FACTORS INFLUENCING THE UTILISATION OF VALUE BASED MANAGEMENT TOOLS IN THE WATER INDUSTRY

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EXECUTIVE SUMMARY

For management to perform its functions of planning, organising, leading and controlling effectively, a control process has to be in place. This control process should incorporate a target or standard measures, and compare performance with standard, evaluate results and take any necessary corrective action. The introduction of a control process, including performance measurements, has been recognised as an important development to ensure organisations achieve their objectives and goals.

There are a number of performance measurement tools for management and/or organisations to select from but one that stands out as possibly the preferred method is Value-based management (VBM).

VBM, a relatively new concept, offers management a better way to measure performance in today's business environment. The application of VBM links business strategy, finance, performance measurement and management processes all together to create value. VBM demonstrates how organisational value is maximised, while developing corporate value indicates how the current management is doing its job. Therefore, VBM indicates the current situation as well as the future prospects of an organisation. In addition, VBM helps managers and employees to obtain a clear focus of the corporate vision and objectives based on the leading measurement indicator - that is, to enhance corporate value. Unlike many performance measurement tools that may focus on many objectives (which may cause the lack of single focus for shareholder value creation accountability) VBM provides a clearer objective focusing on the financial objectives across the organisation. Above all, VBM includes the cost of capital required, while many measurement tools still provide information without cost.

The purpose of this dissertation is to study which organisational factors influence the selection and use of performance measurement tools, such as VBM as selected by

management. This dissertation also studies the manner in which the selection and the use of VBM might affect the performance of water utility entities in South Africa.

A number of studies were conducted in the past dealing with the effectiveness of VBM. These studies analysed how VBM assisted management in the administration and measurement of organisational activities. These research studies contributed immensely to the body of knowledge and advancement of the VBM concept. However, most researchers ignored an important aspect and that is, which factors influence management to select and utilise VBM tools. This research attempts to address this knowledge gap, and answer the following questions:

- What are the organisational factors that could influence the selection and the use of VBM tools to measure organisation performance?
- Do the selection and the use of VBM tools improve organisation performance?

To examine and properly evaluate the above questions, this dissertation identifies four key objectives. Firstly, factors that influence management in selecting VBM tools to measure performance and set standards are to be identified. Secondly, to identify the relationship between organisational performance, the use of VBM and certain organisational factors such as leadership style, organisation culture and cost structure, are explored. Thirdly, to study the impact of VBM on the water utility entities in South Africa, and fourthly, to provide information on how VBM is selected and used in the water industry.

To answer the research questions, a mailed survey questionnaire was used to collect data. A population sample of 22 heads of finance/accounting departments of the Water Boards of South Africa was employed. The empirical part of the study showed that the companies in this study seems to have implemented many ways to create shareholder value; little effort seems to be made to measure it since the majority of them are still using traditional accounting measures. The reasons for this may be conservatism and lack of pressure from stakeholders. Having noticed this, it is recommended that the companies use value based methods when measuring organisation performance since they are more reliable.

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ABBREVIATIONS

ABC	=	Activity Based Costing
BV	=	Book Value
CFO	=	Chief Financial Officer
CFROI	=	Cash Flow Return on Investment
CR	=	Capital Requirements
CV	=	Corporate Value
DCF	=	Discounted Free Cash Flows Valuation Method
EPS	=	Earning per Share
EVA	=	Economic Value Added
FCF	=	Free Cash Flow
MVA	=	Market Value Added
NOPAT	=	Net Operating Profit after Taxes
OP	=	Operating Profitability
ROA	=	Return On Assets
ROE	=	Return On Equity
ROI	=	Return On Investment
ROIC	=	Return On Invested Capital
RI	=	Residual Income
SVA	=	Shareholder Value Added
TATO	=	Total Assets Turnover
TV	=	Terminal Value of future cash flows
VBM	=	Value Based Management
WACC	=	Weighted Average Cost of Capital

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CHAPTER 1: INTRODUCTION TO THE STUDY

1.1. BACKGROUND TO THE RESEARCH

If the saying '*what gets measured get managed*' (Eccles, 1998:27; Pettit, 2000:1) is true, there should be many reasons for organisations to measure performance. Reasons given could include a desire to increase shareholder wealth and improve effectiveness; to encourage new ideas and innovations; to plan for, manage and even promote change; to better understand best practices; to advance decision making; and to guide strategic planning and design (De Waal, 2001; Neely, 2002 and Pettit, 2000).

One of the greatest challenges for most organisations in today's dynamic and competitive business environment is to uncover new ways to measure and manage performance. This has to be done to ensure the achievement of strategic objectives and to sustain the creation of value (Sakunasingha, 2006:1).

Performance measurement is part of the management control mechanism. According to Hertenstein and Platt (2000:305) and Sharman (1995:33), a control mechanism helps to ensure strategies are implemented and objectives are met. It is, therefore, important to have the right performance measurement tools that accurately measure the performance of an organisation, so that managers can act upon the results. There are many performance measurement tools and each tool measures a particular aspect of the business operation and the use of accounting figures should be abandoned when Value Based Management (from hereto referred to as VBM) is adopted (Ehrbar, 1998:67). The commonly used methods that have been around for several decades are the traditional financial measurement tools, which rely on a traditional accounting report system namely, the return on equity (ROE). Further, applying too many measurement tools may create confusion in an organisation and cause a lack of focus for accountability in value creation (Aggarwal, 2001: 58; De Feo, 2000:32). Therefore, organisations should use an appropriate number of measurements and select the right

measurements tools that could effectively measure its performance and focus more on wealth or value creation (Aguilar, 2003:47).

The challenge is therefore to find out how significant is the selection and use of the right performance measurement tools in influencing the organisation performance, and what factors influence the selection and use of such performance measurement tools.

Several studies have examined both theoretically and empirically, the relationship between performance measurement tools used and company performance (Aggarwal, 2001: 59; Ryan & Trahan, 1999: 47). The driving force behind these studies could be the high degree of interest in issues relating to creating value for the organisation (Sakunasingha, 2006: 2). Ryan and Trahan (1999:47) felt *"there is room for future research that examines why and when firms adopt* VBM *systems".*

The factors that created this sudden focus can be grouped into the following categories (Pettit, 2000:60):

- The change in institutional investors behaviour and attitude towards investments;
- The change in the relationship between organisation, employee and shareholder; and
- The change in the marketplace where organisations are operating.

These changes required new information and new thinking. This has resulted in many leading organisations to adopt reporting concepts and standards that reflect value creation within the organisation.

1.2 PROBLEM STATEMENT

The literature on value based management contains many unsettled issues, particularly alternative performance measurement theories resulting in numerous consulting companies' interest in establishing performance metric measures for measuring the

creation of shareholders' wealth (Weaver & Weston, 2003:2). Particularly in the last decade management and organisations were bombarded with terminologies such as Economic value added (EVA), Cash flow return on investment (CFROI), Market value added (MVA), Economic Profit (EP), Shareholder value analysis (SVA) to name a few. Most of these concepts are prompted and sold as the ultimate solution for corporate success by various consulting firms. They proclaim that the unique measure which they use would assist business in creating shareholder value. Value creation has evolved over the last couple of years as one of the most popular business concepts. Today the majority of the organisations think that to exist are to create shareholders value. Information reflecting value creation to base decisions on is becoming the cornerstone for the success of managers. Shareholder value is now a widely used indicator to measure the success of an organisation

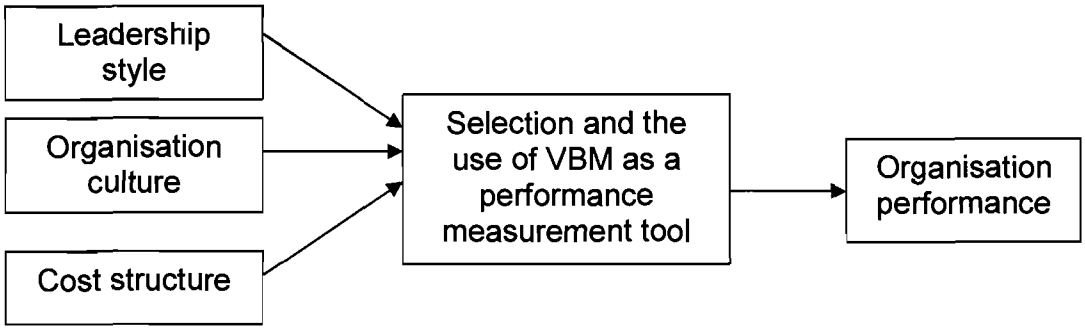
There are many tools used in measuring organisation performance, Value based management (VBM) is one of the performance measurement tools. However, the selection of the right tools depends on the number of organisational factors. Some of these factors are leadership style, organisational culture and cost structure in relation to competitors, and product life cycle stages (Sakunasingha, 2006:3). This research investigates the following research problem:

1. What are the organisation factors that could influence the selection and use of performance tools, in particular VBM, to measure organisation performance?
2. Do the selection and the use of VBM improve the organisation performance?
3. If the existence of an organisation is to create shareholder wealth, the question arises what measures should be used within the water industry to increase value for the organisational whether they are financial or non-financial measures.

1.3 RESEARCH OBJECTIVES

This research is directed to examine the relationship between organisation performance and the match between the selection and use of VBM tools.

Figure 1.1: The proposed research framework



(Source: Developed for the research)

In attempting to answer the research problems, this research is directed to the following objectives:

1. To identify and examine factors that influence management in selecting the types of VBM tools to measure organisation performance or to establish standards.
2. To identify the relationship between organisation performance, through the selection and use of VBM and the chosen organisation factors.
3. To study the impact of VBM on organisation performance in the water industry.
4. To provide information on how VBM is selected and used in the water industry in South Africa.
5. To assess the exposure and use of VBM within the organisation currently.
6. To conceptualise the basic framework of VBM metric measures.
7. Theoretical background of the VBM metric measures.
8. The application and usage of the metric within the organisation

9. Underlying value drivers within the metric.
10. The current business goals and the information to measure business

1.4. RESEARCH METHODOLOGY

Research method is defined as blueprint for the implementation and management of given research project. The research finding will be based on primary and secondary data. The primary data will be gathered from the responses of Sedibeng Water Board, Randwater Board, Umgeni Water, Lepellele Water, Bloem Water, Magalies Water and Midvaal Water to determine the use and exposure of VBM within the organisations. A questionnaire was used for this purpose. The secondary data was gathered from the business operating in the same industry local and international. The gathering of secondary data was done via the internet sources as well as direct visits to those affected companies. These methods were chosen due to the reality that comprehensive information could easily be gathered in a systematic way.

1.4.1 Literature review

A literature study will be done to provide an understanding of the VBM framework with the assistance of the internet search according to the identified keywords. The Literature study focuses on the following:

1. The Various definitions, metrics and success factors of VBM.
2. Factors influencing the use of VBM tools.
3. The utilisation of VBM at organisational level.
4. The need to implement VBM within the water industry.

1.4.2 Questionnaire

A questionnaire will be constructed from the literature by establishing questionnaire items to fit the objectives of this research. This study will investigate the population of South African Water Boards. The main reason for choosing the South African Water Boards was due to the Government legislation for ensuring every citizen of the soil to

have access to water; as a consequence the water industry can make use of the VBM to support delivery of services.

It was decided that the head of finance/accounting department or top managers of these Water Boards should be the respondents. Mailed survey questionnaires were sent to them.

1.4.2.1 Primary data collection

This function will be performed by the researcher in order to reduce the cost of the research project. The primary data collection will be conducted through questionnaires as to ascertain the following information:

1. The use of VBM within the organisation currently.
2. The current business goals and the information to measure business goals.
3. The need for additional VBM information.
4. The current level of confidence with the information.
5. Theoretical background of the VBM metric measures.
6. The application and usage of the metric within the organisation.
7. Underlying value drivers within the metric.

1.4.2.2 Data analysis

The primary data will be captured into a single database designed by the researcher. The researcher will capture the data and will also be responsible for the analysis and consolidation of the secondary and primary data.

During the research, any encountered problems will be resolved by the researcher in order to capture the reliable data hence quality output. The information must be transparent. The use of tables and statistics is applicable in the research project.

1.5 RESEARCH PROCEDURE

The participants will be requested to complete a prepared questionnaire. All responses will be used for data and statistical analysis.

1.6 LIMITATIONS

This research is confined to the water industry in South Africa. Therefore, generalising the results reported in this research to other situations such as petrochemical and electricity generation should only be done cautiously. A key assumption of this research is that the responses of head finance/accounting departments (CFOs) of the Water Board reflect the industry's underlying financial performance measurement and knowledge. The assumption that the CFOs could serve as the organisation's representative is based on the finding of Cooper and Petry (1994:72), Ramirez, Waldman and Lasser (1991:28) and Ryan and Trahan (1999:48). Another assumption is that the company's CFOs will be willing to provide true information of the business and on the companies' performance through a survey instrument. In regard to the proposed research design, some major limitations are as follows.

First, there is a national limitation. No empirical investigation of the topic has been undertaken in South Africa. Hence, the findings of the research will only be limited to South Africa.

Secondly, this study is utilising a sample of CFOs and the responses are from the Water Boards' only. Hence, the findings may not extend to other industries. Third, the sampling frame involves small and large size Water Boards, which may lead to bias in the results of the empirical implication.

1.7. DIVISION OF CHAPTERS

CHAPTER 1: Introduction

In this chapter the aim is to set the context of why the specific topic has been chosen. In this chapter the problem statement has been formulated. The research goals and the research method are given.

CHAPTER 2: Literature review

This chapter present the literature reviews carried out for the research and provide a theoretical background to VBM.

CHAPTER 3: Empirical research methodology

This chapter deals with the methodology of research employed in this dissertation as well as the empirical research conducted.

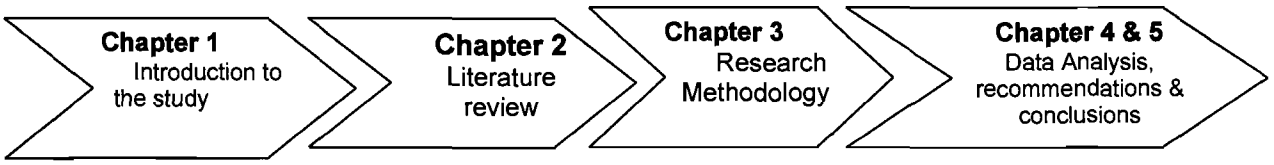
CHAPTER 4: Data findings and analysis

In this chapter the data collected from the survey questionnaire is analysed and interpreted.

CHAPTER 5: Conclusion 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 utilisation of VBM metric measures within the water industry are also made within this chapter.

Figure 1.2 A conceptual outline of the dissertation



(Source: Developed for the research)

1.8 SUMMARY

Chapter one outlined the background of the research, its objectives, framework of the study, methodology and outline of the study. Other aspects of the research including the literature review and detailed methodology will be discussed in the following few chapters.

The pressure to measure performance is also felt within the water industry. There is also further pressure on Water Boards to supply water to the consumers at a low price, and a threat of high water purification cost.

CHAPTER 2: LITERATURE REVIEW

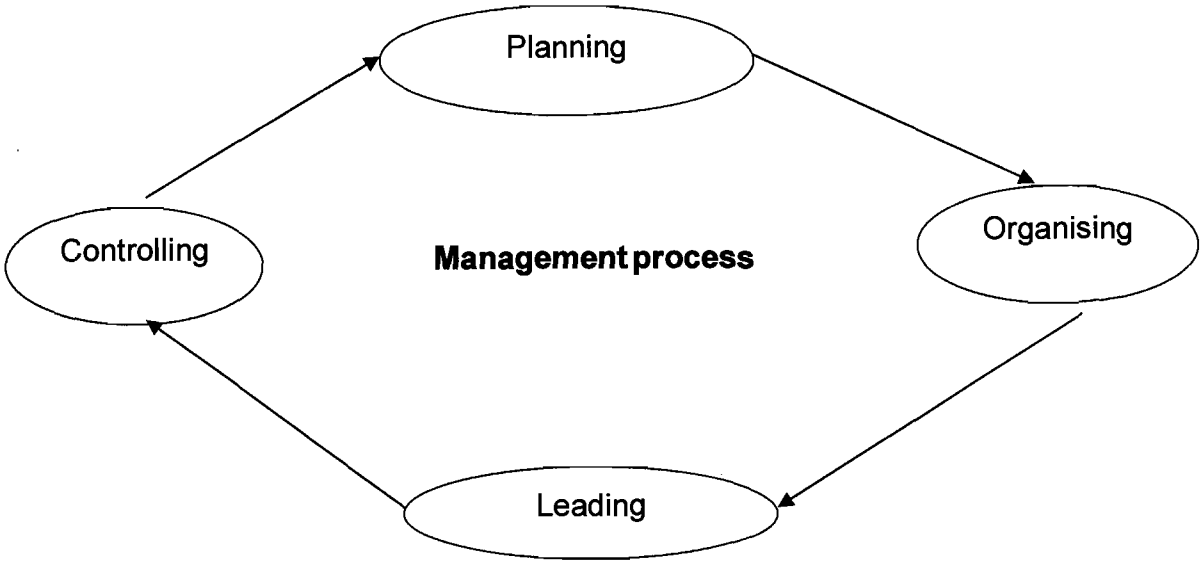
2.1 INTRODUCTION

In this chapter, the literature on the research topic is reviewed to build the foundation for answering the research questions. An introduction to the structure of this chapter is section 2.1. This is followed by section 2.2, which reviews the role played by managerial control in corporate performance. Section 2.3 covers the performance measurement and the tools used by organisations including traditional tools and techniques such as Earning per share (EPS), Return on Investment (ROI), and Return on Equity (ROE), and the modern tools such as VBM. Independent variables such as organisational factors, for example, leadership style, organisational culture, and capital structure that could influence the selection of VBM tools are covered in section 2.4. VBM as the intervening variable is detailed in section 2.5, section 2.6 and section 2.7. This is followed by a review of the dependent variable such as organisational performance, in section 2.8. Value drivers within VBM metric tools are discussed in section 2.9. Linkages among variables are established in section 2.10 and section 2.11 to construct a research model in section 2.12. Section 2.13 summarises the conceptual context of the literature review and explains how this chapter is linked to Chapter 3, the empirical research.

2.2 MANAGEMENT CONTROL TO CORPORATE PERFORMANCE

Management of an organisation has to recognize the problems, identify the opportunities, make the right decisions and take appropriate actions to operate a successful business. This is carried out by performing the four basic management functions comprising planning, organising, leading and controlling effectively (see figure 2.1).

Figure 2.1: The four functions of the management process



(Source: Schermerhorn, 1999:20)

Sakunasingha (2006:13) defines management control as a process by which managers influence other members of the organisation to implement the organisation's strategies. The emphasis placed on each function of the management process depends on the managerial level. At the higher managerial level, planning plays an important role and is exercised more often. In comparison, at lower managerial level, leading and controlling are emphasised. However, at whichever level, planning is the process that sets the objectives and determines what should be done to accomplish the objectives. In organising, tasks are assigned, resources are allocated and activities are arranged to implement plans. Leading is a process of arousing and directing employees to work towards organisational objectives and goals. Besides planning and leading, one of the critical management processes is controlling. From another perspective, the managerial control process is depicted as deciding what the organisation should be doing and comparing actual accomplishments with these plans. The managerial control process, therefore, is an important part in strategic management, which involves long range planning and strategy development that affects today's operation, which determines tomorrow's success of an organisation (Sakunasingha, 2006:13). Thus, the management control process involves both planning and controlling. For example, if

profitability is the goal of an organisation, management needs to take appropriate measures or to control those measures that could possibly influence future outcome. In doing so, management is able to make adjustments in their plan before it gets out of control. However, the presence of management control does not necessarily mean that results should always correspond to a plan, such as the budget. The stated plans were formulated based on the circumstances prevailing at that time. In the meantime, the external and internal environment of the organisation keeps on changing. It is unlikely that management would be able to anticipate all the conditions that are going to happen in the future. Therefore, a manager should not be prohibited from implementing ways originally planned to achieve the goals (Sakunasingha, 2006:14).

The key function of management control is to ensure that organisation strategies are implemented to achieve the objectives (Hertenstein & Platt, 2000:304). Performance measurement is the key mechanism in management control used in identifying and evaluating performance and in helping managers to align future activities with the organisation's strategies by improving both financial and non-financial measures and encourages employee behaviour that will contribute to an organisation (Neely, 2002:3-4). There are many performance measurement tools that are widely used. Management can select some of these tools to assist in assessing how well the organisation's strategies have been implemented. One such tool is VBM that could effectively assess the performance level and is studied in this research. VBM is an effective tool that links strategies, finance, performance measurement and management processes to create value for an organisation (Martin & Petty, 2000:81). VBM is more than a concept of financial control function. It ties financial activities with human resource procedures and therefore provides a complete system that allows broad changes by focusing employees' attention toward value creation (Stewart III, 1995:117).

2.3 PERFORMANCE MEASUREMENT

According to Martin and Petty (2000:35) performance measurement is an essential part of the management control processes in that it validates whether the results anticipated from planned action are realized. Because what gets measured gets attention, the kind of performance an organisation chooses to measure motivates action that improve the measure. Traditionally, bottom-line measures such as profit, revenue and cost have been used to evaluate managers' performance. But in the face of competitive reality, new strategies with new action plans and new performance systems are needed. However, the importance and details of performance measurement have not been justified. This section will review the definition, the roles and reasons that make performance measurement become mandatory for organisations.

2.3.1 Definition and the importance of performance measurement

Performance measurement is a common management control mechanism (Hertenstein & Platt, 2000:306). Kagioglou, Cooper and Aouad (2001:85) defined performance measurement as a process of determining how successful organisations, or individuals, have been in attaining their objectives and strategies. Neely (2002:8) also defined performance measurement as a process of quantifying the effectiveness and efficiency of past action through the information-processing activities. Effectiveness is the extent to which the requirements are met, while the efficiency refers to a measure of how the organisation's resources are utilised economically when providing a given level of satisfaction. Performance measurement requires an understanding of the organisation's goals, objectives, strategies and operations and if it is able to satisfy the stakeholders of the organisation (De Waal, 2002:1). By understanding the organisations purposes, performance measurement tools can be developed or selected and used to inform management about organisation performance. Performance measurement, therefore, should focus on developing, improving, and assuring the relevance and reliability of financial and non-financial measures that will contribute to the success of an organisation. For example, measuring customer satisfaction and customer loyalty by

means of programs such as frequent flier programs for airlines, could provide useful information to determine satisfaction of customers with the airline which can be measured by the number of repeat flying by customers from the same airline that will convent customers to become advocates for the business and recommend it to others.

In practice, getting the right answers means having the right performance measurement framework, and managers cannot begin to manage performance unless it is accurately measured (Pettit, 2000:59). Managers need to have the right performance measurement tools to assess whether the strategies are implemented effectively and objectives are met (Sinclair & Zairi, 2000:149). However, this does not mean that an organisation should have many measurement tools. In fact, many organisations may have too many measurement tools leading to a lack of focus and effective measurement (Aguilar, 2003:46-47, Atkinson, 2000:27; Pettit, 2000:66; Neely, 2002:53). Therefore, the challenge in selecting the right measurement tools include choosing the right leading and lagging measurements, benchmarking against competitors, balancing financial and non-financial measurement tools and using an appropriate number of measurements (Sakunasingha, 2006:27).

The VBM tools are one of the performance measurement tools that managers might need. Managers can identify an organisation's strengths and weaknesses and can make changes or take actions to match the circumstances.

2.3.2 The roles of performance measurement

Performance measurement plays a variety of roles in organisations and the way the business performs is crucial to its success and its survival. Neely (2002:295-297) identified the three roles of performance measurement, in respective order as complying, checking and challenging. These roles are different from, and are more in depth, than the traditional view of measurements as a means of control.

- **Complying with non-negotiable parameters:** The non-negotiable parameters are the performance thresholds which are necessary for the survival of an organisation. The non-negotiable parameters include cash flow and recognition from all stakeholders. An organisation needs to make sure that it never fails to meet these non-negotiable parameters. Failure to meet these thresholds could hurt the future of the organisation.

- **Checking health:** An organisation uses several performance frameworks to assess strength and weaknesses (Kaplan & Norton, 1998).The frameworks covers three key areas; Financial health, customer satisfaction and employee satisfaction. Financial and non-financial measurements tools have been used and improved to match today's business challenges.

- **Challenging strategies and assumptions** It is important for an organisation to develop the ability to master rapid changes in the external world that requires changes in its internal structure. Organisations should regularly check whether its strategies are still valid in a rapidly changing environment and should identify the organisation's strengths and exploit its competencies (Porter, 1998).

2.3.3 Reasons for measuring performance

There are many reasons why organisations need to measure performance. However, the real value of measurements comes from the action or decisions that follow it. Some managers begin by establishing position. Others want to know how to improve performance and how rapidly it should be improved, how to spot the performance shortfalls, how well the organisation is currently performing against its competitors and how to motivate people or encourage them to modify behaviour (Sakunasingha, 2006:30). Neely (2002) has categorized four major reasons to explain why managers need to measure performance. These four categories are: checking position, communicating position, confirming priorities and compelling progress.

- **Checking position** The adage "you cannot manage what you cannot measure" (Eccles, 1998:27; Pettit, 2000:59) holds true and can be simply explained. Without knowing where the organisation is, it is difficult to see where the organisation is heading. Without the right measurement tools it is impossible to check whether desirable results have been delivered. Moreover, Eccles (1998:134) supported this adage by stating that performance measurement tools could help managers to compare, as well as to establish how a company is doing compared with its current competitors, and not with its own past. It could also help in monitoring the performance and progress by tracking the organisation's position and taking action to improve its performance or even to benchmark.

- **Communicating position** Different parties have different interests in organisational performance. Different dimensions of performance are communicated in different ways, often using different media. Organisations choose to communicate positions to interested external and internal parties (Kagioglou, Cooper & Aouad, 2001:86). External communication may be for brand awareness, customer loyalty or exchange of information within the same business industry, attracting future investment, increasing share value and attracting high calibre employees. Internal communications are often used as a means for administering reward to employees and motivating them to achieve a higher level of performance (Sinclair & Zairi, 2000:148).

- **Confirming priorities** Performance measurement enables managers to identify how far the organisation has to go to meet its goals. It highlights the role of performance information throughout the management process to help management monitor the trends, develop the right initiatives and action plans and evaluate whether the plans have been successfully implemented. Information gathered from measuring performance often identifies valuable business opportunities that could be used for improvement, investments and/or satisfying stakeholders. The information that is tracked must be communicated in such a way that is easily understood and useful for employees (Carney, 1999:4-5).

- **Compelling progress** Measuring performance by itself cannot help to improve business performance but it can be used in compelling progress in several ways. Performance measurement is used to ensure the organisation about how well the business is performing by sending signals to employees and highlighting what organisations need to achieve performance dimensions (Sinclair & Zairi, 2000:149). Performance measurement does not only link performance and reward as a way to motivate employees to focus on delivering good performance, but also to check whether corrective actions have been taken and whether progress has been made. These actions help employees to live up to performance expectations and requirements. Last, but not least, performance measurements do not only ensure that evolving actions are aligned with strategies, but also helps the organisation to adapt to changes in the competitive environment.

2.3.4 Traditional performance measurement tools

There are several methods used to evaluate the success or failure of corporate performance. Yet the most commonly used methods are the traditional financial measurements tools that have been around for several decades. Traditional performance metrics such as earnings per share (EPS), book value (BV), return on equity (ROE), return on assets (ROA) and return on invested capital (ROIC) do not correctly capture the three fundamentals of value creation: the amount, timing, and risk of future cash flow of the company (Morin & Jarell, 2001:309; Martin & Petty, 2000:40).

These methods are, nowadays, classified as traditional since were used for almost one hundred years and are still being used today (Rappaport, 1981:144-145; Koller, Goedhart & Wessels, 2005:395). However, as industries grow and become more complex, organisations find that the outputs of these traditional financial measurement tools are unable to provide answers to several critical issues (Ittner & Larcker, 1998:205) Finally, many managers worry that income-based financial figures are better at measuring the consequences of yesterday's decision rather than indicating tomorrow's

performance (Eccles,1998:132; Neely, 2002:16) This gives rise for the need to create new measures to assess performance (Atkinson, 2000:29; Ittner & Larcker, 1998:205; Francis & Minchington, 2002:234; Eccles, 1998:132). Earnings per share and return on investment become less useful methods in measuring organisation performance (Rappaport, 1981:3).

2.3.5. The existence of traditional measurement tools

Traditional performance measurement tools did not disappear but have not kept up with the pace of change (Pettit, 2000:63) and is not frequently used by many organisations. The reasons for traditional performance measurement existence can be grouped into two main categories.

First, organisations still prepare financial statements to report the value of transactions using the traditional accounting system (Boulton, Libert & Samek, 2000; Rappaport, 1986:24-26). For example; the accounting earnings have been the primary measurement tools to reflect corporate performance for a long period. Earning per share (EPS) is one of the traditional measurement tools, which commonly assume that, if an organisation produces satisfactory growth in accounting earnings, the market value of its share will increase and so does the price-earnings (P/E) ratio. Other common traditional measurement tools are the return on investment ratio (ROI), return on invested capital (ROIC), return on net asset (RONA), and return on equity (ROE). ROI is frequently applied as a performance measurement tool for divisional profitability in a single period measurement. ROI shows the linkage between accounting profits of a business unit to the capital employed that assumes that if ROI is greater than the cost of capital, shareholder value will be created (Rappaport, 1986:31). While ROI is commonly used at the business unit level, return on equity (ROE) is a more popular measurement tool at the corporate level. The focus on ROE at the corporate level is often explained on the grounds that it is a measurement tool of primary concern to investors instead of the capital employed (Rappaport, 1986:42). Due to the fact that these tools are similar and

understandable, ROI and ROE have been continuously applied to measure organisation performance.

Second, the complication of new performance measurement tools which involve non-financial issues raises the debate amongst many organisation managers whether to keep traditional financial measurement tools and use operational measurement tools only, or whether to use better financial measurement tools (Sinclair & Zairi, 2000:147). Many academic authors have pointed out that when organisations attempt to change performance measurement tools, are often frustrated when the traditional financial measurement tools remain in place (Sinclair & Zairi, 2000:148; Pettit, 2000:59).

Accounting firms also have an opportunity to develop measurement methods that will be common to an industry or across industries. While this should not be overdone, one reason financial measures carry such weight is that are assumed to be a uniform metric, comparable across divisions and companies, and thus a valid basis for resource allocation decisions. In practice, of course, these measures are not comparable because companies use different accounting conventions (Eccles, 1998:136). The technical barrier to implement better financial measurement tools, such as VBM, may add a burden to the accountant to produce detailed adjustments to profit and capital employed to move toward economic value. As "Veterans know, it is easier to preach revolution than to practice it" (Eccles, 1991:133).

2.3.6 Several limitations relying on accounting earnings as traditional financial standards

1) The accounting earnings do not equal cash flow, while cash is what managers are concerned with to create wealth or shareholder value (Aggarwal, 2001:56; Martin & Petty, 2000:36).
2) The projected expenses and revenues do not reflect business risk and financial risk, while the projected accounting earnings (EPS) do not consider the time value of money (Martin & Petty, 2000:36 & 40; Rappaport, 1981:140).

3) The accounting numbers do not capture the non-financial indicators of manufacturing performance, which might be relevant for managerial decisions and controls (Sinclair & Zairi, 2000:145).
4) The accounting numbers do not cover all costs of capital employed, including the opportunity cost of equity, thus the reported earnings overstate the value creations of a business's operation (Aggarwal, 2001:56; Martin & Petty, 2000:37; Pettit, 2000:59).
5) The accounting practices vary from firm to firm and thus affect the organisation's reported earnings and computing costs (Martin & Pettty, 2000:39; Rappaport, 1981:139).
6) The use of traditional measurement tools are mostly short-term measurements; these measurement methods do not reflect the risks that vary among different business departments/units and may mislead the decisions arrived at for incentive compensation (Martin & Petty, 2000:43; Rappaport, 1981:140; Stewart, 1999:604).

The accounting earnings and traditional measurements tools, even though may have information content, do not accurately measure the creation of value for shareholders and for the organisation, which is the primary goal of a successful corporate strategic plan (Rappaport, 1981:140). VBM tools take into consideration all costs of capital used in the business. It operates on the organisation's value upon a present value of the discounted free cash flows expected to be received in the future, which is the primary value driver (Rappaport, 1981:141). More importantly, VBM motivates managers to acquire the relevant information and make good decisions by linking it to a incentive compensation plan and managers behaviour that create value for shareholders (Aggarwal, 2001:49).

According to Wenner & LeBer (1989:53), traditional measurement tools assumed that if a subsidiary was profitable, it was creating value. This analysis had disregarded the cost of capital and essentially treated money in the business as if it were free.

2.3.7 Modern performance measurement tools

"*Modern performance measurement searches for what firms do that generates revenues in excess of costs*" (Neely, 2002:56).To succeed in the modern world, managers need to use effective performance measurement tools for managing and measuring current business. Traditional performance measurement tools, discussed in section 2.3.5, may be inadequate in showing the necessary information, such as tracking both direct and indirect costs, determining value creation and the recognition of non-financial issues (Francis & Minchington, 2002:241). However, this does not mean that the traditional measurement techniques are totally wrong, because may be relied on or may lead to wrong assumptions that no longer fit with what most organisations require in the knowledge based century. The necessary information, such as determining value creation and non-financial issues, becomes increasingly important to master in the organisation in today's competitive market and, therefore, increases the demands for modern performance measurement tools to deliver the predictable contribution to sustained value creation of an organisation.

Three modern performance measurement tools that have been developed move away from the concentration on accounting measures and add consideration of a wider range of factors which are believed to drive future economic performance and are introduced in this research, namely: Activity-Based Management (ABM), the Balanced Scorecard (BSC), and the VBM. The VBM will be discussed in detail in section 2.5.

2.4 ORGANISATION FACTORS - THE INDEPENDENT VARIABLES

Management needs frequent and accurate information to be informed about how well the organisation strategies are implemented. Performance measurement helps management to ensure that activities are implemented in a way that it fits the overall strategic objectives (Sakunasingha, 2006:41). To effectively implement organisation objectives, management must know if the goals are being achieved, on time, with allocated resources.

There are many performance measurement tools used in measuring organisation performance. These are traditional performance measurement tools such as return on investment (ROI), and return on equity (ROE), as discussed in section 2.3.5 and modern performance measurement tools such as activity based costing (ABC), the balanced scorecard (BSC) and VBM as discussed in section 2.5.The right tools should highlight to managers whether the goals are met or corrective action needed to increase the value of shareholders. The difficult decision for managers is to select and use the right performance measurement tools (Aguilar, 2003:47; Neely, 2002:18). The selection process can be influenced by certain organisation factors.

Thereby, this research questions whether organisation factors influence the selection and use of the right performance measurement tools such as VBM. To answer the question, this research will empirically study chosen organisation factors that influence the selection and the use of VBM tools as a performance measurement indicator in the water industry in South Africa. If it is evidenced, this research will determine factors that organisation should consider in selecting and implementing VBM (Sakunasingha, 2006:41). There are several factors that management may consider when selecting and using the right tools for an organisation, such as the degree of centralisation and/or decentralisation, diversity, leadership style, organisation culture, and cost structure. The latter three factors are considered for this research to determine influence on the organisations to select and use VBM tools to measure value creation. These three organisation factors represent research independent variables and the relevant literature is reviewed in this section.

2.4.1 Leadership style

Leadership has been an important topic in the social sciences for many decades. As we are living in a multiperiod world, the key to management is the ability to lead, persuade, manage, direct, control and make decisions that will change the future.

According to Copeland, Koller and Murrin (2000: 96), leadership style can impede the creation of value if managers do not walk the talk. To make value happen, managers need to address these psychological and mental blocks to higher performance. Leadership and top management size are variables that can influence the decision making processes, and consequently, the effectiveness/performance of the organisation (Pedraja & Rodriguez, 2005:160). Three leadership styles will be considered in this research, namely: Transformational, Transactional and "laissez faire" leadership styles.

1. Transformational leadership style is that which facilitates a redefinition of a people's mission and vision, a renewal of commitment and the restructuring of company systems for goal accomplishment. It is a relationship of mutual stimulation and elevation that converts followers into leaders and may convert leaders into moral agents. Hence, transformational leadership must be grounded in moral foundations It encourages the achievement of high collective standards, through a sense of purpose and a common mission and vision.

   Transformational leadership fosters capacity development and brings higher levels of personal commitment amongst followers to organisational objectives. According to Bass (1990b:21), transformational leadership occurs when leaders broaden and elevate the interest of employees, by generating awareness and acceptance of the purpose and mission of the group, and stirring of employees to look beyond own self interest for the good of the organisation, which is the cooperation required for the successful implementation of VBM tools.

2. Transactional leadership style is the style in which the leader motivates his followers via specific benefits, provided that the followers are capable of accomplishing the assigned tasks. Transactional style involves negotiation between the leaders and subordinates.

3. There is also "Laissez faire" leadership style, in which the leader rejects control and allows subordinates to take the decisions.(Bass ,1990a:19)

The Upper Echelons Theory (Hambrick & Mason, 1984:193-206) presents an alternative paradigm to that presented by the Ecology of organisation theory: it presents a set of variables as explanation for the performance of organisations. This research will focus on the variables of leadership style, and how it influences the selection and use of VBM tools. It has been argued that leadership style should be included in the Upper Echelons Theory (Waldman, Ramirez, House & Puranam, 2001:950) because it has direct effects on the decision making process and on the results of organisations. Similarly, other studies have confirmed that leadership style affects group processes, the social climate and results (Pedraja & Rodriguez, 2005:160). From this perspective, leadership style affects the climate, and the climate affects creativity and productivity, although leadership can also affect productivity directly (Lowe & Galen, 1996:390; Evkall & Ryhammar, 1997:126-130).

It has been determined that different leadership styles have diverse effects on variables such as flexibility, responsibility, standards, rewards, clarity and commitment, and in some cases, on organisational climate (Goleman, 2000:78-90). In order to understand this, it must be recognised that leadership style influences subordinates, since the leader's behaviour produces reward mechanisms that affect the behaviour of individuals in the organisation to behave in a value creation manner. Several researchers believe that gender is also related to leadership style, and that it also influences decision making style.

In a similar manner, it has been shown that the performance of an organisation is influenced by the competitive and innovative culture, and that the culture is influenced by the leadership style. Thus, the performance of an organisation is influenced by the leadership style via its culture (Ogbonna & Harris, 2000:768-788).

In terms of performance, it has been postulated that the definition of leadership style with regard to a particular decision requires the analysis of a group of factors such as: the relevance of the decision, the importance of the commitment, the likelihood of success, the experience of the leader and of the group, the group's support for

achieving the objectives, and the competence of the team (Vroom, 2000:82-94). Therefore, this research sets out to determine if leadership style has been selected by management as one of the factors influencing the selection and the use of VBM and its related evaluation techniques.

Table 2.1: Summary ofleadership styles

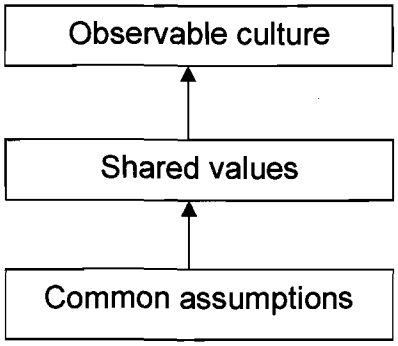
Transactional leadership	**Transformational leadership**
Contingent reward ▪ Clearly formulates expectations. ▪ Shows satisfaction if expectations were realised. ▪ As a counter move for achievement offers support.	Charisma/idealized influence attributed ▪ Mediates pride, respect and trust ▪ Places own interests for those of the group in the background
	Charisma/idealized influence attributed ▪ Has ethnic and moral principles ▪ Demands and promotes high engagement ▪ Communicates convincing values and goals.
Management by exception active ▪ Pays special attention to the breaking of rules and deviation of set standards. ▪ Draws attention to mistakes. ▪ Consistently persecutes mistakes.	Inspirational motivation ▪ Sees the future optimistically. ▪ Radiates enthusiasm. ▪ Offers attractive visions for the future. ▪ Mediates trust and confidence that the goals can be reached.
Management by exception passive ▪ Only intervenes when problems have arisen. ▪ Only reacts to problems if it is absolutely necessary.	Intellectual stimulation ▪ Promotes an intelligent, rational and carefully thought through resolution of problems. ▪ Recurring puts things into question. ▪ Makes innovative suggestions.
Laissez-faire	
▪ Rejects taking on responsibility. ▪ Delays resolution of important questions. ▪ Avoids decisions. ▪ Renounces to have influence.	

Source: developed for the research

2.4.2 Organisational culture

Organisational culture is defined as a system of shared beliefs and values that develop within an organisation and guides the behaviour of its members, that is, the way we do things around here.'

Figure 2.2: Organisation culture hierarchy



Source: Developed for the research

The culture of the organisation can either enable or hinder attempts to manage and improve performance. An attempt to introduce a system of performance measurement in a culture where it is not the performance that is being rewarded but factors such as political skill, seniority or age, will undoubtedly fail. A culture must be developed in which an employee's contribution to corporate goals and the fulfilment of strategy is valued. This in turn demands excellent communication and emphasis on actions, not words, which can demonstrate that it is goal attainment which is valued. The reward and recognition system must be aligned with performance measurement. It also needs to be evident that the system can differentiate between levels of achievement and reward accordingly.

The choice of a particular performance measurement must be matched by the development and cultivation of a culture that can support. The advocates of VBM maintain that the shift to VBM will only work if the culture is conducive to decentralised decision making. An article by Haspeslagh, Noda and Boulos (2000) states that most

VBM failures were in fact cultural resistance to change and that managing for value is 20% about numbers and 80% about people. However, people can be helped through culture change by means of effective communication by senior management, encourage trust through employee participation in the change process, change the reward system to encourage acceptance of change, counselling and guarantee people that whatever happens during the process everyone stand to win.

Whatever approach to performance measurement is chosen, companies need to make explicit commitment to it and then invest heavily in the so-called 'soft' issues such as training (Anon., 2002). This research, therefore, sets out to discover whether or not the organisational culture in an organisation is associated with the selection of the VBM tools.

2.4.3 Cost structure

Cost structure of a firm is the mix of different securities issued by the firm to finance its assets such as bonds, bank debts, preference shares, and common stock, .Koller, Goedhart & Wessels, 2005:488). It describes how a corporation has organised its capital, and how it obtains the financial resources with which it operates its business. Business adopts various cost structures to meet both internal needs for capital and external requirements for returns on shareholders' wealth. As shown on its balance sheet, a company's capitalization is constructed from three basic blocks:

1) *Long term debt:* It includes obligations that are not due to be repaid within the next 12 months. Such debts consist mostly of bonds or similar obligations, including a great variety of notes, capital lease obligations, and mortgage issues.

2) *Preferred stock*: It represents an equity interest in the corporation, but one with claims ahead of the common stock and normally with no rights to share in the increased worth of a company if it grows.

3) *Common stockholders' equity*: This represents the underlying ownership. Put another way, common stock equity is the net worth after all the liabilities as well as any preferred stock, are deducted from the total assets shown on the balance sheet.

In arranging a company's financial structure, management normally aims for the lowest feasible cost of capital; while the shareholder seeks the greatest possible return. While these desires can conflict, they are not necessarily incompatible. The cost of capital can be kept as low and the opportunity for return on common stockholder's equity can be enhanced through leverage - a high percentage of debt to common equity. The leverage provided by debt financing is further enhanced, because the interest that corporations pay is a tax-deductible expense which enables organisations to create shareholders' wealth, whereas dividends to both preferred and common stockholders must be paid with after tax earnings and are not tax deductible (Koller, Goedhart & Wessels, 2005:488).

The after tax cost of debt is well below the expected return on equity, reducing the weighted average cost of capital and increasing shareholder's value (Pettit, 2000:78). Thus, it is argued that the lower net cost of bonds interests helps accrue more shareholder value. The cost of the borrowed capital shows up in the company's interest expense, but the cost of equity capital which the shareholders have contributed, typically appears nowhere in any financial statement and hence will never be tax deductible. Equity is extraordinary expensive capital. Unless managers can identify all of this, cannot be sure that all costs are covered and adding value to the company (Tully, 1993:42).

Corporate governance theory predicts that leverage affects agency costs and thereby influences firm performance. Since Modigliani and Miller (1958:268) proposed the concept that, the general characteristics of a firm's ownership structure can affect performance, it has received considerable attention but few studies have looked at the relationship between ownership structure and capital structure. Failure to borrow, leads

to the adoption of a sub-optimal capital structure that is denying value to shareholders. The greater good of debt is its discipline in forcing capital efficiency and reducing agency cost (Pettit, 2000:79). Furthermore, companies with strong cash flows and low growth opportunities, managers' may be tempted to spend it unwisely destroying shareholders' value (Koller, Goedhart & Wessels, 2005:488). The way capital is used determines the market value of an entity (Tully, 1993:42).

Value-based management brings the discipline of debt, without the pain of covenants, by charging all capital employed, and also provide the tools, skills and correct incentives.

While VBM is no substitute for a sound business strategy, it can be used to evaluate and identify the best strategy, and, more importantly, to support strategy execution and operational excellence.

To better understand the cost structure and how it affects organisational performance, it is necessary to express the firm's value in terms of four fundamental wealth drivers (Brigham & Ehrhardt, 2005:518-519):

a) Growth in sales (g) = Change in sales
b) Operating profitability (OP) = NOPAT/Sales
c) Capital requirements (CR) = Operating capital/ Sales
d) Weighted average cost of capital = WACC

First, the sales growth rate generally, but not always, has a positive effect on value, provided the company is profitable enough. The effect can be negative if growth requires a great deal of capital, and the cost of capital is high. Second, operating profitability, which measures the after tax profit of sales, always has a positive effect - the higher the better. Third, the capital requirements ratio measures the operating capital needed to generate sales have a consistent effect - the lower the CR the better. Low CR implies that the company can generate new sales with smaller amount of capital needed. The

fourth factor, WACC, also has a consistent effect since the lower it is, the higher is the firm's value.

To see exactly how the four value drivers and the expected ROIC determine value for a constant growth firm, the equation can be expressed as follows:

$V_{op\ (at\ time\ N)} = FCF_{N+1} / (WACC - g)$

Where:

$V_{op\ (at\ time\ N)}$ is the value of operation at period N

FCF_{N+1} is the free cash flow at future period

Writing the above equation in terms of the value drivers we will have:

$V_{op\ (at\ time\ N)} = Capital_N + [Sales_N\ (1+g)/\ (WACC-g)]\ [OP-WACC\ (CR/\ (1+g))]$

The equation shows that the value of operations can be divided into two components:

(1) the operating capital that the investors have provided and

(2) the additional value that management has added or subtracted, which is equivalent to market value added (MVA).

Hence,

$MVA = [Sales_N\ (1+g)/\ (WACC-g)]$

This would be the MVA of the firm that has no costs and that never needs to invest additional capital. But firms do have costs and capital requirements and is indicated by [OP-WACC (CR/ (1+g))]. It can be seen that when g is held constant, the MVA will improve if operating profitability (OP) increases, capital requirements (CR) decrease, or WACC decrease. Consequently, an increase in growth will not necessarily increase value, although OP is positive, but CR could be quite high, implying that a lot of new capital is needed to support a given increase in sales and results in the decrease of MVA.

The value of operation equation above can be re-written as follows:

$$V_{op\ (at\ time\ N)} = Capital_N + [Capital_N\ (EROIC_N - WACC)/\ (WACC-g))]$$

Hence,

$$MVA = [Capital_N\ (EROIC_N - WACC)/\ (WACC-g))]$$

It shows that MVA depends on the spread between the expected return on invested capital, EROIC, and WACC. If EROIC is greater than WACC, then the return on capital is greater than the return investors expect, and management is adding value. In this case an increase in sales causes the value to go up. If EROIC is exactly equal to WACC, the company is breaking even. If EROIC is less than WACC, management is destroying value and growth is harmful. Here, the faster the growth rate is, the lower the firm's value. (Brigham & Ehrhardt, 2005:520-521).

This research, therefore, sets out to determine whether or not the cost structure of an organisation is associated with the selection of the VBM tools.

2.5 VBM - THE INTERVENING VARIABLE

VBM emerged from the discipline of strategic management in the late 1970s. Interest in value-based methods reflected disenchantment with traditional accounting earnings, although objectives of each are different. Value-based management recognised that accounting data was no longer providing a robust insight into business performance. 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).

The purpose of value-based management is to create a holistic measurement and management process that is designed to facilitate improved organisation performance (Sharman, 1995:1). However, certain organisation factors could influence managers in selecting and using VBM as performance measurement tools.

During the past decades, academics, business leaders and investors recognized the growing interest about creating value and how to measure and manage the created value (Eccles, 1998:132). Realisation of economic value become more pronounced than ever before as the world is transforming into the 'New Economy' (Sakunasingha, 2006:47). This new economy has been built on a revolution of globalisation, new technologies and an increased importance of intangible assets. These developments have made it necessary for organisations to understand and revise performance measurement tools to include value creation to an organisation. The increase in competition in global markets and more active Boards of Directors have increased pressure on organisations to focus on maximising shareholder value. This has resulted in organisations seeking alternative methods to manage and measuring business performance as the traditional accounting system are becoming obsolete and do not precisely determine a business' success.

To understand VBM, one must understand the importance of value creation in an organisation since VBM is a management process that focuses on creating shareholder value. In the value creation process, future financial performance is the primary interest (Martin & Petty, 2000:7). Past and present information such as profits, balance sheet and income statements are used as a guideline in forecasting the future, but this does not provide a complete picture of the ability of an organisation to bring in future profits or positive cash flow.

2.5.1 VBM review

Chopp and Pagalia (2002:1) defined value based management as the alignment of key organisational processes such as strategic planning, budgeting, compensation, performance measurement, training and communication around value creation. The organisation needs this alignment and consistency to develop a culture whereby individuals, at all levels, will make decisions focused on sustainable long term value creation. Maximisation of company value and shareholder wealth has become the most important task facing corporate managers (Koller, 1994:96). The implication for the

company is that it is no longer enough to satisfy the customer; a company must also prove itself in the capital markets and management must show it is capable of maximising company value. The management style then has changed with more focus on creating shareholder value, called VBM. Compared to traditional accounting performance measures, VBM is a better financial performance tool that connects the business strategies with the creation of shareholder value and considers all costs of capital used in the business (Martin & Petty, 2000:3). VBM also links managerial behaviours with rewards and measurement tools to create value (Aggarwal, 2001:59; Koller, 1994:96). This section reviews VBM from its definitions and the comparison between and other performance measurement tools. The first set of definitions describes the output of VBM.

- VBM is defined as a management approach whereby companies driving philosophy is to maximise shareholder value by producing returns in excess of the cost of capital (Simms, 2001).

- Value based management is a framework for measuring and, more importantly, managing businesses to create superior long term value for shareholders that satisfies both the capital and the product markets (Ronte, 1998).

- Value based management is a framework for measuring and managing businesses to create superior long term value for shareholders. Rewards are measured in terms of enhanced share price performance and dividend growth (Marsh, 1999).

In theory, VBM includes corporate strategy, management compensation, reward issues and detailed internal control; all designed to link employee performance to shareholder value (Borowsky & Spero, 1998). To maximize the wealth of owners or shareholders, management must generate, evaluate, and select business strategies that will increase the value of the company. However, corporate value cannot be increased, unless management knows what it is and how to measure it.

The application of VBM is the effective linkage between strategy, finance, performance measurement and management processes to create value (Chopp & Pagalia, 2002:2; Martin & Petty 2000:6; Young & O'Byrne, 2001:18, Knight, 1998:3-8). It attempts to solve the agency problem which arises where the ownership and management control are different. The value based management process proposes that the contributions of individuals or groups toward the creation of shareholder value be measured and, using agreed upon performance measurement tools, and rewards structured accordingly.

From the VBM definitions stated above, one should not misunderstand that VBM only brings about financial change; indeed, VBM is concerned about transforming the organisation culture rather than financial change (Haspeslagh et al., 2000:66; Copeland et al., 2000:96). More often, VBM failure was cultural resistance to change rather than complication in the accounting and financial process. Haspeslagh et al. (2000:66-69) stated that in achieving the desired cultural transformation, VBM requires five elements.

- A clear commitment to shareholder value, which can serve as communicating channel to the public that the organisation is about to change its culture and to motivate its employees to change behaviour.

- Providing intensive training programs, so that everyone is convinced and acknowledges that managing for value is the right thing to do (Wenner & LeBer, 1989:64; Knight, 1998:266). This could begin with the executives or corporate level and then go down to operation level .Training covers all the basics and start before implementing VBM so that employees have adequate knowledge and accept VBM

- Pay for performance, which is a new practice for incentive compensation systems that are closely tied to VBM performance to provide employees throughout the firm a sense of ownership in both the company and the program. It is important to understand that VBM is not only about financial figures, but it is about changing the behaviour of the managers within the organisation; to encourage them to

make decisions which are congruent with the objective of maximising shareholder value (Francis & Minchington, 2002:242). Motivating employees to create corporate value involves changing behaviour, which is part of the process for organisational change. To make it happen, compensation systems that affect human behaviour play a critical role in motivating employees to create value for an organisation (Martin & Petty, 2000:157). For instance, the incentive pay of executives will directly link to improving shareholder value, while incentive pay for other employees may link to other value indicators that lead to shareholder value achievement (Rappaport, 1999:100).

- Willingness to make major changes in an organisation that allows all employees to make value creation decisions. With this practice, VBM enhances managers to develop more detail and more meaningful value creating strategic options. Therefore, management at each business unit would spend more time on business issues rather than controlling budgets.

- Allowing broad changes rather than a narrow-focus on financial reports and compensation (Stewart III, 1995:118). VBM requires each business unit to identify the operational factors, or value drivers that have the greatest influence on creating economic profit, so that this focuses employees' activities toward value creation.

Martin and Petty (2000:6) argued that the heart of value based management is not only to create values, measure and then reward individuals or groups who contribute to enhance the wealth of shareholders, but also to maintain the sustainable cycle of value creation as a whole (**See figure 2.3**).

Managerial performance, as well as other employees' performance must be measured and rewarded using objectives that can be directly linked to creating shareholder value. In doing so, it provides the sustainable cycle of value creation.
Martin and Petty (2000:9) further stated that there are three primary elements that make VBM successful, namely:

- VBM must have the full and complete support of the top executives before transforming into the operating culture of the firm. Although the decision in selecting and using the VBM system may come from a corporate level, planning VBM gain the support from the executives (Wenner & LeBer, 1989:52-53; Koller, 1994:89; Knight, 1998:263-264).

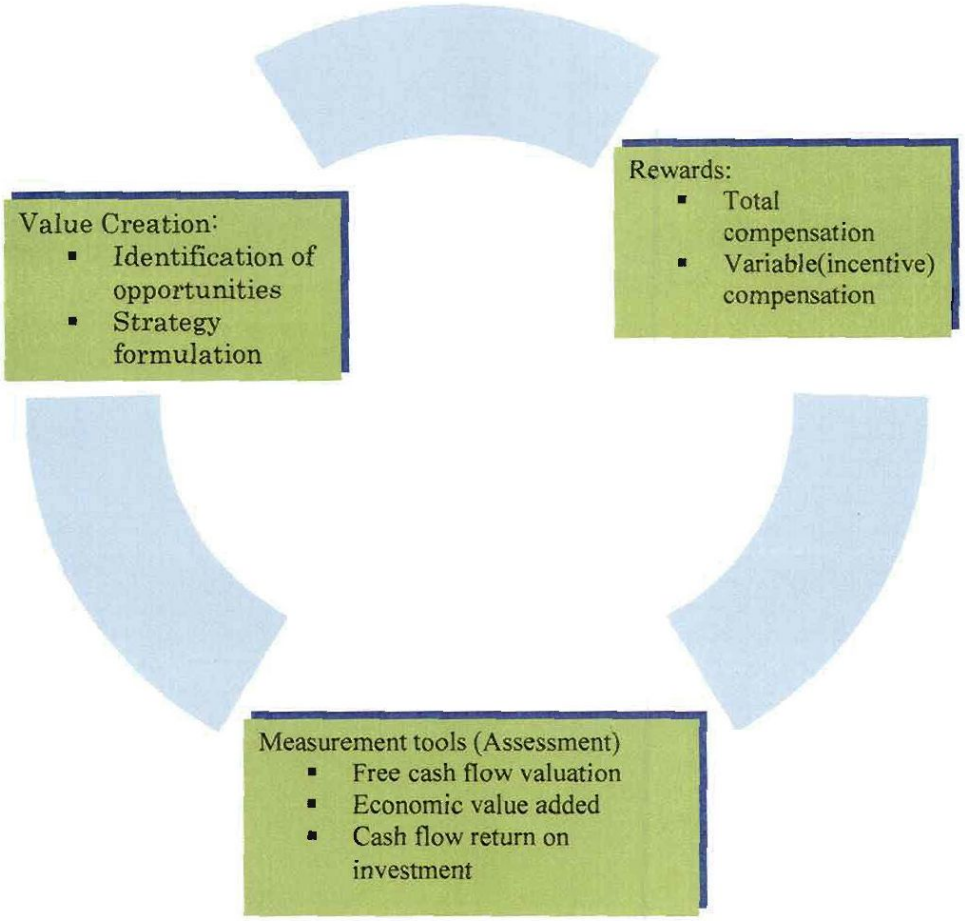
- For VBM to affect individual managers' behaviour there must be some link between behaviour and compensation.

- Skilful employees, who are able to spot problems, understand and be able to interpret the results when implementing VBM, play a significant role in greasing the wheel of VBM implementation (Wenner & LeBer, 1989:64).

- Employees at all levels must understand the VBM system if it is to be effective in transforming behaviour.

In implementing VBM, it should be simplified as much as possible so that employees understand VBM. Further; employees need to understand the requirements, why it is important and what effect it will have on own personal well-being (Haspeslagh et al., 2000:70-71). Therefore, education and training are absolutely essential to the success of any VBM program.

Figure 2.3.: Sustainable cycle of value creation



(Source: Martin & Petty, 2000:6)

2.5.2 Comparison of VBM with traditional performance measurement tools

VBM attempts to overcome the limitations of accounting measures by connecting business strategies with the creation of shareholder value (Martin & Petty, 2000:8). While the accounting information addresses only past and present information, VBM goes one step further in determining activities that create value and also measure the value being created (Martin & Petty, 2000:6-7). VBM determines the cash generated over the life of the business and the risk of cash receipts (Martin & Petty, 2000:36). It incurs all cost of capital used in business and realised that discounting free cash flows expected to be received in the future will create the organisation's value (Rappaport,

1981:141). In addition, VBM motivates managers to procure relevant information and make good decisions by using incentives plans that motivate the desired behaviour to create value for shareholder (Aggarwal, 2001:59).

The question arises if traditional accounting is consistent in reflecting the creation of value for shareholders. This also raises the question if measures, such as earnings per share (EPS) and return on investment (ROI), that are associated with traditional accounting, consistently reflect value creation that can be used as input into the strategy formulation and performance measurement processes (Martin & Petty, 2000:35-36; Koller, 1994:90).

Studies at SCA (2004) have shown that the traditional accounting system lacks in reflecting business reality properly. It also lacks in the provision of indicative information on the true profitability or value creation of the company.

With the current continuous focus on value creation, traditional measures are no longer sufficient since cost of capital is not taken into consideration as it can be influenced by external reporting rules (Ittner & Larcker, 1998:209).

Rappaport (1998:14) and Martin and Petty (2000:50) believe that traditional earnings fail as a measurement tool to support the shareholder value maximisation objective. The reasons are:

- Alternative accounting methods - methods such as LIFO (LAST-IN-FIRST OUT) vs. FIFO (FIRST-IN-FIRST OUT) which are both acceptable accounting methods. These are examples of methods used as accounting practice, whilst whichever method is used, will have no impact on the cash flow of the organisation. Underlying these methods are however, different depreciation methods.
- Investment requirements are excluded - the investments into working capital and fixed capital, required to sustain the firm, are excluded in the calculations of earnings for the organisation.

- Time value of money - the growth in earnings does not necessarily means that the company has grown. It is common knowledge that R1 received today has a higher value than R1 received in a year's time.

Martin and Petty (2000:36) categorised the shortcomings of GAAP (Generally Accepted Accounting Principles) based on measures in five groups. They are:

- Accounting based measures do not equal cash flow - cash is the cornerstone for most value added measures. Accounting based measures do not reflect whether cash has been generated by the organisation.

- It can be argued that risk is not reflected within accounting numbers - accounting numbers reflected what happened and not what might have happened. Accounting numbers do not reflect the risk that has been taken. Risk is a primary driver of value and accounting based information ignores risk.

- The opportunity cost of equity is not reflected in accounting numbers- accounting numbers do not take into consideration the rate of return required by investors. Equity capital is not free and comes at a cost. Accounting numbers therefore overstate the real value that has been created.

- Accounting policies differ between organisations - changes in accounting policy can have a huge impact on the accounting numbers reported. 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. Accounting numbers do not incorporate this.

As a consequence of the above, the question arises if this means that there is no role for traditional accounting within the business environment? Definitely not, traditional accounting is far from dead and buried, it has become a narrow slice of the information used by business people to make decisions (Saluzzi, 2000). According to Saluzzi, there are an increasing number of leading edge companies from all parts of the world and industry sectors that adopt new reporting concepts and practices that reflect a comprehensive value-reporting program.

The resurgence of investor power and the new paradigm to maximise shareholder value as the primary objective of management, requires management accounting to adopt and invent new ways to support management and other stakeholders within the organisation with information that will enable them to make the right decision. VBM is such a concept that focuses on ways to create and measure value creation within the organisation.

2.5.3. VBM metrics

The founding principle underlying VBM is the discounted cash flow (DCF) (Martin & Petty, 2000:47). Over the last couple of years, various new methods of VBM were added for measuring corporate value. These methods are proposed as solutions for measuring organisations' performance. The measures are generally based on comparisons between the corporate market value, corporate accounting book value (BV) and the residual income (RI) (Bromwich & Walker, 1998:391; Ittner & Larcker, 1998: 209). According to Brown, Macaskill and Owen (2000:2), the success of these measures can be gauged from the number of consulting firms offering different systems of shareholder value measures.

Knight (1998:2) emphasizes that to manage for value, means to use the right combination of capital and other resources to generate cash flow from the business. This section will first investigate the background to the VBM metrics and thereafter discuss the most prominent VBM tools.

2.5.4 Background to the VBM metrics and consulting firms

Several popularised performance measurement tools under the VBM framework are:

1) Shareholder value approach (SVA) by LEK/Alcar Consulting Group and later developed into a popular tool used by McKinsey & Co.
2) Economic value added (EVA Registered Trademark) by Stern Stewart & Co.
3) Cash flow return on investment (CFROI) by Boston Consulting Group.
4) Another tool to mention in this research is the rate of return on invested capital (ROIC).

ROIC is widely used in many organisations as a key financial value driver that must be identified before one of the three VBM tools could be applied.

These four popularised VBM tools are widely used in practice by consulting firms, and rely on the principal theory that underlies the use of cost of capital and free cash flow valuation method (DCF method) for evaluating new investment opportunities (Copeland et al., 2000:56; Martin & Petty, 2000:128; Rappaport, 1981:141). Since there is no perfect performance measurement tool, the debate over which VBM tool to use depends on the different aspects of performance and the purposes in fitting the tool with organisation strategies. Tools under VBM are not completely identical, but can help managers to make value creating decisions (Copeland et al., 2000:55-56), as a result of the consistency in answers provided to establish whether the organisation has created value or destroyed value (Rappaport, 1998). The competition among these VBM tools and the debate over which tools works best is illustrated in an article called *"METRIC WARS" and "MEASURE for MEASURE" by* Myers (1996:41-50); Martin & Petty (2000:51); Myers & Welch (1997:45).

In general, VBM tools provide management with a method for evaluating the performance of a firm's existing assets using the same standard that is used to evaluate the anticipated contribution to organisation value, which in turn, measures value being created for shareholder value.

Furthermore, VBM provides a structure for connecting performance with compensation that motivates managers to act like shareholders in the shareholder's interest (Tully, 1993:44-45).

2.5.5 Four popularised VBM alternatives

There are four popularised VBM alternatives:

2.5.5.1 Shareholder Value Added (SVA)

McKinsey & Co. and LEK/Alcar proposed a measurement called SVA. SVA is an initial tool, which measures the amount of value created, based on a forecast scenario. It addresses the 'change' in shareholder value over the forecast period (Rappaport, 1998:49; Rappaport, 1999:98). It estimates the value creation of an investment at a rate in excess of the cost of capital rate required by the market. If a company is to deliver superior returns to its shareholders, its units must create superior SVA. Calculating superior SVA requires six steps (Rappaport, 1999:98-99):

First, develop expectations for the standard drivers of value - sales growth, operating margins, and investments – by factoring in historical performance, the unit's business plan, and competitive benchmarking. Second, convert the expectations about value drivers into annual cash flow estimates and discount them at the business unit's cost of capital in order to obtain the value of each operating unit. Third, aggregate the values of each operating unit to verify that the sum is approximately equal to the company's market value. Fourth, from the cash flows used to value the operating unit, establish the annual expected SVA over the performance period - typically three years. Fifth, use year-end results to compute the actual SVA at the end of each year. The calculation will be the same as in the previous step, with the actual numbers replacing the estimates. Sixth, calculate the difference between actual and expected SVA. When the difference is positive, you have superior SVA.

The increase in net operating profit after taxes (NOPAT) is capitalized each year and discounted back to the present, at the discount rate (k). SVA is obtained by subtracting the present value of incremental investment from the present value of the capitalized NOPAT increase. The calculations would be assessed as:

$$SVA = \frac{\text{Change in NOPAT}}{k_c (1+k_e)^{t-1}} - \text{Present value of incremental investment}$$

Where:

NOPAT is the net operating profit after taxes

k_C = the cost of capital

k_e = the cost of equity

t = the period or value of growth duration

(Source: Rappaport, 1998:55)

The approach developed for SVA depicted the essential link between the corporate objective of creating shareholder value and three basic value drivers - first, operating decision such as pricing, promotion, and customer service levels are primary drivers for sales growth rate, and operating margin. Second, investment decision such as increasing inventory levels and capacity to expand the business could drive working capital and fixed capital investment. Third, financing decisions, which involve the cost of capital also questions not only the business risk the company is about to participate but also the proper proportion of debt and equity to fund the business. The SVA approach is a foundation for providing shareholder returns from dividends and capital gain. Therefore, SVA is a disciplined process to evaluate organisational activity. It is not only a financial numbers exercise. In fact, it is only as good as the strategic thinking behind the numbers, but it does not guarantee that the strategy with the greatest SVA number will be effectively and efficiently implemented.

2.5.5.2. *Economic Value Added (EVA)*

Stern Stewart & Co. developed the EVA approach. EVA is based on the concept of residual income or economic profits, something which have been known for a long time. The residual income or economic profits differ from accounting profits which can be explained as:

Accounting profits = Sales – cost of goods sold –operating expenses - interest expenses - taxes

Economic profits = Sales – cost of goods sold –operating expenses - interest expenses – taxes - charge for all capital used

= net operating profits after taxes – charge for all capital

(Source: Martin & Petty, 2000:81)

The residual income or economic profits concepts is intended to measure how well a company has performed in terms of generating profits in a particular period, given the amount of capital employed to generate profits. EVA is a measure of profit less the cost of capital employed. It is one measure that properly accounts for all complex trade-offs, often between the income statement and the balance sheet, involved in creating value. EVA is defined as return on investment minus weighted cost of capital, multiplied by the total operating capital (Pettit, 2000:63). Economic Value Added (EVA) looks much like the economic profits measure. It is computed as follows:

EVA = Net operating profits after taxes – (Cost of capital x beginning CAPITAL)

= EBIT (1-Tax rate) – (Total net operating capital) (WACC)

= NOPAT- (WACC x CAPITAL)

Alternatively,

EVA = (rate of return – cost of capital) x capital

Where:

NOPAT= firm operating profits after taxes but before financing costs and non-cash bookkeeping entries except depreciation.

WACC = Firm's weighted average cost of capital.

CAPITAL = the total cash invested in the firm over its life, net of depreciation

Alternatively, CAPITAL is expressed as follows:

CAPITAL = (Cash + Accounts receivable + inventories) - (Accounts payable + accruals) + operating long term assets.

(Source: Brigham & Ehrhardt, 2005:110)

Alternatively, EVA is expressed as:

EVA = (ROIC – WACC) x CAPITAL

Where;

$$ROIC = \frac{NOPAT}{CAPITAL}$$

(Source: Martin & Petty, 2000:88; Copeland et al., 2000:166, 171)

ROIC is the return on invested capital for year one. ROIC is a key financial value driver, which will be described next.

The result of EVA calculations states whether the company has a positive or a negative EVA, in other words, whether the company is creating or destroying value. In accordance with EVA, a company can only create value in the following ways:

1) Increase ROIC and hold WACC and invested capital constant.
2) Decrease WACC and hold ROIC and invested capital constant.

3) Increase the invested capital in projects/activities yielding a ROIC greater than WACC.
4) Withdraw capital from projects/activities that yield ROIC lower than WACC.
5) Create longer periods where the company is expected to earn a ROIC greater than WACC.

2.5.5.3 Rate of Return on Invested Capital (ROIC)

ROIC is the key financial value driver. ROIC is the ratio of a net operating profit less adjusted taxes (NOPAT) to its invested capital (Brigham & Ehrhardt, 2005:16-2). It is expressed as:

$$ROIC = \frac{NOPAT}{CAPITAL}$$

NOPAT is the earnings before interest and taxes less cash taxes, while CAPITAL is the amount invested in the operations of an organisation. ROIC considers the components that drive value in the EVA model; in fact, it reorganises and breaks down accounting statements into components to gain greater analytical insights before calculation. Further, the value of the company cannot be created if the ROIC does not exceed the cost of capital over time. As a consequence, the return on invested capital drives value of the company and can be used to set targets and track performance (Copeland et al., 2000:71), in which investing in projects/activities that yield a ROIC greater than WACC could potentially create value for a company.

2.5.5.4 Cash Flow Return on Investment (CFROI)

CFROI was originally designed by the Boston Consulting Group. CFROI represents a cash-based measure, meaning that it converts all accounting profits into cash flows. While EVA relies on earnings, the CFROI method is a periodic performance measure, based on future long term cash flows, which includes all accounting, inflationary and economic adjustments necessary to allow direct comparisons over time, across industry sectors and international borders (Matt, 1999:14). CFROI is the sustainable cash flow a

business generates in a given period as a percentage of the cash invested in the firm's assets. When inflation is a significant factor, both cash flow and cash invested are expressed in deflated or current value (Martin & Petty, 2000:129). Usually it is expressed as:

Firm's gross cash investment=

$$\frac{CF_1}{(1+CFROI)} + \frac{CF_2}{(1+CFROI)^2} + \frac{CF_n}{(1+CFROI)^n} + \frac{TV}{1+CFROI)^n}$$

Where:

CF = the inflation adjusted annual cash flow

TV = the inflation adjusted terminal value of all future cash flows from year n to infinity

n = the average economic life of the firm's assets

CFROI = the cash flow return on investment

CFROI is one of value-based measurement tools that measure the company's performance which reflects the average underlying rates of return on all existing investments projects. The CFROI of a firm can be thought of as a weighted average internal rate of return (IRR) of all projects making up the business as a whole, as it is expressed in the CFROI model. The Boston Consulting group believes that measuring value creation in terms of rates of return is much better than measuring it with any form such as SVA or EVA since these two measures are based on a period-to-period basis. In fact, CFROI is a cash-based measure by converting accounting data into cash-based measures, which reflect economic profit reality.

2.5.6 Foundation of VBM metrics - discounted free cash flow valuation (DCF).

Brigham and Daves (2002:350) stated that discounted free cash flows to the present value at the weighted average cost of capital (WACC) of the company lies at the heart of VBM. The four VBM tools that were previously shared have a common theoretical root without any exception, that is, the concept of free cash flow valuation. Most published articles and research have identified and explored how VBM is implemented in an organisation, leaving the gaps to identify 1) whether an organisation already has the root of VBM which is mandatory before selecting and using VBM systems and its tools and 2) what organisation factors influence the decision in selecting and using VBM. This research will identify organisation factors that impact on the decision in selecting VBM, observes how each factor affects the selection and use of VBM and observes the extent in which organisations performance are affected by the use of VBM through selected organisation factors.

All the methods of VBM share a common root of free cash flow valuation. Free cash flow represents cash that is actually free and available for distribution to investors and represents the core determinant of a firm value, since the investor's perception of the firm's ability is to generate cash over a period of time (Martin & Petty, 2000:52; Rappaport, 1998:121). In other words, the company's value is the present value of the future cash flow stream for the entity as a whole, discounted at the investor's required rate of return. The concept of free cash flow valuation, therefore, serves as the foundation for value-based management. While valuable for strategic analysis, DCF cannot be used to assess historical performance or set short-term targets.

Discounted free cash flow valuation (DCF) consists of two major components. The two components of free cash flow valuation are free cash flow (FCF) and cost of capital (WACC), in which free cash flow is discounted at a cost of capital.

2.5.6.1 *Free cash flow (FCF)*

Cash flow from operations represents the difference between operating cash inflows and outflows.

FCF = NOPAT – Net investment

= [NOPAT + Depreciation] - [Net investment +Depreciation]

= Gross cash flow – Gross investment

Where:

NOPAT is the net operating profit after taxes but before financing costs and noncash bookkeeping entries except depreciation (Copeland et al., 2000:167).

These cash flows are relevant for estimating the firm's value since it represents cash available to compensate all investors, which are both debt holders and shareholders. These available cash flows are called "free cash flows" (Copeland et al., 2000:134; Martin & Petty, 2000:52). Regardless of how this cash flow is being viewed, the firm's free cash flows are always the same as the cash flows received by the investors (Martin & Petty, 2000:52; 81).

Free cash flow can be divided into two parts: 1) the present value of cash flows from operations during the forecast period and 2) the present value of cash flows to be received beyond the forecast period (Martin & Petty, 2000:57). The key factors that drive the determination of free cash flows are sales, sales growth, expected operating profit margins, cash taxes and assets-to-sales ratio, such as fixed assets to sales, net working capital to sales and other long term assets to sales (Martin & Petty,2000:59). These variables have come to be known as *value drivers, because they are the factors or drivers determining a firm's free cash flows, which in turn affect firm value.*

A value driver is a performance variable that has an impact on the results of business, such as production effectiveness or customer satisfaction (Copeland et al., 2000:97). According to Knight (1998:167) value drivers are the operating factors with the biggest influence on operational and financial results. Value drivers play a critical role in the

understanding the impact of management's current actions on the current and future EVA of the organisation (Young & O'Byrne, 2001:272; De Waal, 2001:32). According to Harris (2002:5), employees need to understand how value is created within the organisation. By creating connections for each staff member between his or her specific role in the organisation and how value is created within the organisation, education of staff members will be enhanced.

For most people within the organisation, strategy is too abstract and far removed from daily activities. Value drivers help to break down strategy to a level that is both meaningful and actionable for managers (Knight, 1998:167). Value drivers must not only reflect important operational aspects, but also provide non-financial information to be used as input into the VBM metric. Value drivers can be divided into categories: financial and non-financial drivers (Young & O'Byrne, 2001:272). By breaking down shareholder value into the various value drivers of the organisation, management will start to have an internal perspective of the organisation and where value is created which is consistent to the external investor perspective.

The understanding of value drivers is helpful, but the real value only realises when management uses the value drivers in decision making and the organisational processes (Knight, 1998:168). Organisations generally base decisions on short term past quarterly financial information, which only provides information on historical company performance. There are two types of value drivers: financial value drivers and non-financial value drivers.

Non-financial value drivers are known as leading indicators of value. Leading indicators of value are current achievements that have a considerable positive impact on the long term value of the organisation. They are measurable and can also be communicated easily. Typical examples are production efficiencies, customer retention rate and customer satisfaction rate, as well as internal business processes, learning and growth. The improvement or achievement of such indicators will normally have a positive benefit to value creation on the long term. Rappaport (1998:129) argues that the process of

identifying leading indicators of value requires a proper understanding of the customers, product, and markets and other sources of information to understand the total business environment of the organisation. To identify the leading indicators of value is a difficult, but challenging, rewarding and revealing exercise. Leading indicators of value are those that provide us with forward looking information.

2.5.6.2 Residual income (RI)

Residual income is the accounting income attributable to shareholders at the end of the period less the total assets at the end of the previous period multiplied by the capital cost (cost of debt and equity). It provides a clear indication when a firm has made enough profit to satisfy both creditors and equity holders (Ameels et al., 2002:15; Bromwich & Walker, 1998:391). Residual income (RI) is usually expressed as follows:

RI = [EBIT x (1-Tax rate)]–(Required rate of return x Total assets)
= NOPAT – (Required rate of return x Total assets) (Martin & Petty, 2000:45)

Residual income is known in three basic versions today (Martin & Petty, 2000:51; Rappaport, 1998:121): 1) the traditional General Electric versions, known as residual income. 2) The stern Stewart trademark Economic Value Added (EVA) variant; and 3) the change in residual income.

Therefore, the calculation of present value for residual cash flows treats cash flows that come after the forecast period as an infinite stream of identical cash flows, at which the rate of return of those investments is equal to the cost of capital, thereby; the net present value is zero (Martin & Petty, 2000:51; Rappaport, 1998:33).

2.5.6.3 *Cost of capital*

The cost of capital is an economic concept, where the cost is based on the opportunity cost of the invested capital (Martin & Petty, 2000:64). The cost of capital is essential as it is required that investments should yield returns that are greater than the cost of capital to create shareholder value (Stewart III, 1995:117; Rappaport, 1986:55-56). Such costs are based on the proportions of debt and equity that an organisation targets for its structure. This is different from an accounting concept of cost, where the cost of equity is not considered when computing the corporate net income. The cost of capital is expressed as:

Cost of Capital = $W_D K_D + W_P K_P + W_C K_S$

Where:

W_D	=	the weight of debt in capital structure
Wp	=	the weight of preferred stock in capital structure
Wc	=	the weight of common equity in capital structure
K_D	=	the cost of debt after taxes
Kp	=	the cost of preferred stock
Ks	=	the cost of common equity

(Source: Brigham & Ehrhardt, 2005:9-5)

Cost of debt is measured relatively straightforward, since historical costs have little correspondence to prospective investments; therefore, it is appropriate to measure cost of new debt, not the cost of previously outstanding debt. The cost of equity is more complicated to measure. Since there is no agreement to pay a specific rate of return to common shareholders, the cost of equity should be the implicit rate of return that will induce investors to buy and hold the company's shares (Rappaport, 1986:56-57). Therefore, the cost of equity is measured by using the Capital Asset Pricing Model (CAPM), which holds that:

Cost of equity = Risk free rate + equity risk premium

= Risk free rate + beta (Expected rate of return on market – risk free rate)

Consequently, cost of equity can also be calculated by:

Cost of equity= (D_1/P_0) + growth rate

Where:

D_1 = the expected dividend on common equity

P_0 = the market price of the common stock per share.

(Source: Rappaport, 1986:57-58)

2.5.6.4 Discounted Free Cash Flow Valuation (DCF) and corporate value

The company value is calculated as all the future free cash flow streams discounted back to today using the appropriate cost of capital. An organisation is creating value only if it earns a rate of return on invested capital that exceeds the weighted average cost of capital (Martin & Petty, 2000:3; Copeland et al., 2000:64). The formula for the DCF model is:

$$CV = \frac{FCF_1}{(1+WACC)} + \frac{FCF_2}{(1+WACC)^2} + \frac{FCF_n}{(1+WACC)^n} + \frac{TV}{(1+WACC)^n}$$

Where: $TV = \frac{FCF_n(1+g)}{(WACC-g)}$

CV = the company value (value of operation)

TV = the terminal value

FCF = future free cash flows

WACC= constant weighted average cost of capital

g = the growth rate of the free cash flow

n = number of years in the explicit period

Most VBM tools will yield similar results, given that input data is consistent. For instance, one can prove, under certain assumptions, that SVA, EVA, ROIC, CFROI, and DCF presented in this section are all important equal aspects. However, the most common valuation approach is the DCF model. The advantage of the DCF model is that it requires a good understanding of the business, the value-creation opportunities and the key value drivers of the business. The disadvantage of the DCF model is that it is time consuming and very sensitive to small errors in key input variables. That is why most consulting firms combine the DCF valuation model with the use of other ratios such as sales, return on equity, price/earnings, growth in earning s or in sales.

2.5.7 Comparison between VBMmetric measures

According to Young and O'Byrne (2001:428) the various measures of performance can be broken down into five categories:

1) *Residual income measures subtract* capital cost (including debt and equity) from operating profits. Operating profits can be adjusted for accounting accruals or for cash flows. Typical measures are EVA and cash value added (CVA).
2) *Residual income component measures* incorporate elements of residual income, but do not include capital costs. Typical measures are earnings before interest (EBIT), net operating profit after tax (NOPAT) and return on assets (ROA).
3) *Market based measures* are derived from the capital markets. Typical measures are total shareholder return (TSR) and market value added (MVA).
4) *Cash flow measures* adjust accounting earnings to exclude the impact of accrual accounting. Typical measures are CFROI and free cash flow.
5) *Traditional income measures* are the metrics that have been used for decades by analysts and executives to measure the performance of organisations and is solely based on traditional accounting information. Typical measures are net income and earning per share (EPS).

Table 2.2: Comparison of various performance measures

Measure	Measure Type	Currency(C)/%	Includes cost of debt	Includes cost of equity	Measurable at divisional level	Ease of calculation	Inflation adjusted	Includes value of future investments
EVA	RI	C	YES	YES	YES	Medium	Possibly	No
EP	RI	C	YES	YES	YES	High	No	No
CVA	RI/CF	C	YES	YES	YES	High/Medium	Usually No	No
EBIT	RIC/TI	C	No	No	YES	High	No	No
NOPAT	RIC/CF	C	No	No	YES	High	No	No
ROA	RIC	%	No	No	YES	High	Usually No	No
TSR	MB	%	2	2	No	High	No	Yes
MVA	MB	C	2	2	No	High	No	Yes
FCF	CF	C	No	No	YES	High	No	No
CFROI	CF	C	No	No	YES	Low	YES	No
Net Income	TI	C	YES	No	YES	High	No	No
EPS	TI	C	YES	No	No	High	No	No
EV	RI	C	YES	YES	YES	Medium	Possibly	YES

Notes:

1. RI = residual income, RIC = residual income component, MB = market based, CF = cash flow, TI = traditional income.
2. Capital costs are not explicitly excluded in market-based measures but are reflected indirectly in the discount rate of the market inputs to the expected stream of future cash flows or EVA (Young & O'Byrne, 2001:430).

2.5.8 Reasons for organisations to selectVBM tools

Organisation performance is determined by using selected performance measurement tools. Whether an organisation selects traditional or modern performance measurement tools depends to a certain degree on the effectiveness and efficiency of the management team (Sakunasingha, 2006:62). Management therefore should use these

tools to achieve the organisation's objectives and enhancing organisation value in the competitive global market.

Management in the knowledge based era has an obligation to commit to strategies that will create value, or wealth, for the organisation and investors. Enhancing corporate value involves reducing costs, utilising assets more efficiently, reducing investment in assets as well as motivating managers to focus on underutilised assets; as a result, increasing cash flows and improving financial performance. Organisations that select and use VBM as a performance measurement tool will find it helpful in improving performance onvalue creation (Haspeslagh et al., 2000:67; Martin & Petty, 2000:70).

Beside management, investors and shareholders are also using VBM tools as a signal concerning the business's health. Investors are no longer only concerned with the returns an organisation made over the years, but they also aim at maximising the value. VBM can indicate the current situation as well as future prospects of an organisation. VBM tools can tell how the value of an organisation is maximised, while developing corporate value is the best long-term measure about how good the present management is doing its job.

Moreover, VBM implementation requires changes in managerial and employee behaviour in a way that focuses all stakeholders on and contributes to enhancing corporate value (Martin & Petty, 2000:211). The selection and use of VBM also plays a role in linking managerial attention to shareholder value by linking compensation and reward to how much corporate value has been created. Education and training about VBM also create an understanding and commitment of employees (Martin & Petty, 2000:214). Together, reward systems and education will encourage employees to think and act like owners and will promote a continuous cycle of value creation (Martin & Petty, 2000:6) that drives the wheel of a sustainable and knowledge based organisation.

This research supports the claim that VBM is the right performance measurement tool in determining the value of an organisation. The selection and use of VBM tools in an

organisation should improve organisation performance. It can be argued that how much the firm focuses on VBM methods and how often the firm uses these VBM tools depend on the maturity of the organisation. It can also be argued that a less mature organisation will focus more on the value driver, revenues, while the more mature the organisation, the more focus should be put on the discounted free cash flow valuation and the well-known or VBM by consulting firms. This research will observe if the organisation selects and use VBM tools and, if it does, to what extent these tools have been used.

2.6 ORGANISATION PERFORMANCE– DEPENDENT VARIABLE

Performance is the result of the end activity. From the review of literature on VBM tools in section 2.5, it is clear that the implications of VBM are related to the overall business strategy. Furthermore, the performance that results from selecting and using VBM is correlated more to business strategy and decision making than accounting based measurement tools. Broadly speaking, when an organisation selects and uses a VBM tool, the organisation performance should not focus just on the standards and number figures, and not limited to financial data.

From a management perspective, performance of an organisation influences the market valuation of the company. By improving or strengthening its performance, an organisation becomes more accountable, at the same time raising shareholders confidence. Strengths and/or weaknesses in organisation performance reflect the responsiveness of the Board of Directors and governance; thus, the governance of the organisation interests the market. Investors are no longer satisfied only with simple selling of shares when dissatisfied with returns, but, instead, argue for altered company strategies aimed at maximising the value of shares.

Performance of an organisation can be measured by looking at the revenues or the profit made at the end of the year, or using key financial ratios such as profit margin, earning per share, return on equity, return on assets, debt-to-equity, or equity multiplier (total assets to equity), total assets turnover, or percentage growth. The research by

Ryan and Trahan (1999:54) used three key dimensions of performance, or the Du Pont equation, in measuring the effectiveness in utilising assets to generate profits. The key variables in the Du Pont Equation, are profit margin, total assets turnover and equity multiplier. The arguments underlying the Du Pont equations are presented in Figure 2.4. Alternatively, Du Pont Equation could be written as:

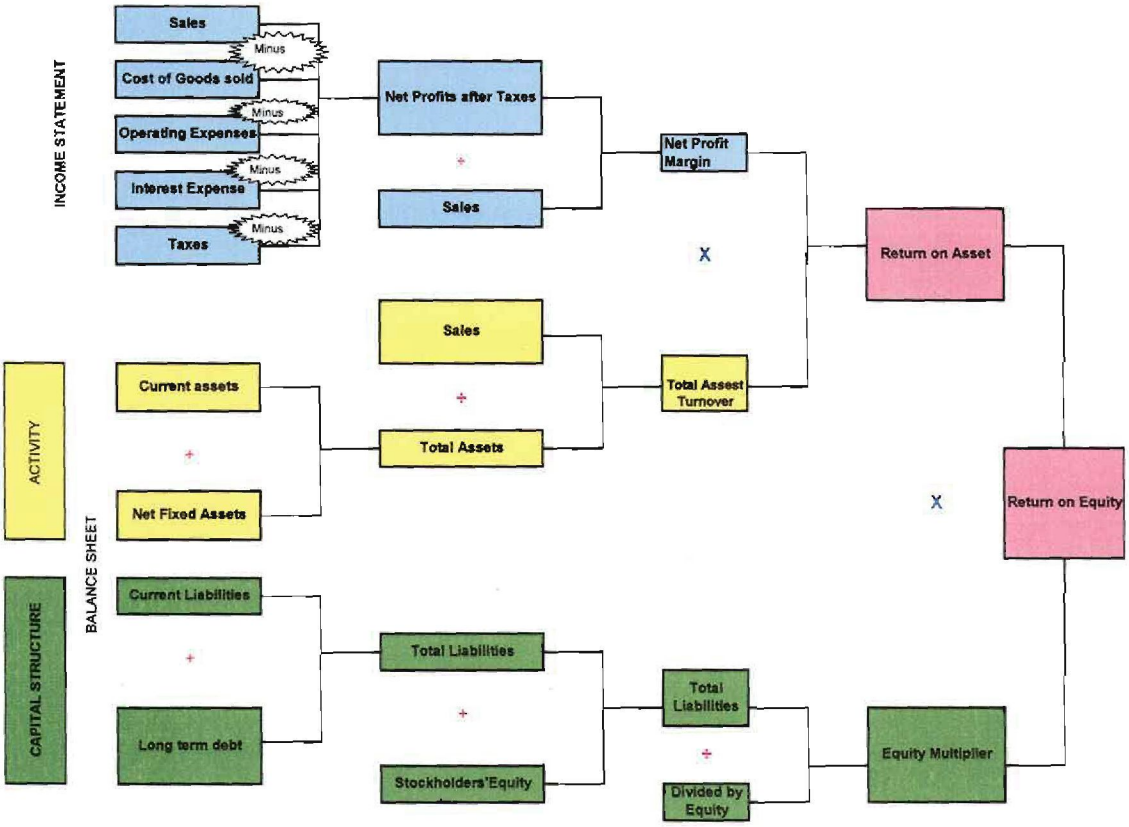
Return on Equity= (net income/sales) x (sales/total assets) x (total assets/equity)
= Net profit margin x total assets turnover x equity multiplier
= return on assets x equity multiplier

It is more likely that the net profit margin, total assets turnover and equity multiplier indicate the effectiveness in utilising financial resources within the firm while selection and use of VBM tools should lead to a better result in these key indicators, hence a better overall organisation performance.

This research resembles other researchers in using key points in the Du Pont Equation, or five key financial ratios were used to measure organisation performance. Thus, this research will measure three key performance areas, which are:

A. The ability to generate revenues by looking at growth in sales, and net profit margin.
B. The effectiveness in utilising assets to generate profit, by looking at the total assets turnover (TATO) and return on Equity (ROE) ratios, and
C. The ability to pay its costs by looking at debt ratio.

Figure 2.4.: Du Pont Model



(Source: Adapted from Cees, 2006)

These five financial ratios are described in this section as follows:

2.6.1 Growth in sales

Growth in sales is a very useful business measurement parameter indicating a long term ability of the company to generate income. If cost of goods sold, staff costs, depreciation, other assets utilisation costs, gross interest expense, income tax and does not sell its new common stock, the firm must increase net operating profit after taxes, increase net profit margin, total asset turnover and equity multiplier. (See figure 2.4.)

2.6.2 Net profit margin

Profit margin is one of the best known and widely used of all financial ratios beside return on equity (ROE), and return on assets (ROA). Profit margin indicates an operating efficiency of a company. Profit margin is part of the Du Pont Equation that indicates the efficiency in cost controlling of the organisation (see figure 2.4).

2.6.3 Total assets turnover

Total assets turnover consider a big picture ratio of how well a company uses its assets to generate sales in a year. Figure 2.4 showed that total assets turnover, together with profit margin, forms the return on assets (ROA). Weaknesses in either operating or assets use efficiency, or both could show up in a diminished return on assets, which will translate into a lower return on equity.

2.6.4 Return on assets

Return on assets (ROA) is a measure of profit per rand of assets. Return on assets could be described through the two components of profit margin and total assets turnover in the Du Pont Equation (see Figure 2.4). For the Du Pont Equation, a satisfactory return on assets may be achieved through high profit margin or rapid turnover of assets, or a combination of both.

2.6.5 Debt ratio

Total debt ratio takes into account all debts of all maturities to all creditors. It addresses an organisation's ability to meet its obligations. The debt ratio can be defined as total liabilities divided by total assets (see Figure 2.4), which indicates a percentage of assets financed with debt.

2.6.6 Equity multiplier

Equity multiplier indicates how much assets is financed with debt, using equity and measure of financial leverage, and allows the investor to see what portion of the return on equity is the result of debt. Equity multiplier can be defined as total assets divided by common equity.

These drivers have a direct impact on the VBM metric the organisation uses. Each and every business unit cannot influence all of these measures, and therefore the specific driver applicable for a business unit should be used as measure and strategy setting.

Historically, financial value drivers have a positive impact on the VBM metric used (Young & O'Byrne, 2001:278). Although financial indicators, such as assets turnover, are value driver indicators, it provides us with historical information only and are therefore called lagging indicators of value. Understanding the significance of these value drivers is one of the most important things management can do in its endeavour to maximise shareholder value (Martin & Petty, 2000:68). If VBM is to make any difference, management must also know what is behind the value drivers.

2.7 THE VALUE MAP

Martin & Petty (2000:70) believe that only by knowing the important linkages between decisions being made and their effects on the organisation economic value, can any difference be made through VBM. The understanding can be attained by creating a value map for the organisation whose intent is to highlight the linkages between the value drivers of the organisation and the organisation value.

As a starting point, the value map creates focus on all the stakeholders (i.e. employees, managers, customers, suppliers, and government and extend to anyone who benefits from the company) and the organisation value needs that direct the development of the strategic objectives and desired outcome of the organisation (Jack, 2002:2). Value maps

have the ability to set direction and focus on the measures that creates value. Jack also argues that value maps also have the ability to explain all levels of detail within the organisation and integrates strategy and focus across business units, department, functions and teams.

Table 2.3: Value map based on financial drivers

<table>
<tr><td>Market size</td><td rowspan="3">Revenues</td><td rowspan="6">Cash Profit</td><td rowspan="9">Cash from operations</td><td rowspan="12">Business unit Value</td></tr>
<tr><td>Market share</td></tr>
<tr><td>Sales mix</td></tr>
<tr><td>Retail price</td><td rowspan="3">Operating Margin</td></tr>
<tr><td>Staffing level</td></tr>
<tr><td>Wage rates</td></tr>
<tr><td>Tax effective structures</td><td>Taxes</td></tr>
<tr><td>Inventory</td><td rowspan="2">Working Capital</td><td rowspan="5">Investment required to support operations</td></tr>
<tr><td>Receivables/Payables</td></tr>
<tr><td>Plant life</td><td rowspan="3">Capital Expenditure</td></tr>
<tr><td>Maintenance</td></tr>
<tr><td>Scale of operations</td></tr>
<tr><td>Cost of equity</td><td rowspan="3">Cost of Capital</td><td>Discount rate</td><td>Discount rate</td></tr>
<tr><td>Cost of debt</td></tr>
<tr><td>Leverage</td></tr>
</table>

(Source: Martin & Petty, 2000:69)

The value map depicts the essential links between the corporate objective of creating shareholder wealth (business value) and the basic valuation parameters or value drivers; that is, sales growth rate, operating profit margin, income tax rate, working capital investment, fixed capital investment, cost of capital and value growth duration (Rappaport, 1986:76).

- *Operating decision:* such as product mix, pricing, promotion, advertising, distribution and customer service levels are impounded primarily in three value drivers - sales growth rate, operating profit margin, and income tax rate.

- *Investment decision:* such as increasing inventory levels and capacity expansion are reflected in two investment value drivers – working capital and fixed capital investment.
- *Financing decision:* such as the cost of capital is governed by business risk and management decision, that is, the question of the proper proportion of debt and equity to use in funding the business as well as appropriate financing instruments.

2.8 LINKAGES AMONG ORGANISATION FACTORS AND VBM TOOLS

From the review of literature in section 2.4., organisation factors influence management decisions to select and use the VBM tools for measuring organisation performance. Three organisation factors were chosen for this research, leadership style, organisation culture, and capital structure. These three factors are the independent variables and are used to assess whether or not they influence the selection and the use of VBM tools.

Past research found that leadership style_influences the performance of small firms (Pedraja & Rodriguez, 2005:159). Leadership and top management size are variables that can influence the decision making processes, and consequently, the effectiveness/performance of the organisation. According to Copeland et al. (2000: 96), leadership style can impede the creation of value if managers' actions send out different messages. To make value happen, managers need to address these psychological and mental blocks to higher performance. Based on previous research which employed different settings, this research hypothesises whether or not leadership style_influences the selection and the use of VBM tools at the South African Water Board.

The organisational culture is used as one of the research independent variables and is represented by the employees' commitment to goals and values, employee participation, knowledge, rewards and recognition, change management, empowerment, cross functional working teams, employee turnover rate and the effectiveness of corporate communication. Organisations with a satisfactory organisational culture are better positioned to have employees who are better aligned to the organisational goals which

will positively affect the performance of the organisation than organisations with a weak culture and are more likely to use VBM tools to enhance business performance. This research will investigate whether organisational culture, as viewed by all stakeholders is associated with the selection of VBM tools.

The direct value drivers, such as those grouped under operating, investment and financing strategies, evolve as results of management decisions and must be managed to outperform competition and possibly deliver value to shareholder.

The *operating strategy* consists of all decisions made in the value chain, including capital and labour. The operating strategy involves decisions related to sales growth, operating profit margin and income tax rate.

The *investment strategy* looks at the working capital investment and the fixed capital invested. These strategies are of great importance due to the effect on production, working procedures and decision making processes. Therefore a discussion about whether a sustainable initiative or strategy is a cost or an investment seems to be important. This is reflected in the cash flow from operations, just like operating strategy Today large capital investments are increasingly focused on improved product performance. Capital investments which increase the efficiency of operations are of interest in increasing shareholder value and organisational performance.

Financing strategy involves the cost of capital, what discount rate the company obtains and the cost of its debt.

Therefore, this research also observes the association between growth in sales, net profit margin, return on asset (ROA), total asset turnover (TATO), debt ratio, return on equity (ROE), return on investment (ROI), growth in assets or liabilities, residual income, cash flow analysis, net present value (NPV), cost of capital, cost of equity, time value of money, and the selection of VBM tools.

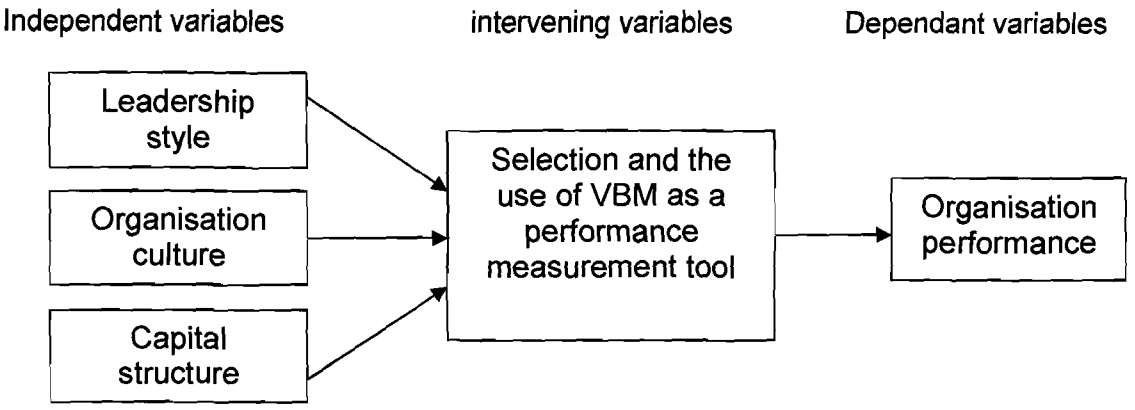
2.9 LINKAGES AMONG VBM TOOLS AND ORGANISATION PERFORMANCE

Organisation performance is determined by the utilisation of selected performance measurement tools and may indicate the effectiveness and efficiency of the management team in enhancing the value for the organisation. VBM described in section 2.5., is one of the management systems composed of several measurement tools that link finance, performance measurement and management processes to create value. Regardless of the VBM tools implemented in an organisation, VBM demands that three areas of improvement should be monitored, that are; reducing costs, utilising assets more efficiently and reducing investment in assets. As a result, these three areas should increase cash flows and improve financial performance (Martin & Petty, 2000:70).This research seeks to answer the question if organisations that institute VBM can perform better than those organisations that do not by studying the relationship between the selection and the use of VBM tools and organisation performance. This research studies four popular VBM tools that are commonly used by many consulting companies (EVA, SVA, CFROI, and ROIC), plus another two foundation VBM tools (FCF and COST OF CAPITAL) which are the components of free cash flow valuation that companies may select and use internally, without employing the popular ones.

2.10 DEVELOPMENT OF RESEARCH MODEL

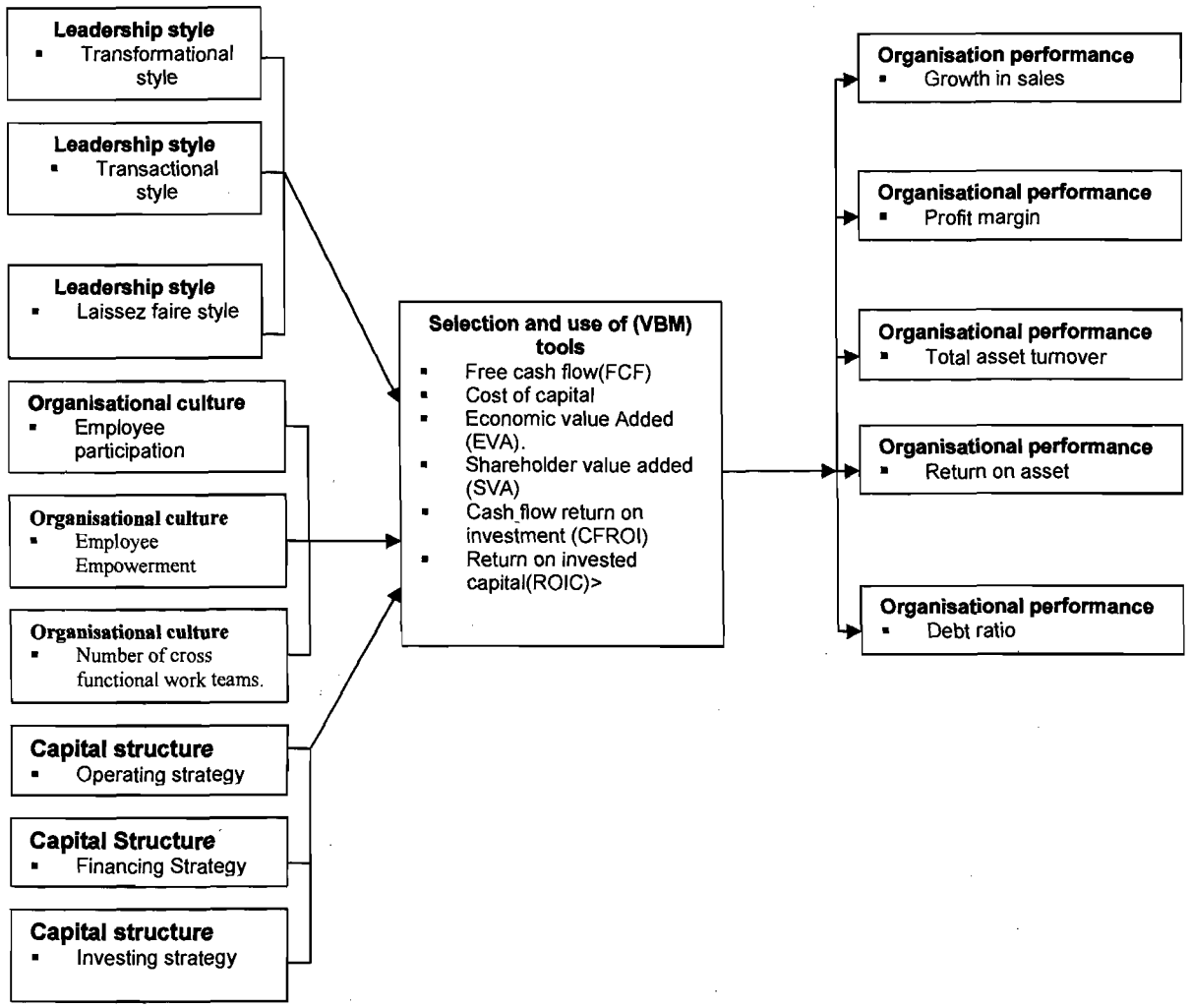
From the linkages described above, the research model is drawn accordingly and is demonstrated in Figure 2.5 and Figure 2.6. Figure 2.6 demonstrates the research model at a macro-level, in which it depicts the interrelationship among the research variables described in section 2.8, section 2.9, and section 2.10 and provide the theoretical framework of this research. The micro-level research model shows more details of each variable to be tested in this research to predict the relationship among variables (see figure 2.5 and figure 2.6).

Figure 2.5: Diagram for the research model at macro-level



(Source: Developed for the research)

Figure 2.6: Diagram for the research model at micro-level



(Source: Developed for the research)

2.11 SUMMARY OF THE CHAPTER

This chapter emphasizes the area of the management control process, which are the research parent discipline. Management control helps managers to ensure that current operations are meeting the organisation objectives. It involves setting standards and planning what the organisation should do in achieving its goals, measuring performance, evaluating results based on accurate information and whether performance results are acceptable in terms of what was planned and then taking action, if necessary, to correct the situation.

Performance measurement is the key to management control processes and is a research immediate discipline. Performance measurement helps managers identify and evaluate overall performance that will provide useful information that could affect current and future activities of organisation. Several measurement tools that are commonly used in most organisations are reviewed in this chapter.

Over the last century the business environment changed considerably requiring new ways of measuring business performance. Globalisation and privatisation forced management to focus on creating shareholder value. Investors are not only exposed to global trends through the stock they hold, but can also easily invest globally. Investors also are more actively involved in the running of the organisations they invest in. Executives are continuously under pressure to deliver superior value. By choosing shareholder value creation as the overarching goal of the organisation, and rewarding accordingly, VBM provides a solution to overcome the agency theory.

To create value, management needs to understand how value is created within the organisation. All factors focus on management to create and understand value. This requires a new framework of information that supports investors, analysts and management to understand the true value creation within an organisation. VBM is such framework.

VBM is not a replacement of traditional accounting. The pie of the information sources to base decisions on just got much bigger. The exclusion of the time value of money and the opportunity cost of the risk of the investment as well as the inclusion of non-cash items such as depreciation, distort the true value creation picture of an organisation when traditional accounting measures are used. Decisions and performance are not only based any more on ROE or similar accounting measures, but are based on whether an organisation creates value for its shareholders. Value is created for the shareholders of an organisation when the returns they receive are more than the cost of capital.

Some proponents define VBM as a broad holistic organisation process, whilst others narrow the definition down to a single metric. The overarching goal of VBM is to maximise shareholder wealth. VBM is a managerial framework that links strategy, measurement and operational processes by ensuring that there is goal congruence, being creating value for shareholders.

Discounted cash flow, to the present value at the weighted average cost of capital, lies at the heart of the metrics.

VBM metrics are, most of the times, described as financial performance measures. Metrics such as EVA, CFROI, SVA, ROIC, etc., are believed to reflect the true business economics better than the traditional accounting based measures. VBM metrics are distinguished from accounting based measures by including all of the following:

- Cash flow analysis;
- Adjusting future cash flow with the time value of money; and
- The inclusion of cost of capital.

VBM is not a silver bullet or a crystal ball that will solve all the organisational problems. The measure itself is only as good as the information it is based on and the commitment of management within the organisation. What you measure is what you get.

Therefore, this research questions if VBM tools are successful performance measurement tools, should South African Water Boards start implementing it. This research will study factors that influence an organisation in selecting and using VBM tools in South African Water Boards. The findings from this research should broaden knowledge in the area of performance management and motivate South African Water Boards in selecting and using VBM tools.
The research variables are reviewed in this chapter. Three organisational factors are chosen and are studied in this research as independent variables. These are leadership style, organisational culture and capital structure. VBM tools are the research

intervening variable, while organisation performance is the dependent variable. The linkages among research variables were established, the research model drawn, ready to be tested using the quantitative methods to be described in the next chapter.

CHAPTER 3: EMPIRICAL RESEARCH METHODOLOGY

3.1 INTRODUCTION

The previous chapter reviewed the relevant literature related to performance measurement and its tools, in particular value-based management tools that lead to the construction of a research model.

This chapter has five sections and begins with an introduction, followed by section 3.2 which addresses the research design and types of research. Section 3.3 deals with the data collection and administration. Section 3.4 describes the questionnaire design and operational function of the questionnaire. Section 3.5 provides a profile of the samples and the profile for collected data. Section 3.6 provides a summary to this chapter.

3.2 RESEARCH PROCESS

Research can be seen as a process of discovery of new information or relationships amongst the variables considered to expand existing knowledge for some specified purpose, or to solve problems, or is simply a process of finding solutions to a problem after a thorough study and analysis of the situational factors (Serekan, 2003:2) which may be theoretical or practical in nature. The research process itself involves identifying, locating, assessing, analysing, and then developing and expressing ideas Research can also be seen as a process to explore, describe, understand, explain, predict, change, evaluate, and assess aspects of certain phenomena. It starts with a research problem, an intellectual puzzle or a practical problem which is about answering three types of questions: 'what', 'why', and 'how'.

There are two major field of research, namely: scientific research and social research. ***Scientific research*** is conducted within the rules and conventions of science. This means that it is based on logic, reason and the systematic examination of evidence. Ideally, scientific research should be possible replication by the same or different

researchers and derived for similar conclusions. It applies mostly in the physical or natural sciences, such as physics, chemistry or biology.

Social research differs from scientific research because it deals with people as social beings and people are much less predictable than non-human phenomena. In social research, the social world is constantly changing, so it is rarely possible to replicate research at different times or in different places and obtain similar results. This includes research from the fields such as education, economics, business and management, psychology, political science and sociology (Blaikie, 2003).

Research is an essential management tool. Managers conduct business research in companies to reduce uncertainty through the collection of information about organisational and environmental conditions (Zikmund, 2000:8). Furthermore, business research is also used to identify problems and/or opportunities, to diagnose causal factors, to evaluate current programs and causes of action, to explain what went wrong in the past, to forecast future conditions and to suggest some possible alternatives (Zikmund, 2000:9).

The information necessary to conduct business research needs to be clearly stated and define its objectives and provide essential information upon which to base decisions, in which it may play an important role by reducing managerial uncertainty; however, research is never a substitute for managerial thought and judgement (Zikmund, 2000:6).

3.2.1 Types of business research

Since this research is in the field of business studies and management, it fits under social research. Social research can be categorized into basic and applied research.

Basic research (also called fundamental or pure research) has as its primary objective the advancement of knowledge (Zikmund, 2000:6) and the theoretical understanding of the relations among variables. It is exploratory and often driven by the researcher's

curiosity, interest, or hunch in a scientific question. It is conducted without any practical end in mind, although it may have unexpected results pointing to practical applications. The term "basic" or "fundamental" indicates that, through theory generation, basic research provides the foundation for further, sometimes applied research. Basic research has no guarantee of short-term practical gain and there is no obvious commercial value to the discoveries that result from basic research.

Traditionally, basic research was considered as an activity that preceded applied research, which in turn preceded development into practical applications. In other words, basic research lays down the foundation for the applied science that follows. Recently, these distinctions have become much less clear-cut, and it is sometimes the case that all stages will intermix.

Applied research is designed to solve practical problems of the modern world, rather than to acquire knowledge for knowledge's sake. One might say that the goal of the applied scientist is to improve the human condition. Applied research encompasses those studies undertaken to answer questions about a specific problem or to make decisions about a particular course of action or policy (Zikmund, 2000:7).

Both basic and applied research employs the scientific method to address the research problem which requires systematic analysis and logical interpretation of empirical evidence to confirm or disprove prior conceptions. The use of scientific method in applied research ensures objectivity in gathering facts and testing creative ideas for alternative business strategies.

So far, most researchers conducted studies in the area of performance measurement to broaden the knowledge base and did not directly provide solutions to a pragmatic problem (Cooper & Petry, 1994; Ryan & Trahan, 1999; Sinclair & Zairi, 2000). However, the gathered information from these basic research studies could prove to be a critical finding that can be applied in future applications. This research is conducted under limited time frame and only in the South African Water Boards trying to answer the

problem statement in chapter one. Thus, this research is categorized under applied research.

Besides classifying research into basic or applied research, research can also be classified on the basis of functions, technique or purpose to understand how the nature of the problem influences the choice of research method (Zikmund, 2000:50).The most common business method used are exploratory research, descriptive research and explanatory or causal research.

The above three research types are applied in this study for the following reasons:

Exploratory research was conducted at the early stage of this research study:

a. To gain background information about the research problem.
b. To gain a better understanding of the problems from many dimensions.
c. To clarify the problems into the researchable issues (Zikmund, 2000:57; Serekan, 2003:123).

The aim of exploratory research is to determine more in an area that has not been studied and in which a researcher wants to develop initial ideas and a more focused research question (Struwig & Stead, 2004:7). Exploratory research often relies on secondary research such as reviewing available literature and/or data, or qualitative approaches such as informal discussions with consumers, employees, management or competitors, and more formal approaches through in-depth interviews, focus groups, projective methods, case studies or pilot studies.

Descriptive research is used to determine and describe the characteristics of an existing population or phenomenon of interest to allow a better understanding of the topic with clearer specification of the characteristics being investigated, but give no explanation for the cause of findings (Zikmund, 2000:50; Serekan, 2003:125). The descriptive study was appropriate in describing information about organisational factors, the performance measurement tools, and organisational performance. In this research,

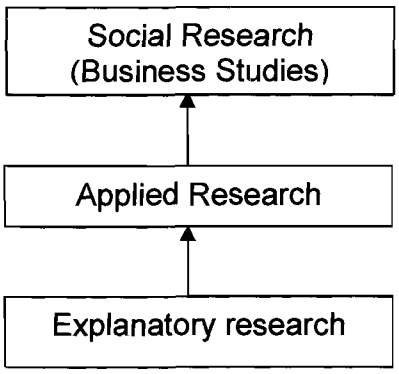
the descriptive study is used to gain an in-depth knowledge about performance measurement and its tools; the researcher gets a clearer picture and a sharper focus of the research area.

Explanatory or causal research identifies cause-and-effect relationships between variables (Zikmund, 2000:51). It requires a process of data collection, analysis and interpretation. It also seeks certain types of evidence to understand and predict relationships. In the literature survey, explanatory research were undertaken to determine the causal relationship between the organisational factors and the selection of VBM in the South African Water Boards. It will determine cause-and-effect relationships among variables where the research problem has already been narrowly defined. Explanatory research is used to observe whether the chosen organisational factors could change or cause organisations to adopt VBM as performance measurement tool, and whether the application of the VBM relates to organisational performance. To understand relationships, the researcher needs explanatory or causal research to identify such relationships.

These three approaches are believed to be the best for the study as are able to allow the researcher to better document the views, describe and prescribe. Furthermore, all these are vital in answering the research issue.

In these research, exploratory studies was undertaken by reviewing existing literature and secondary data on the core subject in the area of performance measurement, talking to knowledgeable people and informal investigation at the workplace, and document organisational factors that are perceived to influence organisations to select value based management tools to measure performance in order to get basis information about the research issue.

Figure 3.1: Summary of research process



3.2.2 Selecting design technique

Two methods may be used in the research: those are **quantitative methods** and **qualitative methods**.

Zikmund (2000, 51) stated that explanatory or causal research takes a quantitative approach; that is, gathering numerical data to ensure objective and accurate results. In the quantitative study the focus of the research is quantity and its goal are predictions, control, description, confirmation, hypothesis testing. Its associate phrases are experimental, empirical, and statistical.

In contrast, the qualitative study usually involves the field work that is that researchers must physically go to the people or institutions in order to observe behaviour in its natural setting; however, as exceptions some qualitative studies can be undertaken using documents alone. The focus of the research is the quality, which may be defined as nature and essence. Its associate phrase may be naturalistic, grounded and subjective. The sample may be small, on-random, purposeful or theoretical. The goal of qualitative study is usually understanding, description, discovery, meanings and hypotheses generating. Concerning data collection the researcher is the primary instrument, which can use interviews, observations and documents. The model of analysis is inductive by the researcher and the findings are comprehensive, holistic,

expansive, and richly descriptive. However, the qualitative approach, or data is in the form of words, pictures or objects are richer and less able to be generalised.

Many researchers indicate that the two approaches complement each other and suggest that quantitative research should be based on initial qualitative work. Therefore, the knowledge of the two approaches is crucial. The relationship between the researcher and participant is negligible in quantitative research and contact is generally brief. In contrast, the researcher and participant in qualitative research are both involved in the research process with the researcher trying to understand and interpret the participant perspective. Quantitative research is guided by theories and prior research findings whereas qualitative researchers are comfortable using theories as the research progresses rather than allowing theories to guide research in its initial phases. Qualitative research is more structured than quantitative research in that sampling, research design, questionnaires and statistical methods are largely determined prior to the participant completing the questionnaires. The research usually begins with gathering qualitative information through observation, informal and in-depth interviewing and participant observation.

This research study was conducted through a review of literature study to gain in-depth knowledge of the study area. It follows by identifying the research gaps followed by the development of the research questions. Therefore, in this study the quantitative approach is used through the questionnaire.

Quantitative research data primarily involves statistical analysis. It relies on numerical evidence to ensure objectivity and accurate results to draw conclusions. To be sure of the results' reliability, quantitative research methods use a large sample size of the population or organisation and the data are analysed by means of a computer.

In the quantitative study the data collection is derived from primary data sources such as scales, tests, surveys, questionnaires, computers and secondary data sources. The data are then transformed into numbers that can be scientifically analysed. The mode of

analysis is deductive by statistical methods and the findings may be precise, narrow or reductionist.

For this study, the researcher took an initial step before conducting this research in gathering information by talking to senior managers to determine possible reasons on the lack of use of VBM in organisations. The search indicated that many organisations were not familiar with VBM tools. Based on this qualitative information and the review of the literature, a quantitative approach was then taken by questioning the relationship of factors that influence the selection and use of the VBM tools.

3.3 DATA COLLECTION

Research method is defined as a blueprint for the implementation and management of given research project in order to carry out the research; it was needed to collect the data. Since getting the data was one of the important parts of the research, it had to be determined which type of data would help to better answer the research issues.

The following sections discuss the selected methods that were used to collect data for this research.

3.3.1 Sources of data

Data can be obtained from primary, secondary, or tertiary sources. Primary data refer to information obtained first-hand by the researcher on the variables of interest for the specific purpose of the study. This new or primary data are used to answer specific research questions. Individuals, focus groups and panels in which respondents are asked to answer specific research questions and from whom opinions may be sought on specific issues from time to time are the sources of primary data.

Secondary data refer to information gathered from sources already existing such as annual reports of companies, government publications of economic indicators, industry

studies and syndicated information services as well as traditional books and journals found in libraries (Zikmund, 2000:132-138).

The advantages of secondary data sources is saving in time and cost of acquiring information; however, it is quite often that secondary data is obsolete and may be inconsistent with the aims the researcher wished to pursue (Zikmund, 2000:125).

Tertiary data are the information that has been analysed by either the researcher who gathered it or an analyst of secondary data, in which the raw data may not be available, only the results of the analysis. Sources of tertiary data are such as the report of analysis on census by government agencies where access to the original data set may not be possible and officially collected statistics such as tables of data that have summarised, categorized, or have been involved in manipulation of raw data. With tertiary data, the researcher should be more selective when using it. The further the researcher is removed from the original primary data, the greater the possibility the risk of unintentional or deliberate distortion.

To conduct this research, primary data gathered from individuals through mail survey, were suitable to answer the research questions. The heads of finance/accounting departments of South African Water Boards were the primary sources of data for this research.

3.3.2 Data collection methods

Data collection methods can be categorised into three main categories, namely experimental, observation and survey or from secondary sources.

Observation methods: Observation methods are unobtrusive and involve gathering information about people's behaviour, objects and occurrences (Struwig & Stead, 2004:96); as a result it provides rich data and insights into the nature of the phenomena observed. The main advantage of the observation method is that it records behaviour

without relying on reports from respondents. However, the observation method has a limitation in that it cannot be used to observe cognitive phenomena such as attitudes, intentions, and expectations (Zikmund, 2000:62).

Experimental method: The experimental method is a study in which a researcher might conduct a study in natural settings, or create an artificial setting. The researcher controls some variables and manipulates the independent variable to establish cause-and-effect relationship (Struwig & Stead, 2004: 9, 42). Manipulation provides a basis for isolating causal factors, so that extraneous variables cannot come into play (Zikmund, 2000:248). An experimental method operates where there are dependent and independent variables and the dependent variable has to be controlled, while the independent variable is not controlled.

Survey method: Survey method is one of the most common tools used to collect primary data from a representative sample of individuals (Serekan, 2003; Zikmund, 2000:60). Zikmund (2000:167) defined the survey method as a method in which information is gathered from a sample of people by use of a questionnaire. Questionnaire surveys or interviews surveys are commonly used to collect data, telephone interview, face to face, mail survey, and through other communication media. The term sample survey is often used since the survey is expected to obtain a representative sample of the target population (Zikmund, 2000:167).

Although a survey method provides quick, inexpensive, flexible, efficient and accurate means of assessing information about the population, it may contain some errors (Zikmund, 2000:168). Response error could arise from some imperfect aspect of the research design or from a mistake during the execution of the research such as random sampling (Zikmund, 2000:169-170). When conducting surveys, the researcher should be aware of various forms of errors as a result of sampling and should try to minimise errors to maximise the information content and provide generalised results.
For this research study, a mail survey questionnaire method was chosen because of the following benefits and advantages:

i. Mail survey is cost effective, especially when it involves a large sample size.
ii. Mail survey allows highly confidential questions to be conducted.
iii. It allows contact with normally inaccessible executives such as the Head of Financial and Accounting Departments.
iv. It allows the researcher to gather new data that is suitable to answer the research questions.
v. It allow respondents time to think about replies which minimise the possibility of researcher bias and is appropriate for reaching a geographical dispersed population (Zikmund, 2000:201), as in this study where respondents are spread throughout South Africa.

In contrast with a mail survey, personal and telephone interviews are costly and do not match a large size sample survey. Moreover, are not flexible in a dispersed geographical area. In an e-mail survey, even though it has become more popular recently, the follow-up process is more complicated than a mail survey and if the respondents can be identified, may not feel comfortable in responding to the questionnaire, thus causing a lower response rate.

The researcher is aware that a mail survey has some limitations or disadvantages, such as slow speed in collecting data and lower response rates compared to other survey methods. Furthermore, there is no assurance that the "right" respondents will fill out the questionnaire or all questions in the questionnaire will be answered (Zikmund, 2000:203). Serekan (2003) stated that 30 percent response rates are considered acceptable, but questions must be raised as to the validity when 70 percent of the target sample is not represented.
To overcome the limitations or disadvantages of using mail surveys, the researcher undertook the following:

i. Respondents were able to choose to participate and had the right not to complete the questionnaire or withdraw at any time.
ii. To achieve a high response rate, an introduction letter from the research supervisor and a covering letter from the researcher were used to state the

purpose of study and to induce the respondents to complete and return questionnaire.

iii. The covering letter states that the data received from the companies would be kept anonymous and confidential; this is to assure that the respondents' identities and company's information will not be explicitly reported.

iv. A prepaid postage stamp and self-addressed return envelope were used to increase the response rate.

v. Interesting and carefully designed questions assist to simplify responses, arranging the questions in a structured and a good-looking survey questionnaire can also maximize the cooperation of the respondents.

vi. A follow-up strategy such as sending a reminder message via a reminding letter to companies also increases the response rate (Zikmund, 2000:205-206).

3.4 QUESTIONNAIRE DESIGN

A questionnaire is commonly used as an instrument to collect data from respondents. The design of the questionnaire is, therefore, one of the critical stages in the survey research process (Zikmund, 2000:309).

3.4.1 Questionnaire construction

Sound questionnaire design principles should focus on three areas (Serekan, 2003). First, the language and wording should be simple. Second, the questions sequence and the layout or appearance should be designed to interest respondents and keep them involved. Third, the formulation of questions should be carefully phrased, so that the respondents can respond to the questions and the responses made easier to code, tabulate, and interpret.

3.4.2 Justification of questions

Chapter two reviewed the related literature and other relevant research about the variables that were used to build the research model. In the next section, the justification for each research variable represented in the questionnaire is discussed as follows:

3.4.2.1 Organisation factors - independent variables (IV)

The independent variable is the cause that influences the dependent variable, or the effect, in either a positive or negative way (Serekan, 2003).

This research selects three independent variables, where all three represented organisational factors and were described in Section 2.4, page 20. The objective of this research is to find out whether these factors caused the selection and use of VBM tools that influence organisation performance. These variables are, in order, leadership style, organisational culture and cost structure.

These variables are then represented in the questionnaire as follows:

***Leadership style*:** Leadership style is used as one of the research independent variables. This research questionnaire asked the respondents to indicate how they perceive the leadership style of the senior management to communicate, sell, and involve employees in matters pertaining to the improvement of financial value drivers that which are controllable at lower levels of the organisation.

Organisational culture: In the questionnaire, respondents are asked to indicate the organisational culture in terms of the involvement, communication, decision making and training so that employees are better able to execute the assigned task without repeats of such tasks.

Cost structure: In the research questionnaire, respondents are asked to indicate company cost structure to represents financing strategy in the questionnaire. Percentage debt is used to indicate debt to equity finance employed.

3.4.2.2 VBM tools - intervening variables (ITV)

In this research, the selection and the use of the VBM tools is the intervening variable. From Section 2.5, page 30, six VBM tools were studied and were asked in the questionnaire to observe whether an organisation selects these tools and if it does, to what degree have such tools been used in the organisation as well as the degree of exposure to VBM tools. These six VBM tools are: Free cash flow (FCF), cost of capital (COSTCAP), return on invested capital (ROIC), economic value added (EVA), shareholder value added (SVA) and cash flow return on investment (CFROI). Respondents were asked to indicate the extent to which each VBM tool was selected or used in the organisation. It is true that some of these tools are more complicated than others and not all VBM tools are selected and used in an organisation. The purpose of this study is not to determine which VBM tool is more user friendly than others, but to find whether organisations are moving towards VBM by selecting and using VBM tools.

3.4.2.3 Organisation performance indicators - dependent variable (DV)

Organisation performance is proposed as the dependent variable for this research. Respondents are asked to indicate by self-rating the organisation performance in the questionnaire. Five key performance indicators were used to indicate financial performance of the organisation; these are percentage growth in sales, profit margin, total assets turnover, return on assets and debt ratio.

3.5 DATA PROCESSING PROCEDURE

The research process specified the methods that were transferred into action in collecting the data. Such raw data cannot be used to reach conclusions or make decisions until they are converted into information in a format suitable for decision making (Zikmund, 2000). The procedure in converting raw data into information includes editing, coding, data entry and data analysis. These procedures are discussed below.

3.5.1 Editing

Editing involves a process of checking and adjusting the data and making it ready for coding and transfer to data storage. Editing can be of two types: Field editing and in-house editing. Field editing is conducted with the interviewing methods, while in-house editing investigates the results of data collected in the mail questionnaires.

In this dissertation, upon receiving mail questionnaire from the field, in-house editing was carried out to check for errors and omissions in the questionnaires, then adjustments were made to make the data more complete, readable and consistent before coding.

3.5.2 Coding

Coding is the process of identifying the data from the mail questionnaires using numerical scores or other character symbols, then transcribing these scores or symbols onto the computer (Serekan, 2003; Zikmund, 2000).

In this research pre-coded questions were used. A numerical score was assigned to each answer. Since questions are close-ended questions, therefore, for each question, the respondent is asked to select only one answer that is closest to his/her opinion, where the code was assigned. After completing the editing procedures, the code for each answer was transferred to data storage as presented in Table 3.1.

3.5.3 Data entry

Zikmund (2000) defined data entry as a process of transferring data from a research project to computers. Transferred data include answers from the mail survey.

In this research, the researcher manually keyed data into the computer, while the researcher for the second time verified the data entered to ensure accuracy before data were ready for analysis. The researcher used a statistical package for Windows.

Table 3.1: Identification of questions and variable codes

Questions as listed in the Questionnaire	Codes
1) What is the structure of your business?	STUCBUS
2) At the end of year 2006, how long has your company been in business?	YROPERAT
3) What is your company's cost structure (in percentage %)?	COSTSTRUC
4) Leadership communicates convincing values and goals about organisation performance with the employees by means of the following:	
✓ Sales growth	GRWSALE
✓ Cost of goods sold	COGS
✓ Net profit margin	NPROFITM
✓ Free cash flow	FCF
✓ Net operating profit after taxes	NOPAT
✓ Capital investment	CAPINVEST
✓ Weighted average cost of capital	WACC
✓ Return on invested capital	ROIC
5) Leadership clearly formulates expectations and rewards to motivate employee achieve organisational performance by means of the following:	
✓ Sales growth	GRWSALE
✓ Cost of goods sold	COGS

✓ Net profit margin	NPROFITM
✓ Free cash flow	FCF
✓ Net operating profit after taxes(NOPAT)	NOPAT
✓ Capital investment	CAPINVEST
✓ Weighted average cost of capital(WACC)	WACC
✓ Return on invested capital(ROIC)	ROIC
6) Leadership promotes an intelligent, rational and carefully thought through resolution of problems about organisational performance with the employees by means of the following:	
✓ Sales growth	GRWSALE
✓ Cost of goods sold	COGS
✓ Net profit margin	NPROFITM
✓ Free cash flow	FCF
✓ Net operating profit after taxes(NOPAT)	NOPAT
✓ Capital investment	CAPINVEST
✓ Weighted average cost of capital(WACC)	WACC
✓ Return on invested capital(ROIC)	ROIC
7) Leadership discusses with employees operating profitability for future about performance:	
✓ Operating profitability	OP
8) Leadership discusses with employees the effect of capital requirements on organisational performance:	
✓ Capital requirements	CP
9) Leadership discusses productive use of operational assets with the employees to improve organisational performance by means of the following:	
✓ Sales growth	GRWSALE
✓ Cost of goods sold	COGS
✓ Net profit margin	NPROFITM
✓ Free cash flow	FCF

✓ Net operating profit after taxes	NOPAT
✓ Capital investment	CAPINVEST
✓ Weighted average cost of capital	WACC
✓ Return on invested capital	ROIC
10) Formal performance evaluation and compensation are linked to individual objective aligned with organisational performance indicators:	
✓ Customer satisfaction	CustSatis
✓ Customer retention	CustRet
✓ Production efficiency	ProdEff
✓ Internal business processes	IntBusProc
11) Given below are the descriptions of the statements to determine whether or not organisational culture influences the selection and use of VBM performance tools to measure organisational performance. How would you rate your organisation on each of the following, considering your experience here as well as what you know of other organisations?	
✓ Providing training so that you can handle your present job properly.	OC1
✓ Cooperation between employees in each different functional area.	OC2
✓ Treating employees with respect and dignity as individuals.	OC3
✓ Taking employees interests into account when making important decisions.	OC4
✓ A chance to have your ideas adopted and put into use.	OC5
✓ We are never informed about changes, even those that affect us personally.	OC6
✓ The workflow is well organised.	OC7
✓ Management words and actions are consistent.	OC8
✓ I understand how my work affects company performance.	OC9
✓ I am kept informed about important matters by	

management.	OC10
12) What is your exposure to VBM? (Choose only one of the options).	EXPVBM
✓ First time I hear about this	A
✓ Been exposed to VBM through an article or a presentation	B
✓ Have read a book about VBM	C
✓ Have dealt with VBM intensively through work	D
13) To what extent does your company select and use the following tools to measure its financial performance?	
✓ Free Cash flow	FCF
✓ Cost of Capital	COSTCAP
✓ Economic Value Added	EVA
✓ Shareholder Value Added	SVA
✓ Discount cash flow	DCF
✓ Return on invested capital	ROIC
✓ Cash Flow Return on Investment	CFROI
✓ Net Present Value Analysis	NPV
✓ Residual Income	RI
✓ Market Value Added	MVA
14) Based on the following indicators, how has your organisation performed in year 2006 in comparison to that of year 2005?	
✓ Growth in sales or Revenue	GRWSALE
✓ Profit Margin	PROFITM
✓ Economic Value Added	EVA
✓ Total Asset Turnover	TATO
✓ Return on Assets	ROA
✓ Debt ratio	DEBT
15) There are a couple of well-known metrics within the VBM framework. What has been your exposure to them, and how do you rate them?	

✓ Economic Value Added	EVA
✓ Shareholder Value Added	SVA
✓ Discount Cash Flow	DCF
✓ Return on invested Capital	ROIC
✓ Cash Flow Return on Investment	CFROI
✓ Net Present Value Analysis	NPV
✓ Residual Income	RI
16) What is your gender?	GENDER
17) What is your marital status?	MARITAL
18) What is your age?	AGE
19) What is the highest educational level that you have obtained?	EDUCAT
20) How long have you been working in this company?	YRSWORK
21) How long have you been working in the current position?	YRSPOSITN

(Source: Developed for this research)

3.5.4 Data analysis

Once the data was edited, coded and entered into the computer, data analysis was undertaken. Analysis is the application of reasoning to understand and interpret the data that have been collected about the subject (Zikmund, 2000).

In this research HPSTATS was used to analyse the data. The common analytical tools used to analyse the collected data in this research are descriptive statistics and inferential statistics. Descriptive and inferential statistics are quite different from one another, but work hand in hand. Descriptive statistics are used to describe or summarise information about the characteristics of the sample (Zikmund, 2000). In order to summarize such information, tabulation is used to show how variables relate to one another by arranging the information in a table or other summary format (Zikmund, 2000). Descriptive statistics included the calculation of median, mode, mean, standard deviation, range, quartile, bar graphs and pie charts.

After the descriptive analysis stage, a researcher generally applies inferential statistics. Inferential statistics are used to make inferences or judgements about a population on the basis of a sample (Zikmund, 2000). Inferential statistics also help to establish relationships among variables, in which the conclusions are drawn and decide whether the collected data relates to the original hypothesis (Salkind, 2000). The techniques used to analyse the data and to draw the conclusions in this research will be discussed as and when applied during the data analysis.

3.6 SUMMARY

This chapter addresses the research methodology adopted for the study. The research design and appropriate data collection methods were described. The Water utility companies of South Africa will be the survey objective where stratified sampling is applied to collect data through mail survey questionnaire. Once the data is gathered, it will be edited and data into the computer. Several analytical tools are explored.

In chapter four, the collected data will be analysed and interpreted according to the protocol established in this chapter.

CHAPTER 4: DATA FINDINGS AND ANALYSIS

4.1 INTRODUCTION

The previous chapter provided a detailed discussion on the research methodology applied in this study. This chapter presents the data collected from the mail survey in tables and graphs, and provides a detailed analysis of the data collected using statistical tools.

This chapter has six sections and begins with an introduction and followed by section 4.2, which provides a profile of the samples and the profile for collected data. Section 4.3 provides descriptive statistics of research findings. Section 4.4 provides relationships among variables and section 4.5 provides a profile of the respondents and section 4.6 provides a summary of the chapter.

4.2 PROFILING OF POPULATION SAMPLES

In Section 1 of the survey questionnaire, questions were classified into four groups. The first group from question 1 to 2 was introduced to obtain information to identify the business structure and the number of years in operation. These questions were used as opening questions to attract the attention of the respondents towards the remaining parts of the questionnaire. The findings were summarised in Table 4.21. The second group covers questions 4 to 11. These eight questions obtain information to determine which factors influence the selection and use of VBM tools. The third group comprises question 12 & 15, which seeks to determine the level of knowledge about VBM. The fourth and final group comprises question 13 & 14, which obtained information to uncover the intervening (VBM tools) and dependent variables (organisation performance indicators).

In Section 2 of the survey questionnaire, the questions asked the demographic factors of the respondents (see Table 4.21).

4.2.1. Data profiles

In this research, a mail-survey questionnaire with a cover letter and postage paid, self-addressed envelope was mailed to the total population of 22 Water Boards and/or water authorities in South Africa. Five questionnaires were returned within eight weeks. A follow up letter was sent to remind the respondents, followed by a courtesy phone call, and an additional three questionnaires were received. In total, 8 of 22 questionnaires were returned during the twelve week collection period (see Table 4.21).This represents 36.36 per cent of small and large Water Boards. Some of the returned questionnaires have missing or incomplete answers. Consequently, the usable response rate is 36.36 per cent. A sample of 8 of non-respondents was contacted by telephone to investigate reasons for non-response. The primary reasons given for non-response were staffing constraints, new in the job and company bureaucracy. As a result of the small sample size used in this research, the results are skewed and definite statistical conclusion cannot be made to justify the relationships of the results. The research might be repeated in different manufacturing industries to establish the relationships among the variables used for the research.

4.2.2 Characteristics of samples

About 87.5 per cent of these companies have been in business for more than 25 years and only 12.5 per cent have been in business for more than 20 years to less than 25 years, depicting the maturity of the companies and company evolution throughout the years, which is a good indicator that the information gathered could be relied upon for the research (see Table 4.1).

Table 4.1: Company profile of survey samples

Characteristics	Samples	Survey %
Business structure:		
Company Limited	0	0
Public Company Limited	8	100
	8	100
Years of operating business:		
Less than 5 years		
5 years to less than 10 years		
10 years to less than 15 years		
15 years to less than 20 years		
20 years to less than 25 years	1	12.5
25 years and above	7	87.5
	8	100

(Source: Analysis of survey data collected for this research)

4.3 DESCRIPTIVE STATISTICS

This section provides statistics and graphical displays that are useful for describing variables according to the sections in the questionnaire (see Appendix C) and will be used throughout the results discussion. The summary of descriptive statistics is set out in Table 4.2.

Table 4.2: Summary of descriptive statistics of the studied companies (27 Variable Codes, 8 respondents)

Variable Codes	RANGE	MIN	MAX	MODE	MEDIAN	PERCENTILES		MEAN	STD.DEV	SKEWNESS	KURTOSIS
						Q1	Q3				
COSTSTRUC	2.00	0.00	2.00	3.00	1.50	1	2	1.33	0.82	-0.86	-0.30
Leadership											
GRWSALE	5.00	0.00	5.00	4.00	1.00	0	3.5	1.60	2.07	1.45	1.93
COGS	4.00	0.00	4.00	4.00	1.00	0	3	1.60	1.52	1.12	1.46
NPROFITM	4.00	0.00	4.00	4.00	1.00	0	3	1.60	1.52	1.12	1.46
FCF	1.00	1.00	2.00	4.00	2.00	1	2	1.60	0.55	-0.61	-3.33
NOPAT	3.00	0.00	3.00	4.00	2.00	0.5	3	1.60	1.14	-0.40	-0.18
CAPINVEST	4.00	0.00	4.00	4.00	1.00	0	3	1.60	1.52	1.12	1.46
WACC	1.00	1.00	2.00	4.00	2.00	1	2	1.60	0.55	-0.61	-3.33
ROIC	3.00	0.00	3.00	4.00	2.00	0	2.5	1.60	1.14	-0.40	-0.18
OP	5.00	0.00	5.00	4.00	1.00	0.5	3	1.60	1.95	1.94	4.17
CR	4.00	0.00	4.00	4.00	2.00	0	3	1.60	1.67	0.51	-0.61
CustSatis	4.00	0.00	4.00	4.00	2.00	0	3	1.60	1.67	0.51	-0.61
CustRet	5.00	0.00	5.00	4.00	1.00	0	3.5	1.60	2.07	1.45	1.93
ProdEff	5.00	0.00	5.00	4.00	1.00	0	3.5	1.60	2.07	1.45	1.93
IntBusProc	5.00	0.00	5.00	4.00	1.00	0	3.5	1.60	2.07	1.45	1.93
OC	2.40	0.50	2.90	3.00	1.70	0.5	2.65	1.60	1.09	0.02	-2.53
EXPVBM	4.00	0.00	4.00	1.00	2.00	0	4	2.00	1.83	0.00	-3.30
FCF	3.00	0.00	3.00	5.00	1.00	0	3	1.33	1.37	0.52	-1.88
COSTCAP	5.00	0.00	5.00	4.00	1.50	0	2	1.33	1.97	1.67	2.67
EVA	4.00	0.00	4.00	4.00	1.00	1	2	1.60	1.52	1.12	1.46
SVA	4.00	0.00	4.00	1.00	0.50	0	3	1.33	1.75	0.92	-1.21
DCF	2.00	0.00	2.00	5.00	1.50	1	2	1.33	0.82	-0.86	-0.30
ROIC	2.00	0.00	2.00	2.00	1.50	1	2	1.33	0.82	-0.86	-0.30
CFROI	3.00	0.00	3.00	1.00	1.50	0	2	1.33	1.21	0.08	-1.55
NPV	5.00	0.00	5.00	4.00	0.50	0	2	1.33	1.97	1.67	2.67
RI	4.00	0.00	4.00	4.00	1.00	0	2	1.33	1.51	1.27	1.53
MVA	3.00	0.00	3.00	4.00	1.50	0	2	1.33	1.21	0.08	-1.55
GRWSALE	6.00	0.00	6.00	4.00	0.00	0	4	1.60	2.61	1.71	2.66
PROFITM	5.00	0.00	5.00	4.00	1.00	0	3.5	1.60	2.07	1.45	1.93
TATO	5.00	0.00	5.00	4.00	1.00	0	3.5	1.60	2.07	1.45	1.93
ROA	4.00	0.00	4.00	4.00	1.00	0	3.5	1.60	1.82	0.57	-2.23
DEBT	5.00	0.00	5.00	4.00	1.00	0	3.5	1.60	2.07	1.45	1.93
Leadership[c]	**3.79**	**0.14**	**3.93**	**4.00**	**1.43**	**0.21**	**2.96**	**1.60**	**1.54**	**0.72**	**0.57**
VBM AVG[a]	**3.50**	**0.00**	**3.50**	**3.40**	**1.15**	**0.30**	**2.20**	**1.36**	**1.41**	**0.56**	**0.15**
ORG AVG[b]	**5.00**	**0.00**	**5.00**	**4.00**	**0.80**	**0.00**	**3.60**	**1.60**	**2.13**	**1.32**	**1.25**

a. The average of VBM variables

b. The average of organisation performance variables

c. The average of leadership behaviour influence on VBM tools

Note: Multiple modes exist. The smallest value is shown.

(Source: Analysis of survey data collected for this research)

4.3.1 Descriptive statistics of cost structure

Table 4.3: Frequency table for cost structure (COSTSTRUC)

Level of Cost Structure(in percentage)	Frequency	Valid Percentage	Cumulative Percentage
1) Less than 10% debt	2	25	25
2)10% to less than 15% debt	0	0	25
3)15% to less than 20% debt	2	25	50
4) 20% to less than 25% debt	1	12.5	62.5
5)25% to less than 30% debt	1	12.5	75
6)30% and above	2	25	100
TOTAL	8	100	

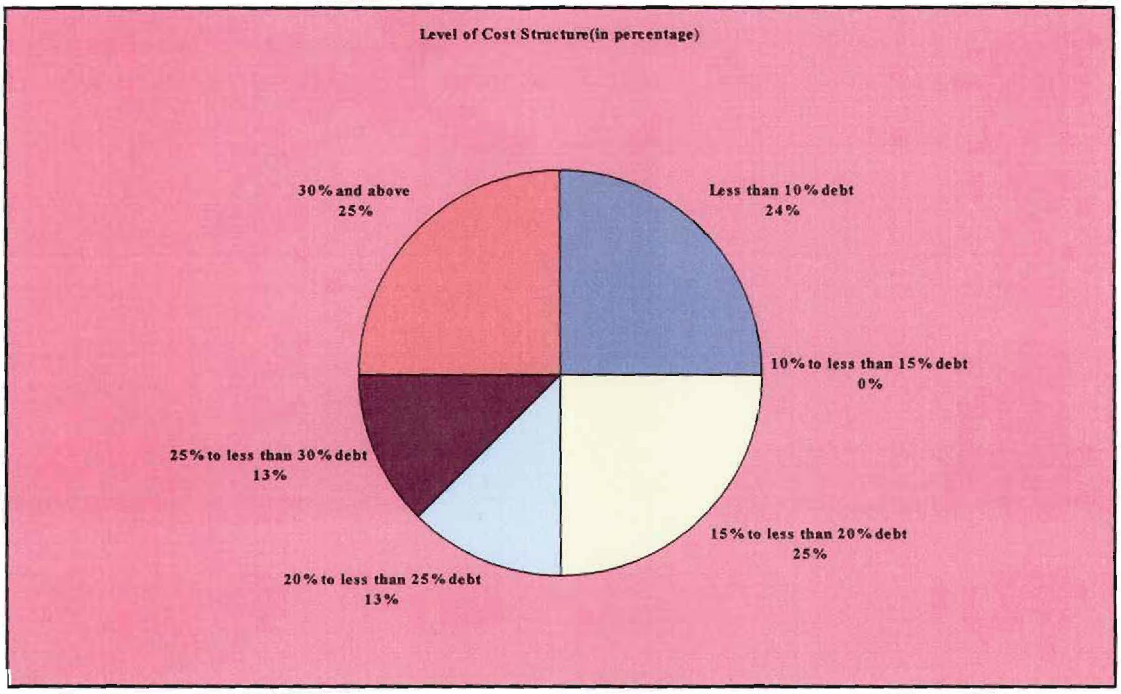
(Source: Analysis of survey data collected for this research)

The respondent's perception of the utilisation of debt as a source of finance in relation to equity financing, is identified by the percentage debt used and is used as an indicator. Based on a 6-point scale, the findings of the respondents' perception on debt utilisation were described in Table 4.3. The frequent answers given by respondents indicated that the cost structure utilised is less than 10 percent (Mode = 1.00). The average of cost structure position is also less than 10 percent (Mean = 1.33), and standard deviation = 0.82. The median for cost structure is between 10 percent to less than 15 percent (Median = 1.5). The interquartile range, the first quartile position is less than 10 percent (Q1 = 1) and the third quartile position is from 10 percent to less than 15 percent (Q3 = 2), as shown in Table 4.2.

From the survey, 100 percent of respondents were government companies and therefore were not listed in the stock market. Therefore, respondents may find it difficult in determining the company cost structure which is comprised of cost of equity and cost of debt to fulfill the cost of capital formula. In addition, another reason follows that since the calculation of cost of capital is different from the traditional accounting method, this may cause some confusion; at the same time, may add some burden to respondents to

produce detailed adjustments toward cost of capital and other value-based management tools. As a result, respondents are reluctant to indicate the company cost of structure.

Figure 4.1: Cost structure



(Source: Analysis of survey data collected for this research)

4.3.2 Descriptive statistics of organisationalfactors

Leadership style

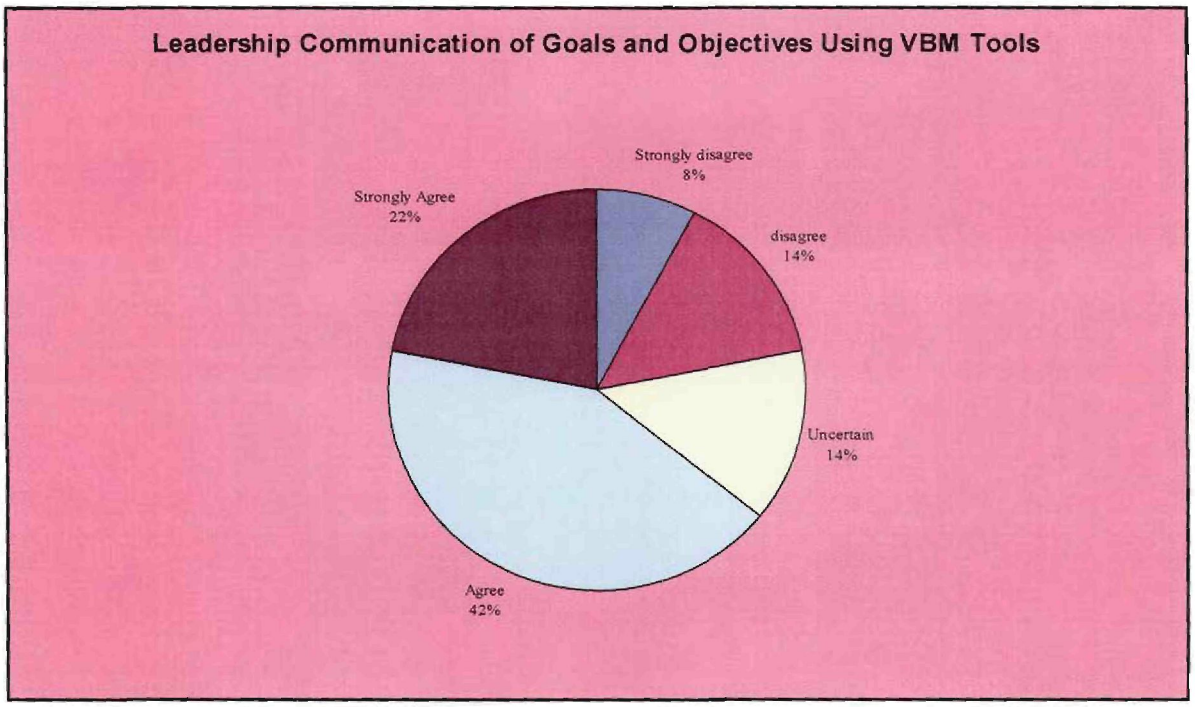
According to Copeland et al. (2000: 96), leadership style can impede the creation of value if managers do not walk the talk. To make value happen, managers need to address these psychological and mental blocks to higher performance. Leadership and top management size are variables that can influence the decision making processes, and consequently, the effectiveness/performance of the organisation (Pedraja & Rodriguez, 2005:160).

The influence of leadership style in the selection and use of VBM tools was measured by using different leadership behaviour to organisational performance indicators as shown below:

I. Leadership communication of goals and objectives

In the survey, 42 per cent of respondents agreed that leadership communicates with employees values and goals about organisational performance using VBM tools (Mode = 4.00 on five-point Likert scale), while the indication at the 'Uncertain' extent was 14 percent (See Table 4.4). On average, the respondents 'disagree' that leadership communicates values and goals with employees (Mean = 1.60), and standard deviation = 1.07. The median for the leadership communicating values and goals with employees at 'disagree' extent (Median = 1.50), while the first quartile position indicated that respondents' "Strongly disagree' that leadership communicates goals and values about organisational performance (Q1 = 0.31) and the third quartile position indicated that respondents are 'uncertain' that leadership communicates goals and values to achieve organisational performance (Q3 = 2.75) as shown in Table 4.5.

Figure 4.2: Leadership communication of values and goals about organisational performance



(Source: Analysis of survey data collected for this research)

Table 4.4: Frequency table for leadership communications of values and goals with employees

Financial Value Drivers		Extent in which leadership communicates convincing values and goals about organisation performance with employees using VBM tools					
		Strongly disagree (1)	disagree (2)	Uncertain (3)	Agree (4)	Strongly Agree (5)	Total
GRWSALE	Frequency	0	1	0	5	2	8
	Valid percentage	0	12.5	0	62.5	25	100
	Cumulative %	0	12.5	12.5	75	100	
COGS	Frequency	0	2	1	4	1	8
	Valid percentage	0	25	12.5	50	12.5	100
	Cumulative %	0	25	37.5	87.5	100	
NPROFITM	Frequency	0	1	1	4	2	8
	Valid percentage	0	12.5	12.5	50	25	100
	Cumulative %	0	12.5	25	75	100	
FCF	Frequency	2	1	2	2	1	8
	Valid percentage	25	12.5	25	25	12.5	100
	Cumulative %	25	37.5	62.5	87.5	100	
NOPAT	Frequency	0	1	2	3	2	8
	Valid percentage	0	12.5	25	37.5	25	100
	Cumulative %	0	12.5	37.5	75	100	
CAPINVEST	Frequency	0	1	1	4	2	8
	Valid percentage	0	12.5	12.5	50	25	100
	Cumulative %	0	12.5	25	75	100	
WACC	Frequency	1	1	2	2	2	8
	Valid percentage	12.5	12.5	25	25	25	100
	Cumulative %	12.5	25	50	75	100	
ROIC	Frequency	2	1	0	3	2	8
	Valid percentage	25	12.5	0	37.5	25	100
	Cumulative %	25	37.5	37.5	75	100	
ORG AVG	Frequency	**5**	**9**	**9**	**27**	**14**	**64**
	Valid percentage	7.81	14.06	14.06	42.19	21.88	100.00
	Cumulative %	7.81	21.88	35.94	78.13	100.00	

(Source: Analysis of survey data collected for this research)

Table 4.5: Summary of descriptive statistics of leadership communication of values and goals about organisation performance

Variable Codes	RANGE	MIN	MAX	MODE	MEDIAN	PERCENTILES		MEAN	STD.DEV	SKEWNESS	KURTOSIS
						Q1	Q3				
GRWSALE	5.00	0.00	5.00	4.00	1.00	0	3.5	1.60	2.07	1.45	1.93
COGS	4.00	0.00	4.00	4.00	1.00	0	3	1.60	1.52	1.12	1.46
NPROFITM	4.00	0.00	4.00	4.00	1.00	0	3	1.60	1.52	1.12	1.46
FCF	1.00	1.00	2.00	4.00	2.00	1	2	1.60	0.55	-0.61	-3.33
NOPAT	3.00	0.00	3.00	4.00	2.00	0.5	3	1.60	1.14	-0.40	-0.18
CAPINVEST	4.00	0.00	4.00	4.00	1.00	0	3	1.60	1.52	1.12	1.46
WACC	1.00	1.00	2.00	4.00	2.00	1	2	1.60	0.55	-0.61	-3.33
ROIC	3.00	0.00	3.00	4.00	2.00	0	2.5	1.60	1.14	-0.40	-0.18
ORG AVG	**3.13**	**0.25**	**3.38**	**4.00**	**1.50**	**0.31**	**2.75**	**1.60**	**1.25**	**0.35**	**-0.09**

(Source: Analysis of survey data collected for this research)

Approximately 64 percent of the respondents 'agree' and 'strongly agree' that leadership communicates goals and values with employees of the organisation in order to achieve organisational performance.

II. Leadership formulates expectations and rewards using VBM tools

Table 4.6: Frequency table for degrees in which leadership formulates expectations and rewards to motivate employees achieve organisational performance

Financial Value Drivers		Extent in which leadership formulates expectations and rewards to motivate employees achieve organisational performance using VBM tools					
		Strongly disagree (1)	disagree (2)	Uncertain (3)	Agree (4)	Strongly Agree (5)	Total
GRWSALE	Frequency	0	2	0	6	0	8
	Valid percentage	0	25	0	75	0	100
	Cumulative %	0	25	25	100	100	
COGS	Frequency	1	1	4	2	0	8
	Valid percentage	12.5	12.5	50	25	0	100
	Cumulative %	12.5	25	75	100	100	
NPROFITM	Frequency	0	3	0	4	1	8
	Valid percentage	0	37.5	0	50	12.5	100
	Cumulative %	0	37.5	37.5	87.5	100	
FCF	Frequency	1	2	1	3	1	8
	Valid percentage	12.5	25	12.5	37.5	12.5	100
	Cumulative %	12.5	37.5	50	87.5	100	
NOPAT	Frequency	1	3	2	1	1	8
	Valid percentage	12.5	37.5	25	12.5	12.5	100
	Cumulative %	12.5	50	75	87.5	100	
CAPINVEST	Frequency	1	2	0	3	2	8
	Valid percentage	12.5	25	0	37.5	25	100
	Cumulative %	12.5	37.5	37.5	75	100	
WACC	Frequency	1	2	3	2	0	8
	Valid percentage	12.5	25	37.5	25	0	100
	Cumulative %	12.5	37.5	75	100	100	
ROIC	Frequency	1	4	0	2	1	8
	Valid percentage	12.5	50	0	25	12.5	100
	Cumulative %	12.5	62.5	62.5	87.5	100	
ORG AVG	Frequency	6	19	10	23	6	64
	Valid percentage	9.38	29.69	15.63	35.94	9.38	100.00
	Cumulative %	9.38	39.06	54.69	90.63	100.00	

Source: Analysis of survey data collected for this research)

In the survey, 36 per cent of respondents 'agree' that leadership formulates expectations and compensation to motivate employees to achieve organisational performance using VBM tools (Mode = 4, based on five-point Likert scale) while there was 16 percent uncertainty amongst respondents regarding leadership discussions with employees (see Table 4.6). On average, the respondents 'disagree' that leadership formulates

expectations and compensation to motivate employees to achieve organisational performance (Mean = 1.95), and standard deviation = 1.46. The median revealed that the respondents 'disagree' that leadership formulates expectations and compensation to motivate employees to achieve organisational performance (Median = 1.69), while the first quartile position indicated that respondents 'strongly disagree' that leadership formulates expectations and compensation to motivate employees to achieve organisational performance (Q1 = 0.56) and the third quartile position indicated that the respondents are 'uncertain' that leadership formulates expectations and compensation to motivate employees to achieve organisational performance (Q3 = 3.06) as shown in Table 4.7.

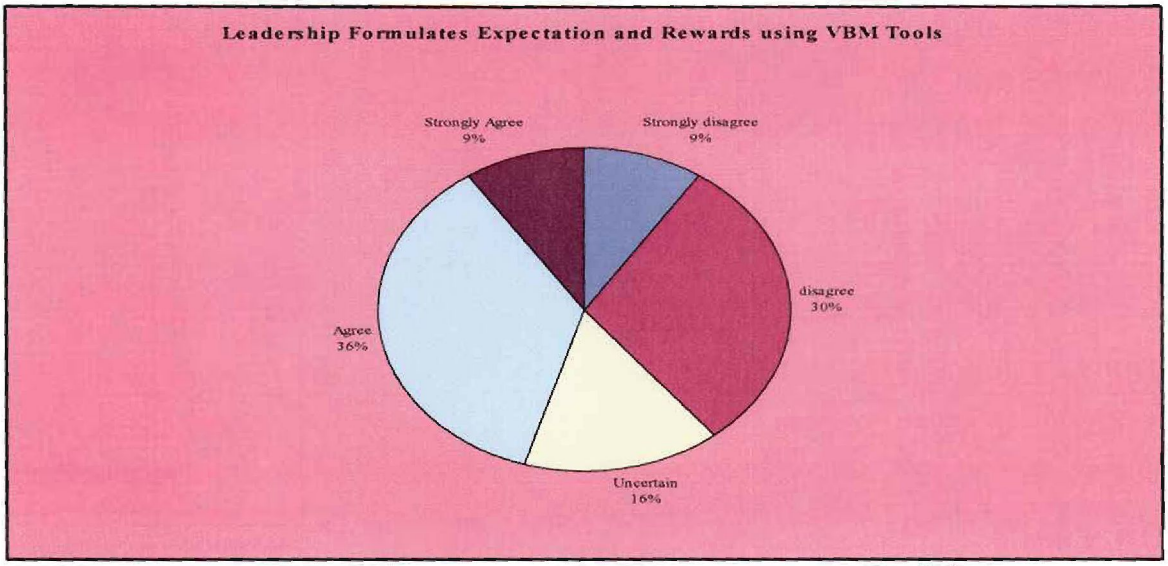
Table 4.7: Summary of descriptive statistics of leadership formulation of expectations and compensation to motivate employees in achieving organisational performance

Variable Codes	RANGE	MIN	MAX	MODE	MEDIAN	PERCENTILES		MEAN	STD.DEV	SKEWNESS	KURTOSIS
						Q1	Q3				
GRWSALE	4.00	2.00	6.00	4.00	4.00	0	4	4.00	2.83	0.00	0.00
COGS	4.00	0.00	4.00	3.00	1.00	0.5	3	1.60	1.52	1.12	1.46
NPROFITM	4.00	0.00	4.00	4.00	1.00	0	3.5	1.60	1.82	0.57	-2.23
FCF	2.00	1.00	3.00	4.00	1.00	1	2.5	1.60	0.89	1.26	0.31
NOPAT	2.00	1.00	3.00	2.00	1.00	1	2.5	1.60	0.89	1.26	0.31
CAPINVEST	3.00	0.00	3.00	4.00	2.00	0.5	2.5	1.60	1.14	-0.40	-0.18
WACC	3.00	0.00	3.00	3.00	2.00	0.5	2.5	1.60	1.14	-0.40	-0.18
ROIC	3.00	1.00	4.00	2.00	1.50	1	4	2.00	1.41	1.41	1.50
ORG AVG	**3.13**	**0.63**	**3.75**	**3.25**	**1.69**	**0.56**	**3.06**	**1.95**	**1.46**	**0.60**	**0.12**

(Source: Analysis of survey data collected for this research)

To make it happen, compensation systems that affect human behaviour play a critical role in motivating employees to create value for an organisation (Martin & Petty, 2000:157). For instance, the incentive pay of executives will directly link to improving shareholder value, while incentive pay for other employees may link to other value indicators that lead to shareholder value achievement (Rappaport, 1999:100). The survey indicated that 36 percent of respondents 'agree' that leadership formulates expectations and compensation that is linked to individual objectives and tend to confirm that, by so doing, it helps in changing employee behaviour and is a positive thing the leadership is doing for the creation of shareholder value.

Figure 4.3: Leadership formulates expectations and rewards using VBM tools



(Source: Analysis of survey data collected for this research)

III. Leadership promotes intelligent resolution of problems

In the survey, there is an equal number of respondents agreeing and disagreeing to leadership promoting intelligent resolution of problems to achieve organisational performance of 31 per cent (Mode = 4), while 19 percent of respondents were 'Uncertain' about whether leadership use VBM tools to promote intelligent resolution of problems (See Table 4.8 and Figure 4.4). On average, the respondents 'disagree' that leadership promotes intelligent resolution of problems to achieve organisational performance (Mean = 1.65), and standard deviation = 1.41. The median indicated that the respondent 'strongly disagree' that leadership promotes intelligent resolution of problems to achieve organisational performance (Median = 1.06), while the first quartile position reveal that the respondents 'strongly disagree' that leadership promotes intelligent resolution of problems to achieve organisational performance (Q1 = 0.69) and the third quartile position reveal that respondents are 'uncertain' that leadership promotes intelligent resolution of problems to achieve organisational performance (Q3 = 3.00) as shown in Table 4.9.

Table 4.8: Frequency table for degrees in which leadership promotes intelligent resolution of problems to achieve organisational performance

Financial Value Drivers		Extent in which leadership promotes an intelligent, rational and carefully thought through resolution of problems about organisational performance with employees using VBM tools					
		Strongly disagree (1)	disagree (2)	Uncertain (3)	Agree (4)	Strongly Agree (5)	Total
GRWSALE	Frequency	2	1	0	4	1	8
	Valid percentage	0.25	12.5	0	50	12.5	100
	Cumulative %	0.25	12.75	12.75	62.75	75.25	
COGS	Frequency	1	2	1	3	1	8
	Valid percentage	12.5	25	12.5	37.5	12.5	100
	Cumulative %	12.5	37.5	50	87.5	100	
NPROFITM	Frequency	1	1	2	4	0	8
	Valid percentage	12.5	12.5	25	50	0	100
	Cumulative %	12.5	25	50	100	100	
FCF	Frequency	0	3	3	1	1	8
	Valid percentage	0	37.5	37.5	12.5	12.5	100
	Cumulative %	0	37 5	75	87 5	100	
NOPAT	Frequency	1	3	1	2	1	8
	Valid percentage	12.5	37.5	12.5	25	12.5	100
	Cumulative %	12.5	50	62.5	87.5	100	
CAPINVEST	Frequency	1	1	1	4	1	8
	Valid percentage	12.5	12.5	12.5	50	12.5	100
	Cumulative %	12.5	25	37.5	87.5	100	
WACC	Frequency	1	3	3	1	0	8
	Valid percentage	12.5	37.5	37.5	12.5	0	100
	Cumulative %	12.5	50	87.5	100	100	
ROIC	Frequency	0	6	1	1	0	8
	Valid percentage	0	75	12.5	12.5	0	100
	Cumulative %	0	75	87.5	100	100	
ORG AVG	Frequency	**7**	**20**	**12**	**20**	**5**	**64**
	Valid percentage	10 94	31.25	18 75	31.25	7 81	100.00
	Cumulative %	10.94	42.19	60 94	92.19	100.00	

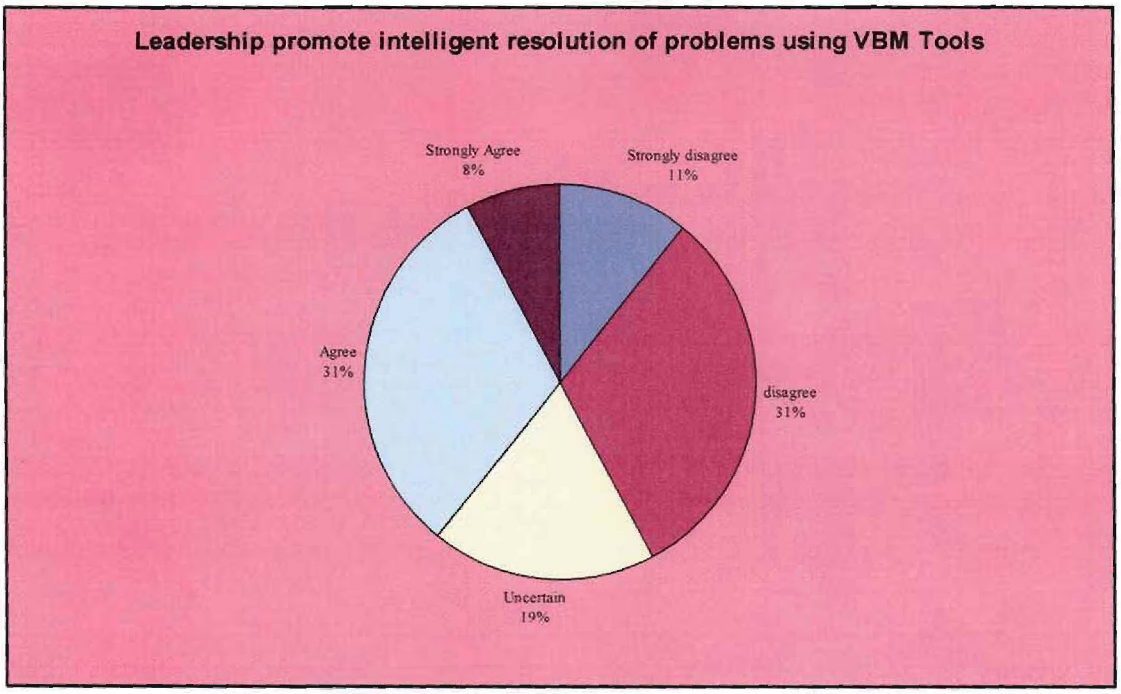
(Source: Analysis of survey data collected for this research)

Table 4.9: Summary of descriptive statistics of leadership promotion of intelligent resolution of problems to achieve organisational performance

Variable Codes	RANGE	MIN	MAX	MODE	MEDIAN	PERCENTILES		MEAN	STD.DEV	SKEWNESS	KURTOSIS
						Q1	Q3				
GRWSALE	4.00	0.00	4.00	4.00	1.00	0.5	3	1.60	1.52	1.12	1.46
COGS	2.00	1.00	3.00	4.00	1.00	1	2.5	1.60	0.89	1.26	0.31
NPROFITM	3.00	1.00	4.00	4.00	1.50	1	4	2.00	1.41	1.41	1.50
FCF	3.00	0.00	3.00	3.00	1.00	0.5	3	1.60	1.34	0.17	-2.41
NOPAT	2.00	1.00	3.00	2.00	1.00	1	2.5	1.60	0.89	1.26	0.31
CAPINVEST	3.00	1.00	4.00	4.00	1.00	1	2.5	1.60	1.34	2.24	5.00
WACC	3.00	0.00	3.00	2.50	1.00	0.5	3	1.60	1.34	0.17	-2.41
ROIC	6.00	0.00	6.00	2.00	1.00	0	3.5	1.60	2.51	2.02	4.23
ORG AVG	3.25	0.50	3.75	3.19	1.06	0.69	3.00	1.65	1.41	1.20	1.00

(Source: Analysis of survey data collected for this research)

Figure 4.4: Leadership promotion of intelligent resolution of problems to achieve organisational performance



(Source: Analysis of survey data collected for this research)

IV. Leadership discusses with employees operating profitability and capital requirements to achieve organisational performance

In the survey, 62 per cent of respondents agree that leadership discusses operational profitability with employees to achieve organisational performance (Mode = 4) while the 'Uncertain' indication is at 12.5 percent (See Table 4.10 and Figure 4.5). On average, the respondents 'disagree' that leadership discuss operating profitability with employees to achieve organisational (Mean = 1.60), and standard deviation = 1.95. The median indicates uncertainty of respondents that leadership discusses operating profitability with employees to achieve organisational performance (Median = 3), while the first quartile position indicated strong agreements of respondents that leadership discuss operational profitability with employees to achieve organisational performance at (Q1 = 0.5) and the third quartile position indicates uncertainty of respondents that leadership discuss operational profitability with employees to achieve organisational performance (Q3 = 3) as shown in Table 4.11.

Table 4.10: Frequency table for degrees in which leadership discuss with employees operating profitability and capital requirements to achieve organisational performance

Value Drivers		Extent in which leadership dicuss with employees Operating Profitability and Capital Requirement regarding oganisational performance using VBM tools					
		Strongly disagree (1)	disagree (2)	Uncertain (3)	Agree (4)	Strongly Agree (5)	Total
OP	Frequency	0	1	1	5	1	8
	Valid percentage	0	12.5	12.5	62.5	12.5	100
	Cumulative %	0	12.5	25	87.5	100	
CP	Frequency	0	0	2	4	2	8
	Valid percentage	0	0	25	50	25	100
	Cumulative %	0	0	25	75	100	
ORG AVG	Frequency	0	1	3	9	3	16
	Valid percentage	0.00	6.25	18.75	56.25	18.75	100.00
	Cumulative %	0.00	6.25	25.00	81.25	100.00	

(Source: Analysis of survey data collected for this research)

Table 4.11: Summary of descriptive statistics of leadership discussion with employees regarding operating profitability and capital to achieve organisational performance

Variable Codes	RANGE	MIN	MAX	MODE	MEDIAN	PERCENTILES		MEAN	STD.DEV	SKEWNESS	KURTOSIS
						Q1	Q3				
OP	5.00	0.00	5.00	4.00	1.00	0.5	3	1.60	1.95	1.94	4.17
CR	4.00	0.00	4.00	4.00	2.00	0	3	1.60	1.67	0.51	-0.61
ORG AVG	**4.50**	**0.00**	**4.50**	**4.00**	**1.50**	**0.25**	**3.00**	**1.60**	**1.81**	**1.23**	**1.78**

(Source: Analysis of survey data collected for this research)

In the survey, 50 per cent of respondents agree that leadership discusses capital requirements with employees to achieve organisational performance (Mode = 4), while the indication of 'Uncertainties' was 25 percent (See Table 4.10 and Figure 4.5). On average, the respondents agree that leadership discusses capital requirements with employees to achieve organisational performance (Mean = 1.60), and standard deviation = 1.67. The median indicates that respondents 'disagree' that leadership discuss capital requirements with employees to achieve organisational performance at (Median = 2), while the third quartile position stated respondents were uncertain whether leadership discussed capital requirements with employees to achieve organisational performance (Q3 = 3) as shown in Table 4.11.

Figure 4.5a: Leadership discusses operating profitability to achieve organisational performance

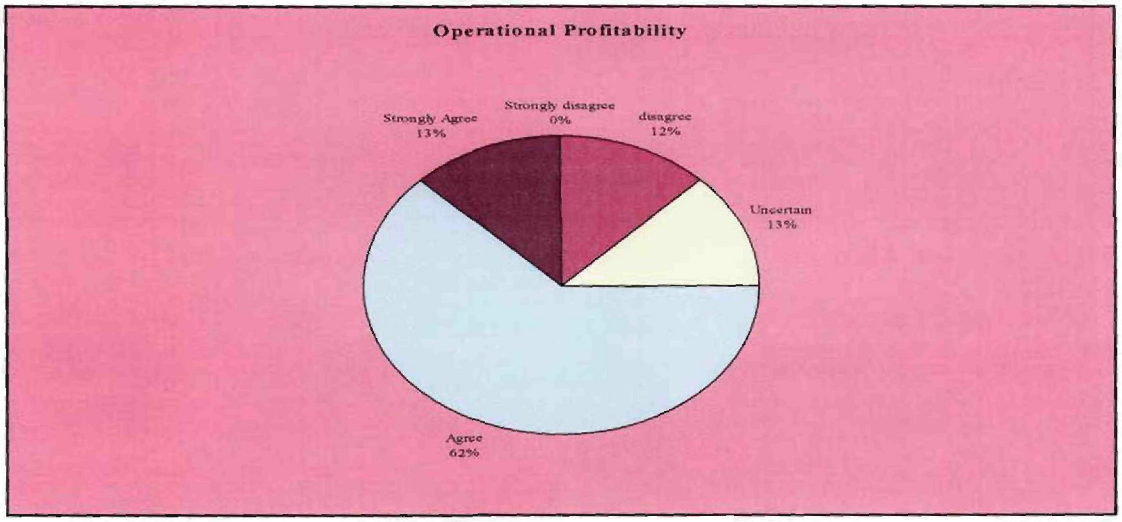
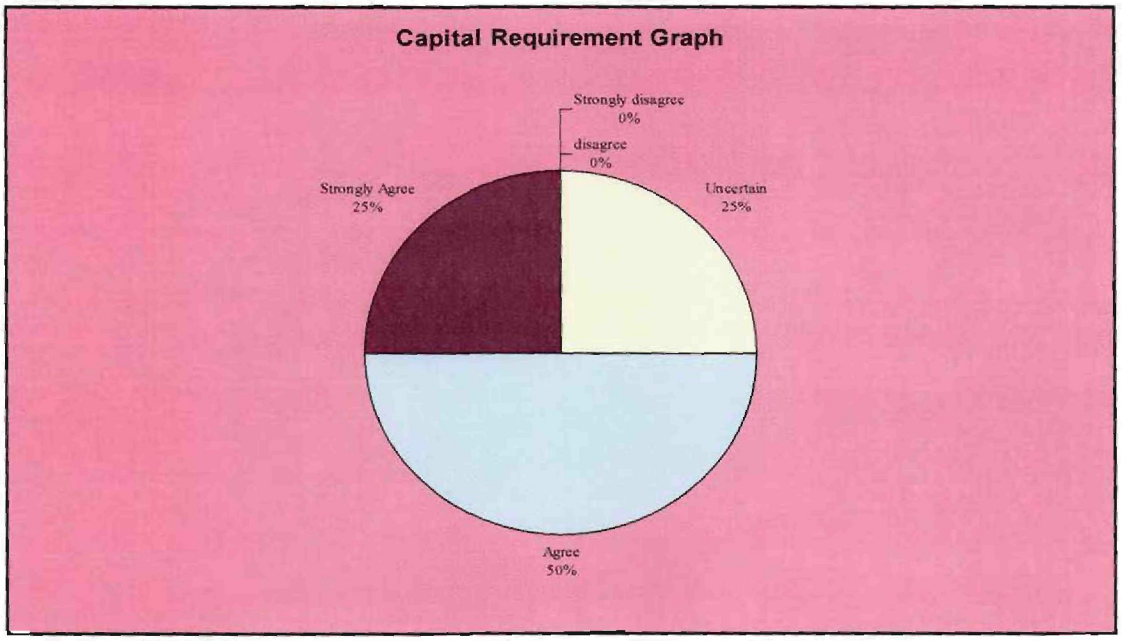


Figure 4.5b: Leadership discusses capital requirements to achieve organisational performance



(Source: Analysis of survey data collected for this research)

V. Leadership discusses productive use of operational assets with employees to improve organisational performance

Table 4.12: Frequency table for degrees in which leadership discuss with employees productive use of operational assets to achieve organisational performance

Financial Value Drivers		Extent in which leadership discuss productive use of operational assets with employees to improve organisational performance using VBM tools					
		Strongly disagree (1)	disagree (2)	Uncertain (3)	Agree (4)	Strongly Agree (5)	Total
GRWSALE	Frequency	1	0	3	4	0	8
	Valid percentage	12.5	0	37.5	50	0	100
	Cumulative %	12.5	12.5	50	100	100	
COGS	Frequency	1	1	0	5	1	8
	Valid percentage	12.5	12.5	0	62.5	12.5	100
	Cumulative %	12.5	25	25	87.5	100	
NPROFITM	Frequency	1	1	2	4	0	8
	Valid percentage	12.5	12.5	25	50	0	100
	Cumulative %	12.5	25	50	100	100	
FCF	Frequency	1	1	3	2	1	8
	Valid percentage	12.5	12.5	37.5	25	12.5	100
	Cumulative %	12.5	25	62.5	87.5	100	
NOPAT	Frequency	0	4	1	3	0	8
	Valid percentage	0	50	12.5	37.5	0	100
	Cumulative %	0	50	62.5	100	100	
CAPINVEST	Frequency	1	0	3	4	0	8
	Valid percentage	12.5	0	37.5	50	0	100
	Cumulative %	12.5	12.5	50	100	100	
WACC	Frequency	2	2	1	3	0	8
	Valid percentage	25	25	12.5	37.5	0	100
	Cumulative %	25	50	62.5	100	100	
ROIC	Frequency	2	2	1	2	1	8
	Valid percentage	25	25	12.5	25	12.5	100
	Cumulative %	25	50	62.5	87.5	100	
ORG AVG	Frequency	9	11	14	27	3	64
	Valid percentage	14.06	17.19	21.88	42.19	4.69	100.00
	Cumulative %	14.06	31.25	53.13	95.31	100.00	

Table 4.13: Summary of descriptive statistics of leadership's discussion with employees regarding productive use of operational assets to achieve organisational performance

Variable Codes	RANGE	MIN	MAX	MODE	MEDIAN	PERCENTILES		MEAN	STD.DEV	SKEWNESS	KURTOSIS
						Q1	Q3				
GRWSALE	4.00	0.00	4.00	4.00	1.00	0	3.5	1.60	1.82	0.57	-2.23
COGS	4.00	1.00	5.00	4.00	1.00	1	1	2.00	2.00	2.00	4.00
NPROFITM	4.00	0.00	4.00	4.00	1.00	0.5	3	1.60	1.52	1.12	1.46
FCF	2.00	1.00	3.00	3.00	1.00	1	2.5	1.60	0.89	1.26	0.31
NOPAT	4.00	0.00	4.00	2.00	1.00	0	3.5	1.60	1.82	0.57	-2.23
CAPINVEST	4.00	0.00	4.00	4.00	1.00	0	3.5	1.60	1.82	0.57	-2.23
WACC	3.00	0.00	3.00	4.00	2.00	0.5	2.5	1.60	1.14	-0.40	-0.18
ROIC	1.00	1.00	2.00	2.00	2.00	1	2	1.60	0.55	-0.61	-3.33
ORG AVG	**3.25**	**0.38**	**3.63**	**3.38**	**1.25**	**0.50**	**2.69**	**1.65**	**1.44**	**0.63**	**-0.55**

(Source: Analysis of survey data collected for this research)

In the survey, 42 percent of respondents agree that leadership discusses productive use of operational assets with employees to achieve organisational performance (Mode = 4.00), while 21.88 percent of respondents were uncertain (see Table 4.12). On average, the respondents 'disagree' that leadership discusses productive use of operational asset with employees to achieve organisational (Mean = 1.65), and standard deviation = 1.44. The first quartile position indicated that the respondents 'strongly disagree' about leadership discussing productive use of operational assets with employees to achieve organisational performance (Q1 = 0.5) and the third quartile position indicated respondents' were 'uncertain' that leadership discusses productive use of operational assets with employees to achieve organisational performance (Q3 = 2.69) as shown in Table 4.13.

VI. Performance evaluation and compensation are linked to individual objectives and aligned with organisational performance

In the survey, 59 per cent of respondents agree that formal performance evaluation and compensation is linked to individual objectives to achieve organisational performance (Mode = 4.00), while 16 percent of respondents were uncertain (see Table 4.14 and figure 4.6). On average, the respondents 'disagree' that formal performance evaluation and compensation are linked to individual to achieve organisational (Mean = 1.60), and

standard deviation = 1.97. The third quartile position revealed uncertainty of some respondents that formal performance evaluation and compensation are linked to individual objectives to achieve organisational objectives (Q3 = 3.38), as shown in Table 4.15.

Table 4.14: Frequency table for degrees in which leadership's performance evaluation and compensation are linked to individual objectives and alignment to achieve organisational performance

Financial Value Drivers		Extent in which formal performance evaluation and compensation are linked to individual objectives and alignment with organisational performance indicators.					
		Strongly disagree (1)	disagree (2)	Uncertain (3)	Agree (4)	Strongly Agree (5)	Total
Customer Satisfaction	Frequency	0	2	0	4	2	8
	Valid percentage	0	25	0	50	25	100
	Cumulative %	0	25	25	75	100	
Customer retention	Frequency	0	0	2	5	1	8
	Valid percentage	0	0	25	62.5	12.5	100
	Cumulative %	0	0	25	87.5	100	
Production efficiency	Frequency	0	0	2	5	1	8
	Valid percentage	0	0	25	62.5	12.5	100
	Cumulative %	0	0	25	87.5	100	
Internal business processes	Frequency	0	0	1	5	2	8
	Valid percentage	0	0	12.5	62.5	25	100
	Cumulative %	0	0	12.5	75	100	
ORG AVG	Frequency	0	2	5	19	6	32
	Valid percentage	0.00	6.25	15.63	59.38	18.75	100.00
	Cumulative %	0.00	6.25	21.88	81.25	100.00	

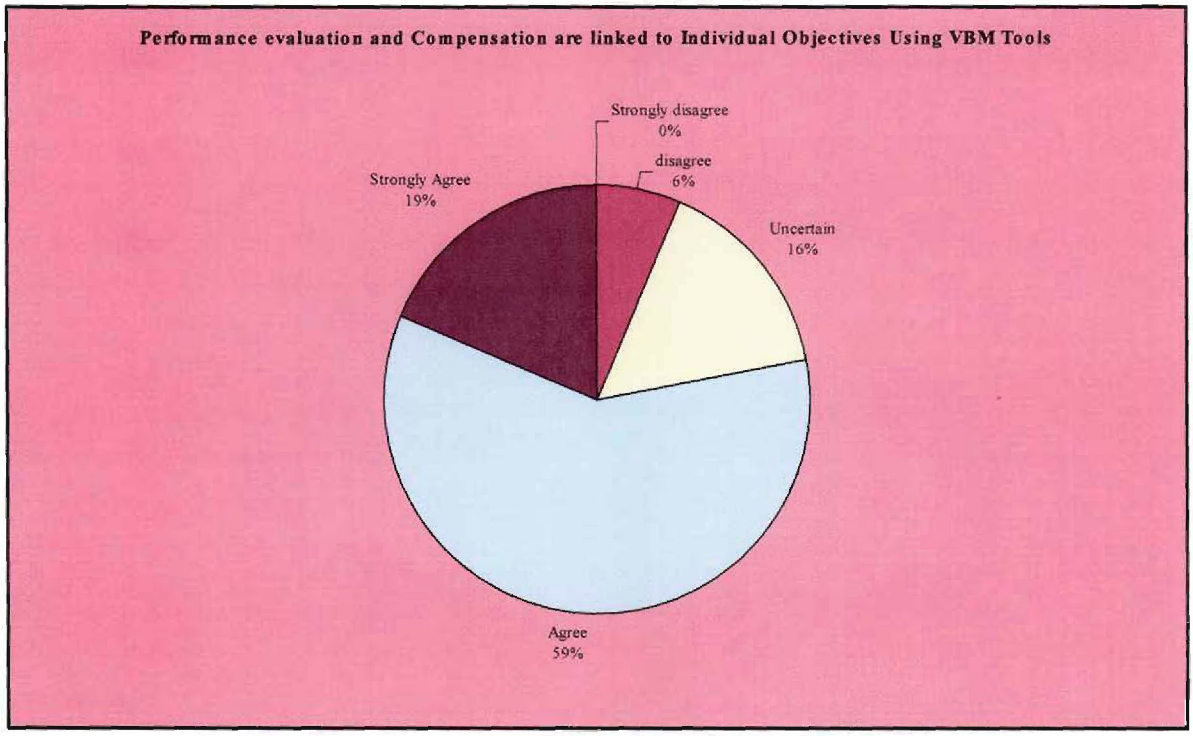
(Source: Analysis of survey data collected for this research)

Table 4.15: Summary of descriptive statistics of leadership linking performance evaluation and compensation to individual objectives and alignment to achieve organisational performance

Variable Codes	RANGE	MIN	MAX	MODE	MEDIAN	PERCENTILES		MEAN	STD.DEV	SKEWNESS	KURTOSIS
						Q1	Q3				
CustSatis	4.00	0.00	4.00	4.00	2.00	0	3	1.60	1.67	0.51	-0.61
CustRet	5.00	0.00	5.00	4.00	1.00	0	3.5	1.60	2.07	1.45	1.93
ProdEff	5.00	0.00	5.00	4.00	1.00	0	3.5	1.60	2.07	1.45	1.93
IntBusProc	5.00	0.00	5.00	4.00	1.00	0	3.5	1.60	2.07	1.45	1.93
ORG AVG	**4.75**	**0.00**	**4.75**	**4.00**	**1.25**	**0.00**	**3.38**	**1.60**	**1.97**	**1.21**	**1.30**

(Source: Analysis of survey data collected for this research)

Figure 4.6: Performance evaluation and compensation are linked to individual objectives



(Source: Analysis of survey data collected for this research)

From the research conducted by Goleman (2000:78-90) it has been determined that different leadership styles have diverse effects on variables such as flexibility,

responsibility, standards, rewards, clarity and commitment, and in some cases, on organisational climate as was confirmed by this research. It was also demonstrated that leadership style influences subordinates, since the leader's behaviour produces reward mechanisms that affect the behaviour of individuals in the organisation to behave in a value creation manner.

Organisational culture

Table 4.16: Frequency table for degrees in which organisational culture influence organisations to select VBM tools (OC)

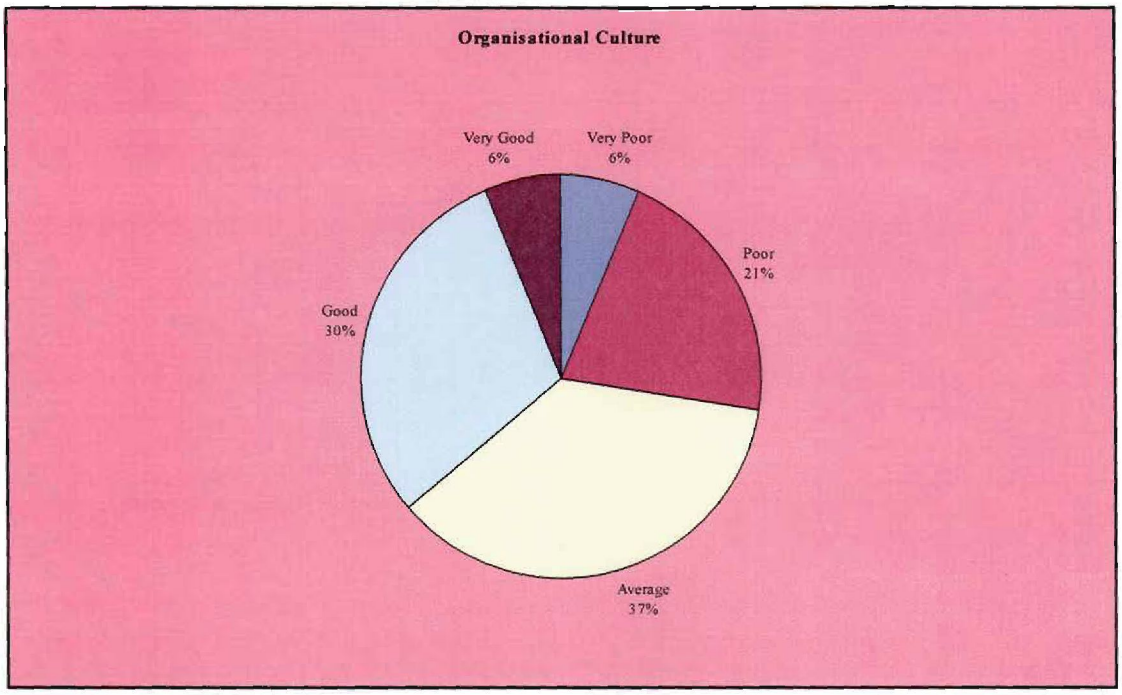
Organisational Culture		Extent in which organisational culture influence the selection and use of Value Based Management performance tools to measure organisational performance.					
		Very poor (1)	Poor (2)	Average (3)	Good (4)	Very Good (5)	Total
OC1	Frequency	0	0	3	4	1	8
	Valid percentage	0	0	37.5	50	12.5	100
	Cumulative %	0	0	37.5	87.5	100	
OC2	Frequency	0	1	2	4	1	8
	Valid percentage	0	12.5	25	50	12.5	100
	Cumulative %	0	12.5	37.5	87.5	100	
OC3	Frequency	0	2	3	2	1	8
	Valid percentage	0	25	37.5	25	12.5	100
	Cumulative %	0	25	62.5	87.5	100	
OC4	Frequency	0	2	5	1	0	8
	Valid percentage	0	25	62.5	12.5	0	100
	Cumulative %	0	25	87.5	100	100	
OC5	Frequency	0	5	0	3	0	8
	Valid percentage	0	62.5	0	37.5	0	100
	Cumulative %	0	62.5	62.5	100	100	
OC6	Frequency	0	2	4	2	0	8
	Valid percentage	0	25	50	25	0	100
	Cumulative %	0	25	75	100	100	
OC7	Frequency	1	2	3	2	0	8
	Valid percentage	12.5	25	37.5	25	0	100
	Cumulative %	12.5	37.5	75	100	100	
OC8	Frequency	1	2	4	1	0	8
	Valid percentage	12.5	25	50	12.5	0	100
	Cumulative %	12.5	37.5	87.5	100	100	
OC9	Frequency	1	0	3	2	2	8
	Valid percentage	12.5	0	37.5	25	25	100
	Cumulative %	12.5	12.5	50	75	100	
OC10	Frequency	2	1	2	3	0	8
	Valid percentage	25	12.5	25	37.5	0	100
	Cumulative %	25	37.5	62.5	100	100	
ORG AVG	Frequency	5	17	29	24	5	80
	Valid percentage	6.25	21.25	36.25	30.00	6.25	100.00
	Cumulative %	6.25	27.50	63.75	93.75	100.00	

(Source: Analysis of survey data collected for this research)

Overall organisation culture

From the survey, 36.25 per cent of respondents on 'average' indicated that organisational culture makes it possible to perform duties and make decisions that enhances organisational performance (Mode = 3.00). About 30 percent of respondents indicated that organisational culture enhances organisational performance to a 'Good' extent (see Table 4.16 and figure 4.7). On average, the respondents indicated that organisational culture enhances 'poor' organisation performance (Mean = 1.60), and standard deviation = 1.09. The median of organisational culture to enhance performance is also at 'poor' extent (Median = 1.70), while the first quartile position indicated that organisation culture to enhance performance is at 'very poor' extent (Q1 = 0.5) and the third quartile position revealed that organisational culture to enhance performance is at 'average' extent (Q3 = 2.65), as shown in Table 4.2.

Figure 4.7: Organisational culture



(Source: Analysis of survey data collected for this research)

While approximately 66.25 percent of respondents indicates that organisational culture enhances organisational performance to an 'average' and 'good' extent, only 27 percent indicated that organisational culture enhances performance to a 'poor' and 'very poor' extent.

However, people can be helped through culture change by means of effective communication by senior management, encourage trust through employee participation in the change process, and change the reward system to encourage acceptance of change.

The reasons that respondents indicates poor and very poor enhancement of organisational performance are as a result of company bureaucracies and ineffective leadership believing that employees cannot and will not make reasonable inputs that can be implemented and yield good results.

4.3.3 Descriptive statistics ofVBM tools

The survey questionnaire asked respondents to indicate whether they selected and used or 'not select' each VBM tool such as free cash flow (FCF), cost of capital (COSTCAP), economic value added (EVA), shareholder value added (SVA), discount cash flow (DCF), return on invested capital (ROIC), cash flow return on investment (CFROI), net present value (NPV), residual income (RI) and market value added (MVA). This research did not observe how frequent was the selection and use of such tools during the year, since it may depends on other factors such as the number of projects that may vary in each organisation. However, this research could observe that if VBM tools were selected and used, to what extent that tool was selected and used to assess the organisation's performance.

When respondents indicated that they selected VBM tools in a 'much' and 'very much' extent, this could imply that, that particular tool is picked more often than others. While the 'average' extent could mean that the respondents may consider other tools, along with the particular VBM tool during the year. And when respondents selected 'very little'

and 'little', it could mean that other tools may be selected and used more often or have a higher priority in selection than a particular VBM tool. Each VBM tool was measured on a five-scale measurement ranging from 1 (not selected) to 6 (very much). The following shows the results of the extent to which each VBM tool was selected and used as indicated in Table 4.17.

Table 4.17: Frequency table for degrees in selecting and using VBM tools

VBM TOOLS		Extent in selecting and using VBM tools						
		Not in use (1)	Very little (2)	Little (3)	Average (4)	Much (5)	Very Much (6)	Total
FCF	Frequency	0	0	3	1	3	1	8
	Valid percentage	0	0	37.5	12.5	37.5	12.5	100
	Cumulative %	0	0	37.5	50	87.5	100	
COSTCAP	Frequency	0	0	2	5	1	0	8
	Valid percentage	0	0	25	62.5	12.5	0	100
	Cumulative %	0	0	25	87.5	100	100	
EVA	Frequency	2	1	0	4	0	1	8
	Valid percentage	25	12.5	0	50	0	12.5	100
	Cumulative %	25	37.5	37.5	87.5	87.5	100	
SVA	Frequency	4	0	3	0	0	1	8
	Valid percentage	50	0	37.5	0	0	12.5	100
	Cumulative %	50	50	87.5	87.5	87.5	100	
DCF	Frequency	1	2	1	2	2	0	8
	Valid percentage	12.5	25	12.5	25	25	0	100
	Cumulative %	12.5	37.5	50	75	100	100	
ROIC	Frequency	0	2	2	2	1	1	8
	Valid percentage	0	25	25	25	12.5	12.5	100
	Cumulative %	0	25	50	75	87.5	100	
CFROI	Frequency	3	0	2	2	1	0	8
	Valid percentage	37.5	0	25	25	12.5	0	100
	Cumulative %	37.5	37.5	62.5	87.5	100	100	
NPV	Frequency	1	0	0	5	2	0	8
	Valid percentage	12.5	0	0	62.5	25	0	100
	Cumulative %	12.5	12.5	12.5	75	100	100	
RI	Frequency	2	1	1	4	0	0	8
	Valid percentage	25	12.5	12.5	50	0	0	100
	Cumulative %	25	37.5	50	100	100	100	
MVA	Frequency	2	2	0	3	0	1	8
	Valid percentage	25	25	0	37.5	0	12.5	100
	Cumulative %	25	50	50	87.5	87.5	100	
VBM AVG	Frequency	1.5	0.8	1.4	2.8	1	0.5	8
	Valid percentage	18.75	10.00	17.50	35.00	12.50	6.25	100.00
	Cumulative %	18.75	28.75	46.25	81.25	93.75	100.00	

(Source: Analysis of survey data collected for this research)

Free Cash Flow (FCF)

From the survey, 37.5 per cent of respondents indicated that FCF was selected and used 'much' (Mode = 5.00), while the indication at the 'little' extent was also 37.5 per cent (see Table 4.17). On average, respondents did not select and use FCF (Mean = 1.33), standard deviation = 1.37. The median of the selection and the use of FCF is at 'not in use' extent (Median = 1.00), while the third quartile position indicated the selection and use of FCF at 'little' extent (Q3 = 3.00) as shown in Table 4.2.

While approximately 75 percent of respondents selected and used free cash flow in a 'much' and 'little' extent none of the respondents indicated that free cash flow was not selected and used as a financial performance measurement tool. It is not surprising that 75 percent of respondents selected and use FCF since it is the key determinants of shareholder value rather than earning.

Cost of capital (COSTCAP)

About 25 percent of respondents indicated that they 'did not select and use' the cost of capital as financial performance measurement tool. About 62.5 percent of respondents stated that cost of capital was selected and used at the 'average' extent (Mode = 4.00) as shown in Table 4.17, which could possibly mean that cost of capital is selected and used, and at the same time, also considered other tools. On average, respondents 'did not select and use' COSTCAP (Mean = 1.33), and standard deviation = 1.37. The median revealed that COSTCAP is not selected and used (Median = 1.00), while the third quartile position yields the selection and use of COSTCAP to a 'little' extent (Q3 = 3.00), shown in Table 4.2.

Cost of capital is an economic concept where the cost is based on an opportunity cost of the invested capital, both debt and equity (Aggarwal, 2001:56; Martin & Petty, 2000:64). The concept of capital is different from the traditional accounting concept of cost, where only the cost of debt is calculated and the cost of equity is not considered when

calculating the corporate net income (Martin & Petty, 2000:64). One reason to explain why respondents did not select and use cost of capital is that government owned companies may find it difficult to determine the cost of equity since these companies are not listed in the stock market. From the survey, 100 percent of respondents were government companies and therefore were not listed in the stock market. Therefore, respondents may find it difficulty in determining cost of equity to fulfill the cost of capital formula. In addition, another reason follows that since the calculation of cost of capital is different from the traditional accounting method; this may cause some confusion, and at the same time, may add some burden to respondents to produce detailed adjustments toward cost of capital and other value-based management tools (Sinclair & Zairi, 2000:146). As a result, respondents are reluctant to use the cost of capital.

Economic Value Added (EVA)

From the survey, 25 per cent of the respondents did not select and use EVA as their financial performance measurement tool. Amongst those who selected and used EVA, about 50 percent used the EVA at an 'average' extent, which could mean that they also considered other tools while considering EVA. In other words, EVA may not have higher priority over other tools. About 12.5 percent indicated EVA was used in a 'very much' extent, and 12.5 percent indicated that EVA tools were used in a 'very little' extent (see Table 4.17). The mode for Economic Value Added = 4.00, which indicated that most respondents 'did select and use' EVA. The average selection and use of EVA is 'very little' in extent (Mean = 1.60), with standard deviation = 1.52. The median for the selection and use of EVA indicated that the respondents 'did not select and use' EVA (Median = 1.00). The first quartile position for the selection and use of EVA (Q1 = 1.00) indicates that the respondents range from 'not select and use' EVA. The third quartile for the selection and use of EVA is (Q3 = 2.00), indicating that the respondents selected and used EVA in a 'very little' extent, shown in Table 4.2.

The reason that EVA is not commonly selected and used could be that:

First, EVA is based on the concept of residual income or an economic profit, which is recognized only if it exceeds all cost of capital charges (Martin & Petty, 2000:81). This concept may sound simple, but it could be complex when implementing it. EVA requires some adjusting of the accounting items before it derives economic profits. It also brings about broad changes from financial changes to employee behavioral changes in order to maximize shareholder's value (Ehrbar & Stewart, 1999). Further, in order to bring about changes in an organisation, EVA requires the full support from the company's Chief Executive Officer (Ameels et al., 2002:59).

Second, the concept of EVA is not well-known in South African organisations.

Shareholder Value Added (SVA)

From the survey, 50 percent of the respondents indicated that SVA was 'not selected and used' as financial performance measurement tool. About 37.5 percent of respondents indicated that SVA was selected and used to a 'little' extent and 12.5 percent used and selected SVA to a 'very much' extent. The mode for shareholder value added (Mode = 1.00) means that most of the respondents 'did not select and use' SVA. On average, respondents 'did not select and use' SVA (Mean = 1.33), and standard deviation = 1.75. The median for the selection and use of SVA showed that respondents 'did not select and use' SVA (Median = 0.5). The third quartile position stated that SVA was selected and used to a 'little' extent (Q3 = 3.00), shown in Table 4.2.

When comparing SVA with other VBM tools, SVA was the least common in terms of selection and use by respondents, that is, SVA gained the highest score in the 'not select and use'. Since SVA is an indicator that addresses the change in value over a forecasted period, it estimates the value creation of an investment by discounting the future cash flows at the rate of cost of capital required by capital markets (Rappaport, 1998:49). This could be the reason why most respondents did not select and use SVA,

because the company should be listed in the stock market to receive the full benefit of implementing SVA. Therefore, SVA was ranked at the lowest extent of selection and use amongst all VBM tools.

Discount Cash Flow (DCF)

From the survey, 12.5 percent of the respondents indicated that DCF was 'not selected and used' as financial performance measurement tool. About 25 percent of respondents indicated that DCF was selected and used to a 'very little' extent, 12.5 percent used and selected DCF to a 'little' extent, 25 percent used and selected DCF to an 'average' extent, 25 percent used and selected DCF to a 'much' extent . The mode for discount cash flow chosen is (Mode = 5.00) meaning that most of the respondents selected and used DCF to a 'much' extent. On average, respondents 'did not select and use' DCF (Mean = 1.33), and standard deviation = 0.82. The median for the selection and use of DCF showed that respondents selected and used DCF to 'very little' extent (Median = 1.5).The first quartile position indicated that respondents 'did not select and use' DCF (Q1 = 1.00) while the third quartile position stated that DCF was selected and used to a 'very little' extent (Q3 = 2.00), as shown in Table 4.2.

The founding principle underlying VBM is the discounted cash flow (DCF) (Martin & Petty, 2000:47). Hence, the reason why it is not necessary to use it on its own, as was observed from the survey.

Return on Invested Capital (ROIC)

In the survey, 25 percent of respondents indicated that ROIC was selected and used to a 'very little' extent, 25 percent used and selected ROIC to a 'little' extent, 25 percent used and selected ROIC to an 'average' extent, 12.5 percent used and selected ROIC to a 'much' extent and 12.5 percent used and selected ROIC in a 'very much' extent. There are various modes for the selection and use of ROIC. In a situation like this the lowest mode is chosen (Mode = 2.00) meaning that most of the respondents selected and used

ROIC to a 'very little' extent. On average, respondents 'did not select and use' ROIC (Mean = 1.33), and standard deviation = 0.82. The median for the selection and use of ROIC showed that respondents selected and used it to a 'very little' extent (Median = 1.5). The first quartile position indicated that respondents 'did not select and use' ROIC (Q1 = 1.00) while the third quartile position stated that ROIC was selected and used to a 'very little' extent (Q3 = 2.00), as shown in Table 4.2.

From the survey, respondents indicated that they used and selected ROIC to various extent. The reasons for the variation in the selection and use of ROIC could be that respondents may consider traditional accounting ratios such as return on assets, return on equity, and return on investment which has been popularized by most companies for several years.

Cash Flow Return on Investment (CFROI)

About 37.5 percent of respondents 'did not select and use' CFROI as a tool to measure financial performance. About 25 percent of those who selected and used CFROI were using it to a 'little' extent, 25 percent selected and used CFROI to an 'average' extent, and 12.5 percent selected and used CFROI to a 'much' extent (see Table 4.17). Most of the respondents indicated that CFROI was 'not selected and used' (Mode = 1.00). On average, respondents 'did not select and use' CFROI (Mean = 1.33), and standard deviation = 1.21. The median for the selection and use of CFROI showed that respondents selected and used to a 'very little' extent (Median = 1.5). The third quartile position stated that CFROI was selected and used to a 'very little' extent (Q3 = 2.00), as shown in Table 4.2.

Boston Consulting Group, who designed CFROI method, has not popularized or marketed the tool in South Africa. As a consequence, South African organisations are not familiar with or using CFROI as a financial performance measurement tool.

Net Present Value (NPV)

About 12.5 percent of respondents 'did not select and use' NPV as a tool to measure financial performance. About 62.5 percent of those who selected and used NPV, were using it to an 'average' extent, and 12.5 percent selected and used NPV to a 'much' extent (see Table 4.17). Most of the respondents indicated that NPV was selected and used' (Mode = 4.00). On average, respondents 'did not select and use' NPV (Mean = 1.33), and standard deviation = 1.97. The median for the selection and use of NPV showed that respondents 'did not select and use' NPV (Median = 0.5). The third quartile position stated that NPV was selected and used to a 'very little' extent (Q3 = 2.00), as shown in Table 4.2.

Residual Income (RI)

About 25 percent of respondents 'did not select and use' RI as a tool to measure financial performance. About 12.5 percent of those who selected and used RI were using it to a 'very little' extent, 12.5 percent selected and used RI to a 'little' extent and 50 percent selected and used RI to an 'average' extent (see Table 4.17). Most of the respondents indicated that RI was selected and used' (Mode = 4.00). On average, respondents 'did not select and use' RI (Mean = 1.33), and standard deviation = 1.51. The median for the selection and use of RI showed that respondents 'did not select and use' RI (Median = 1.00). The third quartile position stated that RI was selected and used to a 'very little' extent (Q3 = 2.00), as shown in Table 4.2.

Market Value Added (MVA)

About 25 percent of respondents 'did not select and use' MVA as a tool to measure financial performance. About 25 percent of those who selected and used MVA were using it to a 'very little' extent, 37.5 percent selected and used MVA to an 'average' extent and 12.5 percent selected and used MVA to a 'very much' extent (see Table 4.17). Most of the respondents indicated that MVA was selected and used' (Mode =

4.00). On average, respondents 'did not select and use' MVA (Mean = 1.33), and standard deviation = 1.21. The median for the selection and use of MVA showed that respondents selected and used MVA to a 'very little' extent (Median = 1.50). The third quartile position stated that MVA was selected and used to a 'very little' extent (Q3 = 2.00), as shown in Table 4.2.

From the survey MVA is not used and selected to a 'much' and 'very much' extent as the respondents select and use alternative performance measures such as sales growth, increase in operating profitability and decrease in capital requirements which ensure an increase in shareholder's value. Consequently, an increase in growth will not necessarily increase value, although OP is positive, but CR could be quite high, implying that a lot of new capital is needed to support a given increase in sales and results in the decrease of MVA.

Overall VBM tools (VBM AVG)

About 18.75 percent of respondents 'do not select and use' VBM tools in measuring organisational performance, as shown in Table 4.17. Amongst the 81.25 percent that selected and used VBM tools, SVA ranks at the bottom followed by CFROI. Free cash flow (FCF), return on invested capital (ROIC), cost of capital (COSTCAP), discount cash flow (DCF) and net present value (NPV) marked the top five VBM tools commonly selected as performance measurement tools in organisations.

The reasons that FCF, ROIC, COSTCAP, DCF and NPV are more commonly used among respondents could be explained for several reasons that are consistent with the view of literature in chapter two.

First, many investors view FCF and COSTCAP as a new benchmark for shareholder value creation since the 1980s (Martin & Petty, 2000:12). While the earnings per share or return on assets no longer fit with the new environment, such as the concept of intangible assets like research and development, customer satisfaction, and brand

names (Rappaport, 1998:14). Therefore the transition from industrial companies to knowledge companies affects the traditional financial ratios, while shareholder value creation does not.

Second, FCF and COSTCAP represent cash that is actually available for distribution to investors and the core determinants of business value in which future cash flow stream is discounted at the investor's required rate of return. An organisation is creating value only when it earns a rate of return on invested capital that exceeds the weighted average cost of capital (Copeland et al., 2000:64; Martin & Petty, 2000:3).

Third, ROIC is one of the financial ratios that drive value. Its implication stated that a business must not only break even but also make a profit large enough to justify the cost of capital it is using (Copeland, Koller & Murrin, 2000:71). As a consequence, ROIC, and the proportion of its profit that the organisation has invested for growth, drive free cash flow.

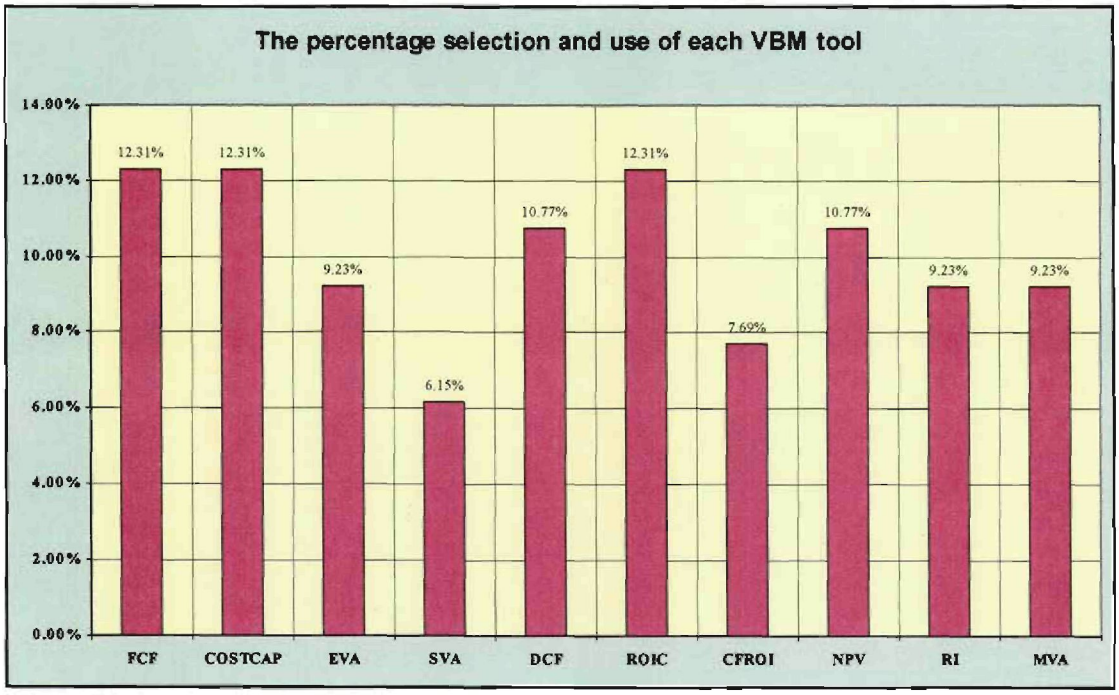
Fourth, FCF and COSTCAP provide the foundation of all VBM tools which are used to calculate the discounted cash flow valuation. While ROIC is the key value driver of FCF, as stated in Chapter two. Companies may develop their own internal VBM which is based on these foundations and key value drivers rather than selecting and using the popularized ones.

Among 81.25 percent who selected and used VBM tools to measure organisational performance, about 10 percent used VBM tools to a 'very little' extent, 17.5 percent used VBM tools to a 'little' extent, 35 percent used VBM tools to an 'average' extent, 12.5 percent used VBM tools to a 'much' extent and 6.25 percent selected and used VBM tools to a 'very much' extent. Most of the respondents indicated that VBM tools was selected and used to a 'little' extent (Mode = 3.40). On average, respondents 'did not select and use' VBM tools (Mean = 1.36), and standard deviation = 1.41. The median showed that VBM tools were 'not selected and used' (Median = 1.15). The first quartile position showed that VBM tools were not 'selected and used' (Q1 = 0.30) and the third

quartile position showed that VBM tools were selected and used to a 'very little' extent (Q3 = 2.20), as indicated in Table 4.2.

Figure 4.8 indicates the degree of selection and use of VBM tools. It shows the respondents who selected and use VBM tools (about 81.25 percent of total respondents, where n = 8). FCF, COSTCAP and ROIC were used the most by responding companies, followed by DCF and NPV. This indicates that FCF, COSTCAP and ROIC provide the foundation of VBM tools. Thus this could indicate that most respondents apply the foundation of VBM tools and may develop internal VBM tools from using these foundation tools rather than applying the complicated or the licensing tools such as EVA, CFROI and SVA.

Figure 4.8: The percentage selection and use of each VBM tool



(Source: Analysis of survey data collected for this research)

The research findings are relevant to what Martin & Petty (2000), and Ryan & Trahan (1999) stated that many firms learn from consultants but then adapt the methods to fit

their own situation. CFROI by the Boston Consulting Group was used to a lower extent than FCF, ROIC, COSTCAP, DCF and NPV. SVA did not gain popularity compared to other tools, except EVA, RI and MVA. The findings regarding RI are relevant with what Neely (2002:15) stated that over the last 30 years or more after the introduction of RI in the academic literature, it has been surprisingly little used in practice beside being a better overall measure of performance than profit margin or return on investment.

Last, SVA by McKinsey & Company was not used by most responding companies, which could be due to the reason that the company must be listed on the stock market to apply SVA; therefore, SVA was ranked at the lowest level of selection among all VBM tools.

4.3.4 Descriptive statistics of organisation performance

The survey questionnaire asked the respondents to compare organisation performance between year 2006 and year 2005 (see Table 4.18). Organisation performance as outlined in chapter two (2), was measured by the Du Pont Analysis that uses financial performance indicators such as growth in sales, profit margin, total assets turnover, return on assets and debt ratio. The use of these indicators as dependent variables was conceptually consistent with the research performed by Ryan and Trahan (1999). In this research, respondents were asked to indicate organisation performance compared to its performance in previous years along the 5-scale measurement from 1(very much worse) to 5 (very much better).

Each organisation performance measurement is outlined and the overall organisation performance is described.

Table 4.18: Frequency table for organisation performance indicators

Organisational performance Indicators		Organisational Performance Comparing Year 2006 and Year 2005					
		Very much worse (1)	Worse (2)	No Different (3)	Better (4)	Very Much Better (5)	Total
GRWSALE	Frequency	0	0	2	6	0	8
	Valid percentage	0	0	25	75	0	100
	Cumulative %	0	0	25	100	100	
PROFITM	Frequency	0	0	2	5	1	8
	Valid percentage	0	0	25	62.5	12.5	100
	Cumulative %	0	0	25	87.5	100	
TATO	Frequency	0	0	2	5	1	8
	Valid percentage	0	0	25	62.5	12.5	100
	Cumulative %	0	0	25	87.5	100	
ROA	Frequency	0	1	3	4	0	8
	Valid percentage	0	12.5	37.5	50	0	100
	Cumulative %	0	12.5	50	100	100	
DEBT	Frequency	0	0	2	5	1	8
	Valid percentage	0	0	25	62.5	12.5	100
	Cumulative %	0	0	25	87.5	100	
ORG AVG	Frequency	0.00	0.20	2.20	5.00	0.60	8.00
	Valid percentage	0.00	2.50	27.50	62.50	7.50	100.00
	Cumulative %	0.00	2.50	30.00	92.50	100.00	

(Source: Analysis of survey data collected for this research)

Growth in sales (GRWSALE)

From Table 4.18 about 75 percent of respondents indicated that sales growth in the year 2006 was 'better' than that of 2005 (mode = 4.00), and 25 percent indicated that sales growth was 'no different' from that of year 2005. On average, the respondents indicated that sales growth was 'worse' in year 2006 than in year 2005 (Mean = 1.60), and standard deviation = 2.61. The third quartile position showed that the respondents perceived a 'better' growth in sales (Q3 = 4.00), (see Table 4.2.)

Profit margin (PROFITM)

From the survey, 62.5 percent of respondents indicated that profit margin in the year 2006 was 'better' than that of 2005 (mode = 4.00), and 25 percent indicated that profit margin was 'no different' from that of year 2005 and 12.5 percent of respondents perceived that the profit margin was 'very much better' in year 2006 than in year 2005.

On average, the respondents indicated that profit margin was 'worse' in year 2006 than in year 2005 (Mean = 1.60), and standard deviation = 2.07. The median for profit margin indicted that the profit margin of year 2006 was 'very much worse' than that of year 2005 (median = 1.00). The third quartile position showed that the respondents perceived a 'better' profit margin for year 2006 than that of year 2005 (Q3 = 3.50), (see Table 4.2.)

Total asset turnover (TATO)

From the survey, 62.5 percent of respondents indicated that TATO in the year 2006 was 'better' than that of year 2005 (mode = 4.00), and 25 percent indicated that TATO was 'no different' from that of year 2005 and 12.5 percent of respondents perceived that the TATO was 'very much better' in year 2006 than in year 2005. On average, the respondents indicated that TATO was 'worse' in year 2006 than in year 2005 (Mean = 1.60), and standard deviation = 2.07. The median for TATO indicted that TATO for year 2006 was 'very much worse' than that of year 2005 (median = 1.00). The third quartile position showed that the respondents perceived a 'better' TATO for year 2006 than that of year 2005 (Q3 = 3.50), (see Table 4.2.)

Return on assets (ROA)

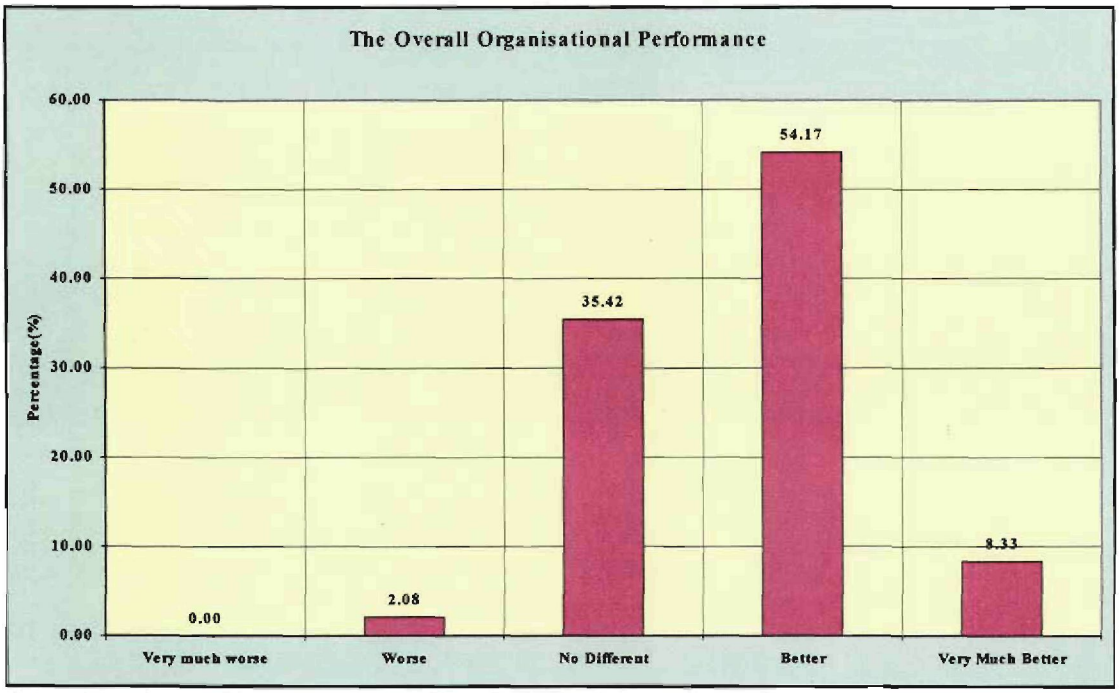
From the survey, 50 percent of respondents indicated that return on assets performance for year 2006 was 'better' than that of year 2005 (mode = 4.00), 12.5 percent indicated that ROA was 'worse' in year 2006 than that of year 2005 and 37.5 percent of respondents perceived that ROA was 'no different' in year 2006 to that of year 2005. On average, the respondents indicated that ROA was 'worse' in year 2006 than in year 2005 (Mean = 1.60), and standard deviation = 1.82. The median for ROA indicated that ROA for year 2006 was 'very much worse' than that of year 2005 (median = 1.00). The third quartile position showed that the respondents perceived a 'better' ROA for year 2006 than that of year 2005 (Q3 = 3.50), (see Table 4.2.)

Debt ratio (DEBT)

From the survey, 62.5 percent of respondents indicated that debt ratio in year 2006 performed 'better' than that of year 2005 (mode = 4.00), 25 percent indicated that debt ratio performance was 'no different' in year 2006 compared to that of year 2005 and 12.5 percent of respondents perceived that debt ratio performance was 'very much better' in year 2006 than in year 2005. On average, the respondents indicated that debt ratio was 'worse' in year 2006 than in year 2005 (Mean = 1.60), and standard deviation = 2.07. The median for debt ratio indicated that debt ratio for year 2006 was 'very much worse' than that of year 2005 (median = 1.00). The third quartile position showed that the respondents perceived a 'better' debt ratio for year 2006 than that of year 2005 (Q3 = 3.50), (see Table 4.2.)

Overall organisation performance (ORG AVG)

Figure 4.9: The overall organisation performance



(Source: Analysis of survey data collected for this research)

From Table 4.18 and Figure 4.9, 62.5 percent of respondents indicated that the overall organisation performance was 'better' and 7.5 percent indicated that the overall organisation performance in year 2006 was 'very much better' than for year 2005. Also, 2.5 percent indicated that performance in year 2006 was 'worse' than for year 2005. About 27.5 percent stated that performance in 2006 was 'no different' from that for year 2005.

Most of the respondents stated that organisation performance was 'better' in year 2006 than that of year 2005 (Mode = 4.00). On average, overall organisation performance perceived by respondents was 'worse' in year 2006 compared to that of year 2005 (mean = 1.60 and standard deviation = 2.13). The median of overall organisation

performance indicated 'very much worse' compared to that of year 2005 (median = 0.80).

The third quartile position of overall organisation performance was 'better' (Q3 = 3.60), as shown in Table 4.2.

Among the five organisation performance indicators used for measuring organisation performance; all were viewed 'better' in year 2006 compared to that of year 2005 (see Table 4.18). These findings were consistent with the research by Ryan & Trahan (1999) in that there was an improvement in utilising assets (total assets turnover and return on assets). Growth in sales and profit margin indicated a very satisfactory improvement in generating revenue, while the debt ratio indicates improvement in paying the costs of financing.

4.3.5 Descriptive statistics of exposure to VBM

Table 4.19: Frequency table for exposure to VBM

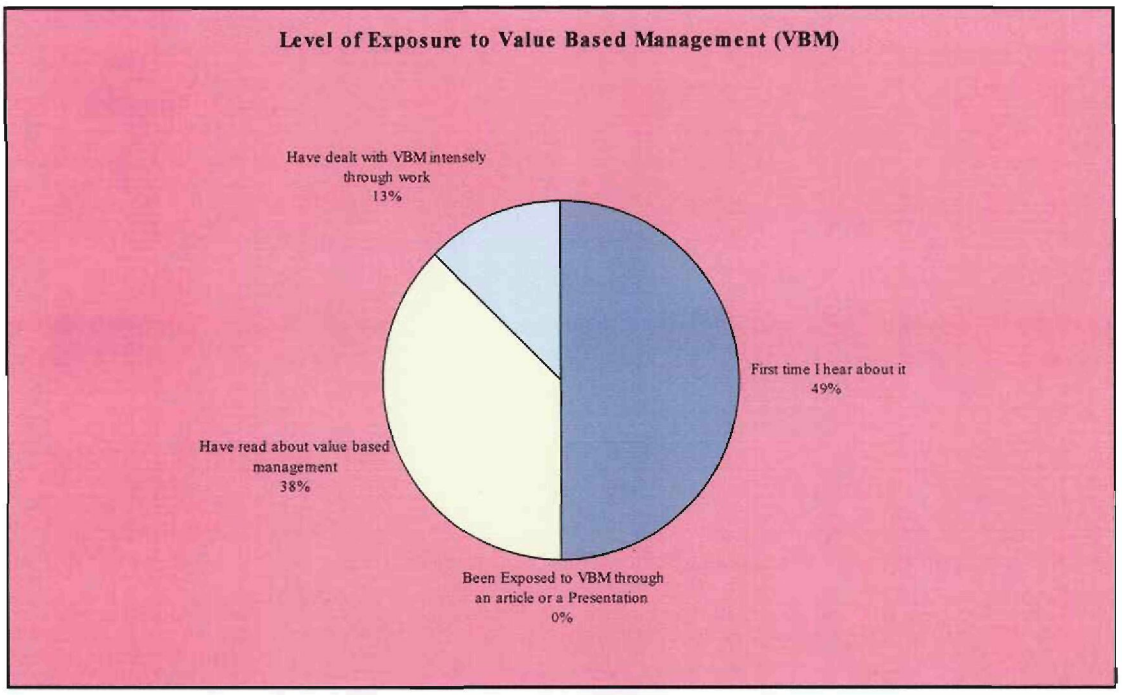
Level of Exposure to Value Based Management (VBM)	Frequency	Valid Percentage	Cumulative Percentage
1) First time I hear about it	4	50	50
2) Been Exposed to VBM through an article or a Presentation	0	0	50
3) Have read about value based management	3	37.5	87.5
4) Have dealt with VBM intensely through work	1	12.5	100
TOTAL	8	100	

(Source: Analysis of survey data collected for this research)

From the survey, 50 percent of the respondents indicated that it was the first time hearing about value based management (Mode = 1.00). About 37.5 percent read about VBM and 12.5 percent dealt with VBM intensively through work (see Table 4.19 and Figure 4.10). The average level of exposure to VBM metrics is indicated as that the respondents were exposed to VBM metrics through an article or presentation (Mean = 2.00), and standard deviation = 1.83. The median for the level of exposure to VBM metrics also indicated that the respondents were exposed to VBM metrics through an article or presentation (Median = 2.00). The third quartile position indicates that the

respondents were exposed to VBM by dealing with it through work (Q3 = 4.00), as shown in Table 4.2.

Figure 4.10: Level of exposure to Value Based Management



(Source: Analysis of survey data collected for this research)

This section confirms the conclusions reached in the above sections that the respondents apply the foundation of VBM tools and other financial performance measurements tools that are developed internally, rather than applying the complicated or the licensing tools such as EVA, CFROI and SVA.

4.4 RELATIONSHIPS AMONG VARIABLES

Table 4.20: Correlation coefficient (total 18 variables, n =8)

Variable Codes	COSTSTRUC	Leadership AVG	OC AVG	FCF	COSTCAP	EVA	SVA	DCF	ROIC	CFROI	NPV	RI	MVA	GRWSALE	PROFITM	TATO	ROA	DEBT
COSTSTRUC	1.00																	
Leadership AVG	-0.58	1.00																
OC AVG	-0.42	0.67	1.00															
FCF	-0.78	0.83	0.50	1.00														
COSTCAP	-0.19	0.15	0.83	0.11	1.00													
EVA	0.46	-0.33	0.42	-0.52	0.76	1.00												
SVA	-0.57	-0.05	-0.14	0.51	-0.04	-0.44	1.00											
DCF	-0.29	0.37	0.54	-0.04	0.38	0.27	-0.56	1.00										
ROIC	-0.32	-0.40	0.13	-0.27	0.48	0.39	0.21	0.41	1.00									
CFROI	-0.66	0.41	0.83	0.56	0.84	0.30	0.38	0.28	0.46	1.00								
NPV	0.06	0.29	0.85	-0.02	0.87	0.81	-0.49	0.54	0.17	0.57	1.00							
RI	0.35	-0.19	0.59	-0.29	0.91	0.81	-0.21	0.44	0.67	0.81	0.81	1.00						
MVA	0.57	-0.56	0.11	-0.60	0.50	0.91	-0.55	0.34	0.49	0.60	0.58	0.79	1.00					
GRWSALE	-0.24	0.90	0.65	0.51	0.15	-0.09	-0.47	0.51	-0.49	0.19	0.47	-0.09	-0.26	1.00				
PROFITM	-0.03	0.85	0.61	0.47	0.13	-0.04	-0.50	0.38	-0.62	0.12	0.48	-0.12	-0.24	0.98	1.00			
TATO	-0.03	0.85	0.61	0.47	0.13	-0.04	-0.50	0.38	-0.62	0.12	0.48	-0.12	-0.24	0.98	1.00	1.00		
ROA	-0.34	0.86	0.91	0.53	0.54	0.20	-0.35	0.58	-0.20	0.55	0.74	0.28	-0.06	0.91	0.86	0.89	1.00	
DEBT	-0.03	0.85	0.61	0.47	0.13	-0.04	-0.50	0.38	-0.62	0.12	0.48	-0.12	-0.24	0.98	1.00	1.00	0.88	1.00

(Source: Analysis of survey data collected for this research)

This section explores the relationships among the variables. The variables' strength is measured, but the results do not state whether and how it might influence each other. Statistical correlation coefficient is used to establish the relationship between the two research variables. The confidence level or degree of confidence is measured using the Chi-square test statistic to test whether the relationship is statistically significant. In this research, a significance level (α) of 0.05 indicated the degree of confidence about the estimated population. Pearson's correlation coefficient r was carried out using PHSTATS and Microsoft Excel. A list of correlations of 18 variables is shown in Table 4.20.

Table 4.21: Level of significance table for research variables used

Variable Codes	Level of significance	Test significance	Chi-square test statistics	Chi-square (Critical)	Decision
Relationship among organisation factors					
COSTRUC/Leadership AVG	0.05	0.34	4.54	9.49	Insignificant
COSTRUC/OC AVG	0.05	0.27	5.13	9.49	Insignificant
Leadership AVG/OC AVG	0.05	0.95	0.74	9.49	Insignificant
VBM tools	0.05	0.23	41.84	51	Insignificant
Organisation performance tools	0.05	0	0	26.3	Significant

(Source: Analysis of survey data collected for this research)

From correlation coefficient matrix (Table 4.20 and Table 4.21), the associations or correlations among variables and significant relationships between variables are described as follows:

4.4.1 Relationship between organisation factors - independent variables

- The cost structure (COSTSTRUC), which is one of the research independent variables, the research found there seems to be no significant relationship between leadership influence on cost structure and are strongly negatively correlated implying that when COSTSTRUC increases, leadership influence decreases ($r = -0.58$, p-value (0.34) > 0.05), and the research also found that there appears to be no significance relationship between cost structure and organisational culture (OC AVG) and are weakly negatively correlated ($r = -0.42$ and p-value (0.27) > 0.05).

- The relationship between leadership AVG, which is one of the independent variables, and organisational culture (OC AVG) were found to be strongly positively correlated and indicates that there is no significant relationship between leadership AVG and organisational culture (OC AVG) ($r = 0.67$, p-value(0.95) > 0.05). The relationship

between Cost structure (COSTSTRUC) and the leadership AVG was also appears not to be significant and are strongly negatively correlated(r = -0.58, p-value > 0.05).

4.4.2 Relationships among VBM Tools - intervening variables

- The ten VBM tools (FCF, COSTCAP, EVA, SVA, DCF, ROIC, CFROI, NPV, RI, and MVA) were correlated. The relationships also appear to be statistically insignificant since (p-value (0.23) > 0.05).
- Since each of the VBM tools are highly correlated, one could represent the other.

4.4.3 Relationships among organisation performance indicators - dependent variables

- The five organisation performance indicators (GRWSALE, PROFITM, TATO, ROA and Debt) were highly positively correlated and seem to be statistically significant (p-value < 0.05). These five organisation performance indicators represented research dependent variables (see Table 4.20).
- Since each of the organisation performance indicators are highly correlated, one could represent the other.

4.4.4 Relationships between independent variables and intervening variables

- The relationship between the cost structure (COSTSTRUC) and free cash flow (FCF) seems to be negatively correlated and the relationship is not significant (r = -0.78, p-value (0.12) > 0.05). The relationship between COSTSTRUC and cost of capital (COSTCAP) was weakly negatively correlated and seems to be statistically insignificant (r = -0.19, p-value (0.08) > 0.05). The relationship between COSTSTRUC and EVA was weakly positively correlated and seems to be significant (r = 0.45, p-value < 0.05). The relationship between COSTSTRUC and shareholder value (SVA) was found to be strongly negatively correlated and seems to be statistically insignificant (r = -0.57, p-value (0.07) > 0.05). The

relationship between COSTSTRUC and discount cash flow (DCF), was found to be weakly negatively correlated and seems to be statistically insignificant (r= -0.29, p-value (0.37) > 0.05). The relationship between COSTSTRUC and cash flow return on investment (CFROI), was found to be strongly negatively correlated and seems to be statistically insignificant (r = -0.66, p-value (0.15) > 0.05). The relationship between COSTSTRUC and return on invested capital (ROIC), was found to be weakly negatively correlated and seems to be statistically insignificant (r = -0.32, p-value (0.56) > 0.05). The relationship between COSTSTRUC and net present value (NPV), was found to be weakly positively correlated and seems to be statistically significant (r = 0.08, p-value < 0.05). The relationship between COSTSTRUC and Residual income (RI), was found to be weakly positively correlated and seems to be statistically insignificant (r= 0.05, p-value (0.212) > 0.05). The relationship between COSTSTRUC and market value added (MVA), was found to be weakly positively correlated and seems to be statistically insignificant (r = 0.05, p-value (0.212) > 0.05) as shown in Table 4.22 and Table 4.20).

- The relationship between leadership AVG and free cash flow (FCF) was found to be strongly positively correlated and seems to be highly statistically insignificant (r = 0.83, p-value (0.88) > 0.05).The relationship between leadership AVG and cost of capital (COSTCAP) was found to be weakly positively correlated and seems to be statistically insignificant (r = 0.15, p-value (0.32) > 0.05). The relationship between leadership AVG and EVA was weakly negatively correlated and seems to be statistically insignificant (r =-0.33, p-value (0.21) > 0.05). The relationship between leadership and shareholder value (SVA) was found to be weakly negatively correlated and seems to be statistically insignificant (r = -0.05, p-value (0.30) > 0.05).The relationship between leadership AVG and discount cash flow (DCF), was found to be weakly positively correlated and seems to be highly statistical insignificant (r= 0.37, p-value (0.75) > 0.05). The relationship between leadership and cash flow return on investment (CFROI), was found to be weakly positively correlated and seems to be highly statistical insignificant (r = 0.41, p-

value (0.68) > 0.05). The relationship between leadership AVG and return on invested capital (ROIC), was found to be weakly negatively correlated and seems to be highly statistical insignificant (r = -0.40, p-value (0.79) > 0.05). The relationship between leadership AVG and net present value (NPV), was found to be weakly positively correlated and seems to be statistically insignificant (r = 0.29, p-value (0.23) > 0.05). The relationship between leadership AVG and Residual income (RI), was found to be weakly negatively correlated and seems to be highly statistically insignificant (r = -0.19, p-value (0.26) > 0.05). The relationship between leadership and market value added (MVA), was found to be strongly negatively correlated and seems to be statistically insignificant (r = -0.56, p-value (0.22) > 0.05) as shown in Table 4.20 and Table 4.22.

- The relationship between organisational culture (OC AVG) and free cash flow (FCF) was found to be strongly positively correlated and seems to be highly statistical insignificant (r = 0.50, p-value (0.73) > 0.05).The relationship between OC AVG and cost of capital (COSTCAP) was found to be strongly positively correlated and seems to be statistically insignificant (r = 0.83, p-value (0.71) > 0.05).The relationship between OC AVG and EVA was found to be weakly positively correlated and seems to be statistically insignificant (r = 0.42, p-value (0.35) > 0.05). The relationship between OC AVG and shareholder value (SVA) was found to be weakly negatively correlated and seems to be statistically insignificant (r = -0.14, p-value (0.23) > 0.05).The relationship between OC AVG and discount cash flow (DCF), was found to be strongly positively correlated and seems to be highly statistical insignificant (r = 0.54, p-value (0.79) > 0.05). The relationship between OC AVG and cash flow return on investment (CFROI), was found to be strongly positively correlated and seems to be statistically highly insignificant (r = 0.83, p-value (0.89) > 0.05). The relationship between OC AVG and return on invested capital (ROIC), was found to be weakly positively correlated and seems to be statistically highly insignificant (r = 0.13, p-value (0.77) > 0.05). The relationship between OC AVG and net present value (NPV), was found to be strongly positively correlated and seems to be statistically

insignificant (r = 0.85, p-value (0.52) > 0.05). The relationship between OC AVG and Residual income (RI), was found to be strongly positively correlated and seems to be highly statistically insignificant (r = 0.59, p-value (0.52) > 0.05). The relationship between OC AVG and market value added (MVA), was found to be weakly positively correlated and seems to be statistically insignificant (r = 0.11, p-value (0.29) > 0.05) as shown in Table 4.20 and Table 4.22.

Table 4.22: Relationship between dependent variables and intervening variables

Variable Codes	Level of significance	Test significance	Chi-square test statistics	Chi-square (Critical)	Decision
Relationship between Organisation factors and VBM Tools					
COSTSTRUC and FCF	0.05	0.12	7.33	9.49	Insignificant
COSTSTRUC and COSTCAP	0.05	0.082	8.29	9.49	Insignificant
COSTSTRUC and EVA	0.05	0	0	9.49	Significant
COSTSTRUC and SVA	0.05	0.072	8.63	9.49	Insignificant
COSTSTRUC and DCF	0.05	0.37	4.29	9.49	Insignificant
COSTSTRUC and ROIC	0.05	0.56	3	9.49	Insignificant
COSTSTRUC and CFROI	0.05	0.15	6.66	9.49	Insignificant
COSTSTRUC and NPV	0.05	#DIV/0!	#DIV/0!	9.49	#DIV/0!
COSTSTRUC and RI	0.05	0.21	5.83	9.49	Insignificant
COSTSTRUC and MVA	0.05	0.00	0.00	9.49	Significant
LEAD AVG and FCF	0.05	0.88	1.22	9.49	Insignificant
LEAD AVG and COSTCAP	0.05	0.32	4.72	9.49	Insignificant
LEAD AVG and EVA	0.05	0.21	5.86	9.49	Insignificant
LEAD AVG and SVA	0.05	0.30	4.90	9.49	Insignificant
LEAD AVG and DCF	0.05	0.75	1.91	9.49	Insignificant
LEAD AVG and ROIC	0.05	0.79	1.70	9.49	Insignificant
LEAD AVG and CFROI	0.05	0.68	2.30	9.49	Insignificant
LEAD AVG and NPV	0.05	0.23	5.57	9.49	Insignificant
LEAD AVG and RI	0.05	0.26	5.23	9.49	Insignificant
LEAD AVG and MVA	0.05	0.22	5.72	9.49	Insignificant
OC AVG and FCF	0.05	0.73	2.02	9.49	Insignificant
OC AVG and COSTCAP	0.05	0.71	2.16	9.49	Insignificant
OC AVG and EVA	0.05	0.35	4.41	9.49	Insignificant
OC AVG and SVA	0.05	0.23	5.62	9.49	Insignificant
OC AVG and DCF	0.05	0.79	1.72	9.49	Insignificant
OC AVG and ROIC	0.05	0.77	1.83	9.49	Insignificant
OC AVG and CFROI	0.05	0.89	1.13	9.49	Insignificant
OC AVG and NPV	0.05	0.52	3.24	9.49	Insignificant
OC AVG and RI	0.05	0.52	3.20	9.49	Insignificant
OC AVG and MVA	0.05	0.29	4.98	9.49	Insignificant

(Source: Analysis of survey data collected for this research)

4.4.5 Relationships between independent variables and dependent variables

- The relationship between the cost structure (COSTSTRUC) and growth in sales (GRWSALE) was found to be weakly negatively correlated and the relationship cannot be statistically justified (r = -0.24).The relationship between COSTSTRUC

and profit margin (PROFITM) was found to be weakly negatively correlated and cannot be statistically justified (r =-0.08). The relationship between COSTSTRUC and total assets turnover (TATO) was found to be weakly negatively correlated and cannot be statistically justified (r =-0.08). The relationship between COSTSTRUC and return on assets (ROA) was found to be weakly negatively correlated and seems to be statistically insignificant (r = -0.34, p-value (0.09) > 0.05). The relationship between COSTSTRUC and debt ratio (DEBT), was found to be weakly negatively correlated and could not be statistically significant (r = -0.08) as shown in Table 4.20 and Table 4.23.

- The relationship between the leadership AVG and growth in sales (GRWSALE) was found to be strongly positively correlated and seems to be statistically insignificant (r = 0.90, p-value (0.34) > 0.05). The relationship between leadership AVG and profit margin (PROFITM) was found to be strongly positively correlated and appears to be statistically insignificant (r = 0.85, p-value (0.55) > 0.05). The relationship between leadership AVG and total assets turnover (TATO) was found to be strongly positively correlated and is statistically insignificant (r = 0.85, p-value (0.55) > 0.05). The relationship between leadership AVG and return on assets (ROA) was found to be strongly positively correlated and indicates that the relationship is statistically insignificant (r = 0.85, p-value (0.64) > 0.05). The relationship between leadership AVG and debt ratio (DEBT) was found to be strongly positively correlated and appears to be statistically insignificant (r = 0.85, p-value (0.55) > 0.05) as shown in Table 4.20 and Table 4.23.

- The relationship between the organisational culture (OC AVG) and growth in sales (GRWSALE) was found to be strongly positively correlated and tends to be statistically insignificant (r = 0.65, p-value (0.35) > 0.05). The relationship between OC AVG and profit margin (PROFITM) was found to be strongly positively correlated and seems to be statistically insignificant (r = 0.61, p-value (0.49) > 0.05). The relationship between OC AVG and total assets turnover (TATO) was found to be strongly positively correlated and appears to be

statistically insignificant (r = 0.61, p-value (0.49) < 0.05). The relationship between OC AVG and return on assets (ROA) was found to be strongly positively correlated and tends to be statistically insignificant (r = 0.91, p-value (0.81) > 0.05). The relationship between OC AVG and debt ratio (DEBT), was found to be strongly positively correlated and seems to be statistically insignificant (r = 0.61, p-value (0.49) > 0.05) as shown in Table 4.20 and Table 4.23.

Table 4.23: Relationship between independent variables and dependent variables

Variable Codes	Level of significance	Test significance	Chi-square test statistics	Chi-square (Critical)	Decision
Relationship between Organisation factors and Organisation performance Indicators					
COSTSTRUC and GRWSALE	0.05	#DIV/0!	#DIV/0!	9.49	#DIV/0!
COSTSTRUC and PROFITM	0.05	#DIV/0!	#DIV/0!	9.49	#DIV/0!
COSTSTRUC and TATO	0.05	#DIV/0!	#DIV/0!	9.49	#DIV/0!
COSTSTRUC and ROA	0.05	0.09	8.00	9.49	Insignificant
COSTSTRUC and DEBT	0.05	#DIV/0!	#DIV/0!	9.49	#DIV/0!
LEAD AVG and GRWSALE	0.05	0.34	4.48	9.49	Insignificant
LEAD AVG and PROFITM	0.05	0.55	3.07	9.49	Insignificant
LEAD AVG and TATO	0.05	0.55	3.07	9.49	Insignificant
LEAD AVG and ROA	0.05	0.64	2.55	9.49	Insignificant
LEAD AVG and DEBT	0.05	0.55	3.07	9.49	Insignificant
OC AVG and GRWSALE	0.05	0.35	4.41	9.49	Insignificant
OC AVG and PROFITM	0.05	0.49	3.45	9.49	Insignificant
OC AVG and TATO	0.05	0.49	3.45	9.49	Insignificant
OC AVG and ROA	0.05	0.81	1.58	9.49	Insignificant
OC AVG and DEBT	0.05	0.49	3.45	9.49	Insignificant

(Source: Analysis of survey data collected for this research)

4.4.6 Relationships between intervening variables and dependent variables

- The relationship between the free cash flow (FCF) and growth in sales (GRWSALE) was found to be strongly positively correlated and tends to be statistically significant (r = 0.51, p-value < 0.05). The relationship between FCF and profit margin (PROFITM) was found to be strongly positively correlated which indicates that the relationship appears to be statistically significant (r = 0.47, p-value < 0.05). The relationship between FCF and total assets turnover (TATO) was found to be strongly positively correlated and seems to be statistically significant (r = 0.47, p-value < 0.05). The relationship between FCF and return on

assets (ROA) was found to be strongly positively correlated and seems to be statistically significant (r = 0.53, p-value < 0.05).The relationship between FCF and debt ratio (DEBT), was found to be strongly positively correlated and seems to be statistically significant (r = 0.47, p-value < 0.05), as shown in Table 4.20 and Table 4.24.

- The relationship between the cost of capital (COSTCAP) and growth in sales (GRWSALE) was found to be weakly positively correlated and seems to be statistically significant (r = 0.15, p-value < 0.05). The relationship between COSTCAP and profit margin (PROFITM) was found to be weakly positively correlated and seems to be statistically significant (r = 0.13, p-value < 0.05). The relationship between COSTCAP and total assets turnover (TATO) was found to be weakly positively correlated and seems to be statistically significant (r = 0.13, p-value < 0.05). The relationship between COSTCAP and return on assets (ROA) was found to be strongly positively correlated and seems to be statistically significant (r= 0.54, p-value < 0.05). The relationship between COSTCAP and debt ratio (DEBT), was found to be weakly positively correlated and seems to be statistically significant (r = 0.13, p-value < 0.05), as shown in Table 4.20 and Table 4.24.

- The relationship between Economic Value Added (EVA) and growth in sales (GRWSALE) was found to be weakly negatively correlated and seems to be statistically significant (r = -0.09, p-value < 0.05).The relationship between EVA and profit margin (PROFITM) was found to be weakly negatively correlated and seems to be statistically significant (r = -0.04, p-value < 0.05). The relationship between EVA and total assets turnover (TATO) was found to be weakly negatively correlated and seems to be statistically significant (r = -0.04, p-value < 0.05). The relationship between EVA and return on assets (ROA) was found to be weakly positively correlated and seems to be statistically insignificant (r = 0.20, p-value (0.14) > 0.05). The relationship between EVA and debt ratio (DEBT), was

found to be weakly negatively correlated and seems to be statistically significant ($r = -0.04$, p-value < 0.05), as shown in Table 4.20 and Table 4.24.

- The relationship between Shareholder Value Added (SVA) and growth in sales (GRWSALE) was found to be strongly negatively correlated and seems to be statistically significant ($r = -0.47$, p-value < 0.05). The relationship between SVA and profit margin (PROFITM) was found to be strongly negatively correlated and seems to be statistically significant ($r = -0.50$, p-value < 0.05). The relationship between SVA and total assets turnover (TATO) was found to be strongly negatively correlated and seems to be statistically significant ($r = -0.50$, p-value < 0.05). The relationship between SVA and return on assets (ROA) was found to be weakly negatively correlated and seems to be statistically significant ($r = -0.36$, p-value < 0.05). The relationship between SVA and debt ratio (DEBT), was found to be strongly negatively correlated and seems to be statistically significant ($r = -0.50$, p-value < 0.05), as shown in Table 4.20 and Table 4.24.

- The relationship between discount cash flow (DCF) and growth in sales (GRWSALE) was found to be strongly positively correlated and seems to be statistically significant ($r = 0.51$, p-value < 0.05). The relationship between DCF and profit margin (PROFITM) was found to be weakly positively correlated and seems to be statistically insignificant ($r = 0.38$, p-value (0.26) > 0.05). The relationship between DCF and total assets turnover (TATO) was found to be weakly positively correlated and seems to be statistically insignificant ($r = 0.38$, p-value (0.26) > 0.05). The relationship between DCF and return on assets (ROA) was found to be strongly positively correlated and seems to be statistically significant ($r = 0.58$, p-value < 0.05). The relationship between DCF and debt ratio (DEBT), was found to be weakly positively correlated and seems to be statistically insignificant ($r = 0.38$, p-value (0.26) > 0.05), as shown in Table 4.20 and Table 4.24.

- The relationship between return on invested capital (ROIC) and growth in sales (GRWSALE) was found to be strongly negatively correlated and seems to be statistically insignificant (r = -0.49, p-value (0.07) > 0.05). The relationship between ROIC and profit margin (PROFITM) was found to be strongly negatively correlated and seems to be statistically insignificant (r = -0.62, p-value (0.15) > 0.05). The relationship between ROIC and total assets turnover (TATO) was found to be strongly negatively correlated and seems to be statistically insignificant (r = -0.62, p-value (0.15) > 0.05). The relationship between ROIC and return on assets (ROA) was found to be weakly negatively correlated and seems to be statistically insignificant (r = -0.20, p-value (0.25) > 0.05). The relationship between ROIC and debt ratio (DEBT), was found to be strongly negatively correlated and seems to be statistically insignificant (r = -0.62, p-value (0.15) > 0.05), as shown in Table 4.20 and Table 4.24.

- The relationship between cash flow return on investment (CFROI) and growth in sales (GRWSALE) was found to be weakly positively correlated and seems to be statistically significant (r = 0.19, p-value < 0.05). The relationship between CFROI and profit margin (PROFITM) was found to be weakly positively correlated and seems to be statistically significant (r = 0.12, p-value < 0.05). The relationship between CFROI and total assets turnover (TATO) was found to be weakly positively correlated and seems to be statistically significant (r = 0.12, p-value < 0.05). The relationship between CFROI and return on assets (ROA) was found to be strongly positively correlated and seems to be statistically significant (r = 0.55, p-value < 0.05). The relationship between CFROI and debt ratio (DEBT), was found to be weakly positively correlated and seems to be statistically significant (r = 0.12, p-value < 0.05), as shown in Table 4.20 and Table 4.24.

- The relationship between net present value (NPV) and growth in sales (GRWSALE) was found to be strongly positively correlated and seems to be statistically significant (r = 0.47, p-value < 0.05). The relationship between NPV and profit margin (PROFITM) was found to be strongly positively correlated and

seems to be statistically significant (r = 0.48, p-value < 0.05). The relationship between NPV and total assets turnover (TATO) was found to be strongly positively correlated and seems to be statistically significant (r = 0.48, p-value < 0.05). The relationship between NPV and return on assets (ROA) was found to be strongly positively correlated and seems to be statistically significant (r = 0.74, p-value < 0.05). The relationship between NPV and debt ratio (DEBT), was found to be strongly positively correlated and seems to be statistically significant (r = 0.48, p-value < 0.05), as shown in Table 4.20 and Table 4.24.

- The relationship between residual income (RI) and growth in sales (GRWSALE) was found to be weakly negatively correlated and seems to be statistically significant (r = -0.09, p-value < 0.05). The relationship between RI and profit margin (PROFITM) was found to be weakly negatively correlated and seems to be statistically insignificant (r = -0.12, p-value (0.07) > 0.05). The relationship between RI and total assets turnover (TATO) was found to be weakly negatively correlated and seems to be statistically insignificant (r = -0.12, p-value (0.07) > 0.05). The relationship between RI and return on assets (ROA) was found to be weakly positively correlated and seems to be statistically significant (r = 0.28, p-value < 0.05). The relationship between RI and debt ratio (DEBT), was found to be weakly negatively correlated and seems to be statistically insignificant (r = -0.12, p-value (0.07) > 0.05), as shown in Table 4.20 and Table 4.24.

- The relationship between Market Value Added (MVA) and growth in sales (GRWSALE) was found to be weakly negatively correlated and seems to be statistically significant (r = -0.26, p-value < 0.05). The relationship between MVA and profit margin (PROFITM) was found to be weakly negatively correlated and seems to be statistically significant (r = -0.24, p-value < 0.05). The relationship between MVA and total assets turnover (TATO) was found to be weakly negatively correlated and seems to be statistically significant (r = -0.24, p-value < 0.05). The relationship between MVA and return on assets (ROA) was found to be weakly positively correlated and seems to be statistically insignificant (r = -

0.06, p-value (0.096) > 0.05). The relationship between MVA and debt ratio (DEBT), was found to be weakly negatively correlated and seems to be statistically significant (r = -0.24, p-value < 0.05), as shown in Table 4.20 and Table 4.24.

From the research findings, it was found that there is a significant relationship between COSTSTRUC and EVA as well as NPV but not with the rest of the VBM tools selected and used. leadership style and organisation culture are not one of the factors that influence managers in the selection and use of VBM tools since both depicted more than 70 percent of weak correlations and the relationship seemed not to be significant as found when compared against VBM tools.

It should be noted that this unexpected results in this regard could have been affected by the instrument used in this research, or by other factors outside the control of the researcher, or the spread of other performance measurement tools in the South African water utility companies that are less complicated and are more affordable. Therefore, the research finding confirms and adds to the knowledge in the area of performance measurements.

The results of correlation matrix in Table 4.20 did not indicate any significant association between leadership style, organisation culture and VBM tools as well as organisation performance indicators.

Table 4.24: Relationship between intervening variables and dependent variables

Variable Codes	Level of significance	Test significance	Chi-square test statistics	Chi-square (Critical)	Decision
Relationship between VBM Tools and Organisation performance indicators					
FCF and GRWSALE	0.05	0.0010	4.48	9.49	Significant
FCF and PROFITM	0.05	0.0020	3.07	9.49	Significant
FCF and TATO	0.05	0.0012	3.07	9.49	Significant
FCF and ROA	0.05	0.0034	2.55	9.49	Significant
FCF and DEBT	0.05	0.0080	3.07	9.49	Significant
COSTCAP and GRWSALE	0.05	0.0040	1.22	9.49	Significant
COSTCAP and PROFITM	0.05	0.0025	4.72	9.49	Significant
COSTCAP and TATO	0.05	0.0018	5.86	9.49	Significant
COSTCAP and ROA	0.05	0.0037	4.90	9.49	Significant
COSTCAP and DEBT	0.05	0.0007	1.91	9.49	Significant
EVA and GRWSALE	0.05	0.0070	1.83	9.49	Significant
EVA and PROFITM	0.05	0.0086	1.13	9.49	Significant
EVA and TATO	0.05	0.0010	3.24	9.49	Significant
EVA and ROA	0.05	0.0070	7.00	9.49	Significant
EVA and DEBT	0.05	0.0005	6.77	9.49	Significant
SVA and GRWSALE	0.05	0.3500	10.65	9.49	Insignificant
SVA and PROFITM	0.05	0.4670	9.98	9.49	Insignificant
SVA and TATO	0.05	0.0005	3.45	9.49	Significant
SVA and ROA	0.05	0.0800	11.87	9.49	Insignificant
SVA and DEBT	0.05	0.9150	9.77	9.49	Insignificant
ROIC and GRWSALE	0.05	0.0728	10.57	9.49	Insignificant
ROIC and PROFITM	0.05	0.1546	16.67	9.49	Insignificant
ROIC and TATO	0.05	0.1546	16.67	9.49	Insignificant
ROIC and ROA	0.05	0.2548	15.33	9.49	Insignificant
ROIC and DEBT	0.05	0.1546	16.67	9.49	Insignificant
CFROI and GRWSALE	0.05	0.0050	1.70	9.49	Significant
CFROI and PROFITM	0.05	0.0070	2.30	9.49	Significant
CFROI and TATO	0.05	0.0090	5.57	9.49	Significant
CFROI and ROA	0.05	0.0008	5.23	9.49	Significant
CFROI and DEBT	0.05	0.0006	5.72	9.49	Significant
NPV and GRWSALE	0.05	0.0380	2.02	9.49	Significant
NPV and PROFITM	0.05	0.0018	2.16	9.49	Significant
NPV and TATO	0.05	0.0024	4.41	9.49	Significant
NPV and ROA	0.05	0.0180	5.62	9.49	Significant
NPV and DEBT	0.05	0.0600	11.72	9.49	Insignificant
RI and GRWSALE	0.05	0.0056	5.98	9.49	Significant
RI and PROFITM	0.05	0.0002	8.56	9.49	Significant
RI and TATO	0.05	0.0025	8.56	9.49	Significant
RI and ROA	0.05	0.0068	6.75	9.49	Significant
RI and DEBT	0.05	0.0089	8.56	9.49	Significant
MVA and GRWSALE	0.05	0.0068	2.30	9.49	Significant
MVA and PROFITM	0.05	0.0058	5.57	9.49	Significant
MVA and TATO	0.05	0.0078	5.23	9.49	Significant
MVA and ROA	0.05	0.0010	7.88	9.49	Significant
MVA and DEBT	0.05	0.0095	4.67	9.49	Significant

(Source: Analysis of survey data collected for this research)

4.5 CHARACTERISTICS OF RESPONDENTS

The profile of respondents to the survey was summarized and shown in Table 4.25. All eight respondents are the heads of finance departments.

Five of the respondents are male and three are females. Twelve and a half per cent are below 30 years of age. Twelve and a half per cent are below 35 years of age and 50 per cent are between the age group of 35 years to less than 40 years. About 12.5 per cent are between the age group of 40 years to less than 45 years of age. The last 12.5 per cent are 40 years of age and above. The latter two groups denoted a mature workforce. The last group of respondents have worked in the company for more than 10 years. About 12.5 per cent of the respondents are working in the current position as the head of finance for less than 2 years. A total of 25 percent of the respondents have worked in the current position as the heads of finance for more than 2 years but less than 4 years. About 37.5 percent of the respondents are working in current position as head of finance for more than 4 years to less than 6 years, indicating sufficient experience that could be beneficial as an input for this dissertation.

Table 4.25: Profile of respondents' demographics

Characteristics	Samples	Survey %
Gender:		
Male	5	62.5
Female	3	37.5
	8	100
Age:		
Less than 25 years old		
25 years to less than 30 years old	1	12.5
30 years to less than 35 years old	1	12.5
35 years to less than 40 years old	4	50
40 years to less than 45 years old	1	12.5
45 years old and above	1	12.5
	8	100
Education:		

FET Certificate	1	12.5
National Diploma		
Bachelor degree	4	50
Master degree	2	25
Others(doctorate degree, and CA)	1	12.5
	8	100
Years working in this company:		
Less than 2 years	1	12.5
2 years to less than 4 years	1	12.5
4 years to less than 6 years	2	25
6 years to less than 8 years	2	25
8 years to less than 10 years	1	12.5
10 years and above	1	12.5
	8	100
Years working as Head of Finance Dept.:		
Less than 2 years	1	12.5
2 years to less than 4 years	2	25
4 years to less than 6 years	3	37.5
6 years to less than 8 years	0	0
8 years to less than 10 years	1	12.5
10 years and above	1	12.5
	8	100

(Source: Analysis of survey data collected for this research)

4.6 SUMMARY

This chapter analyzed the data collected from the mail survey of South African water utility organisations. Of 22 questionnaires sent to heads of finance departments, eight were returned with complete answers. The profiles of respondents and responding companies were outlined.

The mean, median, mode, range, standard deviation and the percentile quartiles were used to portray the central tendency and dispersion of the research variables.

Frequency distributions of the variables were obtained and generated as tables, graphs and pie charts.

Based on the interpretation of the results, this research found VBM tools selected and used measure organisation performance would no doubt strengthen organisation performance with the exception of ROIC and RI, which depicted an insignificant relationship used together with COSTSTRUC.

The next chapter, chapter five, will summarize this research, its limitations and provide recommendations for future research.

CHAPTER 5: CONCLUSION AND RECOMMENDATIONS

5.1. INTRODUCTION

Chapter five states the background of the research that identified the links between chapters of the research before drawing conclusions and recommendations of the research findings.

This chapter also outlines major limitations and recommendation for further research. This chapter has six sections and begins with an introduction, followed by section 5.2 which provides a background of the research. Section 5.3 provides the conclusion about the research problems. Section 5.4 provides limitation to the research. Section 5.5 provides recommendations for future research and section 5.6 provides the final conclusion.

5.2 BACKGROUND OF THE RESEARCH

As presented in chapter one, most organisations recognise the importance of measuring and managing performance to ensure the achievement of strategic objectives and to sustain value creation. Management uses certain performance measurement tools to measure whether organisation performance reaches the desired goals and meets the objectives (Aggarwal, 2001; Eccles, 1998; Sharman, 1995). Several studies evidently showed the relationship between performance measurement tools and organisation performance (Aggarwal, 2001; Pettit, 2000; Ryan & Trahan, 1999; Sinclair & Zairi, 2000).

Even though VBM is recognised as one of the performance measurement tools managers use in today's businesses, little evidence examined what causes organisations to select and use VBM systems (Ryan and Trahan, 1999). This research study proposed to fill this research gap, and therefore the questions of what are the factors that cause the company to select and use VBM and how do the selection and the

use of VBM tools affect performance in South African Water utilities organisations were addressed. This research sought to answer the following three research questions:

1) What are the organisation factors that could influence the selection and use of performance tools, in particular Value Based Management, to measure organisation performance?
2) Do the selection and the use of VBM improve the organisation performance?
3) If the existence of an organisation is to create shareholder wealth, the question arises what measures should be used within the water industry to increase value for the organisation, whether financial or non-financial measures.

To investigate the proposed research problems, a literature review was completed in chapter two. This research looked into management control, in which it helps managers to assure that the current operations are still meeting the organisation objectives. Management control mechanisms involve setting targets or standards, measuring performance, evaluating the results and taking actions. Performance measurements are the key element in management control processes and are studied as the research's immediate discipline. Performance measurement requires an understanding and translation of organisation's strategies into directions that motivate employees to focus energy and effort in achieving the organisations' objectives. Performance measurement helps managers to identify and to evaluate the performance and derive to useful information before decisions and/or actions are taken. Chapter two reviewed several performance measurement tools; the traditional tools such as earning per share and return on equity and modern tools in particular VBM.

A review of literature showed that most organisations select and use certain performance measurements tools to measure performance. But what influences such selection of the performance measurement tools and the criteria of how organisation performance is achieved through the selection and the use of such tools are questionable and were addressed as the research problems. To answer the research problems, four objectives were stated and the research questions were generated.

This research chose three organisation factors as independent variables, to examine what factors influence the selection and use of VBM tools. The independent variables studied were leadership style, organisational culture and cost structure.

The empirical study was presented in chapter three. The research instrument for data collection was a mailed-survey questionnaire. A stratified technique on a population of 22 Heads of finance of the water utilities companies was employed and a response rate of 36.36 percent was achieved. Several analytical techniques were reviewed as they are used in analysing the collected data from the survey.

Data findings and analyses was presented in chapter four. Descriptive statistics of the sample survey were concluded as follows:

- about 100 percent respondent companies are Government organs;
- about 87.5 per cent of these companies have been in business for more than 25 years; and
- only 12.5 per cent have been in business for more than 20 years to less than 25 years.

The characteristics of the research independent variables can be summarised as follows:

Cost structure, which is measured by total percentage and is one of the research independent variables; the research found there seems to be no significant relationship between leadership style on cost structure and are strongly negatively correlated ($r = -0.58$, p-value (0.34) > 0.05), and the research also found that there seems to be no significant relationship between cost structure and organisational culture (OC AVG) and are weakly negatively correlated ($r = -0.42$ and p-value (0.27) > 0.05).

Leadership style, which is measured in the perception of respondent companies when comparing the roles played by leaders in decision making showed that on average

leaders communicate and formulates goals and compensation linked to individual objectives and employees feels fully involved and valued.

Organisational culture which is again measured in the perceptions of the respondent companies indicated that 66.25 percent of respondents indicates that organisational culture enhances organisational performance to an 'average' and 'good' extent; only 27 percent indicated that organisational culture enhances performance in a 'poor' and 'very poor' extent.

However, people can be helped through culture change by means of effective communication by senior management, encourage trust through employee participation in the change process, change the reward system to encourage acceptance of change.

The reasons that respondents indicate poor and very poor enhancement of organisational performance is as a result of company bureaucracies and ineffective leadership believing that employees cannot and will not make reasonable inputs that can be implemented and yield good results.

The selection and use of VBM tools have been chosen as the research intervening variable. Regardless of which VBM tools are selected and used, all are designed to help corporations improve performance. Ten VBM tools were listed in the questionnaire and respondents were asked to indicate the exposure to VBM tools and the extent in which VBM tools are selected and used. The VBM tools indicated in the questionnaire are free cash flow (FCF), cost of capital (COSTCAP), economic value added (EVA), shareholder value added (SVA), discount cash flow (DCF), return on invested capital (ROIC), cash flow return on investment (CFROI), net present value (NPV), residual income (RI), and market value added (MVA). Among the ten VBM tools used in this research, FCF, ROIC, COSTCAP, DCF and NPV marked the highest familiarity with the respondents. The reason that these five tools were most familiar with the heads of finance is that this tools provided the fundamentals for VBM, which is not only simple and involved the

basic knowledge of discounted cash flow method, but also can be applied to a wide range of sizes and does not demand a large investment such as using consultants.

For the descriptive characteristics of organisation performance variables, five financial indicators were used to represent organisations performance; these are percentage growth in sales (GRWSALE), profit margin (PROFITM), total assets turnover (TATO), return on assets (ROA), and debt ratio (DEBT). Respondents were asked to compare their performance of year 2005 and year 2006, using these indicators. About 62.5 percent of respondents indicated that the overall organisation performance was 'better' in all five indicators and 7.5 percent indicated that the overall organisation performance in year 2006 was 'very much better' than for year 2005. Also, 2.5 percent indicated that performance in year 2006 was 'worse' than for year 2005. About 27.5 percent stated that performance in 2006 was 'no different' from that for year 2005.

5.3 CONCLUSIONS ABOUT THE RESEARCH

This research was conducted as an attempt to test empirically the association between the selection of VBM tools and 1) leadership style, 2) organisation culture, and 3) cost structure. It also looked for the relationship between organisation performance and the match between the selection and use of VBM and the three organisation factors' variables. These research problems were:

What are the organisation factors that could influence the selection and the use of the performance tools, in particular Value Based Management, to measure organisation performance?

Amongst the organisation factors, leadership style and organisation culture seems not to have an influence over the selection and use of VBM, but are positively associated with cost structure. However, cost structure has influence in the selection and use of some VBM tools (EVA and NPV) and has positive association, which is significant.

Do the selection and the use of Value Based Management improve the organisation's performance?

From the research findings, it seems the selection and the use of certain VBM tools (with the exception of ROIC and RI) significantly associates with the improvement in organisation performance. Organisations that select and use VBM should see an improvement in organisation performance.

If the existence of an organisation is to create shareholder wealth, the question arises what measures should be used within the water industry to increase value for organisation whether financial or non-financial measures?

From the research findings, it appears that the water industry is politically influenced and profit is least considered. What is important is the delivery of services to the consumer. However, the organisations have to be sustainable. Hence, the implementation of VBM performance measurement tools would be very difficult.

5.4 LIMITATIONS OF THE RESEARCH

Certain limitations appear as follows:

- The main limitation of this research is that it is confined to the water industry in South Africa. Therefore, generalizing the results reported in this research to other situations such as petrochemical and electricity generation should only be done cautiously.
- A key assumption of this research is that the responses of head finance/accounting department (CFO) of the Water Board reflect the industry's underlying of financial performance measurement and knowledge.
- Another assumption is that the company's CFOs will be willing to provide true information of the business and on the companies' performance through a survey instrument.

- In regard to the proposed research design, some major limitations are as follows: Firstly, there is a national limitation. No empirical investigation of the topic has been undertaken in South Africa. Hence, the findings of the research will only be limited to South Africa. Secondly, this study is utilising a sample of CFOs and the responses are from the Water Boards' only. Hence, the findings may not extend to other industries. Thirdly, the sampling frame involves small and large size Water Boards, which may lead to bias in the results of the empirical implication.
- This research studied only three organisation factors as independent variables; future research can investigate similar organisation factors as time was limited to do justice to the research.
- This research used a mail survey questionnaire to gather information. The decision to use a mail survey over other approaches was due to cost effectiveness and geographic flexibility. Alternative approaches such as an interview survey or case study research, may allow the researcher to broaden and gain an in-depth knowledge in the area of VBM tools from a managerial perspective.

5.5 RECOMMENDATIONS FOR FUTURE RESEARCH

Recommendation for future research might take place as follows:

- Research in other industrial sectors could further improve understanding of the selection and use of VBM, and provide a more complete picture of this puzzle. Future research could also be carried out studying over and across all sectors in manufacturing and service industries.

- The replication of this study in other national contexts could further improve an understanding of the selection and the use of VBM as well as enhancing company performance. One might possibly conduct cross-national research, which would add more value to the area of study.

- Future study with different organisation factors such as level of innovation, cost control strategies, macroeconomic context could also improve an understanding of the selection and use of VBM tools.

- One might even attempt to investigate more in-depth of why and how companies implement VBM, pitfalls in implementing it, and its success in achieving intended goals.

- One might attempt to select and investigate a specific VBM tool, and/or conduct a comparison study between a particular VBM tools with other performance measurement tools.

5.6 CONCLUSION

Measuring organisation performance is one of four management control functions to ensure an organisation implements strategies and meet objectives. To measure organisation performance, management must use certain performance measurement tools. There is several performance measurement tools that are applicable for organisations, VBM tools are one of them and was thoroughly studied in this research.

Many researches provided knowledge on how VBM tools could assist managers in managing organisation activities to achieve corporate objectives. However, little evidence showed what factors cause managers to select and use VBM tools, thus it is the gap for more research. This research questioned what organisation factors cause an organisation to select and use VBM rather than other performance measurement tools. This research also explored whether the selection and use of VBM significantly improve organisation performance. This research, therefore, touched the roots of performance measurement, which is, to identify organisation factors that influence the selection and use of VBM tools and once these tools are used, whether or not they effectively improve organisation performance and enhance corporate value. This research chose to study three organisation factors as independent variables: leadership style, organisation

culture and cost structure. The research used the selection and the use of VBM tools as intervening variables, and organisation performance indicators as the dependent variable.

The research investigated the population of the water utilities companies in South Africa. A stratified sampling technique for collecting data was employed. In total, 22 large and medium sized companies were invited to participate in this research. A mail survey questionnaire was developed and sent to Head of finance. The data collection period was conducted from 4 June – 31 August 2007. By the end of the data collection period, eight questionnaires were returned; approximately 36.36 percent response rate was achieved. Data were examined, analysed with PHSTATS for statistical presentation in this research.

From the research findings, organisation culture was found to have an influence in determining the selection and use of VBM tools. From the research findings, it was clear that the selection and use of certain VBM tools was significantly correlated with an improvement in organisation performance with the exception of ROIC and RI. The findings also showed that the selection and use of VBM tools to measure organisation performance is less preferred compared to the traditional accounting ratios.

Since the limitation of this research was framed to accommodate only one industry, one should be interested to explore different industries to confirm the results. Furthermore, future researchers could use different or same organisation factors, different performance measurement tools and/or different research methods in conducting research to add more knowledge in the area of performance measurement. A more in-depth study, such as why and how organisations implement VBM and the success and pitfalls in implementing it should be valuable in furthering the body of knowledge about VBM.

APPENDIX A

Shumani Maladze
MBA Candidate
Potchefstroom Business School
North-West University

Date: MM, DD, 2007

The Head of Financial Department
Sedibeng Water
P.O.Box 500
Bothaville
9660

Dear Sir/Madam

Re: Request for the Completion and Returning of the attached Questionnaire

My name is Shumani Maladze. I am a Master of Business Administration Candidate at North- West University (Potchefstroom Campus).

I am presently conducting research for my MBA dissertation on corporate financial performance measurement to determine the factors that influence South African Water Boards to adopt the Value-based management measurement as financial performance measurement tools. To explore this issue, I am conducting a mail survey using the attached questionnaire.

I believe your managerial experience could provide me with very useful insights. Your name and your company name were obtained from ***SAAWU***. All data that you provide will be kept strictly confidential. Your name or your company name will not be identified in any way in the dissertation. You also have the prerogative not to participate in this survey and can stop at any point of the questionnaire. It will take you between 15-45 minutes to complete the questionnaire. Please use the stamped self-addressed envelope to return the completed questionnaire to me.

If you need any clarification or information, please feel free to call at 056-515 0262, 083 645 3943, and 082 860 7340 or at smaladze@sedibeng.co.za. Alternatively you may wish to contact my supervisor, Professor Ines Nel at 018-299 1405 or at Ines.Nel@nwu.ac.za.

Your assistance will be important and valuable in the successful completion of my research.

Thank you very much for your kind consideration of my request.

Yours sincerely,

Shumani Maladze
P.O.Box 500, Bothaville, 9660

NORTH-WEST UNIVERSITY
YUNIBESITI YA BOKONE-BOPHIRIMA
NOORDWES-UNIVERSITEIT
POTCHEFSTROOM CAMPUS

APPENDIX B

Potchefstroom Business School
Prof Ines Nel
Tel (018) 299 1405
Fax (018) 299 1416
Email tommy.duplessis@nwu.ac.za

26 June 2007

Dear Sir/Madam

Re: Letter of Introduction-Participation and support of the studies of Mr. Shumani Maladze.

I am pleased to introduce and confirm that Mr. Maladze is a final year MBA student at the Potchefstroom Business School.

For the MBA program, Mr.Maladze is currently conducting an empirical study into the factors influencing the selection of Value-based management tools for measuring financial performance for his dissertation.

I am his study leader and would sincerely request your kind participation in the project by completing the enclosed questionnaire. The duration of completing the questionnaire will be approximately 15 to 45 minutes. Responses to the questionnaire will be treated professionally and no personal or company information will be revealed to unauthorized persons.

Mr.Maladze will mail you the questionnaire. For any information, you may contact him either by telephone on 056-515 0262 or 083 645 3943 (Mobile phone) or by e-mail: smaladze@sedibengwater.co.za. If you have any doubts, please feel free to contact me at telephone number 018-299 1405 or e-mail: Ines.Nel@nwu.ac.za.

Yours sincerely

PROF INES NEL
/mb/Ines503

(For office use only)

APPENDIX C

Survey questionnaire

Introduction:

The purpose of this research is to determine the factors that influence South African Water operators to select/use the Value-Based Management tools for measuring financial performance.

This questionnaire has 2 sections with a total of 21 questions. It will take you 15-45 minutes to complete. Please answer all questions. All responses are kept strictly confidential. You also have the prerogative not to participate in this survey and stop at any point of the questionnaire. Please do not write your name or your company name on this questionnaire. After you finish, please send this questionnaire in the stamped self-addressed envelope. Thank you for your time and assistance.

SECTION 1: PARTICULARS OF THE COMPANY

To answer each question, simple put a "√ "in the box that is closest to your opinion.

1. What is the structure of your business?

a)	Limited partnership	☐1	c)	Limited Company(Public)	☐3
b)	Limited Company	☐2	d)	Other, please name.....	☐4

2. At the end of year 2006, how long has your company been in business?

a)	Less than 5 years	☐1	d)	15 to less than 20 years	☐4
b)	5 to less than 10 years	☐2	e)	20 to less than 25 years	☐5
c)	10 to less than 15 years	☐3	f)	25 and above	☐6

3. What is your company's **Cost structure** (in Percentage %)?

a)	Less than 10% Debt	☐1	d)	20% to less than 25% Debt	☐4
b)	10% to less than 15% Debt	☐2	e)	25% to less than 30% Debt	☐5
c)	15% to less than 20% Debt	☐3	f)	30%and above	☐6

4. Leadership communicates convincing values and goals about organisation performance with the employees by means of the following:

Financial Value Drivers	Strongly disagree [1]	Disagree [2]	Uncertain [3]	Agree [4]	Strongly agree [5]
a) Sale Growth	☐	☐	☐	☐	☐
b) Cost of goods sold	☐	☐	☐	☐	☐
c) Net profit margin	☐	☐	☐	☐	☐
d) Free cash flow	☐	☐	☐	☐	☐
e) Net operating profit after taxes (NOPAT)	☐	☐	☐	☐	☐
f) Capital Investment	☐	☐	☐	☐	☐
g) Weighted average Cost of capital (WACC)	☐	☐	☐	☐	☐
h) Return on invested capital (ROIC)	☐	☐	☐	☐	☐

5. Leadership clearly formulates expectations and rewards to motivate employees achieve organisational performance by means of the following:

Financial Value Drivers	Strongly disagree [1]	Disagree [2]	Uncertain [3]	Agree [4]	Strongly agree [5]
a) Sale Growth	☐	☐	☐	☐	☐
b) Cost of goods sold	☐	☐	☐	☐	☐
c) Net profit margin	☐	☐	☐	☐	☐
d) Free cash flow	☐	☐	☐	☐	☐
e) Net operating profit after taxes (NOPAT)	☐	☐	☐	☐	☐
f) Capital Investment	☐	☐	☐	☐	☐
g) Weighted average Cost of capital (WACC)	☐	☐	☐	☐	☐
h) Return on invested capital (ROIC)	☐	☐	☐	☐	☐

6. Leadership promotes an intelligent, rational and carefully thought through resolution of problems about organisational performance with the employees by means of the following:

Financial Value Drivers	Strongly disagree [1]	Disagree [2]	Uncertain [3]	Agree [4]	Strongly agree [5]
a) Sale Growth	☐	☐	☐	☐	☐
b) Cost of goods sold	☐	☐	☐	☐	☐
c) Net profit margin	☐	☐	☐	☐	☐
d) Free cash flow	☐	☐	☐	☐	☐
e) Net operating profit after taxes (NOPAT)	☐	☐	☐	☐	☐
f) Capital Investment	☐	☐	☐	☐	☐
g) Weighted average Cost of capital (WACC)	☐	☐	☐	☐	☐
h) Return on invested capital (ROIC)	☐	☐	☐	☐	☐

7. Leadership discuss with the employees operating profitability for the future about organisation performance:

Value Drivers	Strongly disagree [1]	Disagree [2]	Uncertain [3]	Agree [4]	Strongly agree [5]
Operating profitability (OP) = NOPAT/Sales	☐	☐	☐	☐	☐

8. Leadership discuss with the employees the effect of capital requirements on organisational performance :

Value Drivers	Strongly disagree [1]	Disagree [2]	Uncertain [3]	Agree [4]	Strongly agree [5]
Capital Requirements (CP) = Operating capital/Sales	☐	☐	☐	☐	☐

9. Leadership discuss productive use of operational assets with the employees to improve organisational performance by means of the following:

Value Drivers	Strongly disagree [1]	Disagree [2]	Uncertain [3]	Agree [4]	Strongly agree [5]
a) Sale Growth	☐	☐	☐	☐	☐
b) Cost of goods sold	☐	☐	☐	☐	☐
c) Net profit margin	☐	☐	☐	☐	☐
d) Free cash flow	☐	☐	☐	☐	☐
e) Net operating profit after taxes (NOPAT)	☐	☐	☐	☐	☐
f) Capital Investment	☐	☐	☐	☐	☐
g) Weighted average Cost of capital (WACC)	☐	☐	☐	☐	☐
h) Return on invested capital (ROIC)	☐	☐	☐	☐	☐

10. Formal performance evaluation and compensation are linked to individual objectives aligned with organisational performance indicators:

Value Drivers	Strongly disagree [1]	Disagree [2]	Uncertain [3]	Agree [4]	Strongly agree [5]
a) Sale Growth	☐	☐	☐	☐	☐
b) Cost of goods sold	☐	☐	☐	☐	☐
c) Net profit margin	☐	☐	☐	☐	☐
d) Free cash flow	☐	☐	☐	☐	☐
e) Net operating profit after taxes (NOPAT)	☐	☐	☐	☐	☐
f) Capital Investment	☐	☐	☐	☐	☐
g) Weighted average Cost of capital (WACC)	☐	☐	☐	☐	☐
h) Return on invested capital (ROIC)	☐	☐	☐	☐	☐
i) Customer satisfaction	☐	☐	☐	☐	☐
j) Customer retention	☐	☐	☐	☐	☐
k) Production efficiency	☐	☐	☐	☐	☐
l).Internal business processes	☐	☐	☐	☐	☐

11. Given below are the descriptions of the statements to determine whether or not **organisational culture** influences the selection and use of Value Based Management performance tools to measure organisational performance. How would you rate your organisation on each of the following, considering your experience here as well as what you know of other organisations?

Organisational culture	Very poor [1]	Poor [2]	Average [3]	Good [4]	Very Good [5]
a) Providing training so that you can handle your present job properly.	☐	☐	☐	☐	☐
b) Cooperation between employees in each different functional areas.	☐	☐	☐	☐	☐
c)Treating employees with respect and dignity as individuals.	☐	☐	☐	☐	☐
d)Taking employees' interests into account when making important decisions.	☐	☐	☐	☐	☐
e) A chance to have your ideas adopted and put into use.	☐	☐	☐	☐	☐
f) We are never informed about changes, even those that affect us personally.	☐	☐	☐	☐	☐
g) The workflow is well organised.	☐	☐	☐	☐	☐
h) .Management words and actions are consistent.	☐	☐	☐	☐	☐
i) I understand how my work affects company performance.	☐	☐	☐	☐	☐
j) I am kept informed about important matters by management.	☐	☐	☐	☐	☐

12. What is your exposure to Value-Based Management (VBM)?(*Choose only one of the options*)

1. First time I hear about this	☐
2. Been exposed to VBM through an article or a presentation	☐
3. Have read a book about value-based management	☐
4. Have dealt with VBM intensively through work	☐

13. To what extent does your company select and use the following tools to measure its **financial performance**?

Financial Performance Measurement tools	Not in use [1]	Very Little [2]	Little [3]	Average [4]	Much [5]	Very Much [6]
1. Free Cash Flow	☐	☐	☐	☐	☐	☐
2. Cost of capital	☐	☐	☐	☐	☐	☐
3. Economic Value Added (EVA)	☐	☐	☐	☐	☐	☐
4. Shareholder Value Added (SVA)	☐	☐	☐	☐	☐	☐
5. Discount cash flow (DCF)	☐	☐	☐	☐	☐	☐
6. Return on invested Capital (ROIC)	☐	☐	☐	☐	☐	☐
7. Cash Flow Return on Investment (CFROI)	☐	☐	☐	☐	☐	☐
8. Net Present Value Analysis (NPV)	☐	☐	☐	☐	☐	☐
9. Residual Income (RI)	☐	☐	☐	☐	☐	☐
10. Market Value Added(MVA)	☐	☐	☐	☐	☐	☐

***Note:** Free Cash Flow is the difference between operating cash inflows and outflows, and is available to compensate all investors.

14. Based on the following indicators, how has your **organisation performed** in year 2006 in comparison to that of year 2005?

Organisational Performance	Very much worse [1]	Worse [2]	No Different [3]	Better [4]	Very Much Better [5]
1. Growth in Sales or in Revenues	☐	☐	☐	☐	☐
2. Profit Margin= net income/sales	☐	☐	☐	☐	☐
3. Economic Value Added (EVA)	☐	☐	☐	☐	☐
4. Total asset turnover =Sales/total assets	☐	☐	☐	☐	☐
5. Return on Assets (ROA) = net income/total assets	☐	☐	☐	☐	☐
6. Debt ratio = total debt/total assets	☐	☐	☐	☐	☐

15. There are a couple of well-known metrics within the VBM framework. What has been your exposure to them, and how do you rate them?(1 - Very poor; 5 - Excellent)

Financial Performance Measurement tools	Exposure	Very Poor [1]	Poor [2]	Good [3]	Very Good [4]	Excellent [5]
1. Economic Value Added (EVA)	☐	☐	☐	☐	☐	☐
2. Shareholder Value Added (SVA)	☐	☐	☐	☐	☐	☐
3. Discount cash flow (DCF)	☐	☐	☐	☐	☐	☐
4. Return on invested Capital (ROIC)	☐	☐	☐	☐	☐	☐
5. Cash Flow Return on Investment (CFROI)	☐	☐	☐	☐	☐	☐
6. Net Present Value Analysis (NPV)	☐	☐	☐	☐	☐	☐
7. Residual Income (RI)	☐	☐	☐	☐	☐	☐

SECTION 2: PARTICULARS OF THE RESPONDENT

16. What is your gender?

☐1 Male ☐2 Female

17. What is your marital status?

☐1 Single ☐3 Married

☐2 Divorced/Separated ☐4 Widow/ Widower

18. What is your age?

a) ☐1 Less than 25 d) ☐4 35 to less than 40

b) ☐2 25 to less than 30 e) ☐5 40 to less than 45

c) ☐3 30 to less than 35 f) ☐6 45 and above

19. What is the highest educational level that you have obtained?

a) ☐1 FET Certificate d) ☐4 Master Degree

b) ☐2 National Diploma e) ☐5 Doctorate Degree

c) ☐3 Bachelor Degree f) ☐6 other, please name.....

20. How long have you been working in this company?

a) ☐1 Less than 2 years d) ☐4 6 to less than 8 years

b) ☐2 2 to less than 4 years e) ☐5 8 to less than 10 years

c) ☐3 4 to less than 6 years f) ☐6 10 years and above

21. How long have you been working in the current position?

a) ☐1 Less than 2 years d) ☐4 6 to less than 8 years

b) ☐2 2 to less than 4 years e) ☐5 8 to less than 10 years

c) ☐3 4 to less than 6 years f) ☐6 10 years and above

☺

♫Thank you for your time and cooperation♫

Please return this questionnaire in the stamped self-addressed envelope or mail to

S.D.Maladze

P.O.Box 500, Bothaville, 9660

APPENDIX D

Shumani Maladze
MBA Candidate
Potchefstroom Business School
Northwest University

Date: MM, DD, 2007

The Head of Financial Department
Sedibeng Water
P.O.Box 500
Bothaville
9660

Dear Sir/Madam

Re: Please Complete and Return the Questionnaire for MBA Dissertation

My name is Shumani Maladze. I am a Master of Business Administration Candidate at North-West University (Potchefstroom Campus).

I am presently conducting research for my MBA dissertation on corporate financial performance measurement to determine the factors that influence South African Water Boards to adopt the Value-based management measurement as financial performance measurement tools. To explore this issue, I conducted a mail survey by sending the questionnaire to your company on dd, MM, 2007.

I would greatly appreciate if you could participate in this survey by filling in the questionnaire that has been sent to you few weeks ago. Please return the completed questionnaire to me by fax at 056-515 0264 or by using the stamped self-addressed envelope enclosed with the questionnaire, and mail to P.O. Box 500, Bothaville, 9660.

Your kind assistance is important and valuable in the successful completion of my MBA research. If you need further information concerning this survey, please feel free to contact me at 056-515 0262, 083 645 3943, and 082 860 7340 or at smaladze@sedibeng.co.za.

Thank you very much for your kind consideration and assistance.

Yours sincerely,

Shumani Maladze
P.O.Box 500, Bothaville, 9660
Fax: 056-515 0264

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