

VALUE-BASED MANAGEMENT: AN ASSESSMENT OF THE APPLICATION IN A MINING COMPANY

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ABSTRACT

If a programme which intends to measure performance is to work successfully in an organisation, it is necessary to understand the contingent factors that need to be in place regardless of philosophical beliefs. It must be integrated with the overall strategy of the business; all approaches to performance measurement emphasise the alignment of objectives, measures, strategic decision making and rewards. This is crucial, as it is not possible to measure performance unless it is clear what an organisation is trying to achieve.

Value-based management (VBM) is a powerful management framework with the aim to focus all managerial processes on shareholder wealth creation. It therefore encourages all staff levels within the organisation to focus on value creation. Various metrics have been developed to measure the value creation process within the organisation. The application of VBM principles at the lower levels within the organisation is critical to ensure that lower level staff applies value-creating principles in their daily jobs. Anglo Platinum has also adopted VBM, which will help the organisation to enhance decision-making and ensure pursuing strategies that maximise value. Anglo VBM is a management system which will enable the company to significantly improve the quality and speed of decision-making and to drive performance and profitable growth. It requires a detailed understanding of where and why value is created or consumed within the businesses through assembling a comprehensive fact base.

A quantitative study was done to collect primary data through the use of standardised questionnaires that were distributed to respondents at Bleskop and Brakspruit shafts as well all the accountants at Rustenburg Platinum Mine, which forms part of Anglo Platinum. The results from this study indicate that there is a low understanding of VBM as well as a strong focus on business unit objectives and on short-term goals. A key recommendation would be to use incentive mechanisms to be aligned to VBM.

List of key terms: value-based management (VBM); economic value added (EVA); embedded value (EV); shareholder value added (SVA); discounted cash flow (DCF)

OPSOMMING

Indien 'n gehalteversekeringstelsel suksesvol wil funksioneer in 'n onderneming, moet dit geïntegreer wees met die algehele strategie van die onderneming en ook verwys na alle benaderings ten opsigte van gehalteversekering. Die strategie moet fokus op die belyning van doelwitte, kriteria, strategiese besluitneming en vergoeding.

Waarde-gebaseerde bestuur (WGB) is 'n effektiewe bestuursraamwerk wat ten doel het om alle bestuursprosesse te fokus op die skepping van aandeelhouerswaarde. Daarom word alle vlakke in die onderneming aangemoedig om te fokus op die skepping van waarde. Die toepassing van WGB-beginsels op alle vlakke binne die onderneming is krities vir enige onderneming.

Anglo Platinum het WGB aangeneem ten einde beter besluitneming en strategie na te volg om welvaartskepping te bewerkstellig. WGB by Anglo Platinum is 'n bestuurstelsel wat deeglike kennis en agtergrond vereis van waar en wanneer waarde geskep of vernietig word, deur die samestelling van 'n omvattende databasis.

'n Kwantitatiewe studie is geloods om primêre data te versamel deur middel van gestandaardiseerde vraelyste aan die Bleskop- en Brakspruitskagte te stuur, sowel as aan al die rekenmeesters by Rustenburg Platinummyn. Die uitslae van hierdie studie dui daarop dat ten spyte daarvan dat die bestuur van Anglo Platinum saamstem dat aandeelhouerswaarde deel moet wees van die kern van besigheidssukses, is bestuur dikwels gefokus op korttermyn-besluitneming en op individuele besigheidseenheid doelwitte.

Dit kan aanbeveel word dat vergoedingsmeganismes aan WGB gekoppel moet word.

Lys van sleutelbegrippe: waarde-gebaseerde bestuur (WGB); ekonomies toegevoegde waarde (ETW); vasgelegde waarde (VW); aandeelhouderswaarde toegevoeg (AWT); verdiskonteerde kontantvloei (VKV)

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LIST OF ABBREVIATIONS

Acronym	Term
ABC	Activity-based costing
AO	Asset optimisation
BPM	Business process management
BU	Business Unit
CEO	Chief executive officer
CI	Continuous Improvement
CFROI	Cash flow return on investment
CLV	Customer lifetime value
CVA	Cash value added
DCF	Discounted cash flow
EBDIT	Earnings before depreciation, interest and tax
EBIT	Earnings before interest and tax
EP	Economic profit
EPS	Earnings per share
EVA	Economic value added
FCF	Free cash flow
FIFO	First in first out
JSE	Johannesburg Securities Exchange
LIFO	Last in first out
MVA	Market value added
NOPAT	Net operating profit after tax
NOPLAT	Net operating profit less adjusted taxes
NPV	Net present value
PGM	Platinum Group Metals
PE	Price earnings
ROCE	Return on capital employed
ROE	Return on equity
ROI	Return on investment
ROIC	Return on invested capital

SVA	Shareholder value added
URL	Uniform Resource Locator
VBM	Value Based Management
WACC	Weighted average cost of capital

CHAPTER 1

STUDY ORIENTATION

1.1 INTRODUCTION

In today's environment, one of the top priorities for organisations is to reduce cost without dramatically affecting organisation survival (Gonzalez *et al.*, 2008:1). The primary aim of most firms is to maximize shareholders' wealth (Brigham & Ehrhardt, 2005:109). One of the key measurements for corporate success has been the creation of shareholder wealth (Matzler *et al.*, 2005:671). The Company Law Steering Group within the UK mentioned that the maximisation of value for shareholders should be the ultimate objective of organisations (Starovic *et al.*, 2004:3).

Continuous Improvement (CI), Asset Optimization (AO), Economic Value Added (EVA), Cash Flow Return on Investment (CFROI), Market Value Added (MVA) and Shareholder Value Analysis (SVA) are just a few of the new buzz terminologies and concepts that management and organisations are bombarded with in the last decade. Today, the majority of organisations promulgate its commitment to the creation of shareholder wealth. An organisation has the responsibility to ensure that benefits reported to its shareholders and other stakeholders are measured and tracked in a consistent and valid manner.

Although one may argue that the terminology "effectiveness and efficiency" has been around for decades, the questions remains, "What has caused the shift to focus on value creating measures?" A possible answer can be found in Adam Smith's book that he wrote in 1776 *Wealth of Nations* that every

individual endeavours to employ his capital so that its product may be of greatest value (Martin & Petty, 2000:3).

Organisations are faced with the scarcity of human and financial resources that can translate opportunities into performance; therefore, it is imperative that an organisation ensures that it deploys its human and financial resources in ways that will deliver the most value to shareholders.

Mining and related activities have a significant impact on the South African economy and therefore also on society. The high commodity prices experienced before August 2008 has created large net incomes for mining companies.

In order to excel in this competitive environment the importance of being a lean and effective organisation has increased. To this end, a VBM programme is being introduced at Anglo Platinum and all its operations. This concept emphasizes creation of shareholder value by directing focus throughout the organisation towards value drivers.

Koller (1994:87) explains that the only true measure of management actions to create wealth is when capital is invested at returns higher than the cost of that capital. Koller (1994:89) describes value-based management (VBM) as a marriage between a value creation mindset and the management processes and systems that are necessary to translate that mindset into action.

VBM is founded in evaluating choices, decisions and behaviours in order to obtain the maximum economic value out of any business function. It forms the basis for competitive strategic and financially profitable business principles and should not be confused with values that relate to personal and business ethics.

The thinking behind VBM is straight forward. The value of an organisation is determined by its discounted future cash flows. Value is created only when the invested capital returns exceed the cost of capital.

According to Flynn (2008:3), VBM includes strategies for creating, measuring, and managing value. VBM is an integrated and holistic approach to business that encompasses and informs the corporate culture, corporate communications, corporate mission, corporate strategy, corporate organisation, corporate decision-making, and corporate awards and compensation packages.

VBM is a toolkit and a mindset which requires everyone across an organisation to understand all the facts of where and how the organisation competes and operates; how organisational performance compares to its peers; how value is being created or destroyed and how alternatives are being generated and evaluated.

One of the key challenges remains the implementation of VBM at the lower levels of an organisation (Spencer & Francis, 1998:14; Sammer, 2001:1).

1.2 PROBLEM STATEMENT

The current definitions of VBM range from defining a specific VBM metric (such as Cash Flow Return on Investment (CFROI)) to defining VBM as a holistic solution for company success. It is believed that VBM is a return to economic values in assessing the performance of the firm and it places the shareholders' welfare as its primary objective and also stretches beyond only cash-flow metrics.

Central to the concept of managing for value is a problem common to many large companies. This is the so-called “agency problem” created by the separation of ownership and management. The owners of a business are normally not the employees. Owners or shareholders delegate the day-to-day running of the company to paid managers who act as their agents. The result can be a lack of alignment between the interests of the two groups. It is believed that there is a limited level of understanding and use of VBM-related principles and measures at the operational levels of a mining organisation.

1.3 GOALS AND OBJECTIVES OF THE STUDY

1.3.1 Main goal

The main objective of this study is to determine the overall level of understanding of the implementation of VBM at all levels of management within a mining organisation.

1.3.2 Sub objectives

- **The conceptualisation of the VBM framework**

It is important to gain an understanding of and form an opinion on the definition and characteristics of VBM and the related metrics. The VBM framework needs to be understood from concept to successful implementation. This also includes the application of VBM at lower levels within the organisation and within the financial services industry. To achieve this, the following sub objectives need to be investigated:

- 1 The factors that lead to the focus on value creation;
- 2 The organisational scope and components of VBM;
- 3 The characteristics of the prominent VBM metrics;

- 4 Key success factors for a VBM implementation; and
- 5 The application of VBM at the organisation.

- **To determine the use and exposure to VBM and related principles within the organisation**

To be able to understand the use and need for VBM information, the following is required:

- 1 To understand the most prominent measures or tools that can be used at the various levels of the organisation for decision-making and scorekeeping;
- 2 To determine the importance of the information and tools used; and
- 3 To determine the level of exposure to the concept of VBM and the perception about VBM.

1.4 RESEARCH METHODOLOGY

The research methods envisaged are:

1.4.1 Literature study

A literature study will be done to provide a conceptualization of VBM. The literature study focuses on the following:

- VBM definitions, principles, metrics and factors of success;
- The need to apply and the application of VBM at business unit level; and
- Benefits/advantages of using VBM.

1.4.2 Empirical study

The use of and exposure to VBM at Anglo Platinum's Rustenburg Platinum Mine (RPM) will be determined through questionnaires. The aim of the questionnaires will be to determine the following:

- Acquire the information to determine the operational goals;
- The understanding and application of VBM; and
- The need for additional VBM information.

1.5 SCOPE OF THE STUDY

The field of study for this research is financial management. This study will not focus on the entire Anglo Platinum, but will describe the VBM process in Anglo Platinum with specific reference to Bleskop and Brakspruit Shafts, which are two of the eight shafts at Anglo Platinum's Rustenburg operations that are being used to extract Platinum Group Metals (PGM) ore.

Anglo Platinum is the world's largest Platinum Group Metals producer and shares the same underlying VBM processes as other divisions in the Anglo American group. One of Anglo Platinum's main challenges is to maintain its dominant position as the largest producer of refined Platinum Group Metals (PGM). To succeed, it becomes crucial that each business unit focuses on value creation.

1.6 LIMITATIONS OF THE STUDY

There are certain limitations to this research. The findings of the research are based on questionnaires of a sample of employees across Anglo Platinum's Rustenburg Platinum Mine and might not represent other Anglo Platinum operations.

1.7 LAYOUT OF THE STUDY

Chapter 1: Introduction

Chapter 1 sets the context of why the specific research topic was chosen. In this chapter, the problem statement is formulated and the research goals, research methods, and limitations are given.

Chapter 2: Literature study: Value-based Management

The aim of this chapter will be to provide a theoretical background to VBM. The first section of the chapter will focus on the origins of VBM, its principles, benefits and critique, as well as shareholder value, and value drivers.

Chapter 3: VBM at Anglo Platinum

The aim of this chapter is to give a brief background of the mining and processing of Platinum Group Metals. (PGMs). The chapter also provides a brief background of Anglo Platinum and explains briefly how Anglo Platinum has gone about to implement and measure VBM.

Chapter 4: Empirical study

In this chapter the results of the research on the current knowledge and need for VBM related information within the organisation are discussed. In this chapter the second primary goal is addressed, namely to determine the use of and exposure to VBM and related principles within the organisation.

Chapter 5: Conclusions and recommendations

In the last chapter a summary of the research is provided. Specific findings and conclusions derived from the research are discussed in more detail.

Recommendations on the use of VBM and the application of VBM at the lower levels of the organisation are also made within this chapter.

CHAPTER 2

LITERATURE STUDY

2.1 INTRODUCTION

The goal of this chapter is to provide the theoretical background to VBM. The first sub objective, the conceptualisation of VBM, is addressed in this chapter. The following sub objectives will be addressed:

- 1 The factors that lead to the focus on value creation;
- 2 The organisational scope and components of VBM; and
- 3 The characteristics of the prominent VBM metrics.

The following sub objectives will be addressed in Chapter 3:

- 4 Key success factors for a VBM implementation; and
- 5 The application of VBM at the organisation.

2.2 CORPORATE GOVERNANCE AND VBM

The recent accounting scandals (examples are Enron, Parmalat, Leisurennet, Fidentia) have focused some attention on the interplay between corporate governance and organisational success. A crucial criterion for a company's valuation is better corporate governance, which is considered a guarantee of the credibility of its financial and accounting reports (El Mir & Seboui, 2006:242).

Pursuing the goals of corporate governance can be seen as very noble; however, there is a risk that companies will assume that, once corporate governance has

been sorted out, management will know how to manage for shareholder value. These companies will carry on much like before, only under increased scrutiny from both investors and the public. In fact, many executives see value creation as more of “a corporate rallying cry rather than the goal of serious strategic planning” (Armour & Mankins, 2001). Ryan and Trahan (1999:1) explain that effective corporate governance and financial control includes the use of monitoring and incentive mechanisms to align divergent interests between shareholders and managers and encourage the creation of shareholder value.

2.3 FINANCIAL ACCOUNTING VERSUS VALUE ACCOUNTING

Financial accounting is primarily concerned with the reporting for the company as a whole whereas value accounting focuses on divisions of the business (Garrison *et al.*, 2006:8). Traditional financial performance such as earnings or earnings growth, are not always good proxies for value creation; organisations should complement the latter mentioned with goals for discounted cash flow value creation. Companies also need non-financial goals – goals concerning customer satisfaction, product innovation and stakeholder empowerment – to inspire and guide the entire organisation. Keep in mind that the mentioned goals, however, have a financial spill-over effect.

Martin and Petty (2000:36) categorised the shortcomings of financial accounting based on measures in five groups, namely:

- Accounting-based measures do not equal cash flow – cash is the cornerstone for most value-based measures.
- Risk is not reflected within accounting numbers – accounting numbers reflected what had happened and not what might have happened.

- The opportunity cost of equity is not reflected in accounting numbers – accounting numbers do not take into account the rate of return required by investors.
- Accounting policies differ between organisations – changes in accounting policy can have a huge impact on the accounting numbers reported. For example, differences on the depreciation of assets, research and development costs and inventory accounting (LIFO vs. FIFO) create differences in the numbers that organisations report on.
- Accounting numbers ignore time value of money – the rate of return required by investors takes into account inflation that impacts the time value of money.

2.4 VALUE CREATION

It is often changes in the external or internal business environment that “force” organisations to reconsider current approaches to management. According to Jordaan (2005:21), the following are changes that may lead to a sudden focus on value creation:

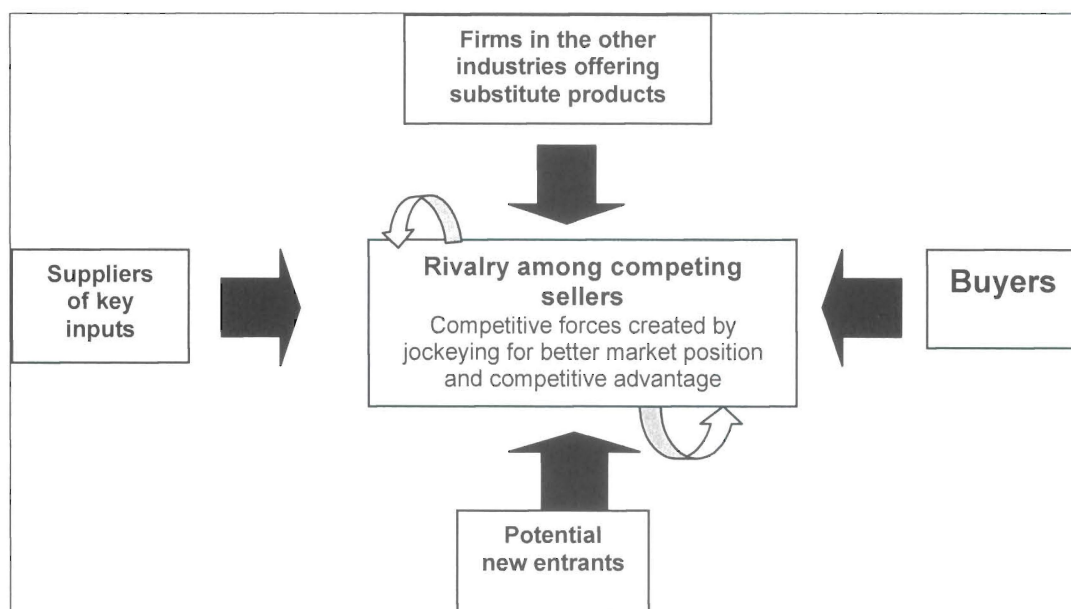
- Changes in the focus of management;
- Business environment changes; and
- Investor relationship changes.

Value creation can also be impacted by the strategy an organisation chooses to adopt. There are numerous methods and models available to assist in formulating a strategy, but the most powerful and widely used tool is the five forces model of competition (Thompson *et al.*, 2007:54). Flynn (2008:2) explains that corporate financial strategy is most successful when the strategy is internally consistent and aligned with the operations of the company. According to Porter (2008:80), understanding the competitive forces and their underlying causes,

reveals the roots of an industry's current profitability whilst providing a framework for anticipating and influencing competition and profitability over time.

The five forces model provides an economically sound, systematic framework for analyzing industry attractiveness (Rappaport, 1986:61). The five forces model (Diagram 2.1) holds that the state of competition in an industry is a composite of competitive pressures operating in five areas of the overall market (Thompson *et al.*, 2007:54).

Diagram 2.1: Porter's five forces model



Source: Adapted from Kotzé (2007:40)

The model focuses on the following five areas:

- **Threat of entry:** New entrants to an industry bring new capacity and a desire to gain market share that puts pressure on prices, costs, and the rate of investment necessary to compete. Particularly when entrants diversify from other markets, like Coke who entered the bottled water industry with BonAqua. Porter (2008:81) explains that it is the threat of entry and not whether entry actually occurs, that holds down profitability.

- **The power of suppliers:** Powerful suppliers capture more value by charging higher prices, limiting quality of service, or shifting cost to industry participants. Powerful suppliers include suppliers of scarce commodities, like Mondi, who supplies timber related products, and AEL who supplies explosives products.
- **The power of buyers:** Powerful customers can capture more value by forcing down prices, demanding better quality or more service (thereby driving the cost up) and generally playing industry players off against one another. Factors, like a poor economic outlook, that affect the buyer will be cascaded down to the supplier. According to Jollie (2008:6), car manufacturers are the biggest consumers of platinum and related products.
- **The threat of substitutes:** Porter (2008:84) explains that a substitute performs the same or a similar function as an industry's product by a different means. Video conferencing is a substitute for travel. Jollie (2008:38) explains that in the nitric acid sector, the elevated platinum prices of 2005 until the beginning of 2008, made the use of palladium catchment gauzes economically attractive in higher pressure as well as low and medium pressure concentrating plants.
- **Rivalry among existing competitors:** The competitive pressures associated with the jockeying among rival sellers for better market position, increased sales and market share, and competitive advantage. The degree to which rivalry drives down an industry's profit depends on the degree and basis of competition. A recent example (Anon., 2008:28) is the proposed merger of Impala Platinum, Northam Platinum and Mvelaphanda that could culminate Anglo Platinum's dominance in the platinum industry that could see an increase in rivalry between the new company and Anglo Platinum.

The five forces of competition govern shareholder return, because it influences prices, quantities sold, costs, investment, and the level of risk that firms carries in an industry. These variables are the building blocks for the value-driver determinants of shareholder value (Rappaport, 1986:61).

The role of the driving forces analysis in strategy-making is threefold (Kotzé, 2007:38):

- It indicates what factors will have the greatest impact on the company's business in the next one to five years.
- In order to be able to match strategy to emerging conditions, the contribution that the different driving forces will make must be assessed; and
- A strategy must be crafted that is responsive to, and deals with the driving forces.

A strategy needs to be developed on two levels – corporate and business unit level – but both these strategies must have one thing in common: maximizing value. At corporate level, the strategy is explicitly developed to maximize the overall value of the company. The corporate strategy primarily focuses on what business to be in, how to exploit potential synergies across business units, and allocating resources across businesses (Koller, 1994:86). A business-unit strategy is developed after alternative strategies have been valuated and the one that creates the most value has been identified. The chosen strategy should explain how the business unit will achieve a competitive advantage that will permit the unit to create value (Koller, 1994:96).

2.5 DEFINITION OF VALUE

If one has invested \$1 (31 December 1975 to 1 January 2000) in Walgreens the investment would have beaten \$1 invested in Intel by nearly two times, General Electric by nearly five times, Coca-Cola by nearly eight times and the general stock market by over fifteen times (Collins, 2001:4). Another example of a value mismatch is that of AngloGold Ashanti, which is the third largest gold producer in the world, but when measured in terms of market capitalisation is only the 11th largest gold producer (Cutifani, 2008:58).

Questions to be asked ranged from, "How did an organisation such as Walgreens outperform some of the best led organisations in the world? Why is it that some companies create so much value, and others destroy value?" Investors require returns in excess of perceived cost of capital. The expectations of a shareholder would in all likelihood be to earn a return on investment that is higher than what could be obtained from depositing money in a bank account, almost risk-free. In general, investors are willing to tolerate the higher risk of equity ownership because of the potentially higher returns.

To enhance value for shareholders, managers need to understand the impact of financing decisions on the cost of capital for an organisation. When investors provide an organisation with funding it is expected of the company to generate an appropriate return on those funds. The cost of capital is a key factor in choosing the mixture of debt and equity used to finance companies (Brigham & Ehrhardt, 2005:307-308)

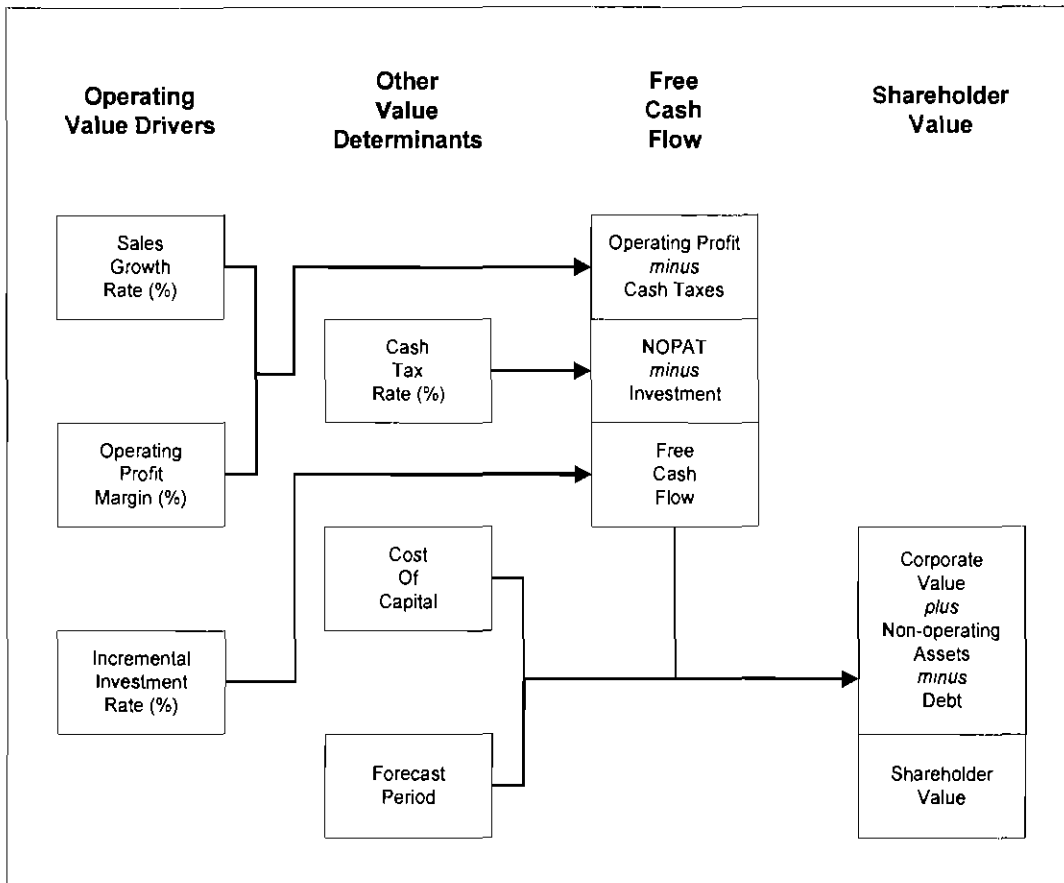
The basic precept of managing for shareholder value is that the cost of equity capital must be taken into account when calculating value. Thus it can be assumed that a company only makes a real or economic profit after it has paid for the cost of capital that was used to generate income.

The abovementioned issues are the reason why cost of capital is used as the discounting rate in calculating the present value of future cash flows for investment decision-making. The weighted average cost of capital (WACC) method weighs the cost of equity and the cost of long-term debt proportioned to the contribution of each component to the capital pool and its associated cost. The cost of debt is the contracted interest rate agreed with the lenders taking into account the deductibility of interest for tax purposes (Brigham & Ehrhardt, 2005:201). The cost of equity can be derived by using a variety of cost of equity or valuation models that takes into account risk and the expected growth rate in dividends.

Rappaport and Mauboussin (2001:21) have developed a shareholder-value road map (Diagram 2.2) that shows the following relationships:

- Sales growth and operating profit margin determine operating profit;
- Operating profit minus cash taxes yields: net operating profit after taxes (NOPAT);
- NOPAT minus investment in working and fixed capital equals free cash flow;
- Free cash flows discounted at the cost of capital determine corporate value; and
- Corporate value plus non-operating assets minus the market value of debt equals shareholder value.

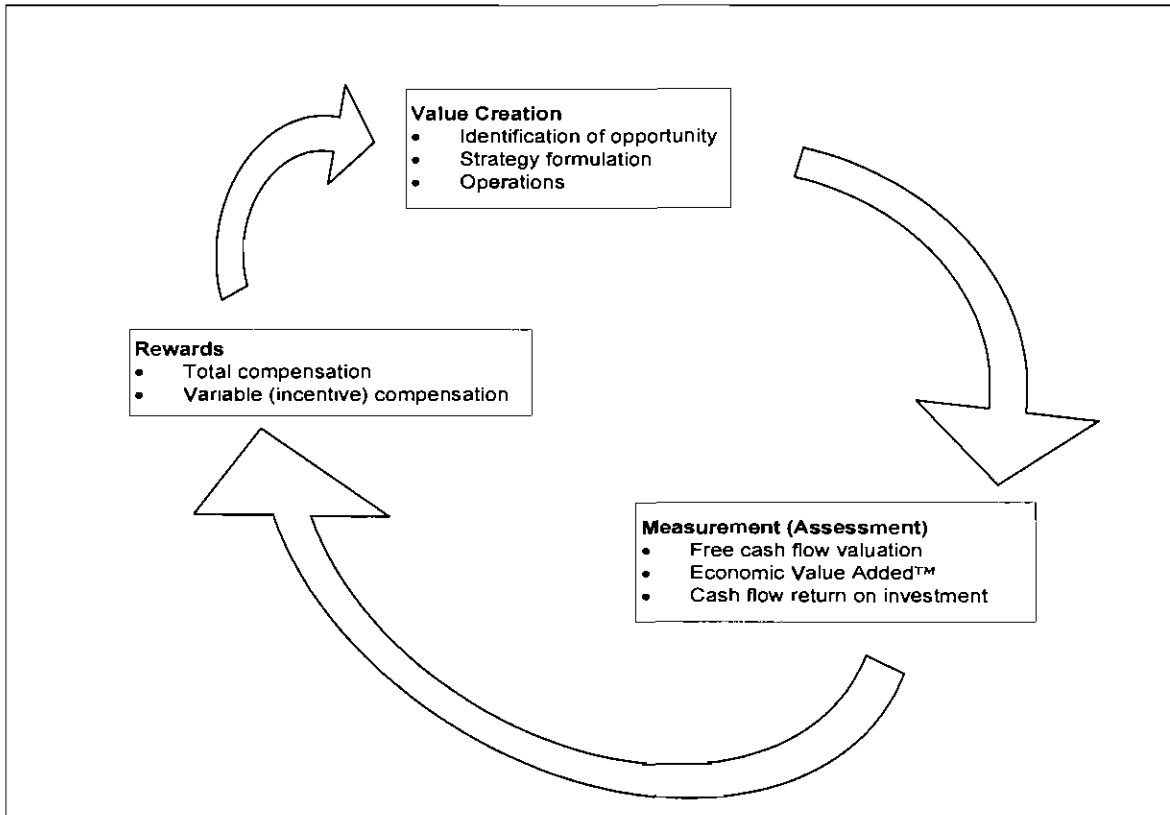
Diagram 2.2: Shareholder-value road map



Source: Rappaport and Mauboussin (2001:21)

The creation of shareholder value must be sustainable. It is no good creating value in one year, and the following year all the hard work of the previous year is nullified because of a lack of focus. Value is created over time as a result of a continuing cycle of strategic and operating decisions (Martin & Petty, 2000:6). VBM systems are based on the fundamental premises that in order to sustain the wealth creation process, managerial performance must be measured and rewarded using metrics than can be linked directly to the creation of shareholder value (Martin & Petty, 2000:6). The key elements of a VBM system designed to build and support a sustainable cycle of creation can be seen in Diagram 2.3.

Diagram 2.3: Constructing a sustainable cycle of value creation



Source: Adapted from Martin and Petty (2000:6)

2.6 VALUE-BASED MANAGEMENT

Interest in value-based methods reflected disenchantment with traditional accounting earnings, although objectives of each are different. VBM recognised that accounting data was no longer providing a robust insight into business performance. VBM assists management to make informed decisions between short-term goals and long-term goals without jeopardising the long-term sustainability of the organisation. Value-based methods are based on the concept that the underlying financial performance of a business is best represented by the change in its economic value; that is, the change in the net present value of its expected future cash flows (Koller, 1994:87).

VBM refers to management adopting a corporate strategy of maximising shareholder value. VBM is all-encompassing and includes corporate strategy, management compensation issues and detailed internal control and reward systems all designed to link employees' performance to shareholder value (Ryan & Trahan, 1999:47).

The website Valuebasedmanagement.net (Value Based Management, 2008b) defines VBM as the management approach that ensures corporations are run consistently to maximise value. The definition includes:

- Creating value;
- Managing for value; and
- Measuring value.

Wang *et al.* (2006:39) even go so far as to say that value-based management defines the key goal of management activity as the maximization of enterprise value. "In order to realize the maximum of enterprise value, it's necessary to minimize the risk that enterprises face, maximise the cash flow and the ability of continuing operations" (Wang *et al.*, 2006:39).

Starovic *et al.* (2004:22) are of the opinion that VBM gives "greater realism to otherwise vague strategies" even if it does not remove all of the inherent uncertainties of strategic planning. VBM has been part of the business glossary for a couple of years. According to Starovic *et al.* (2004:22), the various proponents of VBM proclaim that VBM will assist the organisation to achieve the following goals:

- It creates goal congruence internally and externally through the single objective of creating shareholder wealth.
- It overcomes the agency theory through the alignment of actions.

- Employees are dedicated to the long-term sustainability of the organisation in creating shareholder wealth.
- It assists in focusing management on the core value drivers.
- The metrics are powerful tools to use for measurement and comparatives for benchmarking.
- It assists in allocating resources to what matters most – value-creating activities.

The uniqueness of VBM is the overall goal of creating shareholder wealth, thus putting shareholder value first within the organisation. Whatever objective is chosen within the organisation, the framework associated with the objective is supposed to gear all activities and processes to achieve the objective. The success of VBM is not the reason why aligned commitment is being achieved in an organisation; aligned commitment follows because activities are focused on the goal of shareholder value creation. The shareholders are, after all, the owners of the organisation.

Corporate valuation, using discounted cash flow methods (specifically the case of discounted free cash flows discounted at the weighted average cost of capital) lies at the centre of VBM. Corporate valuation models produce results that are consistent with actual intrinsic value. VBM explicitly includes the effects of all the corporate value drivers; for example, profitability, growth, capital requirement and WACC (Brigham & Ehrhardt, 2005:524).

Chopp and Paglia (2002:2) define VBM as the “alignment of key organisational processes such as strategic planning, budgeting, compensation, performance measurement, training, and communication around value creation”. Value is created when owners receive a return that more than compensates for the perceived risk on the investment. This can only be done if all the levels of the organisation is committed and aligned. Coetsee (2003:36) argues that aligned commitment and motivation are very closely associated. Coetsee (2003:37)

further explains that it means “that people do their work according to certain behavioural guidelines”.

From a managerial perspective, VBM needs to have an impact on the various managerial processes to instil change within an organisation. The required change is for all management processes to be focused on value creation. VBM is therefore a framework that incorporates all management processes: planning, targets, reporting and rewarding to create value for shareholders. It should be noted that whatever goal an organisation chooses as primary objective, it would result in the development of a framework that would automatically include the various managerial processes. The VBM framework is not unique in incorporating these processes, but unique in the sense that it incorporates these processes to be focused on the single goal; the goal of maximising shareholder wealth.

2.6.1 Benefits of value-based management

The growth in popularity suggests VBM works. VBM brings tremendous benefits when it is well implemented. According to Koller (1994:87), VBM is similar to restructuring in order to achieve maximum value on a continuing basis, and it has high impact, often realized in improved economic performance.

2.6.2 Critique of value-based management

Martin and Petty (2000:101) conclude that recent studies of the long-term performance of firms that adopt VBM, do not demonstrate significant differences compared to similar companies that do not use VBM. It cannot be said, however, what the results would have been had these companies not adopted VBM.

2.7 VALUE-BASED MANAGEMENT METRICS

Some examples of metrics developed, according to Ryan and Trahan (1999:47), are:

- **Discounted Cash Flow (DCF).** It is the market value of a company expressed as the present value of its expected future cash flows discounted back to the present at the company's cost of capital.
- **Cash Flow Return on Investment (CFROI).** It represents the cash flow a company generates in a given period as a percentage of the cash invested in the company's assets. Both cash flow and assets are stated in current rands and or dollars to adjust for inflation. The asset base is also adjusted to include the capitalization of operating leases. The cash flow to cash invested ratio is then converted to an internal rate of return measure over the normal economic life of the assets involved.
- **Return on Invested Capital (ROIC).** Porter (2008:83) defines it as the appropriate measure of profitability for strategy formulation, and equity investors use it as a guiding tool. ROIC is derived at by utilizing EBIT and dividing it by average invested capital less excess cash as the measure for ROIC. This measure controls for idiosyncratic differences in capital structure and tax rates across companies and industries.
- **Economic Value Added (EVA).** It is calculated as net operating profits after taxes (adjusted for a variety of factors) minus a capital charge, computed as the company's adjusted book value of capital multiplied by its market-determined cost of capital.

Another VBM metric developed was Cash Value Added (CVA). VBM defines CVA as the difference between Operational Cash Flow (OCF) and the

Operational Cash Flow Demand (OCFD) (Value Based Management, 2008a). OCF is the sum of Earnings before Depreciation, Interest and Tax (EBDIT), adjusted for non-cash charges, working capital movement and non-strategic investments. OCFD represents the cash flow needed to meet the investor's financial requirements on the company's strategic investments; that is to say, the cost of capital.

Return on Capital Employed (ROCE) is another measure that can be used to calculate the efficiency and profitability of a company's capital investments (Value Based Management, 2008). It is calculated by dividing Earnings before Interest and Tax (EBIT), by the difference between total assets and current liabilities.

Total Shareholder Return (TSR) is also a metric that is being used. De Jonge (2003) defines TSR as the change in the capital value of a listed or quoted company over a period. The period is typically one year. TSR is expressed as a positive or negative percentage of the opening value. TSR is also known as the shareholder rate of return, or as total business return.

Economic Profit (EP) has also been used as a metric. EP is also known as residual income. Residual income is the accounting income attributable to shareholders at the end of the period less the accounting book value of shareholder funds at the end of the previous period multiplied by the cost of capital (Starovic *et al.*, 2004:11; Martin & Petty, 2000:81) There are a number of metrics to be used and diagram 2.4. gives a summary of six financial/consulting firms' preferred metrics.

Diagram 2.4: Preferred metrics of financial/consulting firms

	Stern Stewart & Co	Marakon Associates	McKinsey & Co	Price Waterhouse Coopers	L.E.K. Consulting	HOLT Value Associates
Preferred Metrics	<p>MVA (corporate)</p> <p>EVA (corporate, business unit and product line)</p>	<p>Equity Spread (corporate)</p> <p>EP (corporate, business unit, customer and product line)</p>	<p>Enterprise DCF (corporate, business unit).</p> <p>EP (corporate, business unit, customer and product line)</p>	<p>CFROI (corporate)</p> <p>SVA (corporate, business unit)</p> <p>FCF (corporate, business unit)</p>	<p>SVA (corporate, operating level)</p> <p>Change in residual income or change in EVA (operating level)</p> <p>Leading indicators of value (operating level)</p>	<p>CFROI (corporate)</p> <p>Accounting-based measures (lower levels)</p>

Source: Adapted from Ameels *et al.* (2002:27)

2.8 IDENTIFICATION OF VALUE DRIVERS

A sound performance measurement system should cascade down the organisation. Such a performance system should be integrated with the overall business strategy and so ensure that all stakeholders are working together in the same direction. Following the identification of strategic objectives, an organisation should:

- 1 Agree on the key factors and activities that are critical for achieving the objectives; and
- 2 Agree on those areas in which the organisation must excel in order to ensure success.

Many new frameworks and techniques have been developed recently to address some of the issues discussed in the preceding sections and in response to the rocketing interest in performance measurement in the last ten years. Some are

described below. The techniques are not mutually exclusive; for example, activity- and value-based measures can be used as indicators in a balanced scorecard, which can in turn be implemented using a strategic enterprise management system. Arguably, these frameworks add value by offering a different perspective on performance rather than a comprehensive one. The VBM methodology aims to identify the financial and operational “value drivers” that lead to the creation of shareholder value. It is anticipated that once the value drivers and its interrelations are known, it would be possible to improve resource allocation, performance measurement, and the design of information systems by identifying the specific actions or factors that cause costs to rise or revenues to change (Frigo, 2000:1; Marr (2001:17); Haspeslagh *et al.*, 2001:64).

2.8.1 Activity-based costing (ABC)

According to Garrison *et al.* (2006:313), activity-based costing is a “costing method that is designed to provide managers with cost information for strategic and other decisions that potentially affect capacity and therefore cost”.

2.8.2 Benchmarking

Benchmarking is a way of identifying potential improvements in effectiveness and efficiency, in current operations and also in considering future strategy, by looking at how the organisation's performance compares with others. First, the organisation needs to look objectively at its current internal operations and then look at best practices in those areas in other organisations, or other industry sectors. Benchmarking can also be carried out between departments within the same organisation. Since the organisation's situation is often very specific, it tends to be used more for generic or common processes and functions such as human resources and finance. Benchmarking networks and clubs of similar organisations have developed to facilitate comparison.

2.8.3 Balanced scorecard

The Chartered Institute of Management Accountants (CIMA) (2002:8) describes the balanced scorecard as a tool which aims to *articulate, execute and monitor* strategy using a mix of *financial* and *non-financial* measures. Its purpose is to translate vision and strategy into objectives and measures across four balanced perspectives:

- Financial;
- Customers;
- Internal business processes; and
- Learning and growth.

The scorecard depicts strategy as a series of cause-and-effect relationships between critical variables. It gives a framework for ensuring that strategy is translated into a coherent set of performance measures. The use of a hierarchy of scorecards cascading through the organisation ensures that strategy and performance measurement is closely aligned (CIMA, 2002:8).

2.9 REMUNERATION

The paradox of agency, mentioned briefly before, can be a major stumbling block for companies committed to VBM. Mitzenburg (2002) sums it up as follows: “Shareholder value drives a wedge between those who create the economic performance and those who harvest its benefits. Those who create the benefits are disengaged from the ownership of their efforts, and treated as dispensable, while those who own the enterprise treat that ownership as dispensable and so disengage themselves from its activities”.

Employees need to own the performance measurement system that an organisation uses, or it will not be used effectively. The implementation needs to be top-down so that those responsible for setting strategy can determine the objectives and develop appropriate top-level measures. However, where indicators are set for teams or individuals, they should ideally be involved with the process rather than have the measures imposed from above.

A VBM agenda must include an attempt to align – or at least reconcile – the interests of the two parties. It is argued that the most obvious way in which this can be done is by allowing employees to share directly in the benefits created. This effectively means “paying” employees in a way that creates employee-like behaviour. A proposed solution is linking employee rewards to long-term growth in value in practice. This may equate to remuneration structures that include some form of equity-linked compensation not only for senior management but for every employee in the organisation. This approach has already been adopted by some organisations using Employee Share Options Programme (ESOP) plans. In this regard, Coetsee (2003:155-157) reiterates the fact that these schemes are often limited to management and that the workforce are normally excluded from participation.

Harris (2002:3) believes that the readiness of a company for VBM incentive implementation can be defined into three stages:

- **Embryonic stage**

The top financial and operational management of the organisation is committed to VBM, but the supporting systems have not been developed or communicated throughout the organisation.

- **Learning stage**

The planning, financial and other necessary supporting systems have been converted to the requirements of VBM. Most employees have been

introduced and received training on the concept of VBM, but have not had enough experience to understand the impact of their decisions on the value creation process.

- **Mature stage**

Decisions are constantly made with the focus to create shareholder value. The various systems are in place to measure and report results for the various centres, product and customers within the organisation.

2.10 CULTURE

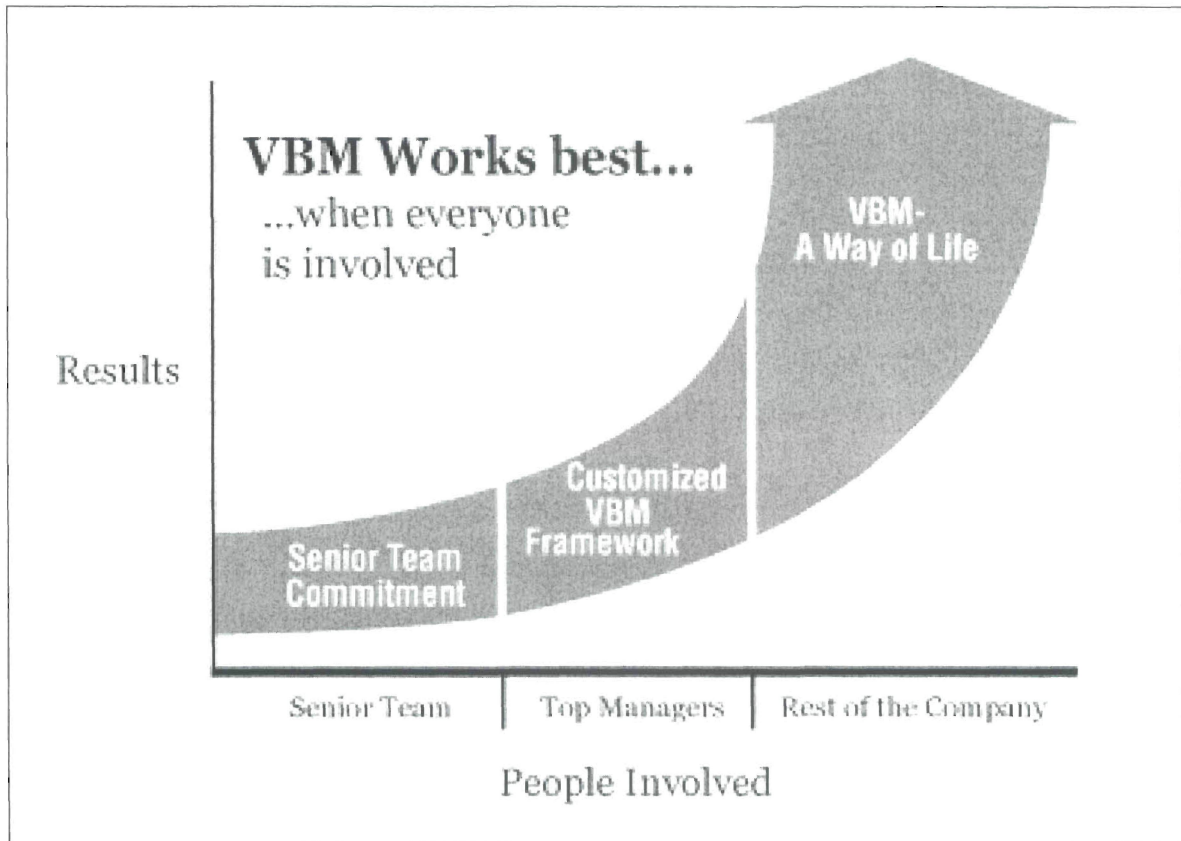
Creating value is not a once-off event that comes about as a result of a major strategic breakthrough. Starovic *et al.* (2004:19) depicts value creation as “a continuous cycle, supported by the sum of strategic and operational decisions made throughout the company. For it to be effective, each one of those decisions, however small, needs to be informed by principles of VBM.” Therefore, in order for value creation to be sustainable, VBM needs to become rooted in the company culture. The “how-we-do-things-around-here” needs to reflect a commitment to VBM. The need to embed VBM principles is often challenged by the fact that a strong focus on measurement might mean that VBM becomes dominated by complicated financial analyses that cannot be translated into actions that are meaningful or applicable in “ordinary” jobs (Starovic *et al.*, 2004:9; Coetsee, 2003:67).

2.11 CONCLUSION

According to Chopp and Paglia (2002:3), when a company implements VBM, it will need to accomplish three steps:

- 1 gain senior team commitment;
- 2 customize the VBM framework; and
- 3 Make VBM a way of life in the organisation.

Diagram 2.5: Maximising the value realised from the VBM implementation



Source: Chopp and Paglia (2002:3)

Whichever approach to performance measurement a company adopts – and indeed whether it chooses to dilute the all-or-nothing VBM methodology – the basic principles remain fundamental. Managing for value starts off from the premise that equity capital has a cost and that a company only makes a profit after it has taken that into account. It serves as a reminder that capital is not difficult to obtain; it is readily available – but at a cost. VBM thus places the interests of owners of companies back in the centre of decision-making. This in turn means those investors can rely on more than just the instruments of

corporate governance to protect them from the possible conflicts of interest arising from the split between ownership and management. In this way, managing for value has the potential to bring the two sides of the enterprise governance framework closer and join them in a more comprehensive approach to management.

CHAPTER 3

VBM: THE ANGLO PLATINUM CASE

3.1 INTRODUCTION

Organisations today are complex diversified entities, trading on multiple continents with a broad range of products, services and markets. Therefore, organisations have typical hierarchies consisting of various business units. To ensure goal congruence, it is implied that these business units should have the same metrics. In Chapter 3 the following sub objectives are addressed:

- Key success factors for a VBM implementation; and
- The application of VBM at the organisation.

This chapter will also provide a brief description of the main activities of Anglo Platinum as well as the application of its final product.

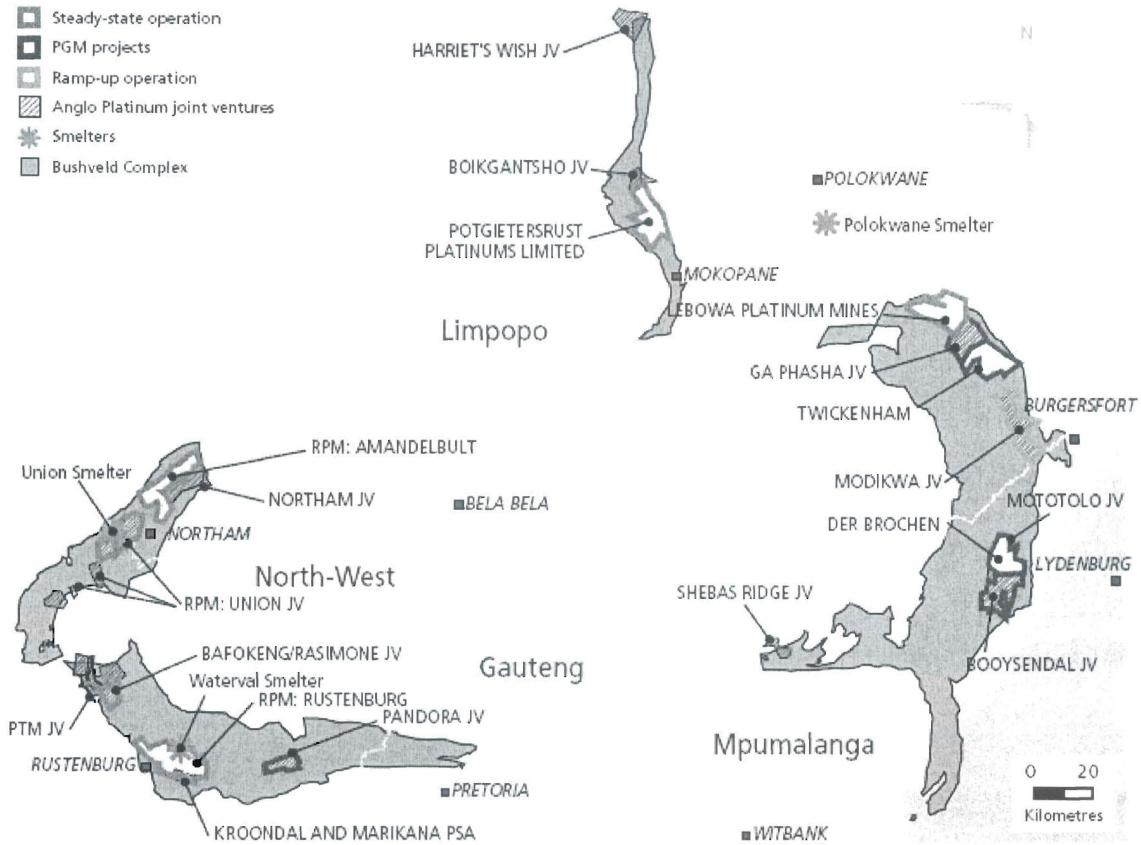
3.2 COMPANY BACKGROUND

Anglo Platinum is the largest Platinum Group Metal (PGM) producer in the world, accounting for 40% of global platinum supply and 19% of global palladium supply. Its operations are focused primarily on the Bushveld Igneous Complex (BIC), home to the largest-known PGM deposit in the world (Froneman, 2007:1).

Anglo Platinum shares the same underlying VBM processes as other divisions in the Anglo American group. One of Anglo Platinum's main challenges is to maintain its dominant position as the largest producer of refined Platinum Group Metals (PGMs). To succeed, it becomes crucial that each business unit focuses

on value creation. Diagram 3.1 indicates the geographical areas of the different operations.

Diagram 3.1: Geographical area of operation



Source: Company data

3.2.1 The mining process

All of the PGMs occur in close association with one another, together with nickel, gold and copper. The production of a single ounce of platinum requires between 7 and 25 tonnes of ore, depending on the ore grade (Fitzpatrick, 2007:9).

Once the ore is extracted it is crushed and ground and then concentrated, using the froth floatation method. The concentrate is dried, smelted, and air is blown

through to remove iron and sulphur. Base metals, gold and the individual PGMs are then separated through several stages of refining, separation and purification.

3.2.2 PGMs supply and demand

- **Production and reserves by geography**

PGMs are extremely scarce, with 78% of global platinum production sourced from South Africa, and 51% of Palladium sourced from Russia. Other sources include Zimbabwe, Russia, Canada and the USA. South African mining is centered round the Bushveld Complex, with the Merensky reef accounting for approximately half of platinum production in South Africa, whilst Russian operations are based within the Ural Mountains (Fitzpatrick, 2007:23).

- **Applications and consumption**

PGMs' high resistance, high melting point and stable electrical properties have been exploited for industrial applications. Platinum, palladium and rhodium are all used in the auto catalyst industry. Demand for platinum from the auto catalysts sector has grown rapidly since 1999 from 1.2 million ounces in 1999 to over 3.5 million ounces in 2006, driven by stricter emissions legislations favouring diesel engines and supported by the improved performance of modern diesel engines and higher fuel prices (Fitzpatrick, 2007:9).

Platinum's high resistance to tarnish, strength, malleability and rarity make it well-suited to the fine jewellery market and more precious than gold. Other industrial uses for PGMs include the manufacture of nitric acid, hard disks, silicones, dental work and glass. Platinum is also used as an investment metal; however, demand has declined over the last decade to nominal levels.

3.3 VBM AT ANGLO PLATINUM

The theory in simple terms is that superior shareholder returns are the result of superior financial performance, which is driven by the development and delivery of distinctive business strategies. To develop and implement these strategies consistently requires outstanding organisational capabilities in terms of highly capable people, common and consistent processes, and superior insights relative to competitors on the future sources and drivers of value. VBM is a major programme within Anglo American (Anglo), centred on a culture of driving value-enhancing behaviours which in turn contribute towards market-beating shareholder performance across the business.

3.3.1 Key success factors for a VBM implementation

Anglo Platinum's VBM programme is about instilling a new mindset and better decision-making capabilities across the organisation through the embedding of a common set of beliefs, principles, processes and tools.

The key tenets of VBM at Anglo Platinum are:

Beliefs

Anglo's governing objective is to maximise shareholder value;

- Value of each Business Unit (BU) and the company can be explicitly managed, and
- Maximising long-term value serves the interests of all of the company's stakeholders.

Principle

- A common language, standards, and processes are used to align decisions and actions across the company and over time.

Requirements

- Stretching internal performance goals consistent with capital market aspirations;
- Granular understanding of the sources and drivers of value;
- Focused value improvement agendas at group and BU levels;
- Distinctive business models with high value growth potential; and
- A common, disciplined and integrated management model.

3.3.2 The application of VBM at the organisation: The Anglo Platinum VBM methodology

There are essentially seven key elements to the VBM methodology being followed by Anglo:

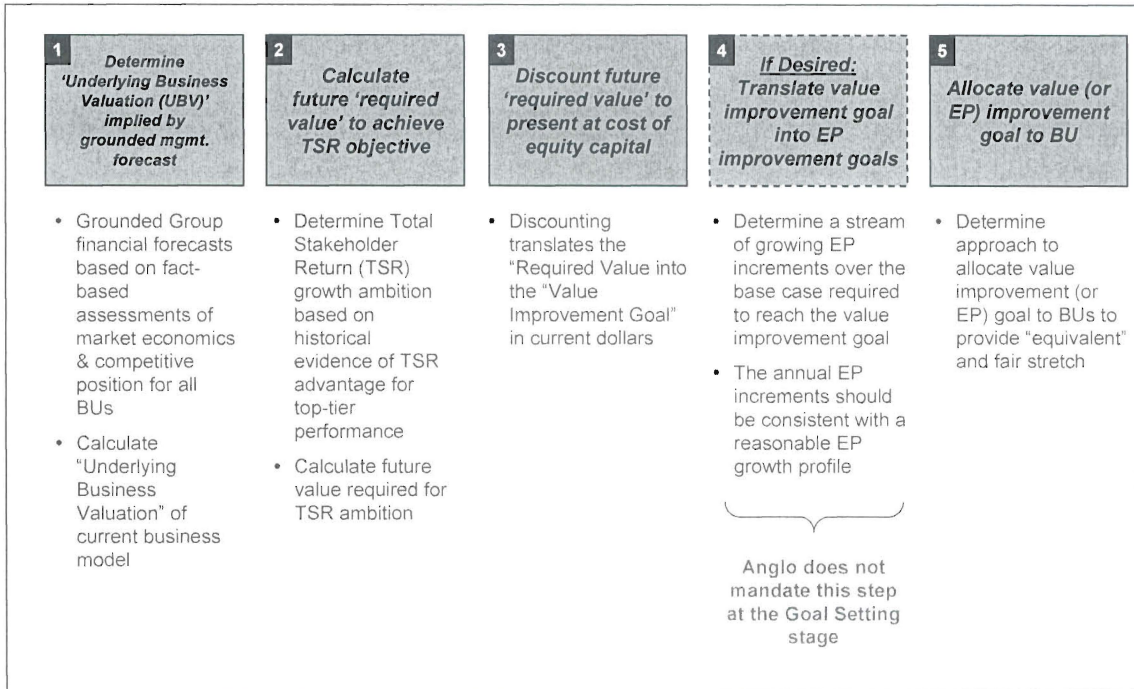
- Goal setting;
- Closing the value gap – initiative identification;
- The project lifecycle and VBM reporting scope;
- Classification of initiatives and projects;
- Underlying business valuation (UBV) versus value improving;
- The VBM reporting regime; and
- How VBM reporting will be different to current continuous improvement reporting.

(Source: Anglo Platinum, 2008:6)

Goal setting

There are five key stages to the goal-setting process as defined with Anglo's VBM methodology, and set out within the VBM practitioner training:

Diagram 3.2: Key stages of goal setting

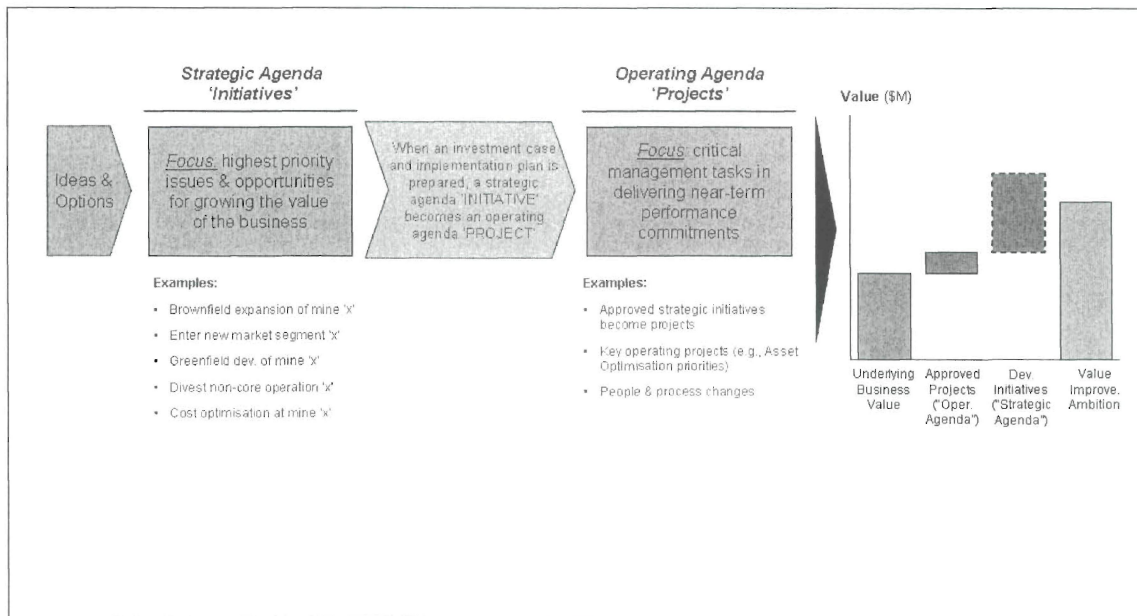


Source: Company data

Closing the value gap – initiative identification

The financial and strategic 'fact-based assessments' provide the basis for management agreeing and prioritising the management agenda. Generated from these fact-based assessments will be a 'strategic agenda' of initiatives, which will form the basis of a subsequently developed 'operating agenda' of projects as illustrated below:

Diagram 3.3: Operating agenda of projects



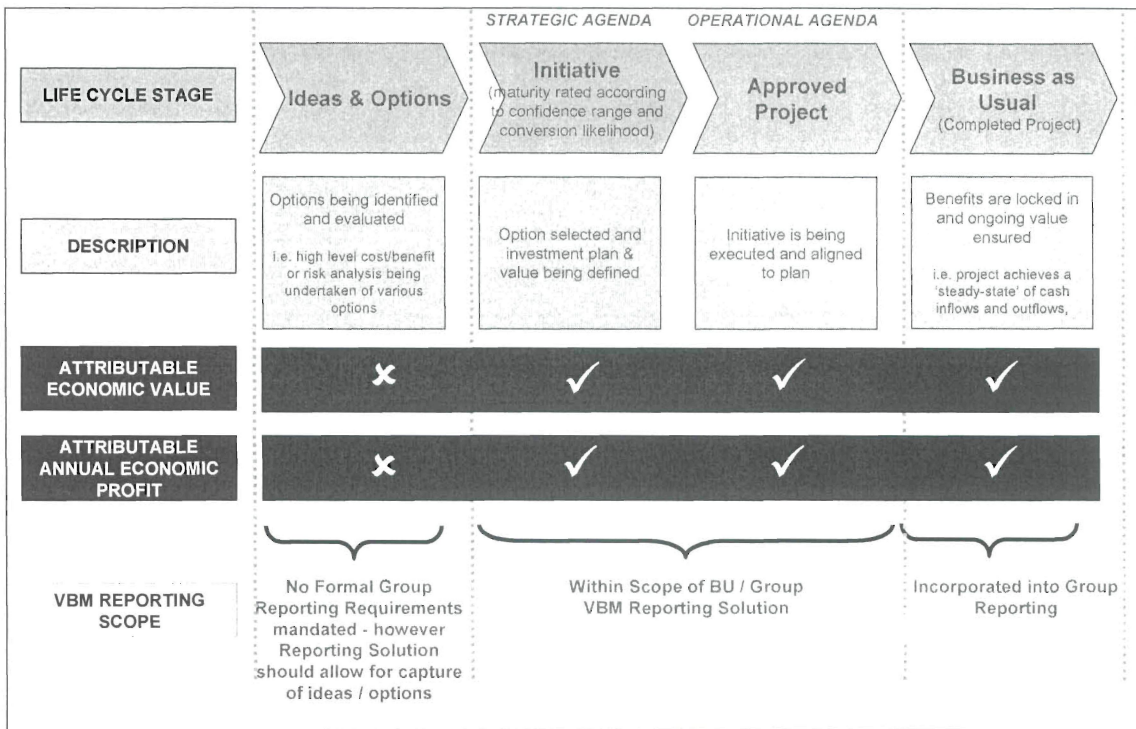
Source: Company data

It should be noted that not all initiatives will necessarily result in approved projects. Thus, the aggregate value of the underlying business valuation (UBV), operating and strategic agendas should be in excess of the value improvement ambition.

The project lifecycle and VBM reporting scope

There are effectively four stages in a value-based improvement programme, which are illustrated and described below:

Diagram 3.4: The project life cycle and VBM reporting



Source: Company data

It is envisaged that initiatives and approved projects will form the main thrust of the ongoing scope of the BU and Group VBM reporting solutions. However, the final solution will enable 'ideas and options' to be accommodated, although it is not envisaged that any potential Economic Value (EV) associated with such 'ideas and options' will be consolidated into the reporting of EV at either the BU or Group reporting level.

When an idea or initiative is first reported upon within the VBM reporting tool, it will be given a unique identifier, so that it can easily be tracked as it progresses through its various stages of development.

There will be an element of judgement required by businesses in determining when an idea or option can be upgraded to an initiative.

Guidelines to support management in this judgement might include:

- Different options have been identified and evaluated;
- There is a reasonable level of assurance that there is some achievable and reportable economic value at stake; and
- A project team has been set up to explore the initiative further with a clear brief, objectives, scope and sponsorship.

Initiatives will gradually increase in their maturity as they progress towards approval. The maturity of each initiative will be recorded across two dimensions:

- Level of confidence in the financial estimates; and
- Likelihood of the initiative being approved and converted into a product.

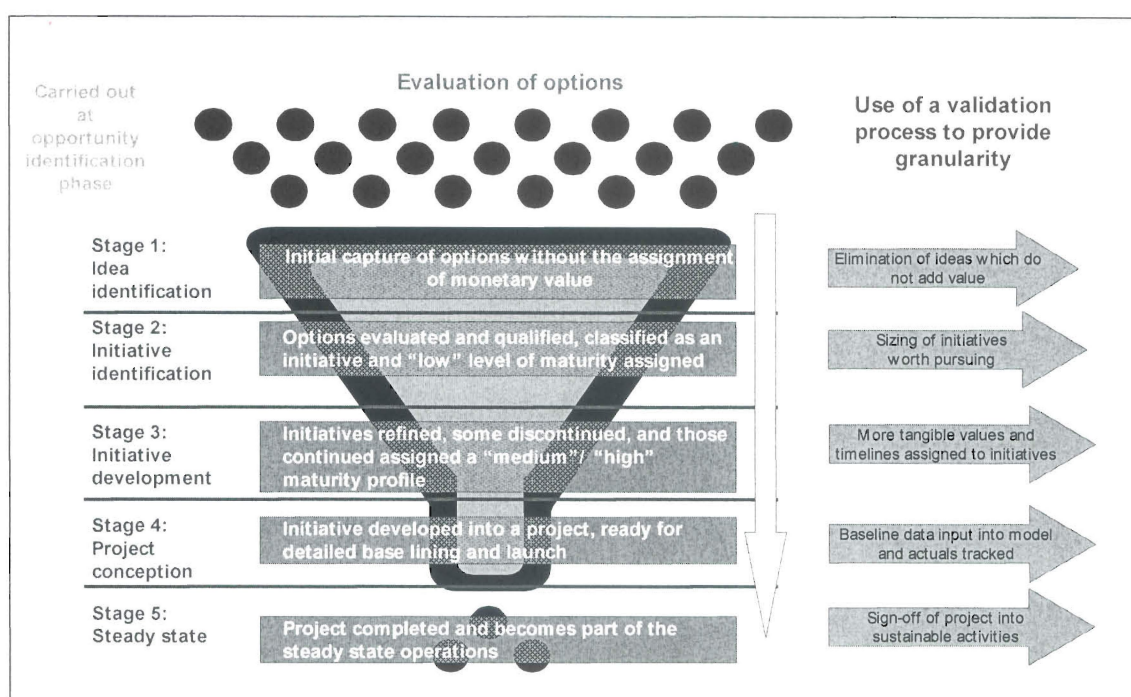
As an initiative matures and more granularity around the financial data and the project timelines are established, the confidence around the data associated with the initiative becomes greater.

The confidence levels given to initiatives are for information purposes only. The profit flows are already calculated on an 'expectation concept' basis, such that there should be equivalent upside and downside risk. Thus, there will be no corresponding confidence related reduction in Economic Profit (EP) or Economic Value (EV) applied when initiatives are aggregated.

However, as the initiative matures, the likelihood of conversion becomes greater. Hence, there will be the option to apply a conversion percentage to each initiative's EP and EV as they are aggregated to Business Unit (BU) and Group level.

Initiatives may be culled at any stage of maturity, as illustrated by the funnel below:

Diagram 3.5: Stage of maturity of initiative



Source: Company data, own research

An 'initiative' becomes a 'project' once the investment appraisal, incorporating the plan, milestones and budget, has been approved for implementation. When a project reaches a 'steady-state' of economic profit flows (becomes business as usual), the project will be signed off as complete, and no further separate 'project' reporting will be required. Management judgement will be necessary in defining when this point is reached, but some guidelines are set out below:

- New operating practice is embedded into the normal business operations.
- Capital investment is complete.
- No more 'one-off' cash flows occur.
- The project team is disbanded, and day-to-day management is transferred to operational management.
- The project commissioned and 'ramp-up' to operational capacity / production levels are complete.

3.4 VBM REPORTING

The scope of VBM reporting is primarily focused on value improvement rather than 'underlying business value' initiatives and projects. However, BUs will also be able to report 'UBV', or stay in business or enabling initiatives and projects through the VBM reporting process.

CHAPTER 4

RESEARCH: ANGLO PLATINUM

4.1 INTRODUCTION

The purpose of the research was to understand the current business targets managers use, the information and measures used to measure the success of the business and to relate this back to the benefits that VBM offers to organisations. The results from the research conducted within Anglo Platinum to establish the current level of knowledge and use of VBM within the organisation, and also the need for VBM-related information are provided. The second objective of the research is addressed within chapter 4, namely to determine the use of and exposure to VBM and related principles within the organisation.

According to Trochim (2004), research design can be viewed as the structure of the research that holds the elements in the research project together. Trochim furthers that there are three broad types of research designs:

- Randomised, or true experimental design is the strongest design and is used especially when cause-and-effect relationships are tested within the research, such as experimental research. Specific causal hypothesis is tested within experimental research.
- Quasi-experimental design is typically used when comparative research is done on two groups, which is perceived, but not proven to be similar. In this design, it is assumed that there is an underlying knowledge of the research problem. In quasi-experimental research averaging is made possible through the use of a representative sample of the population.

- Non-experimental design or exploratory research is used when little or no information is available regarding the research problem.

A research questionnaire was drawn up with the purpose of understanding the information that is currently used for business performance measurement and decision-making, and the importance of such information. Within the literature research thus far, the various proponents had specific opinions regarding traditional accounting and related measures. The intention is to determine how important those measures are within Anglo Platinum compared to some of the VBM measures. From the research, assumptions can be made regarding the need of VBM-related information within the organisation. The second part of the questionnaire focused on the current awareness of VBM principles within the organisation. The various managers within Anglo Platinum could have been exposed through various means to VBM, and might have an already formed opinion of VBM. This information can assist in the determination of the receptiveness to a concept of VBM within the organisation.

The type of research for this questionnaire is the quasi-experimental design. Quantitative research through the use of manual and electronic mail surveys was employed. The respondents that completed the survey would form the sample of the population. The quantitative research paradigm was appropriate for the questionnaire, since the aim was to determine the quantitative usage and the degree of comfort that the respondents have with traditional measures and VBM. The variables and areas of research were known from the experience and exposure that the researcher had within the organisation as well as from the literature research. Within the set parameters the opportunity were given for respondents to provide information on “unknown” variables. The obtained information was processed by the Statistical Consultation Services of the North-West University (Potchefstroom campus). See Annexure A.

4.2 DATA PREPARATION

A quantitative study was done to collect primary data through the use of standardised questionnaires that were distributed to respondents at Bleskop and Brakspruit shafts as well as all the accountants at Rustenburg Platinum Mine, which forms part of Anglo Platinum. The researcher made use of the North-West University's Statistical Services to interpret the results. The questionnaires were submitted manually. For each question, graphs were drawn to show the distribution of the answers received. This assisted to determine possible capturing errors.

4.3 RESEARCH FINDINGS

4.3.1 Demographics of the respondents

The respondents were asked in questions 1 and 2 to complete demographical information on their position within the shaft and the line of business they are part of within the mine. The intention was twofold:

- To ensure that the sample represents the identified population; and
- To determine if there are differences in the results based on the individuals' level or line of business.

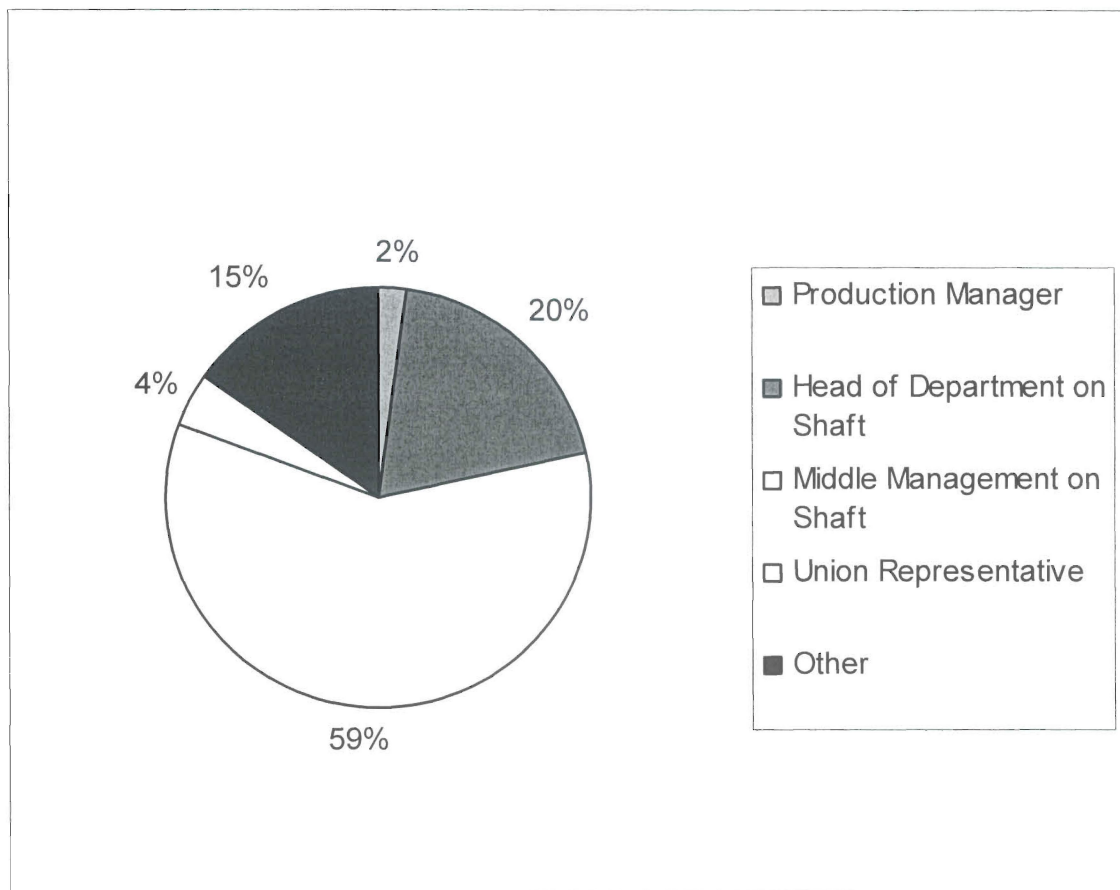
During the testing of the results no major shifts in opinions could be drawn based on the respondents' position within the organisation or the line of business.

Question 1: Results

The intention of this question was to ensure that the sample represents the identified population in terms of the various organisational positions in the organisation.

The results of question 1 are presented in diagrams 4.1 below.

Diagram 4.1: Organisational position

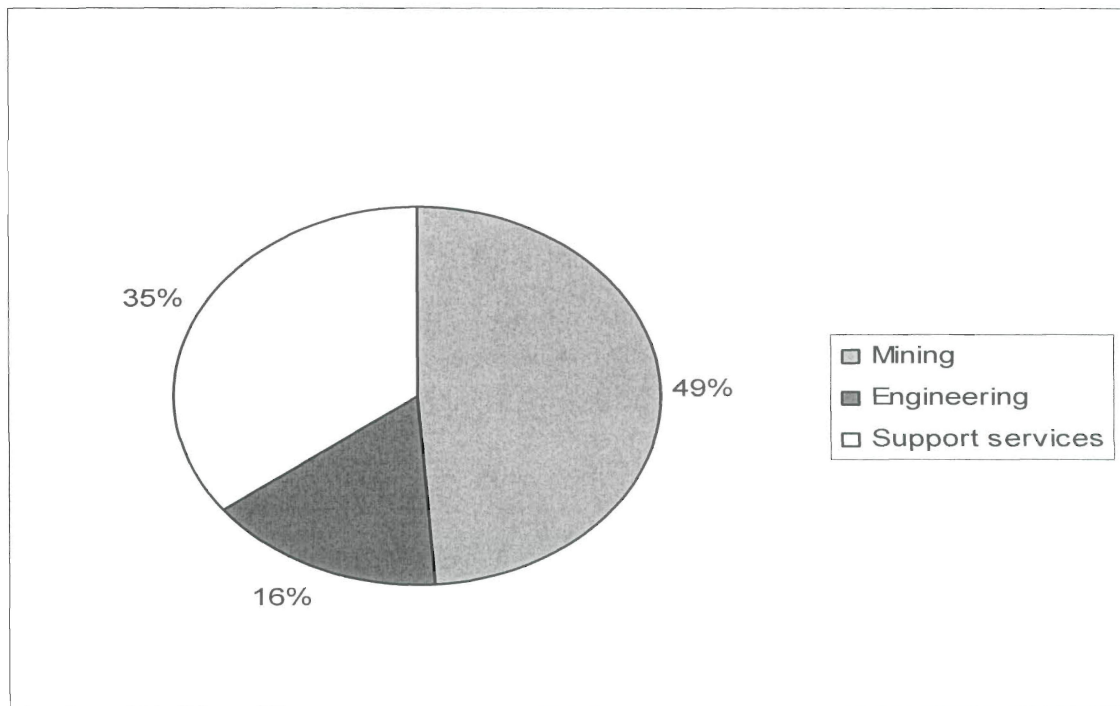


From diagram 4.1 above, it is evident that the responses received represented various organisational positions within the organisation. Although the number of respondents was the lowest at production manager level, it is important to note that the population at the production manager level is the smallest, one per shaft.

Question 2: Results

The intention of this question was to ensure that the sample represents the identified population in terms of the area of responsibility.

Diagram 4.2: Department of responsibility

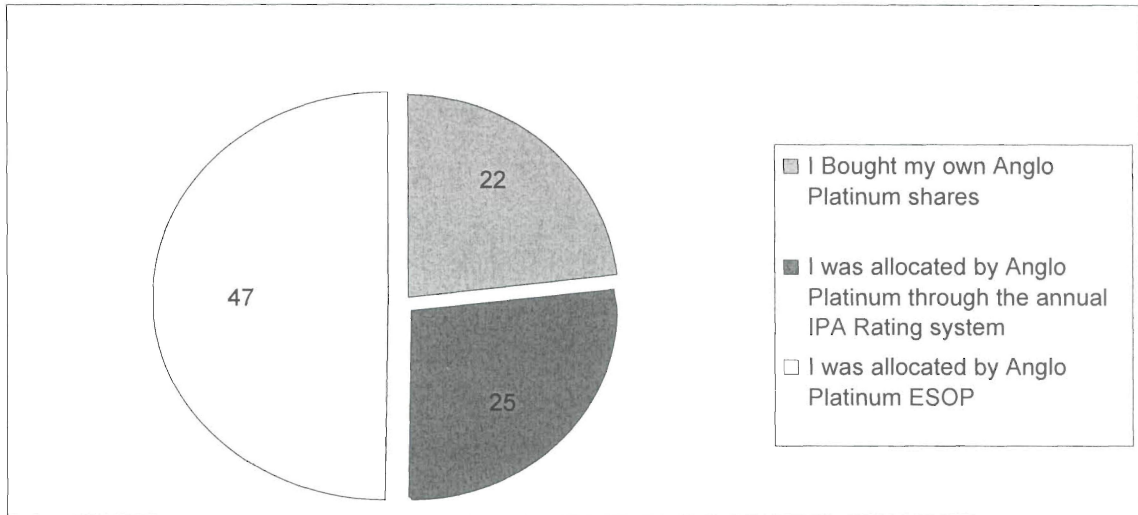


From diagram 4.2 above, it is clear that the majority of respondents are part of a mining area of responsibility (49%). The second highest response was from respondents in support services departments (35%). Responses were also received from the engineering department (16%) and support business units (6%).

Question 2.1: Results

The intention of this question was to establish whether the respondents were shareholders of Anglo Platinum, and how the respondents obtained the allocated shares.

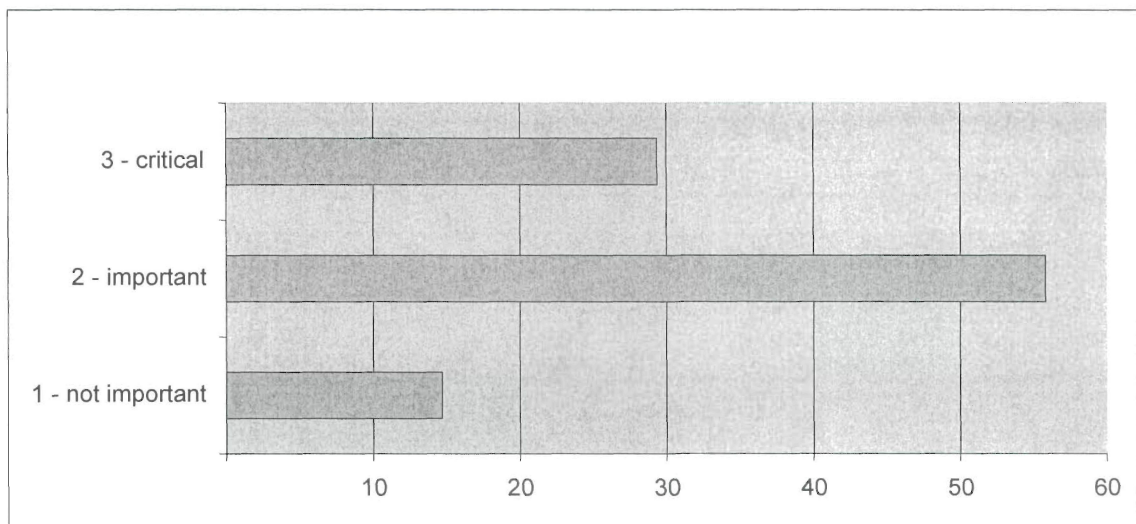
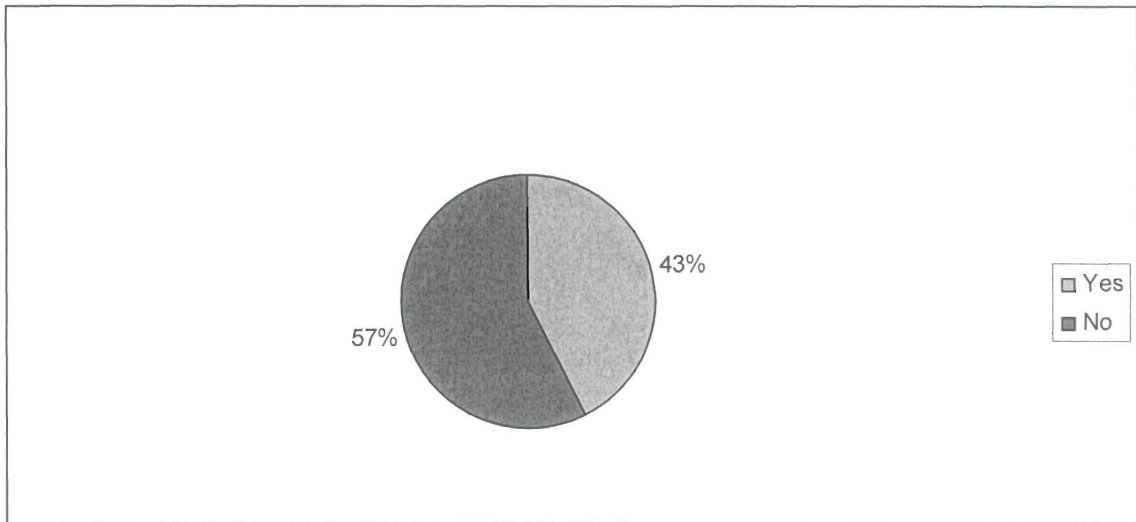
Diagram 4.3: Share Scheme participation



All employees at Anglo Platinum are shareholders of the company, with 47% of the employees who received their shares through the Employment Share Option Scheme (ESOP).

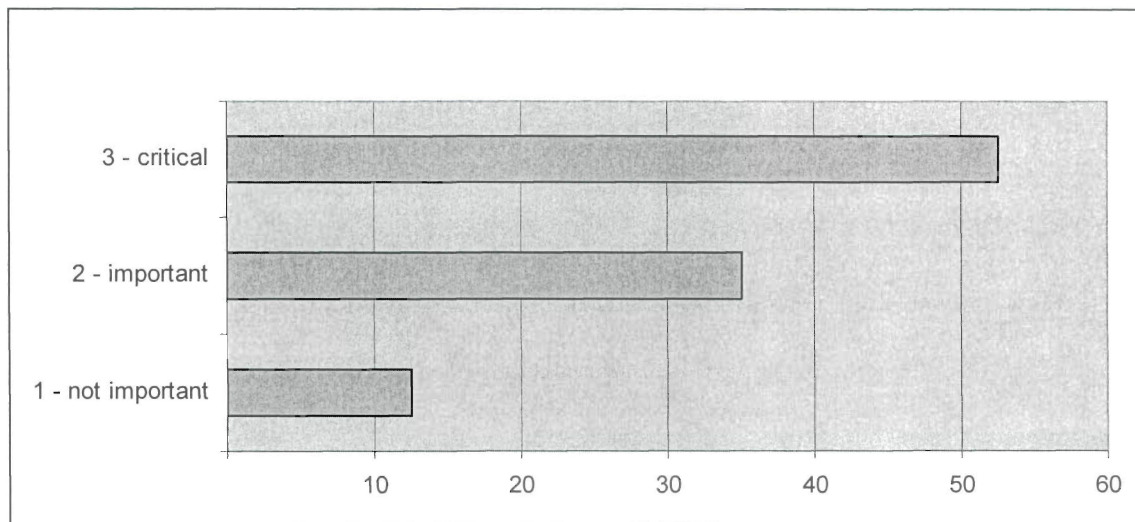
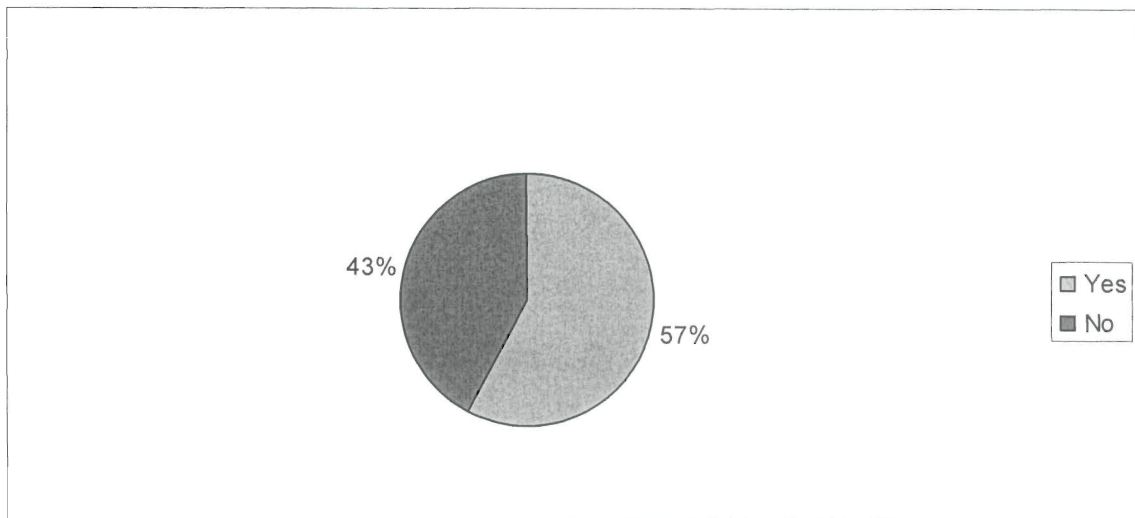
The following graphs depict the core explicit business targets to be achieved and their rating in terms of importance.

Diagram 4.4: Increase earnings before interest and tax (EBIT)



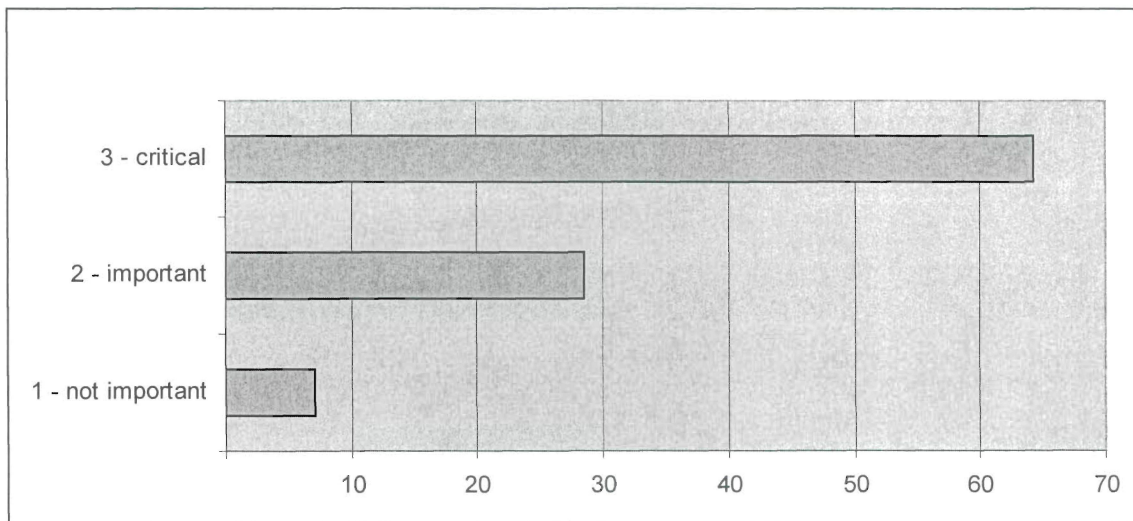
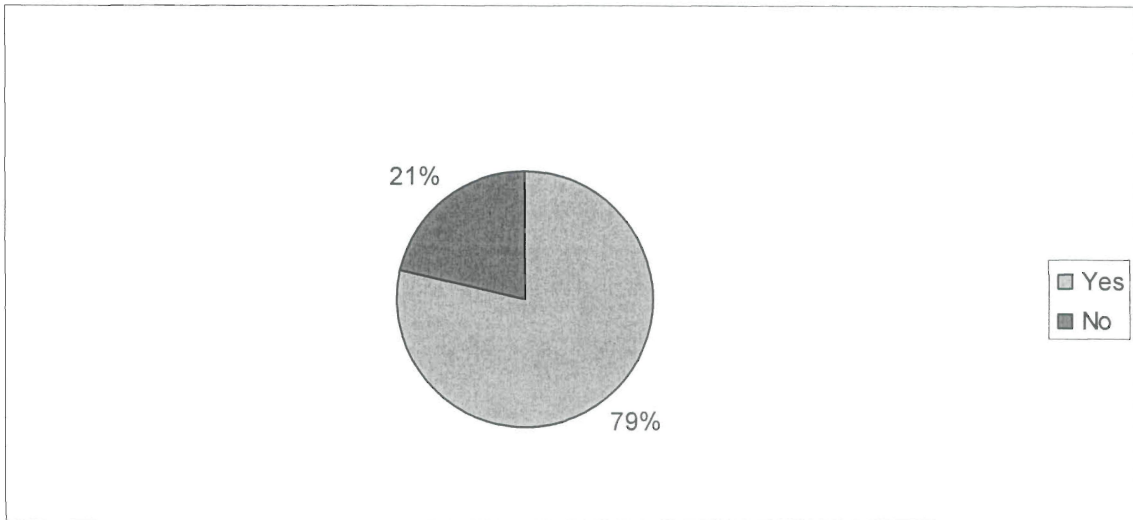
EBIT measures the financial performance of an organisation by calculating revenue minus expenses excluding tax and interest paid. Thus, an increase in EBIT will result in higher shareholder value.

Diagram 4.5: Rand per ton efficiency



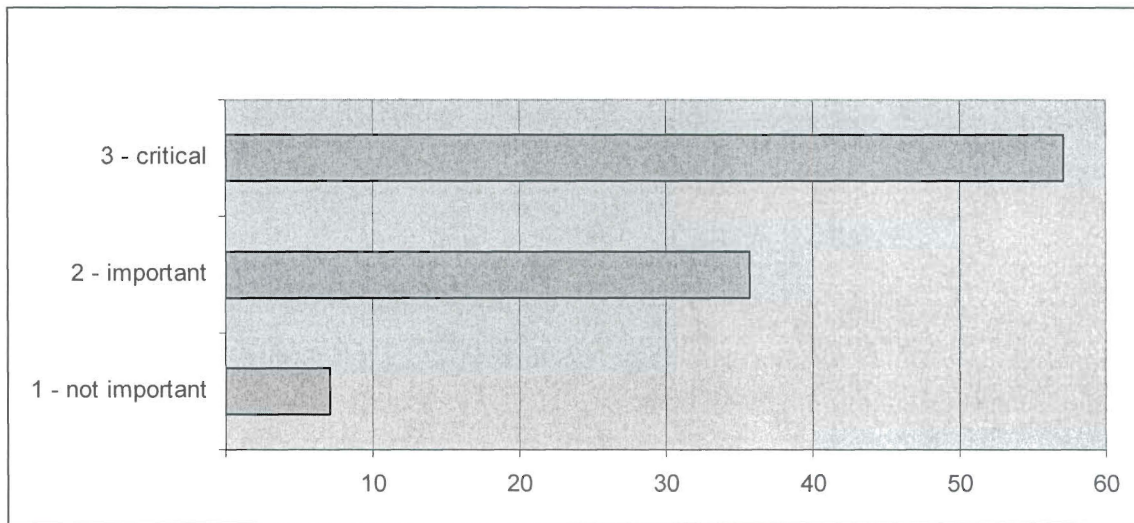
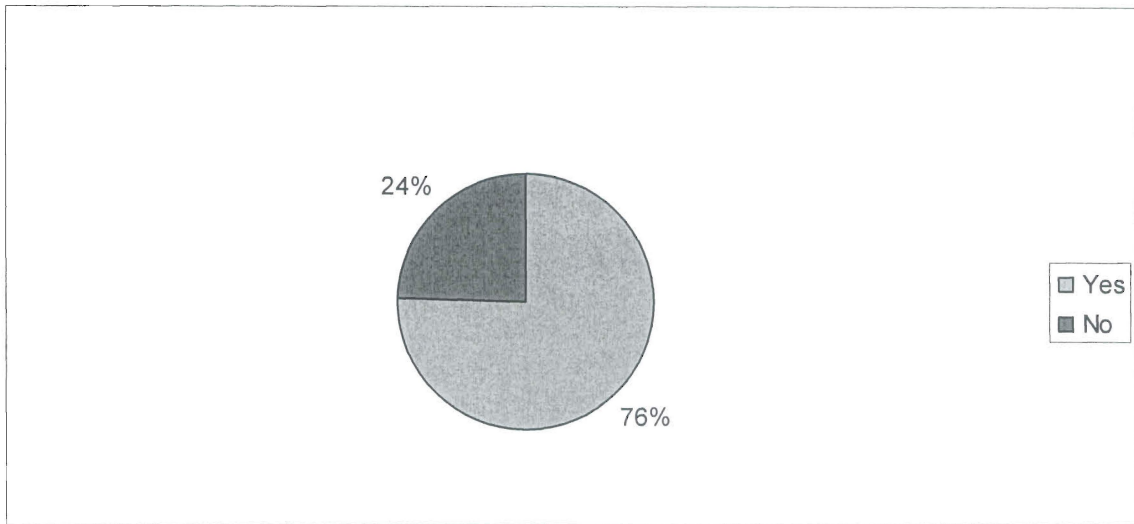
Rand per ton is an efficiency indicator that highlights the cost applied to break one ton of ore. Reducing the current rand/ton would result in an increase of NOPAT.

Diagram 4.6: Improved safety performance



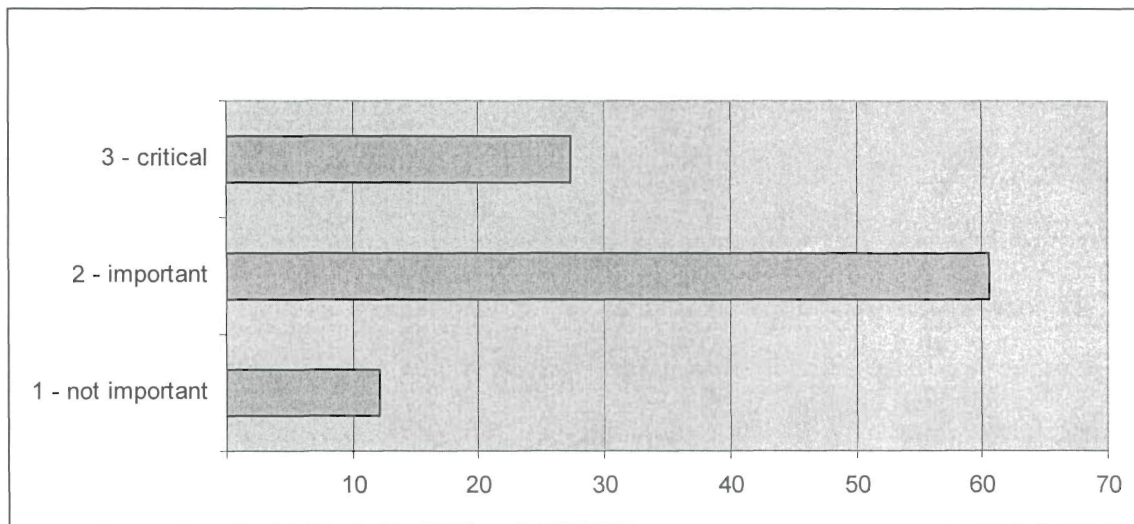
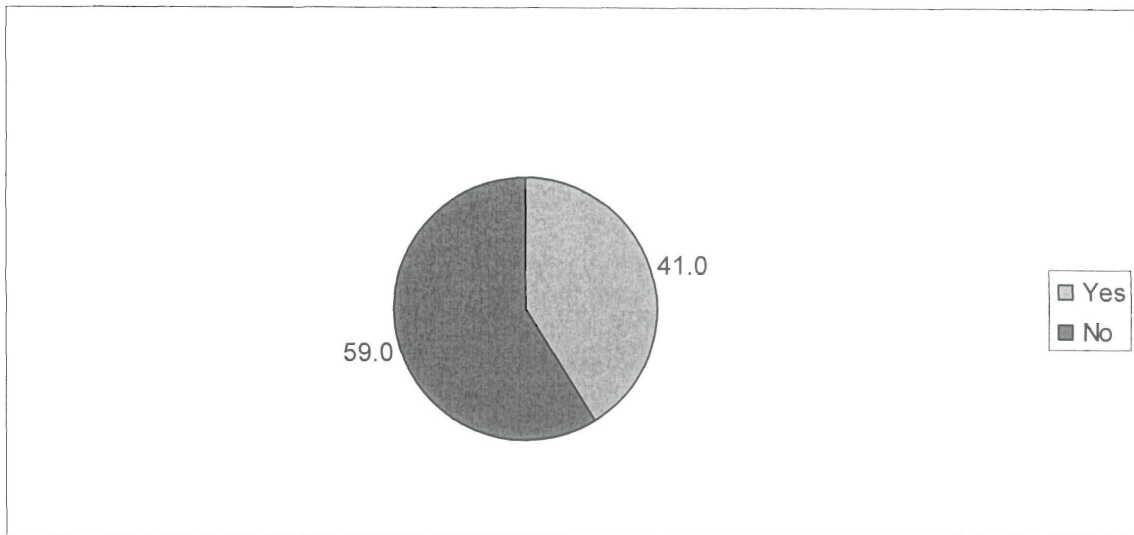
Safety in operations is now a critical issue for mining companies to address. In today's environment where safety performance is attracting increasing public attention, poor safety management can have value-destroying consequences. For example, in July 2007 the poor safety performance at the Rustenburg Platinum Mine led to its temporary closure resulting in lost production.

Diagram 4.7: Importance of sustainable mining



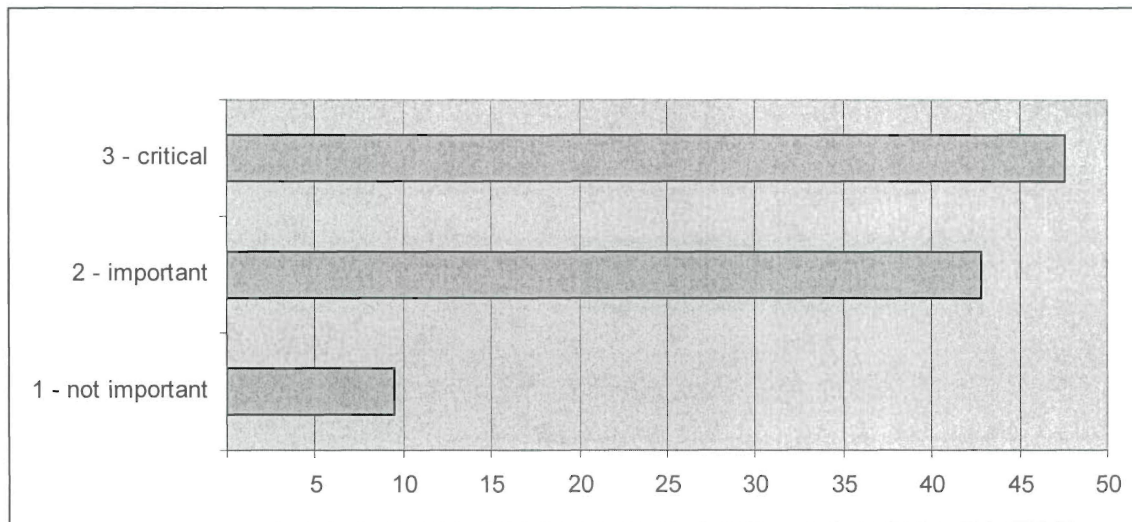
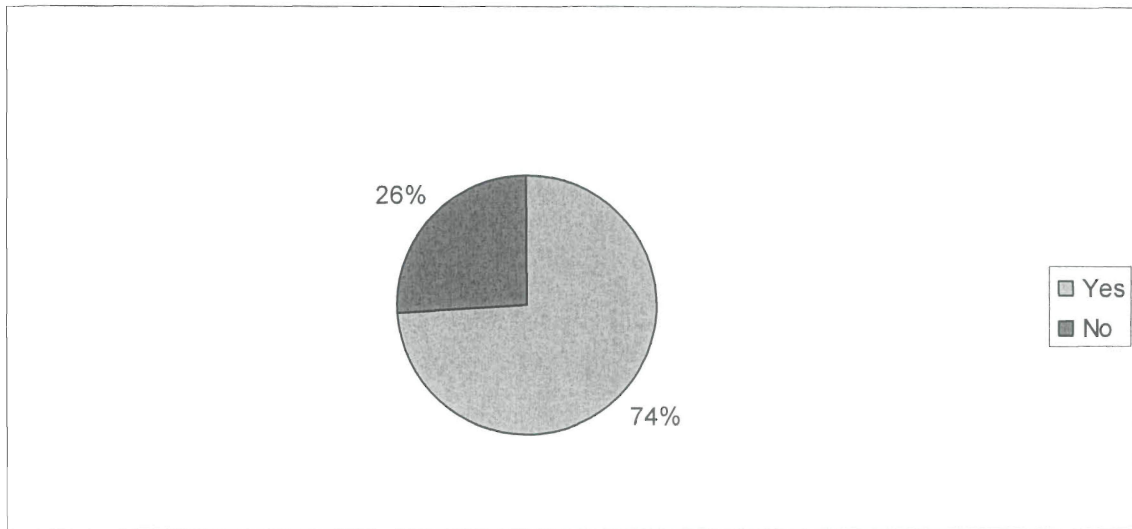
Sustainability mining ensures that good practice lessons from projects and mining methods can be replicated around a company's portfolio. Important factors include senior management commitment, strategic vision, operational and risk management systems, transparency and financial disciplines.

Diagram 4.8: Focus on explicit shareholder value



It can be argued that the aim of the VBM programmes within Anglo Platinum is to align decision-making to create a focus on explicit shareholder value creation.

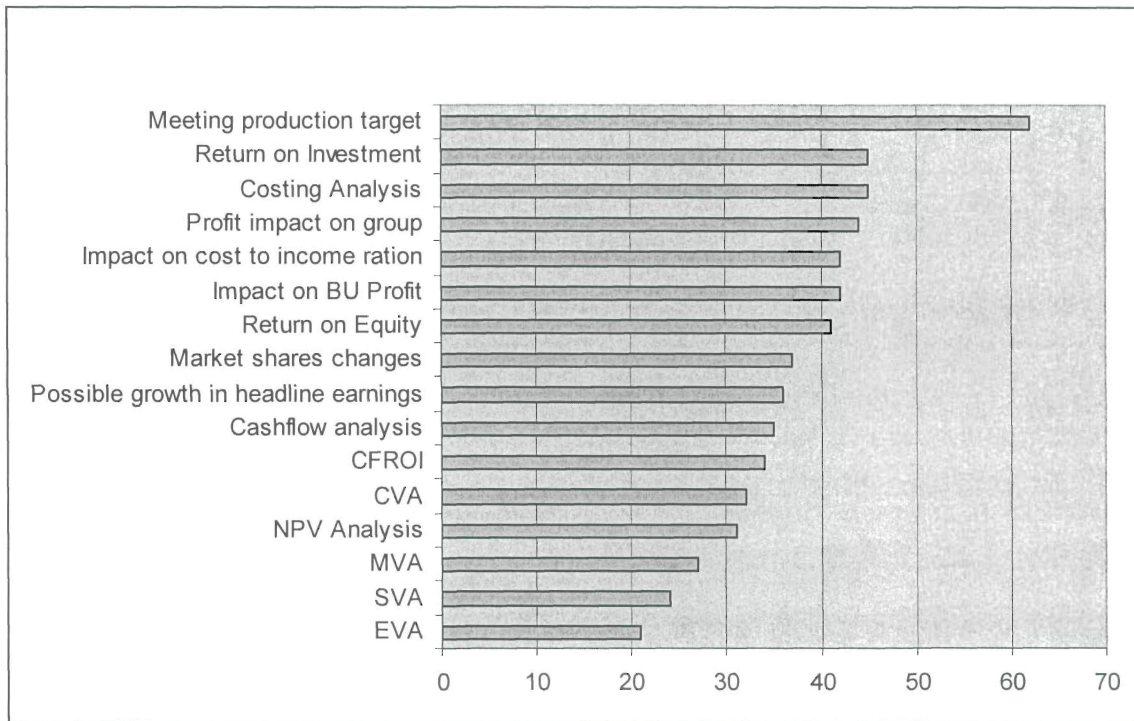
Diagram 4.9: Do better than budget



The majority of the respondents (74%) indicated that one of the core explicit business targets was to do better than budget.

The following graph depicts the information considered to measure the success of the business unit. The information is based on the percentage of respondents who rated the particular information as critical.

Diagram 4.10: Information considered measuring the success of the business unit



From diagram 4.10 above, it is evident that the most important consideration for the respondents in decision-making is the production targets. The return on investment was also considered to be a major measurement of the success the business unit has achieved. This is followed by understanding the impact that decisions have on the profit of the business unit. Costing analysis, return on investment, net present value analysis, the possible growth in headline earnings and return on equity were all rated by the respondents of high importance.

Current level of exposure and perception of value-based management

The next section of the questionnaire focused on the exposure of the respondents to VBM as well as how VBM is perceived. This was important to determine the receptiveness of VBM within the organisation.

Diagram 4.11: VBM exposure

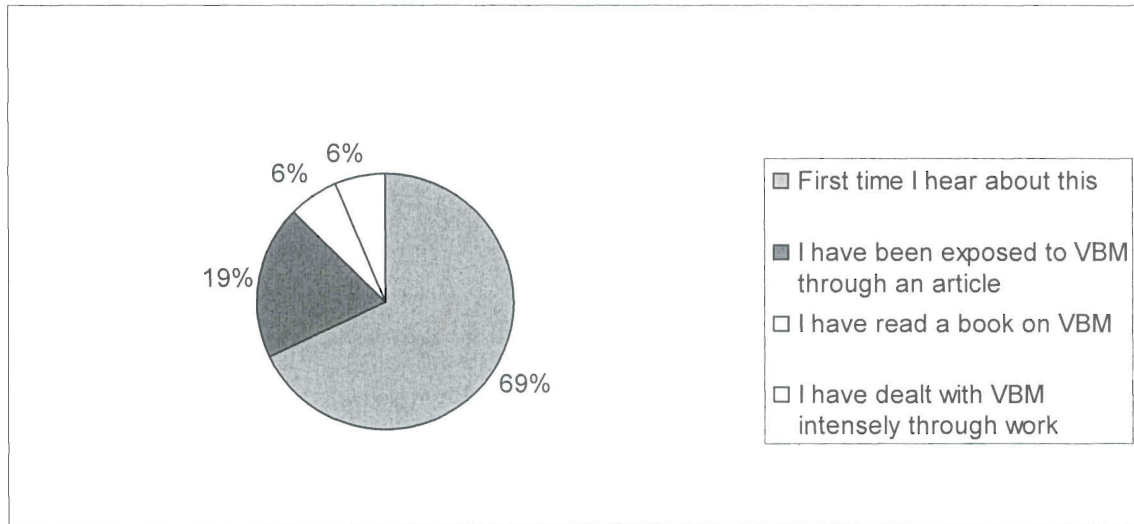
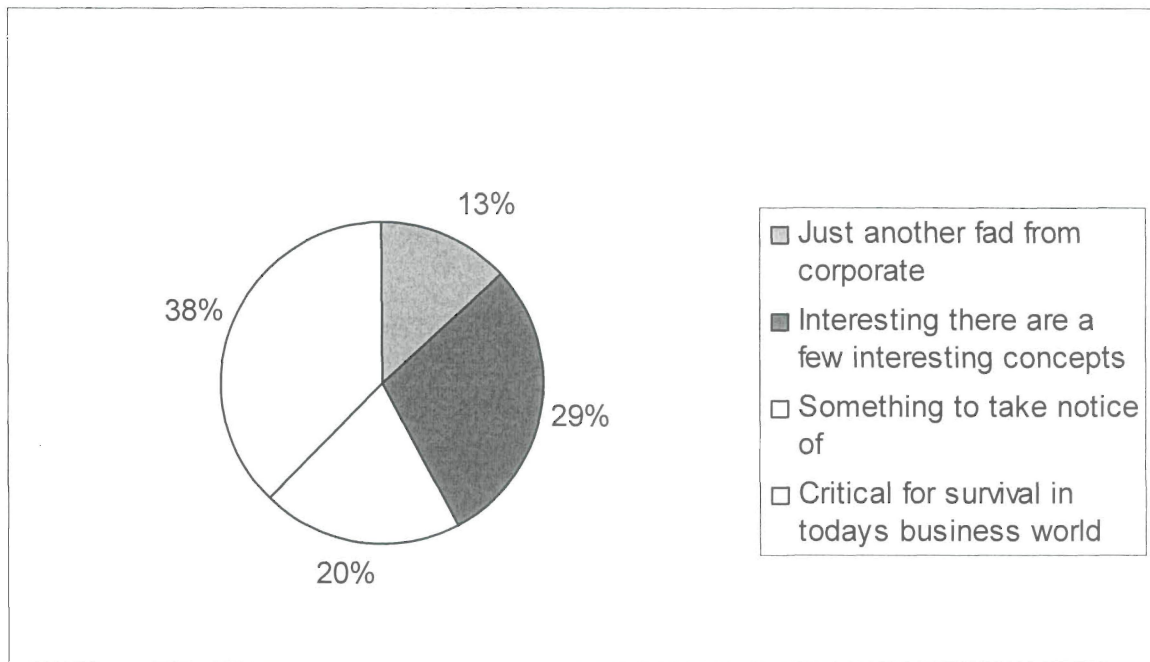


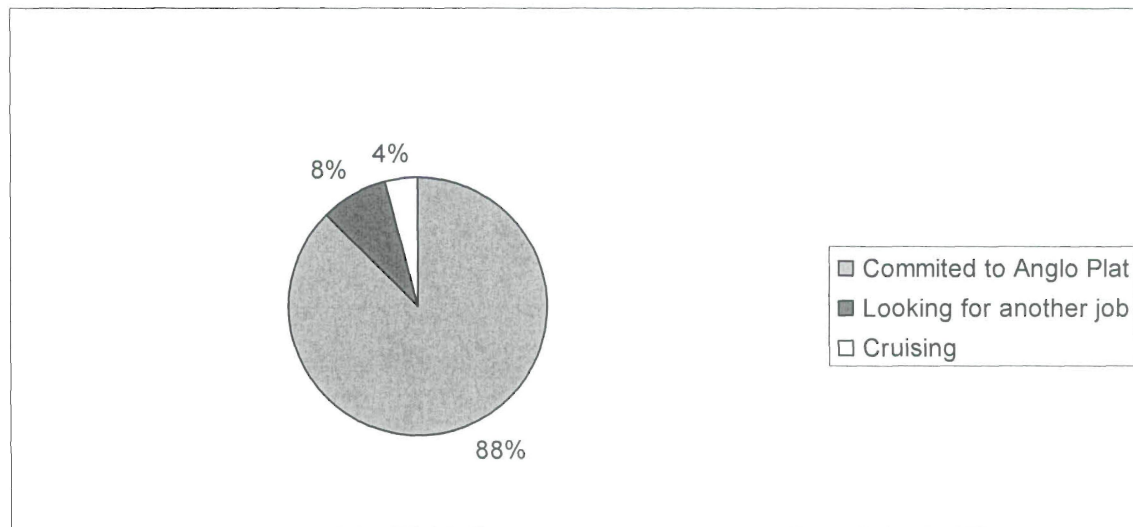
Diagram 4.11 illustrates how the respondents have been exposed to VBM. The respondents were asked to indicate their general perception of VBM.

Diagram 4.12: Perception of VBM



From diagram 4.11, 20% of the respondents felt that VBM is something to take notice of and 29% believed that VBM is interesting and that there are a few interesting concepts within VBM. Only 38% believes that VBM is critical for survival in today's business world. Some of the respondents (13%) felt that VBM is just another corporate fad.

Diagram 4.13: Commitment to Anglo Platinum



Aligned commitment within Anglo Platinum today is readily accepted as a critical success factor in the pursuance of optimal corporate performance. Possible bias might exist that might distort the interpretation of the commitment of respondents to Anglo Platinum.

Interpretation of the results

The following interpretations are from the research results provided above:

Prominent measures and tools used and its importance

The most prominent core business targets respondents would like to achieve are improvement of safety (79% of the respondents), sustainable mining (76% of the respondents) and 57% of the respondents would like to reduce the R/Ton delivered to concentrator efficiency.

To measure the success of the business, the most prominent information used to measure business success is to meet production targets. Production targets are used by 62% of the respondents. The impact a decision has on the profit of the company is used by 45% of the respondents. Other key information inputs are

return on investment (ROI) and cost to income ratio, which are both used by 44% of respondents. The return on equity (41%) and market share data were also used by the respondents and received high importance ratings. Evidently, the key business targets and measures centre around production, the income statement and cost-related information; the focus on cost to income ratio is more to maximise income than to decrease or focus on cost containment. VBM-based targets and measures (EV, EVA, CFROI, MVA, SVA and CVA) do not feature at all as core business targets are seen as the most important information to measure business success.

4.3.2 Exposure to and perception of VBM

Most respondents (69%) have not been exposed to VBM. However, 25% have had exposure through an article, presentation or have read a book on VBM. A number of the respondents (13%) felt that VBM is another fad from head office.

4.3.3 Observations from the research

From the literature and empirical research the following observations are made:

Observation 1: Management lack an understanding of VBM.

Resources has been allocated to brief, inform and to explain VBM to all levels of management at Anglo Platinum since September 2007. Management has been briefed and informed through presentations, brochure hand outs, live webcasts on the intranet, and a dedicated link to all Anglo Platinum VBM information. Despite this, the majority of the respondents indicated that it is the first time that they have heard about VBM.

Observation 2: There is a disconnection between the mandate from executive management and operational management in Anglo Platinum in terms of shareholder value creation.

Senior management at Anglo American has stressed the importance of achieving shareholder prosperity on numerous occasions; this is not practiced in the daily lives of the operational management. The following might be reasons:

- VBM-related information is not part of the key business targets or information used to measure business success.
- There is only limited use of VBM information in decision-making.
- If management were serious about shareholder value creation, one would expect more VBM-based information to be part of the core business targets and measurements.
- It was highlighted that if value creation is the core focus of the organisation, all organisational processes (including targets and rewards) should be focused on value creation.

Observation 3: Management focuses on single short-term measures, not on long-term sustainable value creation.

Management focuses on meeting the production targets of the business unit as well as annual budget targets. Management will therefore focus to maximise earnings before interest and tax (EBIT) on the short-term. The criticism towards these metrics is that it does not always reflect the shareholder perspective. It does not imply that these targets have become obsolete, but in actual fact it is part of a bigger basket of information that should support overall value creation within the organisation. The aim of VBM is to rectify these shortcomings to reflect long-term sustainable shareholder value creation.

In Chapter 2, it was mentioned that VBM assists management to make informed decisions between short-term goals and long-term goals without jeopardising the long-term sustainability of the organisation.

Observation 4: Safety and production appears to be the main focus at operational level.

This is in line with the first value of Anglo Platinum, which reads "We put safety first." Any organisation has a moral obligation to ensure that its employees return to their places of dwelling safely.

4.4 SUMMARY

Business is about creating value to shareholders. VBM has been proposed as a management tool that assists organisations to focus all of its activities and resources to create the maximum value for shareholders. VBM can assist organisations to overcome the following challenges:

- A lack of goal congruence and the agency theory;
- Long-term sustainable value – employees are not only focused on the short-term, but are committed to the long-term sustainability of the organisation; and
- Management focuses energy and resources on the core value drivers of the organisation and how to maximise value.

Managers within Anglo Platinum experience the same challenges that many other managers worldwide experience. Managers are continuously challenged to make trade-offs between short-term and long-term goals, and the performance of

the individual business units often takes preference. Despite agreeing that the shareholder should take centre stage, short-term metrics such as net income before tax, actual performance compared to budget and ROE still determine predominantly the business targets. The respondents believe that VBM is an important element within the business environment to take note of, yet a minority of them believe that VBM is critical for business survival. This is in sharp contrast to the comments from VBM proponents that shareholder value will be universally embraced. The question arises whether the South African environment lags behind the rest of the world? For an organisation to embrace VBM, management wholeheartedly needs to believe that change is critical for the organisation. Despite the challenges experienced by middle to senior management within Anglo Platinum, the performance of Anglo Platinum over the past couple of years was good.

CHAPTER 5

CONCLUSIONS AND RECOMMENDATIONS

5.1 INTRODUCTION

In this chapter the research findings are explored and interpreted in relation to the proposition of the research. The evaluation of the findings is correlated to the ideas developed within the literature research. Through the evaluation, the research attempts to develop an appreciation for the application of VBM at a mining company.

The primary research sub objectives were:

- **The conceptualisation of the VBM framework**
 - 1 The factors that lead to the focus on value creation;
 - 2 The organisational scope and components of VBM;
 - 3 The characteristics of the prominent VBM metrics;
 - 4 Key success factors for a VBM implementation; and
 - 5 The application of VBM at the organisation.

- **To determine the use and exposure to VBM and related principles within the organisation**
 - 1 To understand the most prominent measures or tools that can be used at the various levels of the organisation for decision-making and scorekeeping;
 - 2 To determine the importance of the information and tools used; and

- 3 To determine the level of exposure to the concept of VBM and the perceptions about VBM.

5.2 RESULTS AND CONCLUSIONS OF MAIN GOAL

5.2.1 Results

The Anglo Platinum Value Based Management (VBM) programme is designed to enable everyone at the organisation to significantly and radically improve the way they think about what they do. By applying the VBM methodology, Anglo Platinum hopes to become more innovative and explore new opportunities, which will enable the organisation to achieve its stated objectives and goals.

5.2.2 Conclusions

From the results it was apparent that managers experience the same challenges that many other managers experience worldwide. They are continuously challenged to make trade-offs between short-term and long-term goals and the performance of the individual business units often takes preference. Despite agreeing that the shareholder should take centre stage, short-term metrics such as net income before tax, actual performance compared to budget and ROE still determine predominantly the business targets. These targets and measures do not focus on long-term value creation for shareholders where the cost of capital and risk, time value of money and the usage of cash flow rather than accounting earnings are used.

5.3 RESULTS AND CONCLUSIONS OF SUB OBJECTIVE 1

5.3.1 Results

Value creation has advanced over the last couple of years as one of the most popular business topics. Large organisations such as Cadbury-Schweppes all proclaim that their success can be attributed to the fact that all employees within the organisation understand and practice value creation for shareholders.

5.3.2 Conclusions

Factors such as an emphasis on good corporate governance, industry forces of competition, remuneration structure, and resurgence of investor power have all contributed to the increased emphasis on VBM. Despite the attention afforded VBM techniques and its widespread application, there is scant evidence on its ability to improve firms' performance.

5.4 RESULTS AND CONCLUSIONS OF SUB OBJECTIVE 2

5.4.1 Results

From the literature and empirical research, the following conclusions or observations are made:

Observation 1: Management lacks an understanding of VBM.

Observation 2: There is a disconnection between the mandate from the executive management and operational management in Anglo Platinum in terms of shareholder value creation.

Observation 3: Safety and production appears to be the main focus at operational level.

5.4.2 Conclusions

From the results, it was apparent that these managers are continuously challenged to make trade-offs between short-term and long-term goals and the performance of the individual business units often takes preference. Harris (2002:2) states that although most financial experts believe that VBM metrics are theoretically superior measures of value above traditional accounting based metrics, it is often rejected because of the complexity to calculate. According to Harris, the failure of a VBM framework or programme is not because of the complexity of the measure, but rather the result of the framework's design, especially when it comes to incentive design.

5.5 RECOMMENDATIONS

Value-based management is seen as the only true measure of creating wealth for a company's shareholders. Measurement and rewarding is one of the key success factors of a VBM implementation. The current measures drive the current behaviour of management. Management puts the goals of the respective business units first, and gives preference to short-term goals, sometimes to the detriment of long-term sustainable shareholder value creation. A measurement and rewarding system that is linked to VBM should steer the organisation and individual behaviour to create shareholder value.

It is often said that "structure follows strategy" (Du Plessis, 2008:122); thus once the VBM system has been designed and formulated the emphasis should turn to converting it into action and superior shareholder value. Anglo Platinum should focus on building an organisational structure required to implement and sustain

VBM. Although VBM has been communicated with a “big bang” approach, it would be advisable that Anglo Platinum revisits the rollout with comprehensive training and management consultancy.

5.6 SUGGESTIONS FOR FURTHER STUDIES

In the course of the current study, a number of areas were identified where further research could be beneficial:

- **Similar study**

A similar research study, focusing on the application of VBM at a mining company like Impala Platinum compared to international research will be interesting. In this way, service industries can establish global benchmarks in the area of VBM application.

- **VBM metrics**

It will be interesting to investigate the most appropriate VBM metric at a specific level within the organisation.

- **This study**

Future studies could investigate how VBM is implemented and managed in the mining industry. The findings should then be compared against actual company performance to determine whether management actions do transpire into economic profits.

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APPENDIX A: QUESTIONNAIRE

Introduction

The questionnaire is conducted as part of research for an MBA degree at the Potchefstroom Business School of the North-West University.

Dear Colleague

I am currently studying towards an MBA degree at the North-West University. My research theme is Value-Based Management (VBM).

It will be greatly appreciated if you would assist me in completing the following questionnaire.

Background

In order to become the platinum company of choice, Anglo Platinum needs to go beyond its ambition of creating value to the goal of maximising value and capabilities.

The aim of VBM is to help with decision-making and to ensure that strategies that maximise value are pursued.

Eddie Pienaar

083 267 9813

Background Information:

1. Position within organisation (Please tick.)

General Manager	
Senior Mine Management	
Production Manager	
Head of Department on Shaft	
Middle Management on Shaft	
Union Representative	
Other	

2. Department of responsibility

Mining	
Engineering	
Support services	

2. I am a shareholder

I bought my own Anglo Platinum shares	
I was allocated by Anglo Platinum through the annual IPA Rating system	
I was allocated by Anglo Platinum ESOP	

If you would like to receive feedback from the research, please complete the following:

Name	
E-mail	

1. Current level of satisfaction with available information

Various information sources and tools are used on a daily basis for decision-making and to measure the success of an organisation or a specific business unit. Management uses a broad spectrum of data, ranging from information such as Core Headline Earnings in the financial statements to non-financial data such as market share or sales information for decision-making.

Information used to measure the success of the business

On regular intervals (monthly, quarterly, yearly, etc.), information is being used to evaluate how successful Anglo Platinum is against certain set targets.

Within every business unit there are numerous targets set. The importance of these targets can vary, based on a number of factors of the organisation or business unit.

What are the core explicit business targets you would like to achieve? Please rate the importance of such. (Please tick the appropriate boxes.)

If you currently use the measurement tick Yes otherwise tick No.

Rate the measurement

1 - Not Important

2 - Important

3 – Critical

Description	Do you use this?		Importance		
	Yes	No	1	2	3
Increase Earnings before interest and tax (EBIT)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Reduce Rand /ton delivered	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Reduce Rand /Oz delivered to concentrator	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Improve on safety performance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sustainable Mining	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Focus on explicit shareholder value creation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Growth in Assets or Liabilities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Do better than budget	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

To be able to measure the financial success of a business unit in achieving its targets and goals, there are various metrics that can be used as input in the measurement process for a business unit.

Which of the following information do you consider to measure the success of your business unit and please rate the importance of the specific metric? (Please tick the appropriate boxes.)

If you currently use the measurement tick Yes otherwise tick No.

Rate the measurement

1 - Not Important

2 - Important

3 – Critical

Description	Do you use this?		Importance		
	Yes	No	1	2	3
Rand per ton delivered to concentrator	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rand per Ounce	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Return on investment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cost to Income ratio	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Market Share	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Price earnings ratio	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Profit per shaft	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Embedded Value	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Residual Income	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cash Value Added	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Economic value Added (EVA™)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cash Flow Return on Investment (CFROI)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Market Value Added (MVA)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Shareholder Value Added (SVA)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

To be able to measure the financial success of a business unit in achieving its targets and goals, there are various metrics that can be used as input in the measurement process for a business unit.

Which of the following information do you consider to measure the success of your business unit and please rate the importance of the specific metric? (Please tick the appropriate boxes.)

If you currently use the measurement tick Yes otherwise tick No.

Rate the measurement

1 - Not Important

2 - Important

3 – Critical

Description	Do you use this?		Importance		
	Yes	No	1	2	3
Rand per ton delivered to concentrator	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rand per Ounce	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Return on investment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cost to Income ratio	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Market Share	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Price earnings ratio	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Profit per shaft	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Embedded Value	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Residual Income	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cash Value Added	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Economic value Added (EVA™)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cash Flow Return on Investment (CFROI)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Market Value Added (MVA)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Shareholder Value Added (SVA)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Information used to measure the success of the business

When we measure the success of our business, we always look at the financial statements.

During the decision-making process for a new business case we sometimes use other measures, such as Net Present Value.

Which information do you consider during the decision-making process (e.g. for new business cases), and how important is the information? (Please tick the appropriate boxes.)

If you currently use the measurement tick Yes otherwise tick No.

Rate the measurement

1 - Not Important

2 - Important

3 – Critical

	Do you use this?		Importance		
	Yes	No	1	2	3
Impact on business unit profit	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Possible growth in headline earnings	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Return on equity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Return on investment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Impact on Cost to Income ratio	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Market Share Changes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Meeting production targets	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Costing analysis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Profit impact on group	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cash Flow Analysis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Net Present Value Analysis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cash Value Added	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Economic Value Added (EVA™)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cash Flow Return on Investment (CFROI)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Market Value Added (MVA)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Shareholder Value Added (SVA)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

2. Value-Based Management

The overarching goal of value-based management (VBM) is to maximise shareholder wealth. VBM is a formal organisational process that links strategy, measurement and operational processes by ensuring that there is goal congruence. It therefore ensures and encourages all levels in the organisation to change their mindset to focus on value creation. VBM is associated with the use of value-based metrics. Discounted cash flow lies at the heart of these metrics.

The metrics therefore have the following distinct features:

- Based on cash flow analysis
- Adjusted for the time value of money
- Includes the cost of capital

What has been your exposure to value-based management so far? (Please tick the appropriate box.)

First time I hear about this	<input type="checkbox"/>
I have been exposed to VBM through an article or a presentation	<input type="checkbox"/>
I have read a book about value-based management	<input type="checkbox"/>
I have dealt with VBM intensively through work	<input type="checkbox"/>

What is your perception about VBM?

Just another fad from corporate	<input type="checkbox"/>
Interesting, there are a few interesting concepts	<input type="checkbox"/>
Something to take notice of	<input type="checkbox"/>
Critical for survival in today's business world	<input type="checkbox"/>

Are you...?

committed to Anglo Platinum	<input type="checkbox"/>
Looking for another job	<input type="checkbox"/>
Cruising	<input type="checkbox"/>