive attitude towards enhancing value-based management introduced by management strategies.

Table 4.37: Section F - Senior and Line Management (D and E Levels) - Furnaces, Pellet and Sinter, Engineering Department.

Section F - Intend to test the participant's attitude towards enhancing the value-based management strategy management enrols						
		Strongly disagree	**Disagree**	**Agree**	**Strongly agree**	**Total Participants**
26.1	My opinion can add value.	0%	0%	62%	38%	13
26.2	The effect of electricity price increases cannot be buffered.	8%	77%	8%	8%	13
26.3	I cannot avoid incidents relating to Safety, Environment and Quality	8%	54%	38%	0%	13
26.4	I can assist in optimum utilization of electricity	0%	0%	54%	46%	13
26.5	The company will never be able to lower operating costs.	38%	38%	23%	0%	13

Most of the respondents in high level positions employed in the furnaces, pellet and sinter and engineering departments have a positive attitude towards enhancing value-based management introduced by management strategies.

Table 4.38: Section F - Senior and Line Management (D and E Levels) - Mining and Beneficiation Plant Department.

Section F - Intend to test the participant's attitude towards enhancing the value-based management strategy management enrols						
		Strongly disagree	Disagree	Agree	Strongly agree	Total Participants
26.1	My opinion can add value.	0%	17%	67%	17%	6
26.2	The effect of electricity price increases cannot be buffered.	0%	33%	50%	17%	6
26.3	I cannot avoid incidents relating to Safety, Environment and Quality	17%	33%	17%	33%	6
26.4	I can assist in optimum utilization of electricity	0%	0%	67%	33%	6
26.5	The company will never be able to lower operating costs.	0%	83%	17%	0%	6

Most of the respondents in higher level positions employed in the mining and beneficiation plant departments have a positive attitude towards enhancing value-based management introduced by management strategies.

Table 4.39: Section F - Senior and Line Management (D and E Levels) - Supporting Services (Admin, HR, SHEQ, Marketing).

Section F - Intend to test the participant's attitude towards enhancing the value-based management strategy management enrols						
		Strongly disagree	**Disagree**	**Agree**	**Strongly agree**	**Total Participants**
26.1	My opinion can add value.	0%	0%	55%	45%	11
26.2	The effect of electricity price increases cannot be buffered.	0%	55%	36%	9%	11
26.3	I cannot avoid incidents relating to Safety, Environment and Quality	25%	67%	8%	0%	12
26.4	I can assist in optimum utilization of electricity	0%	8%	83%	8%	12
26.5	The company will never be able to lower operating costs.	58%	42%	0%	0%	12

Most of the respondents in higher level positions employed in the supporting services departments have a positive attitude towards enhancing value-based management introduced by management strategies.

Table 4.40: Section F - Other (B & C Levels) - Furnaces, Pellet and Sinter, Engineering Department.

Section F - Intend to test the participant's attitude towards enhancing the value-based management strategy management enrols						
		Strongly disagree	Disagree	Agree	Strongly agree	**Total Participants**
26.1	My opinion can add value.	0%	0%	90%	10%	20
26.2	The effect of electricity price increases cannot be buffered.	20%	30%	45%	5%	20
26.3	I cannot avoid incidents relating to Safety, Environment and Quality	25%	70%	5%	0%	20
26.4	I can assist in optimum utilization of electricity	0%	5%	90%	5%	20
26.5	The company will never be able to lower operating costs.	10%	45%	45%	0%	20

Most of the respondents in lower level positions employed in the furnaces, pellet and sinter and engineering departments have a positive attitude towards enhancing value-based management introduced by management strategies.

Table 4.41: Section F - Other (B & C Levels) - Mining and Beneficiation Plant Department.

Section F - Intend to test the participant's attitude towards enhancing the value-based management strategy management enrols						
		Strongly disagree	**Disagree**	**Agree**	**Strongly agree**	**Total Participants**
26.1	My opinion can add value.	0%	0%	72%	28%	18
26.2	The effect of electricity price increases cannot be buffered.	22%	67%	11%	0%	18
26.3	I cannot avoid incidents relating to Safety, Environment and Quality	11%	78%	6%	6%	18
26.4	I can assist in optimum utilization of electricity	0%	6%	83%	11%	18
26.5	The company will never be able to lower operating costs.	22%	44%	33%	0%	18

Majority of the respondents in lower level positions employed in the mining and beneficiation departments have a positive attitude towards enhancing value-based management introduced by management strategies.

Table 4.42: Section F - Other (B & C Levels) - Supporting Services (Admin, HR, SHEQ, Marketing).

Section F - Intend to test the participant's attitude towards enhancing the value-based management strategy management enrols						
		Strongly disagree	**Disagree**	**Agree**	**Strongly agree**	**Total Participants**
26.1	My opinion can add value.	3%	10%	55%	32%	31
26.2	The effect of electricity price increases cannot be buffered.	29%	29%	21%	21%	28
26.3	I cannot avoid incidents relating to Safety, Environment and Quality	28%	52%	7%	14%	29
26.4	I can assist in optimum utilization of electricity	3%	7%	70%	20%	30
26.5	The company will never be able to lower operating costs.	33%	53%	10%	3%	30

In general, most of the respondents in lower level positions employed in the supporting services departments have a positive attitude towards enhancing value-based management introduced by management strategies.

4.5 DEMOGRAPHIC DIFFERENCES IN THE EXPERIENCES OF THE VARIABLES

For this study, ANOVAS were used to determine if there were significant differences in the understanding, views and knowledge of value-based management, financial matters, awareness of the current electricity situation, view on successful value-based management implementation and attitude towards enhancing value-based management between the participants' responses. These ANOVAS were computed for both the different positions and departments within the selected company.

Cohen (1988) gives the following guidelines for the interpretation of the effect size of "d": practically significant differences are indicated as small where the effect, $d \leq 0.2$, medium where $d \geq 0.5$ or large where $d \geq 0.8$.

4.5.1 Anovas for position levels

Table 4.43: Anovas for the different position levels.

Factors	Mean	Std. Dev.	n	Comparisons significant at the 0.05 level*	d1 Head Office	d2 Snr & Line Management	d3 Other
Q 3: VBM in my opinion means	3.33	0.31	7	1-1,1-2,1-3	-	0.41	0.83
	3.13	0.47	32	2-1,2-2,2-3	0.41	-	0.28
	3	0.39	69	3-1,3-2,3-3	0.83	0.28	0
Q 4: VBM focuses on	3.46	0.34	7	1-1,1-2,1-3	-	0.76	1.01
	3.09	0.49	32	2-1,2-2,2-3	0.76	-	0.35
	2.9	0.56	69	3-1,3-2,3-3	1.01	0.35	-
Q 5: VBM is	3.26	0.34	7	1-1,1-2,1-3	-	0.31	0.52
	3.14	0.37	32	2-1,2-2,2-3	0.31	-	0.17
	3.08	0.26	69	3-1,3-2,3-3	0.52	0.17	-
Q 6: VBM centres around	3	0.69	7	1-1,1-2,1-3	-	0.11	0.11
	3.07	0.56	32	2-1,2-2,2-3	0.11	-	0.01
	3.08	0.42	69	3-1,3-2,3-3	0.11	0.01	-
Q 7: VBM entails	3.82	0.37	7	1-1,1-2,1-3	-	1.36	1.82
	3.26	0.41	32	2-1,2-2,2-3	1.36	-	0.29
	3.14	0.29	69	3-1,3-2,3-3	1.82	0.29	-
Q 8: Factors the company should consider to ensure sustainability	3.33	0.33	7	1-1,1-2,1-3	-	0.39	0.11
	3.49	0.4	32	2-1,2-2,2-3	0.39	-	0.21
	3.39	0.48	69	3-1,3-2,3-3	0.11	0.21	-
Q 9: Employees are also required to enforce sustainability	3.81	0.38	7	1-1,1-2,1-3	-	0.6	0.63
	3.52	0.48	32	2-1,2-2,2-3	0.6	-	0.07
	3.49	0.52	68	3-1,3-2,3-3	0.63	0.07	-
Q 10: Effective management relating to VBM	3.46	0.37	7	1-1,1-2,1-3	-	0.12	0.16
	3.42	0.35	29	2-1,2-2,2-3	0.12	-	0.26
	3.53	0.41	54	3-1,3-2,3-3	0.16	0.26	-
Q11: Effective management of Fixed Assets	3.81	0.38	7	1-1,1-2,1-3	-	0.76	0.87
	3.49	0.41	29	2-1,2-2,2-3	0.76	-	0.14
	3.43	0.43	50	3-1,3-2,3-3	0.87	0.14	-
Q 12: Importance of	3.49	0.36	7	1-1,1-2,1-3	-	0.18	0.14

Factors	Mean	Std. Dev.	n	Comparisons significant at the 0.05 level*	d1 Head Office	d2 Snr & Line Management	d3 Other
operating profit management in VBM	3.55	0.38	27	2-1,2-2,2-3	0.18	-	0.3
	3.43	0.41	51	3-1,3-2,3-3	0.14	0.3	-
Q 13: Importance of cost management in VBM	3.57	0.55	7	1-1,1-2,1-3	-	0.29	0.51
	3.41	0.48	28	2-1,2-2,2-3	0.29	-	0.24
	3.29	0.53	54	3-1,3-2,3-3	0.51	0.24	-
Q 14: Importance of cash flow management in VBM	3.52	0.26	7	1-1,1-2,1-3	-	0.57	0.49
	3.26	0.46	29	2-1,2-2,2-3	0.57	-	0.07
	3.22	0.63	58	3-1,3-2,3-3	0.49	0.07	-
Q 15: Future endeavours			7	1-1,1-2,1-3	-		
			32	2-1,2-2,2-3		-	
			69	3-1,3-2,3-3			-
Q 16: Degree of awareness	4	0	7	1-1,1-2,1-3	-	0.49	0.6
	3.84	0.32	32	2-1,2-2,2-3	0.49	-	0.23
	3.74	0.43	69	3-1,3-2,3-3	0.6	0.23	-
Q 17: Impact of electricity price hikes on personal lives	2.71	0.4	7	1-1,1-2,1-3	-	0.13	0.17
	2.63	0.68	32	2-1,2-2,2-3	0.13	-	0.01
	2.63	0.49	69	3-1,3-2,3-3	0.17	0.01	-
Q 18: Impact of electricity price hikes on work	2.05	0.65	7	1-1,1-2,1-3	-	0.49	0.69
	2.37	0.65	31	2-1,2-2,2-3	0.49	-	0.2
	2.5	0.54	68	3-1,3-2,3-3	0.69	0.2	-
Q 19: Extent of Eskom's price hikes on working environment	1.74	0.53	7	1-1,1-2,1-3	--	0.48	0.69
	2	0.49	31	2-1,2-2,2-3	0.48	-	0.22
	2.1	0.46	69	3-1,3-2,3-3	0.69	0.22	-
Q 20: Suggestions			7	1-1,1-2,1-3	-	0.48	0.69
			31	2-1,2-2,2-3	0.48	-	0.22
			69	3-1,3-2,3-3	0.69	0.22	-
Q 21: Personal view: Rate impact on success of company re production level	2.02	0.99	7	1-1,1-2,1-3	-	0.02	0.06
	2	0.48	31	2-1,2-2,2-3	0.02	-	0.15
	2.08	0.53	69	3-1,3-2,3-3	0.06	0.15	-
Q 22: Measure impact of success	1.57	0.79	7	1-1,1-2,1-3	-	0.38	0.42
	1.87	0.76	31	2-1,2-2,2-3	0.38	-	0.09
	1.95	0.92	66	3-1,3-2,3-3	0.42	0.09	-
Q 23: Rate of importance of contribution			7	1-1,1-2,1-3	-		
			32	2-1,2-2,2-3		-	
			69	3-1,3-2,3-3			-
Q 24: Company achieves sustainability	2.6	0.68	7	1-1,1-2,1-3	-	0.52	0.31
	2.24	0.5	31	2-1,2-2,2-3	0.52	-	0.28
	2.38	0.46	67	3-1,3-2,3-3	0.31	0.28	-
Q 25: Who is responsible for achieving sustainable value creation	3.66	3.18	7	1-1,1-2,1-3	-	0.7	0.5
	3.18	0.68	32	2-1,2-2,2-3	0.7	-	0.13
	3.28	0.75	69	3-1,3-2,3-3	0.5	0.13	-
Q 26: Attitude towards successful implementation of VBM	3.77	0.37	6	1-1,1-2,1-3	-	1.95	1.8
	3.05	0.36	32	2-1,2-2,2-3	1.95	-	0.11
	3	0.43	69	3-1,3-2,3-3	1.8	0.11	-

Table 4.43 indicates significant effects on all the independent variables Q3 to Q26 of the combined dependent variable positions except for Q11, Q15 and Q23 for which unreliable constraints were obtained.

As per outcome of the Anovas from the questionnaires for the different position levels, the following were concluded:

- For Q3 to Q9, under section B evaluating the knowledge of the concept of VBM, the practical significant differences with most effects between higher position levels E & F and position levels D & E were medium (d≥0.5). The significant differences between higher position levels E & F and lower position levels C & B were large (d≥0.8). The significant difference between position levels D & E and C & B ranges between d≥0.01 and d≤0.29 which indicated a small effect between the two position level ranges.

- For Q10 to Q14, under section C analysing the understanding financial matters, practical significant differences are noticed with most effects ranging as medium (d≥0.5) and for Q11 & Q14 a large effect between higher position levels E & F and position levels D & E. The practical significant difference between higher position levels E & F and lower position C & B were also medium (d≥0.5) except for Q11 which measured as large (d=0.87). The practical significant differences between position levels D & E and C & B indicated a small effect between the two position level ranges (d≤0.26).

- For Q16 to Q20 under section D, testing the individual's awareness of the current electricity situation affecting the company they are employed by, practical significant differences with most effects ranging from small to medium (d=0.01 to 0.49) is evident between higher position levels E & F and position levels D & E. The practical significant differences between higher position levels E & F and lower position C & B were mostly indicating a medium effect of d=0.69. The practical significant differences between position levels D & E and C & B were d≤0.23 which indicated a small effect between the two position level ranges.

- For Q21 to Q25, testing the employees' view of successful implementation of the VBM of the Company, practical significant differences with most effects ranging from medium (d≥0.2 to d≤0.7) between higher position levels E & F and position levels D & E are noticeable. The practical significant differences between higher position levels E & F and lower position C & B were medium d≤0.5. The practical significant differences between position levels D & E and C & B were ranging between d≥0.01 and d≤0.29 which indicated a small effect between the two position level ranges.

- For Q26, intended to test the participant's attitude towards enhancing the value-based management strategy management introduces, significant differences with most effects ranging as medium (d≥0.5) between higher position levels E & F and position levels D & E are observed. The significant difference between higher position levels E & F and lower position C & B was d=1.95 which indicated a large effect. The significant difference between position levels D & E and C & B was d≥0.01 and d=1.85 which indicated a large effect between the two position level ranges.

4.5.2 Anovas for departments

Table 4.44: Anovas for the different position level in the different departments.

Factors	Mean	Std. Dev.	n	Comparisons significant at the 0.05 level*	d1 Head Office-	d2 Furn, P&S and Eng-	d3 Mine & BenPl.-	d3 Sup-port-
Q 3: VBM in my opinion means	3.36	0.32	6	1-1,1-2,1-3,1-4	-	0.87	0.72	0.72
	3.06	0.34	33	2-1,2-2,2-3,2-4	0.87	-	0.13	0.06
	2.99	0.34	25	3-1,3-2,3-3,3-4	0.72	0.13	-	0.08
	3.03	0.45	46	4-1,4-2,4-3,4-4	0.72	0.06	0.08	-
Q 4: VBM focuses on	3.46	0.37	6	1-1,1-2,1-3,1-4	-	0.94	1.22	0.79
	3	0.49	33	2-1,2-2,2-3,2-4	0.94	-	0.19	0.06
	2.91	0.45	25	3-1,3-2,3-3,3-4	1.22	0.19	-	0.09
	2.97	0.62	46	4-1,4-2,4-3,4-4	0.79	0.06	0.09	-
Q 5: VBM is	3.27	0.37	6	1-1,1-2,1-3,1-4	-	0.39	0.59	0.48
	3.12	0.3	33	2-1,2-2,2-3,2-4	0.39	-	0.24	0.1
	3.05	0.32	25	3-1,3-2,3-3,3-4	0.59	0.24	-	0.13
	3.09	0.33	46	4-1,4-2,4-3,4-4	0.48	0.1	0.13	-
Q 6: VBM centres around	3	0.76	6	1-1,1-2,1-3,1-4	-	0.32	0.04	0.01
	3.24	0.44	33	2-1,2-2,2-3,2-4	0.32	-	0.6	0.51
	2.97	0.45	25	3-1,3-2,3-3,3-4	0.04	0.6	-	0.07
	3.01	0.46	46	4-1,4-2,4-3,4-4	0.01	0.51	0.07	-
Q 7: VBM entails	3.79	0.4	6	1-1,1-2,1-3,1-4	-	1.39	1.65	1.58
	3.23	0.37	33	2-1,2-2,2-3,2-4	1.39	-	0.28	0.2
	3.13	0.26	25	3-1,3-2,3-3,3-4	1.65	0.28	-	0.08
	3.16	0.37	46	4-1,4-2,4-3,4-4	1.58	0.2	0.08	-
Q 8: Factors the company should consider to ensure sustainability	3.39	0.33	6	1-1,1-2,1-3,1-4	-	0.5	0.21	0.1
	3.6	0.41	33	2-1,2-2,2-3,2-4	0.5	-	0.61	0.6
	3.28	0.52	25	3-1,3-2,3-3,3-4	0.21	0.61	-	0.13
	3.35	0.41	46	4-1,4-2,4-3,4-4	0.1	0.6	0.13	-
Q 9: Employees are also required to enforce sustainability	3.78	0.4	6	1-1,1-2,1-3,1-4	-	0.39	0.71	0.57
	3.59	0.49	33	2-1,2-2,2-3,2-4	0.39	-	0.39	0.14
	3.36	0.58	25	3-1,3-2,3-3,3-4	0.71	0.39	-	0.27
	3.52	0.45	45	4-1,4-2,4-3,4-4	0.57	0.14	0.27	-
Q 10: Effective management relating to VBM	3.51	0.39	6	1-1,1-2,1-3,1-4	-	0.21	0.02	0.02
	3.43	0.31	23	2-1,2-2,2-3,2-4	0.21	-	0.19	0.23
	3.52	0.48	20	3-1,3-2,3-3,3-4	0.02	0.19	-	0
	3.52	0.39	43	4-1,4-2,4-3,4-4	0.02	0.23	0	--
Q 11: Effective management of Fixed Assets	3.78	0.4	6	1-1,1-2,1-3,1-4	-	0.69	0.72	0.75
	3.49	0.41	23	2-1,2-2,2-3,2-4	0.69	-	0.08	0.1
	3.46	0.45	19	3-1,3-2,3-3,3-4	0.72	0.08	-	0.01
	3.45	0.44	40	4-1,4-2,4-3,4-4	0.75	0.1	0.01	-

Factors	Mean	Std. Dev.	n	Comparisons significant at the 0.05 level*	d1 Head Office-	d2 Furn, P&S and Eng-	d3 Mine & BenPl.-	d3 Sup-port-
Q 12: Importance of operating profit management in VBM	3.47	0.39	6	1-1,1-2,1-3,1-4	-	0.4	0.08	0.31
	3.64	0.41	23	2-1,2-2,2-3,2-4	0.4	-	0.33	0.68
	3.5	0.41	18	3-1,3-2,3-3,3-4	0.08	0.33	-	0.38
	3.34	0.35	39	4-1,4-2,4-3,4-4	0.31	0.68	0.38	-
Q 13: Importance of cost management in VBM	3.63	0.59	6	1-1,1-2,1-3,1-4	-	0	0.87	0.65
	3.63	0.45	24	2-1,2-2,2-3,2-4	0	-	0.92	0.85
	3.11	0.56	20	3-1,3-2,3-3,3-4	0.87	0.92	-	0.24
	3.24	0.43	41	4-1,4-2,4-3,4-4	0.65	0.85	0.24	-
Q 14: Importance of cash flow management in VBM	3.5	0.28	6	1-1,1-2,1-3,1-4	-	0.73	0.37	0.34
	3.06	0.61	24	2-1,2-2,2-3,2-4	0.73	-	0.5	0.38
	3.36	0.37	22	3-1,3-2,3-3,3-4	0.37	0.5	-	0.12
	3.29	0.62	44	4-1,4-2,4-3,4-4	0.34	0.38	0.12	-
Q 15: Future endeavours				1-1,1-2,1-3,1-4				
				2-1,2-2,2-3,2-4				
				3-1,3-2,3-3,3-4				
				4-1,4-2,4-3,4-4				
Q 16: Degree of awareness	4	0	6	1-1,1-2,1-3,1-4	-	0.42	0.76	0.55
	3.86	0.33	33	2-1,2-2,2-3,2-4	0.42	-	0.45	0.21
	3.65	0.46	25	3-1,3-2,3-3,3-4	0.76	0.45	-	0.25
	3.77	0.42	46	4-1,4-2,4-3,4-4	0.55	0.21	0.25	-
Q 17: Impact of electricity price hikes on personal lives	2.72	0.44	6	1-1,1-2,1-3,1-4	-	0.23	0.22	0.45
	2.84	0.51	33	2-1,2-2,2-3,2-4	0.23	-	0.42	0.67
	2.6	0.56	25	3-1,3-2,3-3,3-4	0.22	0.42	-	0.2
	2.49	0.53	46	4-1,4-2,4-3,4-4	0.45	0.67	0.2	-
Q 18: Impact of electricity price hikes on work	2	0.7	6	1-1,1-2,1-3,1-4	-	0.58	0.7	0.67
	2.4	0.56	33	2-1,2-2,2-3,2-4	0.58	-	0.15	0.1
	2.49	0.53	24	3-1,3-2,3-3,3-4	0.7	0.15	-	0.03
	2.47	0.6	45	4-1,4-2,4-3,4-4	0.67	0.1	0.03	-
Q 19: Extent of Eskom's price hikes have on working environment	1.63	0.48	6	1-1,1-2,1-3,1-4	-	1	0.68	0.93
	2.12	0.44	33	2-1,2-2,2-3,2-4	1	-	0.35	0.02
	1.96	0.44	25	3-1,3-2,3-3,3-4	0.68	0.35	-	0.28
	2.1	0.5	45	4-1,4-2,4-3,4-4	0.93		0.28	-
Q 20: Suggestions				1-1,1-2,1-3,1-4	-	1	0.68	0.93
				2-1,2-2,2-3,2-4	1	-	0.35	0.02
				3-1,3-2,3-3,3-4	0.68	0.35	-	0.28
				4-1,4-2,4-3,4-4	0.93	0.02	0.28	-
Q 21: Personal view: Rate impact on success of company re production Level	1.69	0.52	6	1-1,1-2,1-3,1-4	-	1.1	0.48	0.59
	2.29	0.54	33	2-1,2-2,2-3,2-4	1.1	-	0.63	0.53
	1.94	0.52	25	3-1,3-2,3-3,3-4	0.48	0.63	-	0.11
	2	0.52	45	4-1,4-2,4-3,4-4	0.59	0.53	0.11	-
Q 22: Measure impact of success	1.33	0.52	6	1-1,1-2,1-3,1-4	-	1.11	0.39	0.6
	2.48	1.03	33	2-1,2-2,2-3,2-4	1.11	-	0.89	0.74
	1.56	0.58	25	3-1,3-2,3-3,3-4	0.39	0.89	-	0.24
	1.71	0.64	42	4-1,4-2,4-3,4-4	0.6	0.74	0.24	-
Q 23: Rate of importance of contribution								
Q 24: Company achieves Sustainability	2.36	0.31	6	1-1,1-2,1-3,1-4	-	0.39	0.38	0
	2.21	0.39	32	2-1,2-2,2-3,2-4	0.39	-	0.64	0.29
	2.58	0.58	25	3-1,3-2,3-3,3-4	0.38	0.64	-	0.38
	2.36	0.54	44	4-1,4-2,4-3,4-4	0	0.29	0.38	-
Q 25: Who is responsible for achieving sustainable value creation	3.6	0.44	6	1-1,1-2,1-3,1-4	-	0.5	0.5	0.43
	3.16	0.87	33	2-1,2-2,2-3,2-4	0.5	-	0.2	0.15
	3.33	0.53	25	3-1,3-2,3-3,3-4	0.5	0.2	-	0.25
	3.3	0.7	45	4-1,4-2,4-3,4-4	0.43	0.15	0.25	-
Q 26: Attitude towards of successful implementation	3.77	0.37	6	1-1,1-2,1-3,1-4	-	2.11	2.09	1.48
	2.99	0.36	33	2-1,2-2,2-3,2-4	2.11	-	0.02	0.13

Factors	Mean	Std. Dev.	n	Comparisons significant at the 0.05 level*	d1 Head Office-	d2 Furn, P&S and Eng-	d3 Mine & BenPl.-	d3 Sup-port-
of VBM	3	0.32	25	3-1,3-2,3-3,3-4	2.09	0.02	-	0.11
	3.06	0.48	44	4-1,4-2,4-3,4-4	1.48	0.13	0.11	-

Table 4.44 indicates significant effects on all the independent variables Q3 to Q26 of the combined dependent variable departments except for Q11, Q15 and Q23 for which unreliable constraints were obtained.

As per outcome of the Anovas from the questionnaires for the different departments, the following were concluded:

- For Q3 to Q9, under section B evaluating the knowledge of the concept of VBM, the practical significant differences between:
  - head office and furnaces, pellet & sinter and engineering was a medium effect with an average d-value of 0.69;
  - head office and mining & beneficiation plant was a medium effect with an average d-value of 0.73;
  - head office and supporting services was a medium effect with an average d-value of 0.61;
  - furnaces, pellet & sinter and engineering and mining & beneficiation plant was a medium effect with an average d-value of 0.35;
  - furnaces, pellet & sinter and engineering and supporting services was a medium effect with an average d-value of 0.24 and
  - mining & beneficiation plant and supporting services was a small effect with an average d-value of 0.12.

- For Q10 to Q14, under section C analysing the understanding of financial matters, practical significant differences between:
  - head office and furnaces, pellet & sinter and engineering was a medium effect with an average d-value of 0.34;
  - head office and mining & beneficiation plant was a medium effect with an average d-value of 0.35;
  - head office and supporting services was a medium effect with an average d-value of 0.35;
  - furnaces, pellet & sinter and engineering and mining & beneficiation plant was a medium effect with an average d-value of 0.40;

- furnaces, pellet & sinter and engineering and supporting services was a medium effect with an average d-value of 0.45 and
- mining & beneficiation plant and supporting services was a small effect with an average d-value of 0.15.

- For Q16 to Q20 under section D, testing the individual's awareness of the current electricity situation affecting the company they are employed by, practical significant differences between:
  - head office and furnaces, pellet & sinter and engineering was a medium effect with an average d-value of 0.65;
  - head office and mining & beneficiation plant was a medium effect with an average d-value of 0.61;
  - head office and supporting services was a medium effect with an average d-value of 0.71;
  - furnaces, pellet & sinter and engineering and mining & beneficiation plant was a medium effect with an average d-value of 0.34;
  - furnaces, pellet & sinter and engineering and supporting services was a small effect with an average d-value of 0.20 and
  - mining & beneficiation plant and supporting services was a small effect with an average d-value of 0.16.

- For Q21 to Q25 under section E, testing the employees' view of successful implementation of the value-based management of the Company, practical significant differences between:
  - head office and furnaces, pellet & sinter and engineering was a medium effect with an average d-value of 0.78;
  - head office and mining & beneficiation plant was a medium effect with an average d-value of 0.44;
  - head office and supporting services was a medium effect with an average d-value of 0.41;
  - furnaces, pellet & sinter and engineering and mining & beneficiation plant was a medium effect with an average d-value of 0.48;
  - furnaces, pellet & sinter and engineering and supporting services was a medium effect with an average d-value of 0.37 and

- mining & beneficiation plant and supporting services was a medium effect with an average d-value of 0.25.

- For Q26, under section F, intending to test the participant's attitude towards enhancing the value-based management strategy management introduces, practical significant differences between:
  - head office and furnaces, pellet and sinter and engineering was a medium effect with an average d-value of 2.11;
  - head office and mining & beneficiation plant was a medium effect with an average d-value of 2.09;
  - head office and supporting services was a large effect with an average d-value of 1.48;
  - furnaces, pellet & sinter and engineering and mining & beneficiation plant was a small effect with an average d-value of 0.02;
  - furnaces, pellet & sinter and engineering and supporting services was a small effect with an average d-value of 0.13; and
  - mining & beneficiation plant and supporting services was a small effect with an average d-value of 0.11.

4.5.3 Reliability tests - Cronbach's Alphas

In order to ascertain that the consistency between the items in the research is assessed, the Cronbach's Alpha coefficients were calculated. The Cronbach's Alpha coefficient is based on the average correlation of variables within a test (Struwig & Stead, 2004). The greater the value of the Cronbach's Alpha coefficient, the higher the internal consistency and the greater the reliability of the scale used in the study. The nearer the Cronbach's Alpha coefficient is to 1.0 the greater internal consistency of the items within the scale (Struwig & Stead, 2004). There are a number of notions as to what the acceptable figure for reliability is, but according to Nunnally and Bernstein (1994:265), the Cronbach's Alpha coefficient should be equal to or greater than +/-0.6 to have an acceptable reliability.

Table 4.45: Cronbach's Alphas - Reliability tests for questionnaires per section B to F

Sections	Item	Cronbach's Alpha values
Section B - Attempts to evaluate the knowledge of the concept value-based management	3.1 - 3.7	0.79
	4.1 - 4.4	0.69
	5.1 - 5.5	0.75
	6.1 - 6.3	0.69
	7.1 - 7.4	0.64
	8.1 - 8.3	0.48
	9.1 - 9.3	0.82
Section C - Analyse the understanding of financial matters relating to value-based management	10.1 - 10.5	0.74
	11.1 - 11.4	0.65
	12.1 - 12.5	0.70
	13.1 - 13.4	0.77
	14.1 - 14.3	0.50
	15.1 - 15.3	0.36
Section D - Test the individual's awareness of the current electricity situation affecting the company they are employed by	16.1 - 16.3	0.71
	17.1 - 17.4	0.58
	17.2	0.58
	18.1 - 18.3	0.58
	19.1 - 19.5	0.74
Section E - Test the employees' view of successful implementation of the VBM of the company	21.1 - 21.7	0.88
	22.1 - 22.10	0.90
	23.1 - 23.5	0.22
	24.1 - 24.6	0.61
	25.1 - 25.5	0.91
Section F - Intend to test the participant's attitude towards enhancing the value based management strategy management introduces	26.1 - 26.5	0.57

On average the Cronbach's Alphas for the different sections averaged at the following reliability figures:

- Section B = 0.7;
- Section C = 0.6;
- Section D = 0.6;
- Section E = 0.7 and
- Section F = 0.6.

The above results indicate consistency and that the results may be considered as fairly reliable.

4.6 SUMMARY

This chapter provided the results of the study and tested the validity of the questionnaire that was used. A reflection on the analysis of the results supports the view that the data is sufficient to substantiate the research findings regarding the sub-objectives of the problem statement.

Conclusions, recommendations and limitations are reflected on in Chapter 5.

CHAPTER 5
CONCLUSION, RECOMMENDATIONS AND LIMITATIONS

5.1 INTRODUCTION

The electricity shortage and price hikes in South Africa created a huge concern, especially for companies in the mining industry with regard to costs of production and profitability for the company, its shareholders and stakeholders. A literature study has demonstrated the concepts of value-based management, profit maximization and wealth creation, all which encourage and assist in achieving sustainable value creation. This research investigated how one of the local South African mining companies attempts to buffer these challenges in order to maintain the value-based management mechanism as well as maintain a sustainable value creation momentum within the company. The outcome of an evaluation of projects embarked on by the Company and the results of questionnaires answered by the selected Company's working force attempts to conclude whether enough has been done to shield the Company from the current challenges.

5.2 RESULTS AND CONCLUSIONS OF THE MAIN OBJECTIVE

The main objective of this study was to research whether the actions taken by a certain local mining company to manage controllable factors, are influencing profit as well as wealth creation, in order to uphold continuous value creation. In conjunction with the above, the main objective was to investigate the level of understanding of the concept of value-based management within the selected company.

5.2.1 Results

The selected company has planned for and commenced with various projects to address and buffer the current challenges it is faced with. The company has initiated projects such as the new mine and supply of a raw material in the production process. In addition to these two projects, the company is in the process of a B-BBEE project which benefits stakeholders such as employees of the company and members of the surrounding community in which the company

operates. The company also started an electricity co-generation project which will contribute to the availability of more electricity for utilisation in the production process.

5.2.2 Conclusions

It is clear that the decision-makers within the selected company are aware of the challenges the company is currently facing and how it can influence value-based management within the company. The current projects embarked on by the company, address and attempt to maintain the momentum of sustainable value creation for the company.

The desired results of the projects will assist in:

- enhancing profit maximization;
- influencing wealth creation for both shareholders and all stakeholders involved such as the employees and the surrounding community;
- absorbing the potential costly effect of the electricity price hikes on the company's cost of production and
- addressing the shortage of electricity as the co-generation project will provide additional electricity which can be used instead of relying on supply from Eskom alone.

5.3 RESULTS AND CONCLUSIONS OF THE SUB-OBJECTIVES

The sub-objectives in support of the main objectives were (1) to inspect how the selected company attempts to minimise the electricity constraints influencing the financial position and (2) to investigate whether the attempts thus far have been filtered through to all the different position levels and various departments in order to achieve sustainable value creation.

5.3.1 Results on sub-objective 1

The remarks on published financial reports and management reports indicate that the selected company has actively made an effort to reduce unnecessary electricity consumption by introducing the co-generation project. Furthermore the

company undertakes to schedule all maintenance during the winter period, the reason being that the furnaces will be switched off during the months in which electricity usage (and subsequently also electricity tariffs) are higher than normal.

5.3.2 Conclusions on sub-objective 1

Increased electricity usage during winter months and increased electricity tariffs as a result, are facts and a certainty. These aspects however, can be and are being controlled by the company. This is evident from the company's lower production quantities during the winter months and lower electricity consumption as a result thereof.

5.3.3 Results on sub-objective 2

The results obtained from the standardised questionnaires completed by 108 employees of the company concluded the following:

- Employees in decision-making and higher positions have a better understanding of the concept of VBM and what it entails, compared to senior- and line management and other employees.
- There are employees who do not understand financial matters relating to value-based management.
- Most of the respondents are aware of the current electricity situation and the effect thereof on the selected company.
- It is evident that lower position levels and employees in the furnaces, pellet and sinter and engineering, mining and beneficiation plant and supporting service departments are of opinion that the implementation of value-based management can improve.
- The majority of the employees' attitudes are positive towards enhancing value-based management strategies management may introduce.

5.3.4 Conclusions on sub-objective 2

From the results it was apparent that management could do more to actively include the rest of the working force in the company's action plans. More so, management can strive to involve the employees in the early stages of planning

and obtaining their input in addressing challenges encountered by the company. According to the results, the other employees believe that the board of directors and decision-makers can be more informative and interactive in its liaison with the working force. Further, it is evident that the employees are confident that they are able to contribute to adding value and assist in cost saving endeavours.

5.4 RECOMMENDATIONS

Sustainable value creation is crucial for all companies to survive and remain profitable. If management is not actively and continuously making evolutionary efforts to address daily constraints and challenges, companies will struggle to survive.

It is vital that new strategies address the challenges and constraints as well as take into account the impact and consequences of an organisation's operational activities and everyone affected by it. Therefore the strategic objectives and actions taken towards sustainable value creation must be pursued as part of the core business purposes as stated by Laszlo (2005:5).

Management must make an effort to ensure that current projects are progressing as scheduled and from commencement of implementation the projects must be monitored. Any deviations from expectations must be addressed and rectified. Also, the working force must be involved in decision-making processes and active efforts must be made to keep the communication channels open. This will increase the awareness and understanding of all stakeholders as to what their role and expected contribution is in promoting sustainable value creation.

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APPENDICES

1. Questionnaire

Electricity price hikes: Managing for sustainable value creation in a mining company

Questionnaire

In order to reach and maintain sustainable development, the management of a company should actively aim to influence its stakeholders, to obtain long-term value creation and future financial wealth. Value creation is sustainable when managing the collective interest of company stakeholders that includes shareholders, employees and the community

The aim of Value-based management(VBM) which is a method to manage value creation, is to ensure the company is sustainable and continuously create value specifically when challenged with occurrences such as electricity shortages and price increases. Management are required to focus on lower cost of production, quality product delivery and to maximise on opportunities.

This research study focus on how a mining company is managed in attempt to buffer the current electricity price hikes in order to manage sustainable value creation.

You are hereby requested to complete this questionnaire to assist with research done to study successful attempts of sustainably creating value in your company.

This questionnaire should take +/- 7 minutes to complete.

Section A

Demographic Information

1. Position within company based on the Patterson Salary Gradings (Please tick one)

Head Office/Executive Management (E & F)	
Senior & Line Management (D & E)	
Other (B & C)	

2. In which Department are working:

Any one of the following: Head Office/Key Management Personnel	
Any one of the following: Furnaces, Pellet & Sinter, Engineering Dpt.	
Any one of the following: Mining, Beneficiation Dpt.	
Any one of the following: Supporting Services (Admin, HR, SHEQ, Marketing)	

Section B: Section B attempts to evaluate your knowledge of the concept value-based management.

On a scale of 1 to 4 each phrase per statement 3, 4, 5, 6 and 7 given:

3. "Value-Based Management" (VBM) in my opinion means:

Description	Strongly disagree 1	Disagree 2	Agree 3	Strongly agree 4
I am not familiar with the term "value-based management".				
the company cares for its people.				
the company adds value to the quality of its employees' lives.				
that value is created for a company's shareholders.				
that a company is managed in a way that is ethical.				
that a company is managed in a low-cost strategy				
that a company is managed in a way that ensures continuous supply of quality services and products to customers.				

4. Value-Based Management focuses on:

Description	Strongly disagree 1	Disagree 2	Agree 3	Strongly agree 4
Maximizing profits in the short term				
Maximizing value in the short term				
Maximizing profits over a long term				
Maximizing value over a long term				

5. Value-Based Management is:

Description	Strongly disagree 1	Disagree 2	Agree 3	Strongly agree 4
an integrated management approach				
a management approach that focuses on customers				
a management approach that focuses on employees				
a management approach that focuses on shareholders				
a management approach that focuses on community upliftment				

6. Value-Based Management centres around:

Description	Strongly disagree 1	Disagree 2	Agree 3	Strongly agree 4
The financial well-being of the employees				
The financial well-being of the shareholders				
The financial well-being of the management				

7. Value-Based Management entails the following:

Description	Strongly disagree 1	Disagree 2	Agree 3	Strongly agree 4
It is a financial framework only				
It is **not only** a financial management framework				
It is an integrated strategic management tool				
Is a management tool aimed to uphold business sustainability				

Note: Scale 1 - 4 changes to Not important to Vital.

8. The following factors are important to ensure sustainability: The company must:

Description	Not important 1	Slightly important 2	Important 3	Vital 4
Provide a continuous supply of quality services and product to its customers.				
Focus on resourcing its own raw material				
Generate its own electricity				

9. In conjunction with the factors in question 8, the employees are also required to ensure sustainability. Therefore it is:

Description	Not important 1	Slightly important 2	Important 3	Vital 4
Necessary to improve motivation of its working force.				
Necessary to focus on improving skills development of employees.				
Needed to improve the potential of its working force.				

Section C: Section C analyse the understanding of financial matters relating to value-based management

10. How essential do you consider effective management of the following financial items related to value-based management?
(If you uncertain of the relevance of the terms mentioned below; ignore the question.)

Description	Not important	Slightly important	Important	Vital
	1	2	3	4
Fixed Asset Management				
Management of the company's finished product				
Operating profit Management				
Net profit Management				
Cost Management				

11. With regard to Fixed Assets, which of the below do you consider important in the VBM process?
(If you uncertain of the relevance of the terms mentioned below; ignore the question.)

Description	Not important	Slightly important	Important	Vital
	1	2	3	4
Assets purchased must be fit for the purpose it is bought				
Fixed Assets are utilized to obtain the minimum use over the asset's lifetime				
Fixed Assets are utilized to obtain the optimum usage over the asset's lifetime				
Amortization of assets must be aligned with its useful life period.				

12. Do you consider Operating profit Management, concerning the below, important in the VBM ?
(Operating profit can be defined as Sales minus Cost of Sales minus fixed/operating costs.)
(If you are uncertain of the relevance of the terms mentioned below; ignore the question.)

Description	Not important	Slightly important	Important	Vital
	1	2	3	4
Maximise sales volumes				
Control cost of sales				
Control cost of sales without effecting quality of the product				
Increase sales prices				
Control electricity cost				

13. With regard to Cost Management, which of the below do you consider important in the VBM process?
(Cost Management entails the follow up, analysing and summarizing variances between actual and budgeted profits and expenses.)
(If you are uncertain of the relevance of the terms mentioned below; ignore the question.)

Description	Not important	Slightly important	Important	Vital
	1	2	3	4
Analyzing electricity cost behaviour on a monthly basis				
Scrutinize variances between budget and actual costs				
Analyse under budget expenses				
Analyse costs which were budgeted for, but not spent				

Note: Scale 1 - 4 changes to Strongly disagree to Strongly agree.

14. With regard to Cashflow Management, which of the below do you consider important in the VBM process?
(Cash flow Management entails the controlling of expenditures, receivables, conversion of currencies and investments.)
(If you are uncertain of the relevance of the terms mentioned below; ignore the question.)

Description	Strongly disagree	Disagree	Agree	Strongly agree
	1	2	3	4
A request for any expenditure exceeding R1,000.00 must be motivated in writing				
Accounts receivable outstanding for 60 days should **not** be followed up				
The Dollar/Rand exchange rate **does not** influence your company's cash flow				

15. With regard to future endeavours maintaining sustainable value-based management, the company should:

Description	Strongly disagree	Disagree	Agree	Strongly agree
	1	2	3	4
invest in self-generating electricity equipment				
consider diversification in different products				
continue with its current process				

Section D: Section D test the individual's awareness of the current Electricity situation effecting the company they are employed by.

16. On a scale of 1-4 please indicate your degree of awareness on the following questions:

Description	Not aware at all	Somewhat aware	Fairly aware	Totally aware
	1	2	3	4
Are you aware of the electricity shortages in South Africa?				
Are you aware of the electricity tariff increases in South Africa?				
Do you believe Eskom's electricity tariff increases will affect the company you are working for?				

Note: On a scale of 1 to 4 ranging from Devastating impact to No impact regarding the statements below:

17. To what extent will electricity price increases impact your personal life:

Description	Devastating impact	Huge impact	Slight impact	No impact
	1	2	3	4
concerning monthly expenditures				
concerning your relationship with your family				
concerning your quality of living				
concerning your social life				

18. With reference to the above question, what impact will the electricity price increase have on your work :

Description	Devastating impact	Huge impact	Slight impact	No impact
	1	2	3	4
concerning assertiveness to electricity usage at work				
view on assistance on cost saving initiatives				
enthusiasm to go to work				

Note: On a scale of 1 to 4 ranging from Devastating influence to No influence regarding the statements below:

19. To what extent will Eskom's price increases influence your working environment by considering:

Description	Devastating influence	Huge influence	Slight influence	No influence
	1	2	3	4
Cost of production				

Appointment of new employees				
Affect on the development of employees' skills				
The company's strategy towards electricity usage				
The company's strategy towards cost saving				

20. Do have any suggestions how to contribute in the company's efforts to buffer against electricity price hikes?

Please give any suggestions

Section E: Section E tests the employees view of successful implementation of the VBM of the company

Note: On a scale of 1 to 4 ranging from Devastating impact to No impact regarding the statements below:

21. In your view, please measure the rate of impact the descriptions below have on the success of your company on production level:

Description	Devastating impact	Huge impact	Slight impact	No impact
	1	2	3	4
Production quantities				
Quality of product				
Raw Material utilization				
Absentees of employees (AWOPS)				
Electricity consumption				
Machinery availabiltiy				
Overtime hours worked				

22. In your view, please measure the rate of impact on the success of the company with reference to the discriptions below:

Description	Devastating impact	Huge impact	Slight impact	No impact
	1	2	3	4
Tonnages sold				
Cost of production per tonne				
Electricity cost				
Labour cost				
Fixed Cost				
Cash flow analysis				
Utilization of Fixed Assets				
Meeting budget requirements				
Community and Social Development Programs				
Involvement of all employees in Strategic planning				

Note: Scale 1 - 4 changes to Not important to Vital.

23. Please indicate the rate of importance of your contribution, as an employee, to achieve the statement.

Description	Not important	Slightly important	Important	Vital
	1	2	3	4
Minimization of waste product will lower cost of production.				
Systematic inspection electricity consumption will lower the cost of production.				
Monitoring waste management is unnecessary				
Maintenance shutdowns must be scheduled during summer period when electricity tarrifs are lower				
Maintenance shutdowns must be scheduled during winter period when electricity tarrifs are higher				

Note: Scale 1 - 4 changes to Not achieving to Outstanding achievement.

24. In your view, indicate whether the company achieves sustainability and value creation by:

Description	Not achieving	Achieves somewhat	Achieves mostly	Outstanding achievement
	1	2	3	4
Initiatives of cost saving exercises				
Restriction of communication to the Board of Directors				
Communication are limited to the Board of Directors and Senior Management				
Communication are limited to the Board of Directors, Senior Management Line Management				
Encourage communication from Board level to the employees in general				
Encourage communication-session involving line-managment and employees to participate in discussions.				

Note: Scale 1 - 4 changes to Strongly disagree to Strongly agree

25. In your opinion, indicate who you think is responsible for achieving sustainable value creation within the company?

Description	Strongly disagree	Disagree	Agree	Strongly agree
	1	2	3	4
Only the members of the Board of Directors				
Only the Senior Management Team				
Only the Senior- and Line Management Team				
Only the Line Management- and Production Team				
Every individual, employed by the company				

Section F: Section F intend to test the participant's attitude towards enhancing the value-based management strategy management enrolls to buffer the company against electricity price hikes and shortage.

26. In your opinion, consider the below description and indicate whether you agree or not.

Description	Strongly disagree	Disagree	Agree	Strongly agree
	1	2	3	4
My opinion can add value.				
The effect of electricity price increases cannot be buffered.				
I cannot avoid incidents that relate to Safety, Environment and Quality				
I can assist in optimum utilization of electricity				
The company will never be able to lower operating costs.				

Thank you for your time and participation in this questionnaire.