

The degree of organisational performance measurement in SMEs

- A focus on ICT enterprises

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## **Abstract**

*The research was conducted to determine the degree of organisational performance measurement in SMEs in the ICT sector within the Limpopo Province of South Africa. Literature on performance measurement and SMEs was reviewed and provided the theoretical foundation for the research. A qualitative approach to research was followed using case research based on semi-structured interviews to determine the knowledge and perceived value of performance measurement in SMEs. The study also investigated the prominent performance measures used by SMEs and difficulties around the implementation of these measures. The findings were related to the literature regarding the attributes of measures, the dimensions of performance and the characteristics of performance measurement frameworks. In conclusion, a method for SMEs to use performance information to their advantage was proposed.*

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## List of Abbreviations

The following abbreviations are applicable for the purpose of this paper and are listed alphabetically.

BSC	Balanced Scorecard
EMEA	Europe, Middle East and Africa
GDP	Gross Domestic Product
ICT	Information and Communication Technology
IPMS	Integrated Performance Measurement System
IT	Information Technology
OPM	Organisational Performance Measurement
PM	Performance Measurement
SA	South Africa
SLA	Service Level Agreement
SMART	Strategic Measurement Analysis and Reporting Technique
SME	Small and Medium Enterprise
SMME	Small, Medium or Micro Enterprise

# 1 Orientation

The outline of the research is provided in this chapter. The research question, objectives and importance of the study are discussed. Applicable definitions and concepts used throughout the report are also provided.

## 1.1 Introduction

Organisational performance has been measured and managed for as long as businesses have existed and publications have been highlighting the need for relevant, integrated, balanced, strategic, improvement orientated and dynamic performance measurement frameworks (Bititci, Turner & Begemann, 2000). The study of performance measurement has been growing in prominence from the 1980's due to the increasing complexity of organisations, both internally and externally (Kennerley and Neely, 2002). Performance measures are thus used to determine the success and growth of an organisation (Neely, Mills, Platts, Richards & Gregory, 1998; Jarvis, Curran, Kitching & Lightfoot, 1999). The benefits of using performance information can be witnessed in large organisations and have been stated in the literature (Bititci, *et al.*, 2000).

The resource constraints and unstable environments faced by Small and Medium Enterprises (SMEs) highlight the pressing need for performance measurement frameworks applicable to SMEs (Hudson, Smart & Bourne, 2001; Manville, 2007). The challenges in the implementation of a performance measurement framework in a SME are resources, strategic planning and perception barriers (Manville, 2007).

The limited literature available on performance measurement frameworks used in SMEs indicates the potential benefits that such frameworks might have on SMEs (Hvolby and Thorstenson, 2001). Researchers have shown that performance measurement frameworks can assist SMEs to improve their performance in the short and long term, both operationally and strategically (Turner, Bititci & Nudurupati, 2005; Cagliano, Blackmon & Voss, 2001; Bourne, Neely, Platts & Mills, 2002).

This qualitative study focused on SMEs in the Information and Communications Technology (ICT) sector. A review of the literature on performance measurement and

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the application thereof on SMEs was conducted which showed that performance measurement can be beneficial to SMEs although various obstacles are experienced in these organisations. This review was thus used as the foundation of the research. Semi-structured interviews were held with ICT sector SMEs in the sample of participants to determine the *status quo* of the usage of performance information. The research results and reviewed literature was used in conjunction to propose a method by which SMEs can achieve the positive results that a performance measurement framework can provide, within their constrained environments.

### **1.2 The objectives of this research**

A review of the literature indicated that performance measurement frameworks provide several advantages to all organisations, including SMEs, but are not realised due to the challenges faced by these small enterprises (Sousa, Aspinwall & Rodrigues, 2006).

The study was conducted on a sample of SMEs with the following objectives:

- a. To review the body of knowledge pertaining to the measurement of performance in SMEs.
- b. To identify the measures used in the measurement of performance, including the rationale behind these measures, thus providing the *status quo*, in SMEs.
- c. To propose a means for SMEs to measure and manage performance effectively, given the resource constraints that these enterprises face.

### **1.3 The research question**

The value and benefits of performance measurement are recognised by SMEs although these principles are rarely applied or used due to various obstacles faced by these organisations (Hudson, *et al.*, 2001; Manville, 2007). Thus, the research question is stated as:

*To what degree is organisational performance measured in Small and Medium Enterprises (SMEs) within the Information and Communication Technology (ICT) sector in the Limpopo Province of South Africa?*

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As part of the process of addressing the stated question, the researcher (a) established how performance should be measured according to the literature in relation to SMEs, further, (b) identified the measures used in SMEs, including the rationale behind these measures used was investigated, and finally, (c) combined literature and the outcome of the investigation to propose a way forward for SMEs to measure performance with the limited resources available to these enterprises.

#### **1.4 Definitions and concepts**

The definitions provided in this section are applicable for the purpose of this research and are listed alphabetically.

**Ethics** “refers to issues of right, wrong, fairness and justice” (Carroll and Buchholtz, 2006:22).

The **Performance** of an organisation relates to the efficiency and effectiveness with which it carries out the tasks in the process of providing products or services (Neely, *et al.*, 1998).

**Performance Management** is “the use of performance measurement information to effect positive change in organisational culture, systems and processes, by helping to set agreed-upon performance goals, allocating and prioritising resources, informing managers to either confirm or change current policy or programme directions to meet those goals, and sharing results of performance in pursuing those goals” (Amaratunga and Baldry, 2002: 219).

A **Performance Measure** is “a metric used to quantify the efficiency and/or effectiveness of an action” (Neely, Gregory & Platts, 2005:1229).

**Performance Measurement** is a method used to quantify effectiveness and efficiency (Sousa, *et al.*, 2006). Performance measurement is an ongoing process of measuring performance.

A **Performance Measurement Framework** is the set of measures used in an organisation (Neely, *et al.*, 2005).

A **Small Business** is “a separate and distinct business entity, including co-operative enterprises and non-governmental organisations, managed by one owner or more, including its branches or subsidiaries, if any, is predominantly carried on in any sector or subsector of the economy” (South Africa. Parliament, 1996:2).

**Stakeholders** are all the people, or groups of people, with an interest or involvement in an organisation (Encarta World English Dictionary, 1999).

### ***1.5 Delimitation of the study***

The research was done on a sample of the ICT sector SME population within the Limpopo Province of South Africa. The study focused on SMEs in the vicinity of the City of Polokwane, the main city and economic hub of the province, due to the accessibility, cost and time constraints experienced by the researcher.

The focus of this research was primarily on knowledge of performance measurement and measurement of performance in SMEs. Though the application of performance related information and performance management is an important component in the field of performance, it was not covered in depth, as the purpose of the study was to determine the degree of performance measurement in SMEs. To manage according to performance information and apply this information requires the applicable measurement thereof as a first step.

Large organisations were not included in the research, although the limited available literature on SMEs and performance measurement forced the researcher to review literature applicable to large organisations as well.

The research study was done independently by the researcher with the assistance of those individuals listed in the Acknowledgements. Recognised research methods and standards were applied in the process of designing, conducting and concluding the research.

### ***1.6 Importance of the study***

SMEs represent 98% of all companies in Europe, Middle East and Africa (EMEA). These SMEs generate 54% of the total private sector turnover and employ 66% of

the available labour force (Schlenker and Crocker, 2003). SMEs in South Africa represent the backbone of the South African economy; with a value add between 39% to 42% of the Gross Domestic Product (GDP) in 1997 (South African Reserve Bank, 2002).

In the United States, approximately 50% of start-up companies fail in the first year of existence and 75% to 80% fail within the first three to five years. Similarly, in South Africa 50% of all small businesses eventually fail (Ladzani and Van Vuuren, 2002).

The value of SMEs to the South African economy signifies the importance of SMEs to the country's economy while the high organisational failure rates further indicates that SMEs would benefit from the usage of performance information to increase organisational performance and sustainability.

The available literature on performance measurement is immense (Bititci, *et al.*, 2000), but the application of this concept on SMEs has not been researched in depth abroad (Hudson, *et al.*, 2001), and even less so in a South African context. Furthermore, literature on performance measurement in SMEs in the ICT sector is very limited.

Despite the forgoing, SMEs recognise the value of performance measurement but experience significant obstacles in the implementation of performance measurement frameworks as a result of limited resources and the lack of knowledge about performance measurement (Hudson, *et al.*, 2001; Manville, 2007).

Performance measurement is not always prioritised in these enterprises because the advantages in comparison to the resources needed, to successfully implement and measure performance are not directly identifiable (Neely, Mills, Platts, Richards, Gregory & Bourne, 2000). Organisational performance is measured within some SMEs on certain levels, normally with the use of limited financial indicators, for example cash flow, and certain non-financial measures (Jarvis, *et al.*, 1999).

SMEs are subjected to the same pressures of competition and the constant changing environment as any other enterprise, constantly being under strain to provide services of higher quality more economically, both to the client and to themselves (Maas, de Coning & v. d. M. Smit, 1999). The differentiating factors between SMEs

and large organisations are their insufficiency of management skills, working capital, human resources and strategic planning skills (Hudson, *et al.*, 2001). Performance management will provide assistance to SME managers to plan and make decisions about these scarce resources (Hudson, *et al.*, 2001). Performance measurement frameworks can therefore play a fundamental role in SMEs to improve the organisation and support managerial development (Cagliano, *et al.*, 2001).

To address the gap between theory and practice of performance measurement and SMEs, this study contributes to the research knowledge base of performance measurement in SMEs and the ICT industry. Hvolby and Thorstenson (2001) stated that additional evidence of the present situation of performance measurement in SMEs is required to supplement current research.

The findings of this research project could be used by Directors and Senior Management of SMEs and academics, both locally and internationally, to recognise that the measurement of performance is manageable within the resource constraints and unique situations of SMEs. It will assist SMEs to realise the benefits to successful application of performance measurement.

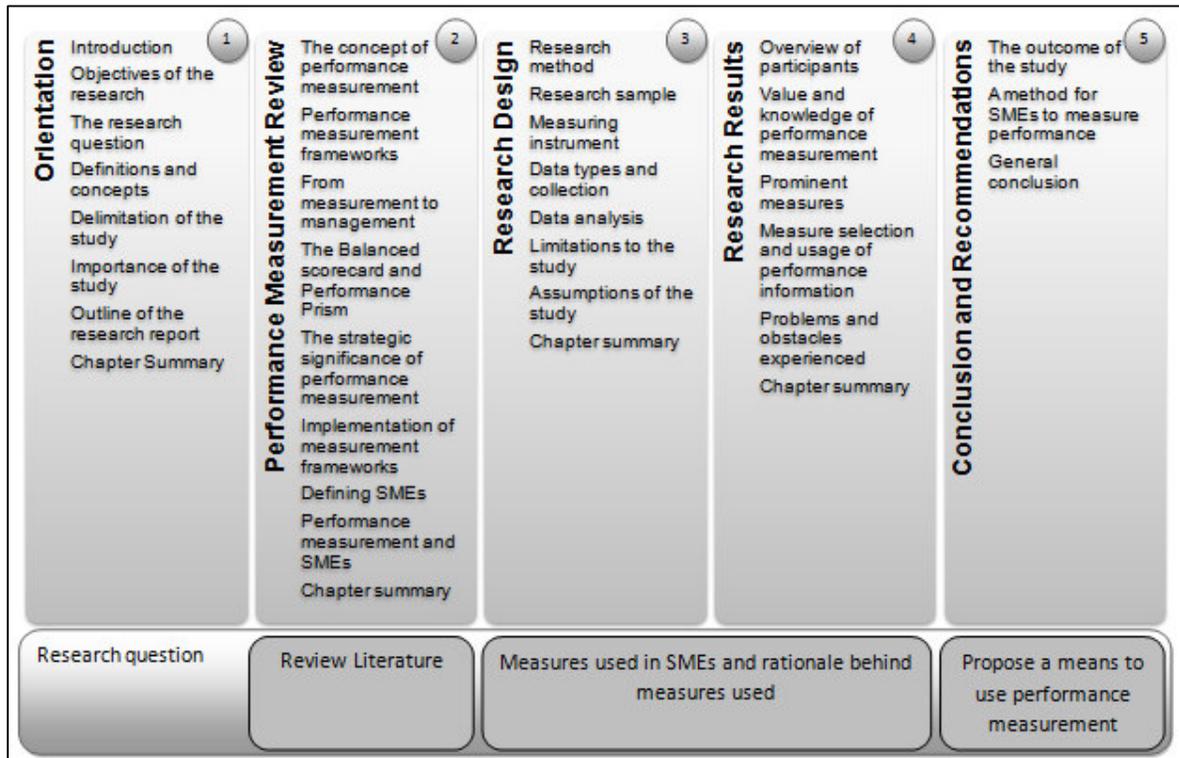
### **1.7 Outline of the research report**

A graphical outline of this research report is provided as Figure 1.1.

**Chapter 1: Orientation** provides a broad overview of the research and research report. The objectives, research question, delimitation and importance of the research are covered in this chapter. Definitions and concepts used in the report are also covered.

**Chapter 2: Performance Measurement Review** covers the literature on performance measurement. The chapter starts by discussing the concept of performance measurement and performance measurement frameworks. Two popular frameworks, the Balanced Scorecard and Performance Prism, are reviewed. The chapter discusses the management, strategic significance and the implementation of performance thereafter. Finally performance measurement in SMEs is examined.

Figure 1.1 Report outline



**Chapter 3: Research Design** discusses the design of the study. Different approaches are considered and the use of a qualitative study is motivated. The sample and sample selection methods are discussed where after data collection and the measurement instrument used, are examined in detail. The limitations and assumptions of the study are also covered in this chapter.

**Chapter 4: Research Results** examines the results of the study in detail and relates the research to the research question. The areas of knowledge of performance measurement, the use of performance information and the barriers experienced by SMEs in the implementation and continuous usage of performance information, is also inspected.

**Chapter 5: Conclusion and Recommendations** provides a conclusion to the research findings. These results are related to the literature and a means for SMEs to use performance information in their organisations is proposed. The chapter concludes with recommendations on further research in the field of performance measurement and SMEs.

**List of References** provides an alphabetically ordered list of the references used in this research report.

**Appendix A – Letter of Consent** includes the letter of consent for all participants in the study.

**Appendix B – Interview Schedule** has the complete interview schedule used for this research.

### **1.8 Chapter summary**

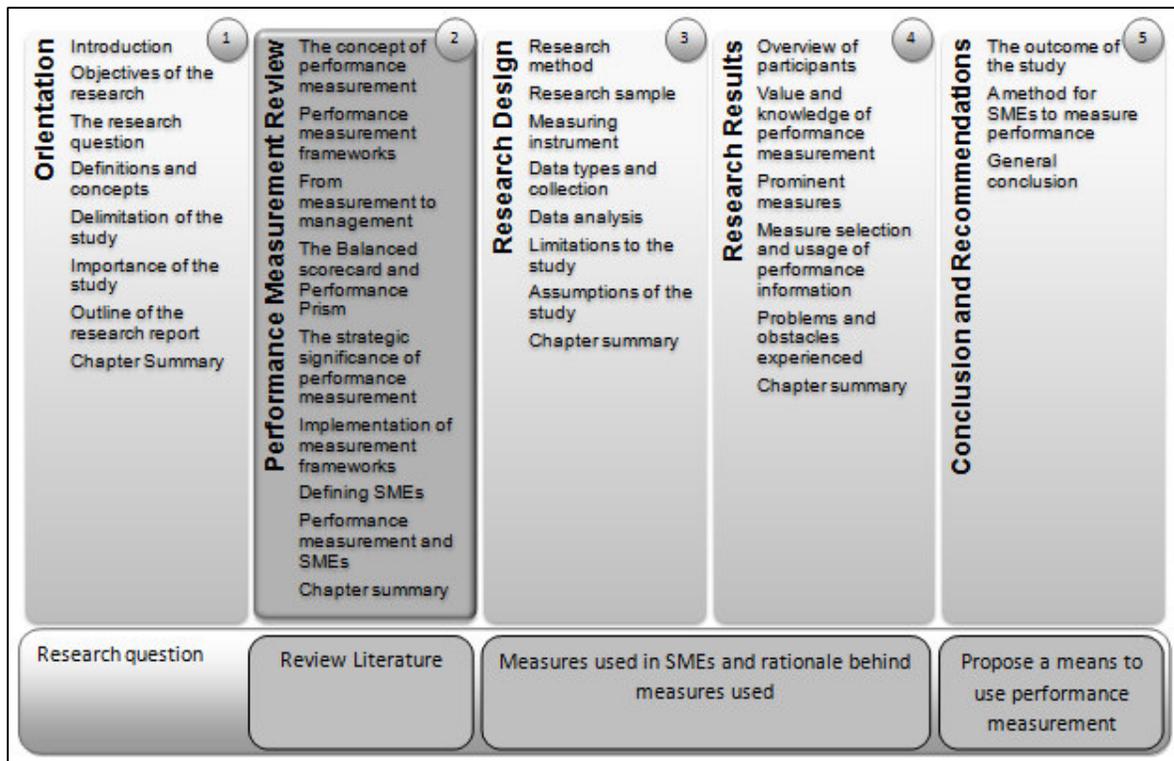
The orientation chapter provided an overview of the research report. The objectives and research question was explained. Definitions and concepts of terminology used in the research report were specified. The delimitations and importance of the study was stated. A brief outline and structure of the report was also provided.

## **2 Performance Measurement Review**

The literature on performance measurement and SMEs was reviewed in this chapter. Figure 2.1 provides a graphical layout of this chapter.

Briefly, the concept of performance measurement is first explained (Section 2.1) where after frameworks of performance measurement are discussed (Section 2.2). Subsequent to this, the principles of performance management (Section 2.3) and the strategic significance of performance measurement (Section 2.5) in organisations are then covered. The Balanced Scorecard and Performance Prism are discussed in detail as these are two popular frameworks used by organisations (Section 2.4). This is then followed by a discussion of the implementation of performance measurement, wherein issues regarding implementation are examined (Section 2.6). The situation faced by SMEs is discussed and related to performance measurement, the use and implementation thereof (Section 2.8).

Figure 2.1 Layout of Chapter 2



## 2.1 The concept of performance measurement

The effectiveness and efficiency with which an organisation carries out tasks in the process of providing products or services can be related to the performance of that organisation (Kennerley and Neely, 2002). Performance measures can thus be used to control and improve these organisational processes (Neely, *et al.*, 1998).

According to the Encarta World English Dictionary (1999:600) effective means “having or producing the desired effect” and efficient means “achieving the desired result with the minimum use of resources, time and effort”.

This can be related to an organisational context where effectiveness measures the extent to which customer requirements are being met and efficiency measures the resources used to achieve the desired level of customer satisfaction (Neely, *et al.*, 2005).

Performance measurement is a technique used to quantify effectiveness and efficiency. Performance measurement can be defined as “the process of quantifying

the efficiency and effectiveness of action”, and a performance measure as “a metric used to quantify that action” (Sousa, *et al.*, 2006: 121). In other words, the metrics used to assess elements of performance and translate them into quantities, are referred to as measures, while the process of measuring metrics is performance measurement (Sousa, *et al.*, 2006).

Performance measurement is a recurring activity, which for it to be meaningful, has to be benchmarked and compared over time (Hatry, 1999). Organisations use performance information as a point of reference for improvement. This information can be based on performance from a previous time period or on the performance of competitors in the industry (Coulter, Baschung & Bititci, 2000).

The measurement of performance serves a monitoring purpose in business, which includes: identifying business and operational areas that need attention, to enhance motivation among employees, to improve communication in the organisation and to strengthen accountability (Waggoner, Neely & Kennerly, 1999).

Halachmi (2005) provided a list of reasons in support of performance measurement and the introduction thereof as a method to improve performance. The fundamental reasons can be formulated as:

- If an element is understood, it can be measured,
- if it can be measured, it can be controlled, and
- if it can be controlled, it can be improved.

An elaborated list of reasons covers the results, success, failure and costs of an organisation that further support the notion of performance measurement (Halachmi, 2005) and can be formulated as:

- Employees will provide results for tasks that are measured;
- By measuring results, an organisation can distinguish success from failure;
- If success is noticed, it can be rewarded;
- When success is rewarded, an organisation knows it is not rewarding failure;
- When success is noticed, it can be sustained;
- When success and failure are noticed, the organisation can learn from it;

- When failure is noticed, old mistakes will not be repeated and resources won't be misused;
- If results are noticed, they can be related to the resources used and to the real cost;
- When the real cost is known, outsource decisions can be made;
- When the real cost is known, the best value for money can be obtained from outsourcing;
- If costs can be demonstrated, the value for money provided can be communicated to the shareholders;
- If the processes and resources used can be documented as the most appropriate for obtaining the required results, organisational performance will not be questioned;
- If previous and current periods can be compared and improvement indicated, the organisation's accountability will not be questioned; and
- If organisational performance information is available, the organisational strategy can be adjusted accordingly.

To realise the potential benefits of performance measurement, the measures applied must contain certain attributes in order to assess performance appropriately (Kennerley and Neely, 2002). These attributes have been iterated in the literature and although there are several, the following critical attributes have been adapted from Hudson, *et al.*, (2001):

- be derived from strategy,
- be clearly defined with an explicit purpose,
- be relevant and easy to maintain,
- be simple to understand and use,
- be able to provide fast and accurate feedback,
- be able to link operations to strategic goals, and
- be able to stimulate continuous improvement.

## 2.2 Performance measurement frameworks

A combination of organisational measures is referred to as a performance measurement framework (Neely, *et al.*, 2005). A performance measurement framework should be representative of the whole organisation, with different types of measures, managed in a coordinated manner (Kennerley and Neely, 2002).

Turner, *et al.*, (2005) present a number of performance measurement frameworks that have been developed to address the need for more relevant, structured and integrated frameworks incorporating financial and non-financial performance measures.

The frameworks as discussed by Bititci, Nudurupati and Turner (2002), Garengo, Biazzo & Bititci (2005) and Turner, *et al.*, (2005) are listed in Table 2.1.

**Table 2.1 Time line of frameworks**

Year	Framework	Author
1988-1989	The strategic measurement analysis and reporting technique (SMART)	Cross and Lynch
1989	Performance Measurement Matrix	Keegan, Eiler and Jones
1990	Performance Measurement Questionnaire	Dixon, Nanni and Vollmann
1991	Performance Pyramid System	Lynch and Cross
1991	Performance Measurement System for Service Industries	Fitzgerald, Johnson, Brignall, Silvestro and Voss
1992	The balanced scorecard	Kaplan and Norton
1993	ABCD checklist for operational excellence	Wight
1996	Integrated Performance Measurement for Small Firms	Laitinen
1996	Cambridge performance measurement design process	Neely, Mills, Gregory, Richards and Platts
1997	Integrated Performance Measurement System	Bititci, Carrie and McDevitt
1998	Integrated performance measurement system (IPMS)	Bititci and Carrie
1998	European Excellence Model	EFQM
2000	Organizational Performance Measurement (OPM)	Chennell, Dransfield, Field, Fisher, Saunders and Shaw
2001	Performance Prism	Neely and Adams

Adapted from: Bititci, *et al.* (2002); Garengo, *et al.* (2005); Turner, *et al.* (2005)

Table 2.1 shows a time line of frameworks as from 1988 until recently. The most popular framework, the Balanced Scorecard, is a simple and effective framework which made a significant impact in the 1990's. The frameworks listed in Table 2.1 influenced each other by improving weaknesses in previous frameworks and building on the strengths of others, with the Performance Prism emerging as the most modern framework at present (Bititci, *et al.*, 2002). Section 2.4 and Section 2.5 elaborates further on these frameworks.

A Bain & Co. (2005) survey on the use and satisfaction of management tools and techniques, reported that 89% of large companies make use of Benchmarking, whilst only 71% of medium companies and 63% of small companies made use of the same technique. The survey also indicated that 75% of large companies used some form of Balanced Scorecard against 57% in medium companies and 44% in small companies. A remarkable increase in the number of organisations that utilised formal performance management methods was observed.

### **2.2.1 Dimensions of performance**

Within a performance measurement framework, the dimensions of performance for which measures should be developed have been defined in the literature using a variety of terms (Hudson, *et al.*, 2001; Neely, *et al.*, 2005). Time, quality and flexibility are the most common operational dimensions which should be measured. Finance is considered, though in different forms, to also be a critical dimension of performance (Neely, *et al.*, 2005). An extension of these dimensions include customer satisfaction and human resources (Hudson, *et al.*, 2001) to provide a more comprehensive set of dimensions.

A grouping of terms into six general dimensions of performance is tabulated in Table 2.2. These dimensions of performance can be seen to cover all areas of business, including financial results, operational performance through time, quality and flexibility, the way a company is perceived externally through its customers and including cultural aspects of the organisation through a human resource dimension (Hudson, *et al.*, 2001).

**Table 2.2 The dimensions of performance**

Quality	Time	Flexibility	Finance	Customer Satisfaction	Human Resources
Product performance	Lead Time	Manufacturing effectiveness	Cash flow	Market share	Employee relationship
Delivery reliability	Delivery reliability	Resource utilisation	Market share	Service	Employee involvement
Waste Dependability	Process throughput	Volume flexibility	Overhead cost reduction	Image	Workforce
Innovation	Process time	New product introduction	Inventory performance	Integration with customers	Employee skills
	Productivity	Computer systems	Cost control	Competitiveness	Learning
	Cycle time	Future growth	Sales	Innovation	Labour efficiency
	Delivery speed	Product innovation	Profitability	Delivery reliability	Quality of work life
	Labour efficiency		Efficiency		Resource utilisation
	Resource utilisation		Product cost reduction		Productivity

Source: Hudson, *et al.* (2001:1102)

These dimensions of performance are not prescriptive but intended to encourage a holistic approach when developing performance measures to support an organisational strategy (Hudson, *et al.*, 2001).

### 2.2.2 Characteristics of performance measurement frameworks

An analysis of modern performance measurement frameworks revealed that these frameworks exhibit certain common characteristics (Garengo, *et al.*, 2005):

- Strategy alignment and development: A performance measurement framework should be aligned to the organisational strategy and facilitate further development of the strategy (Kaplan and Norton, 2001b).
- Stakeholder focus: The framework should focus on all stakeholders that have an influence on the organisation and be able to monitor them (Neely, Adams & Crowe, 2001).

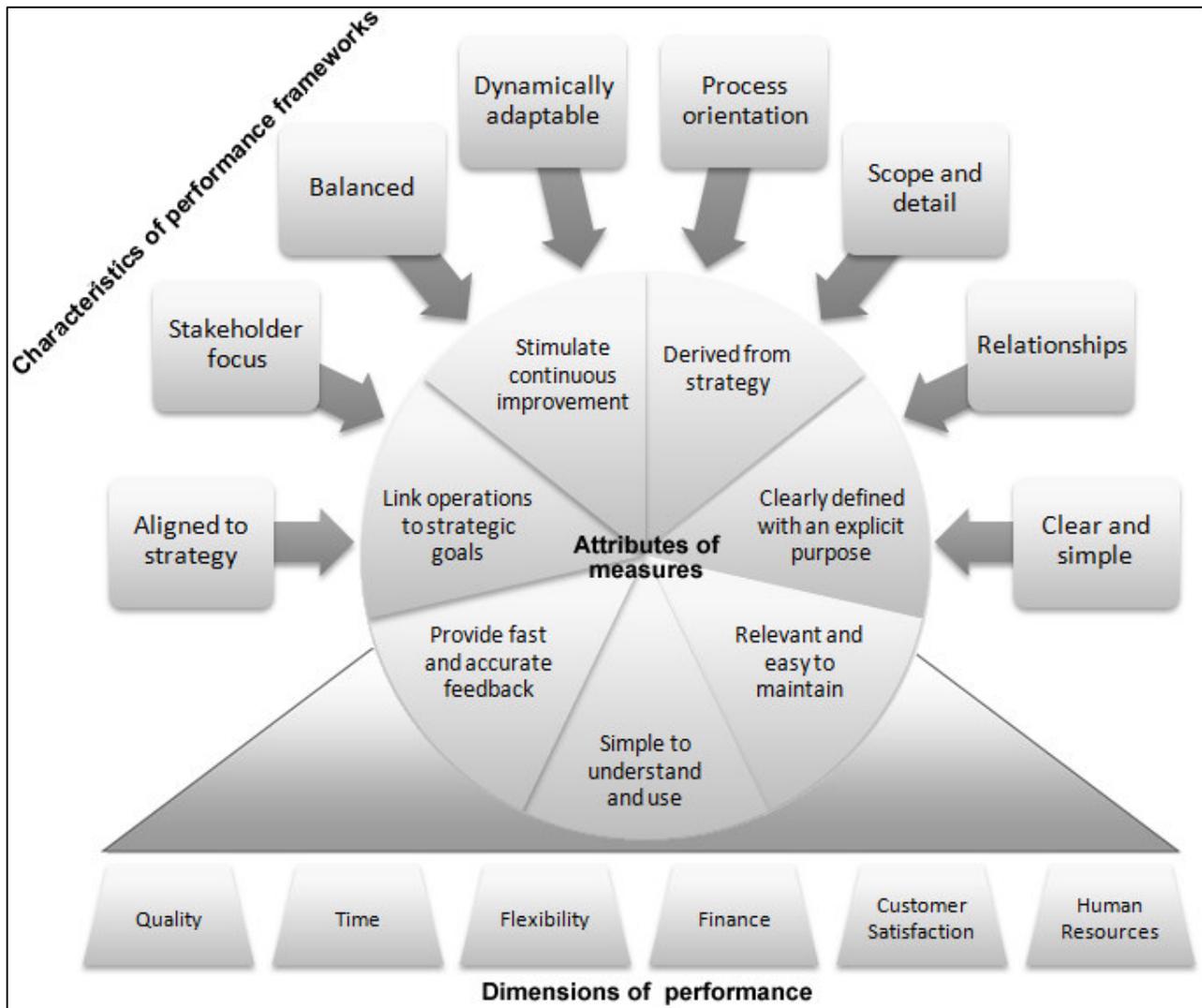
- Balance: The framework should be balanced to focus on all areas within the organisation and not primarily on the financial aspects (Inamdar, Kaplan, Jones & Menitoff, 2000).
- Dynamically adaptable: The framework should be dynamically adaptable to the changes in the environment (Kennerley and Neely, 2002).
- Process orientated: The framework should have a process orientation to monitor the performance of organisational processes (Garengo, *et al.*, 2005).
- Scope and detail: The framework should cover a broad scope of the organisational activities and focus in detail on measures (Bourne, *et al.*, 2002).
- Relationship: The framework should identify the relationship between the measures and objectives (Kaplan and Norton, 2001b).
- Clear and simple: The framework should be clear and simple to ensure the success thereof (Hudson, *et al.*, 2001).

### **2.2.3 Theoretical Performance Measurement Framework**

A graphical representation (Figure 2.2) of the attributes of measures (Section 2.1), dimensions of performance (Section 2.2.1) and characteristics of performance measurement frameworks (Section 2.2.2) can be constructed to relate these elements to each other as a theoretical performance measurement framework.

The theoretical framework indicates that measures should have certain attributes and should cover all the dimensions of performance. Organisational measures should collectively include all the characteristics of performance measurement frameworks.

Figure 2.2 Theoretical Performance Measurement Framework



It is noted that there is a definite stakeholder element in the process of performance measurement (Hudson, *et al.*, 2001; Kaplan and Norton, 2001a).

Bititci, *et al.*, (2002) suggested that a web enabled performance measurement framework can provide significant benefits, thus improving the level of advantage gained from performance measurement frameworks. A web enabled framework provides more transparent and visible performance information, it improves accuracy, reliability and credibility of performance information, it focuses on critical problems and creates awareness of issues, and it clarifies the cause and effect relationship between business and operational measures. The result is that managers can have

more confidence in their decisions, adopt a more proactive management style, increase teamwork within the organisation and become a more efficient team.

### **2.3 From measurement to management**

The tracking or measuring of performance with the use of performance measurement frameworks by itself is not sufficient to improve performance, although it is the driving force of change (Amaratunga and Baldry, 2002). Halachmi (2005) argues that in order to advance performance there is a need to manage performance, as simply tracking a measure is not adequate. Thus, the escalation in the research and theoretical interest in performance management has mirrored the development of actual performance management practice (Thorpe and Beasley, 2004).

Organisational development activities, like increased sales or expanded growth, can be refined and improved with the use of performance management (Amaratunga and Baldry, 2002). To ensure improvement, up to date and accurate information is required for management to respond proactively to organisational changes and challenges. According to Bititci, *et al.*, (2002) this includes information on:

- market changes and effects,
- customer needs,
- the position of the organisation in relation to its competitors,
- the financial performance of the organisation,
- the performance of customer service in the organisation,
- the performance of the organisations' operations, and
- the performance of suppliers.

This information needs to be integrated, dynamic, accurate, be easily accessible and a visible aid to management.

To practice performance management, attention should move from one measured aspect to another as the environment within and outside the organisation changes (Hatry, 1999). The measurements themselves however, cannot be allowed to move according to the environment, which creates a difficulty as organisations can not

measure everything. Cost, time, and legal constraints creates a scenario where organisations can only measure certain elements.

The management of performance can include the measurement of effectiveness and efficiency, the management of relations with important stakeholders, and organisational culture and motivation (Halachmi, 2005). Performance management incorporates performance measurement as a practical and technical exercise and should be the focus in organisations (Otley, 1999).

Performance management frameworks have certain requirements (Bititci, *et al.*, 2000):

- The measurement should be sensitive to internal and external changes in the environment of an organisation.
- At the point where a change in the environment is significant, the internal objectives should be reviewed and reprioritised.
- Alignment should be ensured by deploying changes to objectives and priorities to critical aspects of an organisation.
- The gains achieved through improvement programmes should be maintained.

The theoretical performance measurement framework as discussed in Section 2.2.3 provides performance measurement information as the basis and starting point for a performance management framework.

Performance management frameworks provide feedback based on specific objectives derived from the desired outcome of performance measurement results (Amaratunga and Baldry, 2002). Busi and Bititci (2006) proposed a performance management framework should include certain elements:

- a structured method to develop the measures;
- a structured management-process for using the information provided from performance measurement to make operational and strategic decisions;
- a set of specifications of the necessary tools used for data gathering, processing and analysis;

- guidelines on how to apply the information and knowledge available from the measurement framework and
- a process to review and update measures constantly to reflect up to date and real time information.

The inclusion of these elements in a performance management framework will support an organisation to evolve from “performance measurement to performance management, from individual to collaborative performance measurement and from lagging to leading performance management” (Busi and Bititci, 2006:14).

The structured guidelines for implementation, measure selection, usage and decision making that a performance management framework provides is captured with the usage of frameworks such as the Balanced Scorecard and Performance Prism, as discussed in the next section (Section 2.4).

## **2.4 The Balanced Scorecard and Performance Prism**

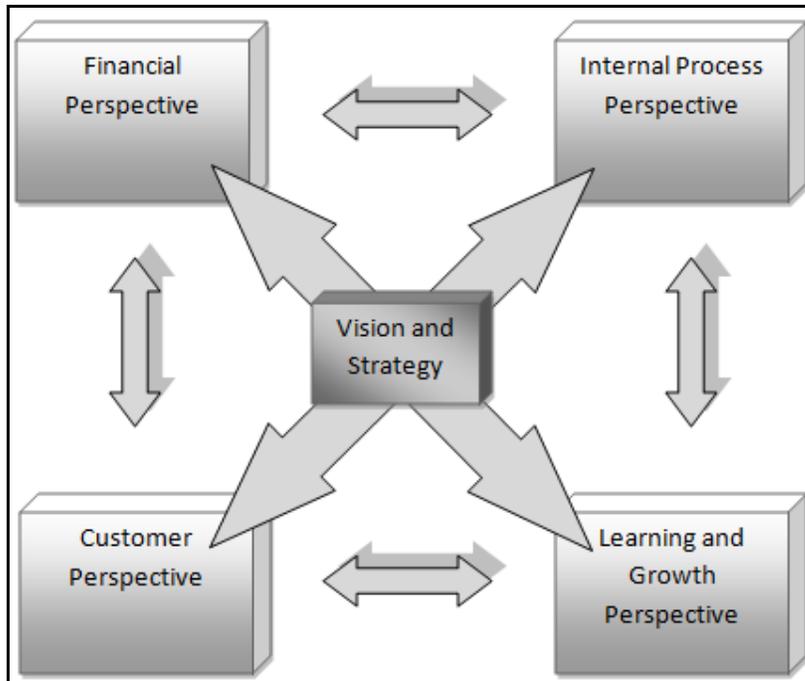
Specific frameworks have been developed that captures most of the dimensions of performance and characteristics of performance measurement frameworks. The most well-known and favoured framework is the Balanced Scorecard (Valiris, Chytas & Glykas, 2005; Voelpel, Leibold & Eckhoff, 2006). Ten years after the introduction of the Balanced Scorecard, the Performance Prism improved the framework with a stakeholder approach (Neely, *et al.*, 2001).

The Balanced Scorecard is a multidimensional framework that uses an approach to balance non-financial and financial measures (Valiris, *et al.*, 2005). The Balanced Scorecard (Kaplan and Norton, 2001a) as in Figure 2.3 is a management tool that provides a framework of four organisational perspectives namely, financial, customer, internal processes, and learning and growth.

The financial perspective monitors financial measures to ensure financial improvement. The internal processes critical to the organisation are identified in the internal process perspective. The customer perspective enables organisations to view performance from the customers’ point of view. Learning and growth identifies

organisational areas of growth and improvement to ensure sustainability (Valiris, *et al.*, 2005).

**Figure 2.3 The Balanced Scorecard**



Adapted from: Kaplan and Norton (2001a:91)

This framework creates a balanced approach to translate an organisational strategy into objectives and measures. Critical success factors created in these perspectives are balanced between long and short term objectives, as well as internal and external factors, contributing to the business strategy. The organisational strategy is aligned in operational terms, and a focus is placed on the role of employees in achieving the organisation's mission (Kaplan and Norton, 2001b). The Balanced Scorecard indicates the cause and effect relationships in an organisational strategy and improves efficiency (Voelpel, *et al.*, 2006).

The Balanced Scorecard has been analysed critically since its introduction (Halachmi, 2005). One of the concerns raised are that the implementation of the Balanced Scorecard does not focus in depth on supporting factors which include issues such as project, risk and change management that are essential for successful implementation of the Balanced Scorecard as a performance

measurement and management framework. Another issue is the lack of a complete stakeholder approach which includes not only customers, but extends towards suppliers, competitors and partners as well as employees (Neely, *et al.*, 2005).

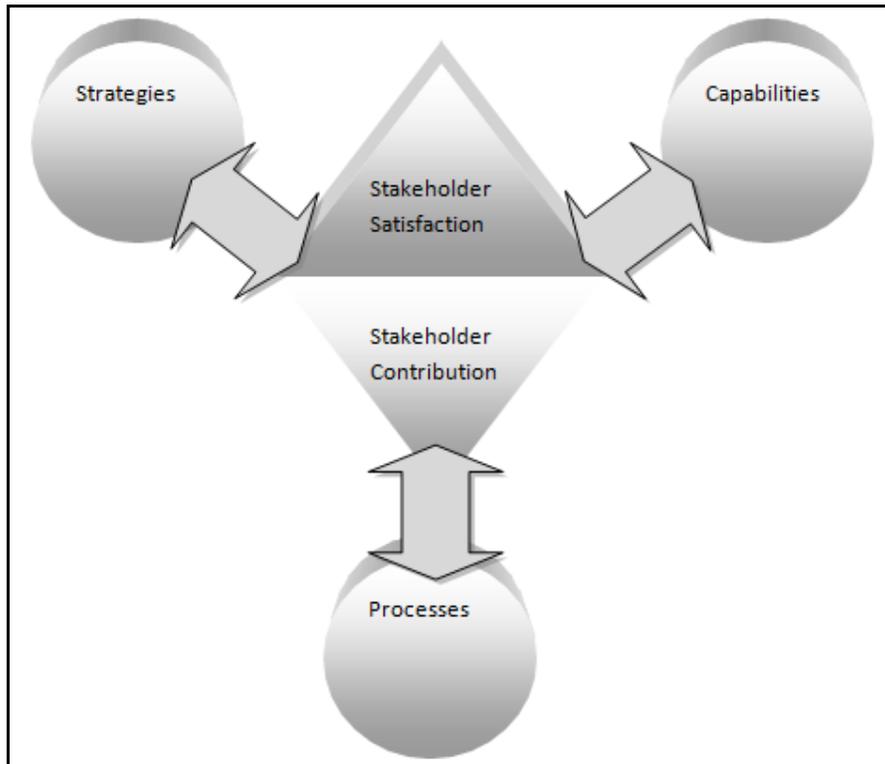
The limitations provided by the perspectives are also of concern, as important organisational elements can be excluded by using only the provided perspectives (Halachmi, 2005).

Despite the foregoing, successful implementation and use of the Balanced Scorecard provides for a uniform and goal orientated organisation. However, additional activities or innovations are not measured in such frameworks (Voelpel, *et al.*, 2006). This may result in employees only achieving the required results, and not more.

The opinion of the researcher is that the Balanced Scorecard should be used as a framework and not as an exact template for each organisation which implies that perspectives and focus areas should be adapted accordingly. Since most frameworks are based on the principle of measuring certain specific aspects of an organisation's activities, the measuring of innovation and additional activities remain a challenge.

A more recent framework, the Performance Prism (Figure 2.4) is utilises a design that supports performance measurement selection. This comprehensive framework concentrates on key business issues and adopts a stakeholder approach in the execution of strategy. The Performance Prism, referred to as a second generation performance measurement framework, after the Balanced Scorecard, should be used to 'upgrade' existing scorecards or used to develop new performance measurement frameworks (Neely, *et al.*, 2001).

Neely, *et al.*, (2001) refers to the Performance Prism as a second generation performance measurement framework because of the prominent stakeholder approach within this framework. The framework also assists organisations to select appropriate measures during the framework implementation process. The stakeholder approach is evident in the defined implementation process which starts and ends with the stakeholder.

**Figure 2.4: The Performance Prism**

Adapted from: Neely, *et al.* (2001:6)

The Performance Prism consists of five facets, namely Stakeholder Satisfaction, Strategies, Processes, Capabilities and Stakeholders Contribution (Neely, *et al.*, 2001). The stakeholder facet identifies all relevant stakeholders, including employees, suppliers, partners and intermediaries as well as their respective needs.

The strategy facet focuses on the strategy required to ensure satisfied stakeholders. The third facet concentrates on the processes required and to be put in place to deliver the strategy. Capabilities are a combination of people, practices, technology and infrastructure, which are the building blocks of the organisation to execute its processes and compete (Neely, *et al.*, 2001).

The final facet, Stakeholder Contribution, realises the fact that value is not only delivered to stakeholders, but relationships are created where stakeholders contribute to the organisation. The Performance Prism is a non-prescriptive

framework, to be used to influence the thinking of managers in business (Neely, *et al.*, 2001).

The positive qualities of the Performance Prism are the combination of the five facets, the inter-relationship between them and the comprehensiveness and adaptability of the framework (Neely, *et al.*, 2001).

It is believed that the most important element of the Performance Prism is the focus on stakeholders that is extended beyond customers which the framework provides and which is not focused on in depth by the Balanced Scorecard. The Balanced Scorecard is, however, very simple to implement and use.

## ***2.5 The strategic significance of performance measurement***

The success of an organisation is measured by its performance. Information from performance measures is used to adapt the strategy of the organisation and realign it to the changes in the environment and the objectives of the organisation (Neely, *et al.*, 1998; Verweire and Van den Berghe, 2003).

Organisational strategy deals with an organisation's competitive capabilities and business approaches (Teder and Venesaar, 2006). The process for formulating an organisational strategy normally includes identifying the current position of the organisation, identifying the preferred future situation and a plan to get there.

A performance measurement framework must therefore be developed in accordance with the organisational strategy, to ensure linkages between the strategy and the objectives of functions, groups and individuals (Kaplan and Norton, 2001b).

One of the goals of a performance measurement framework is to translate the vision of the organisation into clear measurable outcomes that define success, and which are communicated to all the relevant stakeholders of an organisation (Amaratunga and Baldry, 2002). The framework should provide a tool for assessing, managing and improving the health of the organisation.

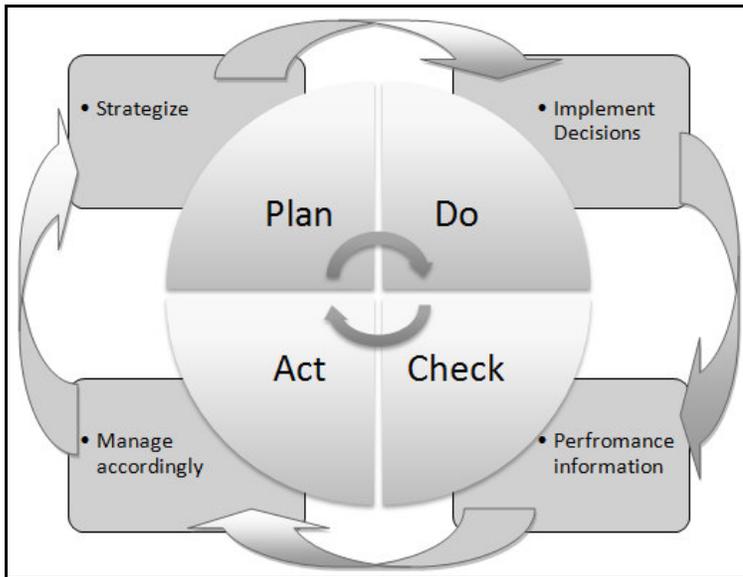
Another goal would be to facilitate the shift from narrow oversight and day-to-day management to an ongoing, forward-looking strategic organisation. The framework

should include measures of quality, cost, speed, customer service, as well as employee alignment, motivation, and skills to provide an in-depth, predictive performance measurement framework. Lastly, it should replace existing assessment frameworks with a consistent approach to performance measurement (Amaratunga and Baldry, 2002).

The Balanced Scorecard and Performance Prism both attempt to achieve the objectives of performance measurement frameworks. The Balanced Scorecard translates organisational strategy and objectives into measureable outcomes while the Performance Prism starts with the stakeholders to achieve the objectives. The guidelines provided by these frameworks assist organisations to achieve the goals of performance measurement frameworks, the challenge lies in the implementation itself, as discussed in the next section (Section 2.6).

There is a mutual alignment between performance measurement frameworks and organisational strategy which is the basis of the Balanced Scorecard (Kaplan and Norton, 2001b). Whilst a performance measurement framework should be based on an organisation's strategy it should also support the development and evolution of the strategy, thus supporting continuous improvement. Strategy needs to adapt to environmental changes; performance information can be used to determine whether the strategy is appropriate or whether objectives have been achieved (Kaplan and Norton, 2001b).

The researcher relates these concepts to a simple plan-do-check-act cycle (Figure 2.5).

**Figure 2.5 Plan-do-check-act cycle**

First the organisation formulates its strategy. At the next stage the decisions are implemented. The measurement information is used to monitor progress in the following stage. Finally the information is used to manage the organisation and the strategy is adopted.

To evaluate current approaches for the development of strategic performance measurement frameworks, a combination of the attributes of performance measures (Section 2.1) and the dimensions of performance (Section 2.2.1) was used, with the objective to identify the completeness of these approaches (Hudson, *et al.*, 2001). Various performance measurement frameworks that have a strategic component were analysed and are briefly discussed below (Hudson, *et al.*, 2001). The results are illustrated in Table 2.3.

- The Balanced Scorecard covers the dimensions of performance but has no means for maintaining the relevance of the defined measures. The lack of integration between the top level, strategic scorecard, and operational level measures is also a deficiency of this approach. The Balanced Scorecard also fails to specify a user centred development process.
- The performance pyramid provides a link between strategy and operations as well as encouraging a user centred design. This process does, however, not

specify in any detail the form of the measures or the process for developing them.

- The results and determinants matrix specifies what measures should look like and provides a useful development process. It cannot give a truly balanced view of organisational performance since the method does not include customers or human resources as dimensions of performance.

**Table 2.3 Analysis of current performance measurement approaches**

Theoretical model	Balanced Scorecard	Performance Pyramid	Results and determinants matrix	Integrated Dynamic PM Systems	Integrated PM Framework	Integrated PM Systems	Cambridge PM Process	Integrated Measurement Model	Consistent PM Systems	Framework for Small Businesses PM
<b>A strategic PM development process should:</b>										
Evaluate existing PM system		X		X	X	X	X	X		
Enable strategic objective identification	X		X	X	X	X	X	X		
Enable performance measurement development	X		X	X	X	X	X	X	X	
Provide a maintenance structure				X	X	X	X	X	X	
Involve key issues		X				X	X	X	X	X
Have top management support	X	X	X			X	X	X	X	X
Have full employee support	X	X	X			X	X	X	X	X
Have clear and explicit objectives	X		X	X	X	X	X			
Have set timescales	X			X			X			
<b>The measures in a strategic PM system should be:</b>										
Derived from strategy	X	X	X	X	X	X	X	X	X	X
Link operations to strategic goals		X	X	X	X	X	X	X	X	X
Stimulate continuous improvement	X		X	X	X	X	X	X	X	X
Provide fast accurate feedback			X	X	X	X	X	X		X
Clearly defined/Explicit purpose	X		X	X	X	X	X	X	X	X
Relevant and easy to maintain				X	X	X	X	X	X	
Simple to understand and use	X	X	X		X	X	X	X	X	X
<b>A strategic PM should measure:</b>										
Quality	X	X	X	X	X	X	X	X		X
Flexibility	X	X	X	X	X	X	X	X		X
Time	X	X	X	X	X	X	X	X		X
Finance	X	X	X	X	X	X	X	X		X
Customer satisfaction	X	X		X	X	X	X	X		X
Human resources	X	X		X		X	X	X		X

Source: Hudson, *et al.* (2001:1103)

- The integrated dynamic PM has an explicit process for maintenance as well as fast and accurate feedback. As an initial audit tool, the PM questionnaire ensures that all the dimensions of performance are adequately covered. The

framework is potentially complicated to understand and use, and also fails to provide a specific process for developing the framework.

- The integrated PM system does not provide a structured process that specifies objectives and timescales for the development and implementation of the framework. The framework does cover most of the criteria for a comprehensive PM framework.
- All criteria are fulfilled by the Cambridge PM process which is therefore comprehensive. The development of optional measures is unfortunately described as an optional process. To be comprehensive, both operational and strategic measures must be developed.
- The integrated measurement model defines the dimensions of performance and provides a mechanism for designing measures, but does lack a structured process for overall development.
- In contrast, the consistent PM provides a detailed process for developing and implementing frameworks but does not provide a balanced approach for the dimensions of performance.
- Lastly, the framework for small business PM uses a purely bottom-up perspective on performance, thus, although this framework is capable of measuring performance, it is not based on strategy.

## ***2.6 Implementation of measurement frameworks***

The design and development of performance measurement frameworks, including alignment to the organisational strategy and its objectives, have been covered in the literature by various authors (Neely, *et al.*, 2000). The implementation of performance measurement frameworks has however not been covered in detail and is crucial in the final success of performance measurement frameworks.

Performance measurement frameworks cannot provide the desired results if implemented incorrectly, for example, if insufficient measures are selected, used in the wrong way or not used at all. When an organisation starts managing and making decisions according to their measures, as well as managing their measures, the real benefits of performance management can be realised (Waggoner, *et al.*, 1999).

The reasons for the success or failure of performance measurement framework implementation can be categorised into organisation context, development process and measurement content as indicated in Table 2.4 (Bourne, *et al.*, 2002).

**Table 2.4 Reasons for success or failure**

<b>Organisation context</b>	<ul style="list-style-type: none"> <li>• The need for a developed information system</li> <li>• A certain quantity of time and expense</li> <li>• Leadership and resistance to change</li> </ul>
<b>Development process</b>	<ul style="list-style-type: none"> <li>• Unrealistic vision and strategy</li> <li>• Resource allocation and strategy not being linked</li> <li>• Negotiated goals used which are not based on stakeholder requirements</li> <li>• Incorrect improvement methods</li> <li>• The strive for perfection undermining success</li> </ul>
<b>Measurement content</b>	<ul style="list-style-type: none"> <li>• A strategy not linked to department, team and individual goals</li> <li>• The large quantity of measures dilutes the overall impact</li> <li>• Poorly defined metrics</li> <li>• The need to quantify result areas that are qualitative in nature</li> </ul>

Adapted from: Bourne, *et al.* (2002:1289)

To ensure successful implementation, top management and business should view a performance measurement framework as a technique for improving the management of the business and for moving the business forward (Bourne, *et al.*, 2002). Organisations that have successfully implemented performance measurement frameworks realised the benefits of these frameworks and had continued top management commitment, viewed the time and effort as sensible and used the support of an internal or external facilitator. Performance measurement should be seen as a learning process, and not a control process (Turner, *et al.*, 2005).

On the other hand, organisations that experienced unsuccessful performance measurement framework implementations could not provide the time and effort required to implement such a framework, had difficulty to implement measures due to the unsuitable information available from the IT systems, had a culture of resistance

to performance measurement and experienced new parent company initiatives (Turner, *et al.*, 2005).

In relation to the above mentioned, poor design and poor implementation are some reasons why 70% of Balanced Scorecard implementations fail. Effective design of a Balanced Scorecard requires the inter relatedness of key performance indicators to be mapped so that these indicators are not seen as an unrelated number of performance measures (Manville, 2007).

The success of performance measurement frameworks is related to the usage of performance information in an organisation and is dependent on (Turner, *et al.*, 2005):

- the commitment of top management,
- the communication of the strategy with the use of appropriate performance measures to the whole of the organisation,
- the usage of performance information to identify business trends,
- the usage of performance information for decision making,
- the non-resistance to the usage of performance information,
- applicable training in the usage of performance information,
- the empowerment of employees in making decisions using performance information, and
- the improvement of key areas with stimulating actions.

Unsuccessful performance measurement frameworks can also be related to the responsiveness of the framework. A study conducted in the manufacturing industry (Bititci, *et al.*, 2002) indicated that performance measurement frameworks currently implemented cannot facilitate the required responsiveness and agility that would be required from such frameworks.

The information in many performance measurement frameworks is historical and static, thus not being dynamic and sensitive to changes in the environment of the organisation, either internal or external (Kennerley and Neely, 2002). Out-dated and irrelevant information has a negative effect on the perceived value of performance information as well as the usefulness of the measurement framework. This

discourages the maintenance, updating and usage of the framework because of the lack of commitment and ownership (Bititci, *et al.*, 2002). Another issue is integration into current IT systems and infrastructure which lowers the time and expenses spent on data collection, sorting, maintenance and reporting activities. An organisation must ensure that the performance measurement framework remains integrated, efficient and effective at all times (Amaratunga and Baldry, 2002).

The promise of performance measurement and its benefits should be considered along with its possible dysfunctionalities, as the possibility does exist that the costs of implementing and maintaining performance measurement may exceed the potential benefits, which may not even materialise (Halachmi, 2005).

## **2.7 Defining SMEs**

The interests of SMEs are represented by the South African National Small Business Act which also defines a Small Business (See Section 1.4 for the definition of a Small Business). There is no general definition for Small and Medium Enterprise (SME) accepted internationally (New Zealand. Ministry of Economic Development, 2005; Government of Canada, 2006). The different methods used by countries to define SMEs make it difficult to compare SMEs internationally.

The methods used to define SMEs are normally based on the number of employees, revenue, organisational assets and industry. The number of employees can be used as a universal measure to compare different definitions (Table 2.5).

**Table 2.5 SME Definitions in number of employees**

	<b>Number of Employees</b>
Australia	< 200
Canada	< 500
European Commission	< 250
South Africa	< 200
United Kingdom	< 250

Adapted from: New Zealand. Ministry of Economic Development (2005); Government of Canada (2006); South Africa. Parliament (2003)

Table 2.5 shows that South Africa and Australia uses 200 employees as a limit to defining SMEs, where various other countries use larger limits, up to 500, which is the case with Canada.

According to the Small Business Act of South Africa, a Small Business can be micro, very small, small or medium in size (South Africa. Parliament, 2003). South Africa also classifies SMEs according to the industry it operates, the total employees, turnover and fixed gross asset value.

The economic subsectors in accordance with the Standard Industrial Classification, categorises Information Communication and Technology (ICT) sector companies as Finance and Business Services. An enterprise in this sector is defined as being a SME when the enterprise employs less than 50 people, has an annual turnover of less than R26 million and the enterprise has a fixed gross asset value of less than R5 million (South Africa. Parliament, 2003). SMEs in the ICT sector provide ICT related products and services to both government and private organisations.

There are three fundamental differences between SMEs and large organisations. These are the levels of uncertainty regarding the external environment in which the organisation operates, service and product innovation, and sustainable development in the organisation (Garengo, *et al.*, 2005). A performance measurement framework should support SMEs to manage these differences.

SMEs can be further differentiated from larger organisations by some key characteristics (Cagliano, Blackmon & Voss, 2001; Hudson, *et al.*, 2001; Maas, *et al.*, 1999; Luiz, 2002).

- SMEs are managed with personalised management techniques, and little delegation of authority;
- They experience resource limitations in financial, management and human resource areas;
- They operate in limited markets whilst relying on a small number of customers;
- They make use of flat and flexible structures;
- They have high innovatory potential;
- These organisations make use of informal and dynamic strategies; and

- They have reactive ad-hoc management styles.

## **2.8 Performance measurement and SMEs**

Resources and knowledge bases are limited in SMEs, it is therefore important for these enterprises to select only critical performance indicators (Hvolby and Thorstenson, 2001). SMEs have a need to respond and improve performance quickly, but do not spend the time required to work through the analytical and developmental steps of the improvement process (Turner, *et al.*, 2005). The competence and time available from management to allocate to important management related tasks, including performance measurement, are limited (Hvolby and Thorstenson, 2001). Also, hardware and software to support performance measurement frameworks are often limited in SMEs. SMEs that respond dynamically to changes in the environment will provide better results (Maas, *et al.*, 1999).

As a consequence of the restricted resource conditions faced by SMEs (Migiro, 2006), there is a tendency to neglect in depth strategic planning and results in SMEs not understanding their critical success factors. In the process of designing a performance measurement framework, an organisation is forced to conduct strategic planning and implementation (Kaplan and Norton, 2001b). This creates awareness of the gaps between the organisation's current performance and the stated objectives. A performance measurement framework helps the organisation to set future objectives and plan improvement processes (Bititci, *et al.*, 2000). The extent to which organisational objectives are being achieved is evaluated by performance measures (Jarvis, *et al.*, 1999).

The unique situation faced by SMEs can provide obstacles to the implementation and use of performance measurement frameworks (Garengo, *et al.*, 2005). These include:

- The lack of human resources is one of the largest constraints, as the implementation and supporting of a performance measurement framework is seen as additional work.
- Managerial capacity is another area in SMEs which are lacking, therefore managerial tools and techniques are perceived as being of little advantage to

the organisation. Very often SMEs follow a flat structure where employees occupy different positions, and the entrepreneur is responsible for both operational and management functions. In these cases managerial activities are often neglected.

- Limited capital resources obstruct the introduction of performance measurement frameworks in SMEs.
- There is an absence of affordable software platforms that focus on the specific needs of SMEs.
- A short term and reactive approach to management is followed by SMEs due to their poor strategic planning and non-formalised decision making processes.
- Formalised management systems are lacking in SMEs which create a barrier to organisational development.
- The knowledge in SMEs is mostly tacit and situation specific, thus the information required to implement a performance measurement framework is difficult to collect.
- A misconception exists among SMEs regarding the potential benefits and advantages of implementing a performance measurement framework.

Other obstacles that are encountered by SMEs in the process of adopting a performance measurement framework include computer systems issues, the lack of top management commitment and the existing accounting system. The processes of defining measures and training of employees have also been identified as obstacles faced by SMEs (Sousa, *et al.*, 2006).

Manville (2007) indicates that the environment of SMEs is of such a nature that the costs of implementing a performance measurement framework outweighs the improvements and benefits that can be realised in the organisation's performance. The researcher does not agree with this statement as SMEs need to measure their performance in an attempt to improve and reach the organisational objectives. A performance measurement framework provides the guidance and assistance required to SMEs.

The various differences between large organisations and SMEs, including the obstacles faced by SMEs indicate that performance measurement in SMEs should be approached differently (Sousa, *et al.*, 2006).

The impact of factors preventing successful implementation of performance measurement frameworks in SMEs can be minimised if the implementation is systematic, has the required resources available and is supported by an advisor to assist in the selection of suitable indicators that will ensure real improvement (Turner, *et al.*, 2005). The application of business models in the process of developing performance measurements will assist developers to ensure that decision making is impacted in the implementation and will result in operational changes that will improve the organisation (Turner, *et al.*, 2005).

There are several common characteristics of implemented performance measurement frameworks in SMEs (Garengo, *et al.*, 2005):

- SMEs experience difficulties in engaging performance measurement projects. If SME's proceed to implementation, they rarely continue to the last phase because of lack of time available for non operational activities and low levels of commitment of top management in the implementation of the project.
- There is also an indication that SMEs use performance measurement frameworks incorrectly, or they do not use these frameworks. In some cases only a partial framework is implemented or implemented frameworks are modified without considering the changes and consequences of these changes. This results in a framework that does not address the specific needs of an SME in full.
- Performance measurement implemented in SMEs rarely follows a holistic approach, and SMEs seldom implement integrated frameworks, or are even aware of such frameworks. Small companies focus on operational and financial performance, balanced frameworks are seldom used, which would include other aspects and measures like, innovation, human resources, work atmosphere, Research and Development (R&D) and training. Certain general frameworks are inadequate for the particular characteristics of SMEs. Frameworks suitable for the SME have only recently been developed.

- The approach taken by SMEs to performance measurement is informal, and thus not sufficiently planned or based on a structured framework. This approach results in poor alignment between the measures and the strategy of the business. The focus is also normally on past activities, thus using lagging indicators and measures to support control activities rather than forecasting and planning processes.
- The limited availability of resources in SMEs allows for data to be analysed in imprecise ways, which increases the ambiguity of measurement objectives. The performance measurement review is a process needed to make changes to the framework according to the changes in the internal and external contexts. When such a review is carried out incorrectly the framework will not be able to assist in the achievement of the strategic objectives.

During implementation, the measures selected and used by SMEs in performance measurement frameworks differ from those used in larger organisations (Jarvis, *et al.*, 1999). SMEs pursue several goals, including profit maximisation, but the most important appear to be business survival and stability.

A study of small business performance measures has identified some measures to be used in SMEs. Examples of these measures are cash and cash flow indicators to determine the health of the business in general. These indicators are not always applied correctly and are often complex whilst not complying with standard accounting and financial management practices (Jarvis, *et al.*, 1999). The financial dimension is very critical as SMEs do not have a financial buffer to absorb fluctuations (Hudson, *et al.*, 2001).

Non-financial measures have been identified in some businesses and are deemed more sensitive and faster reacting than certain financial indicators. One of the measures used by SME owners is the level of activity, i.e. how busy employees are, and received telephone calls which provide an indication of the business performance (Jarvis, *et al.*, 1999). There is a shift in emphasis towards soft or qualitative measures relative to financial measures. Employees also have more responsibilities and roles because of flatter organisational structures, thus a well trained and motivated workforce is of high importance (Hudson, *et al.*, 2001).

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Organisations that are service orientated place more focus on certain measures. The provision of services has certain characteristics that distinguish them from supplying or providing products (Haber and Reichel, 2005). Service industry customers, in general, participate in the process of delivering the service, thus these clients experience service performance and quality at time of delivery. The evaluation of the efficiency or quality of the service delivered can be used to measure service performance (Haber and Reichel, 2005).

The challenges faced by SMEs can be mitigated by applying the characteristics of performance measurement frameworks (Section 2.2.2) during the implementation process:

- **Strategy alignment and development:** The difficulties faced by SME's, such as the lack formalised strategies, can be overcome with the use of a performance measurement framework. The implementation of a performance measurement framework will support the formalisation of a strategy, and ensure the alignment of the strategy to the performance measures (Kaplan and Norton, 2001b). To avoid losing focus on operational aspects, which is very important in all organisations, including SMEs, the relationship between the strategy and operational activities should be made clear.
- **Stakeholder focus:** A company has to monitor the needs, wishes and satisfaction levels of different groups of stakeholders. Some frameworks provide the stakeholder as the starting point for the development of a strategy (Neely, *et al.*, 2001). The limited resources available to SMEs and the obstacles faced by these organisations do not allow them to take all stakeholders into consideration and they should therefore only focus on primary stakeholders.
- **Balance:** Different perspectives of analysis are adopted by balanced frameworks and they are managed in a coordinated approach (Inamdar, *et al.*, 2000). SMEs normally focus only on financial and operational issues, they need to improve their managerial approach and align strategic objectives to their decision making processes, which would be assisted with the use of a balanced framework.

- Dynamically adaptable: Performance measurement frameworks should be adaptable to the changing internal and external environments of SMEs (Kennerley and Neely, 2002).
- Process orientated: A process orientated performance measurement framework could indicate the insufficiencies of functional organisations with business process modelling (Garengo, *et al.*, 2005). Process orientated frameworks can assist SMEs to be more proactive in meeting the needs of stakeholders. The small nature of SMEs creates more visible business processes which will be simpler to orientate.
- Scope and detail: SMEs should focus on the scope of the performance measurement framework and provide a holistic view of the organisation. This will assist SMEs in the development of a simple and integrated framework. A large amount of measures weaken the effectiveness of the framework (Bourne, *et al.*, 2002).
- Relationship: The relationship between results that are measured by performance measurement frameworks and their determinants should also be measured and used to monitor past actions and assist the improvement process (Kaplan and Norton, 2001b). The relationship between the results and objectives can provide feedback on measures which will be useful to SMEs for improving processes.
- Clear and simple: A performance measurement framework should be as clear and simple as possible, to ensure successful implementation and use (Hudson, *et al.*, 2001). A simple and easy to use framework should not compromise the completeness of the framework. SMEs lack the resources to implement and use complex frameworks and their situation does not create a need for complex frameworks.

The characteristics of performance measurement frameworks are fulfilled by the Balanced Scorecard, except for an in depth stakeholder focus. This shortcoming could be overcome by expanding the customer perspective to include stakeholders during implementation.

As a result of the obstacles faced by SMEs, the Balanced Scorecard is rarely used by SMEs, although 50% of Fortune 1000 companies use the Balanced Scorecard

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(Gumbus and Lussier, 2006). Companies of all sizes can develop excellent mission statements and strategies, but lack the ability to implement operational strategies to achieve them, as well as the ability to measure whether they are achieving their mission and strategy. The Balanced Scorecard links the mission and the strategy and translates it into operational strategy, thus addressing the problem. This framework can be effective for organisations with five employees or 5000, working towards the same objectives (Gumbus and Lussier, 2006).

The Balanced Scorecard can benefit SMEs in several ways (Gumbus and Lussier, 2006):

- The promotion of growth - by focusing on strategic outcomes and operational results.
- The tracking of performance - individually and collectively.
- Providing focus - aligned measures provide focus on that which is important.
- Alignment to goals - measures important to success become linked, and support each other, creating alignment across the organisation.
- Clarity of goals - indicating how everyone contributes daily to the organisational goals.
- Accountability - assigning individuals to performance measures as owners.

The researcher is of the opinion that the Performance Prism can benefit the SME in a similar way with the added advantage of providing a detailed stakeholder focus.

SMEs share a common interest with all organisations when it comes to creating an organisation that is more efficient, profitable and sustainable (Migiro, 2006; Maas, *et al.*, 1999). They recognise the advantages and the importance of performance measurement frameworks but do not necessarily implement and use such frameworks (Sousa, *et al.*, 2006). Resource limitations within SMEs indicate that elements like time and quality are of high importance, although levels of high productivity should be obtained to keep waste levels low. The fact that SMEs rely on a small number of customers enforces the issue that customer satisfaction should remain high to stay competitive, whilst they must be able to respond rapidly to the changes in the environment and stay flexible.

## **2.9 Chapter summary**

This chapter reviewed the literature on performance measurement, including the limited available literature on performance measurement and SMEs. The first part of the chapter discussed the concept of performance measurement and pointed out the possible benefits that can be achieved by using performance measurement. The attributes of performance measures (Section 2.1) were also discussed.

Performance measurement frameworks were discussed in detail, including the dimensions of performance (Section 2.2.1) and the characteristics of performance measurement frameworks (Section 2.2.2). The balanced Scorecard and Performance Prism (Section 2.4) was examined and the advantages and disadvantages of using and implementing these frameworks were discussed.

The importance of using performance measurement information in a management environment as well as the strategic significance of performance measurement was covered. Various performance measurement frameworks were mentioned and their key characteristics discussed and tabulated (Table 2.3).

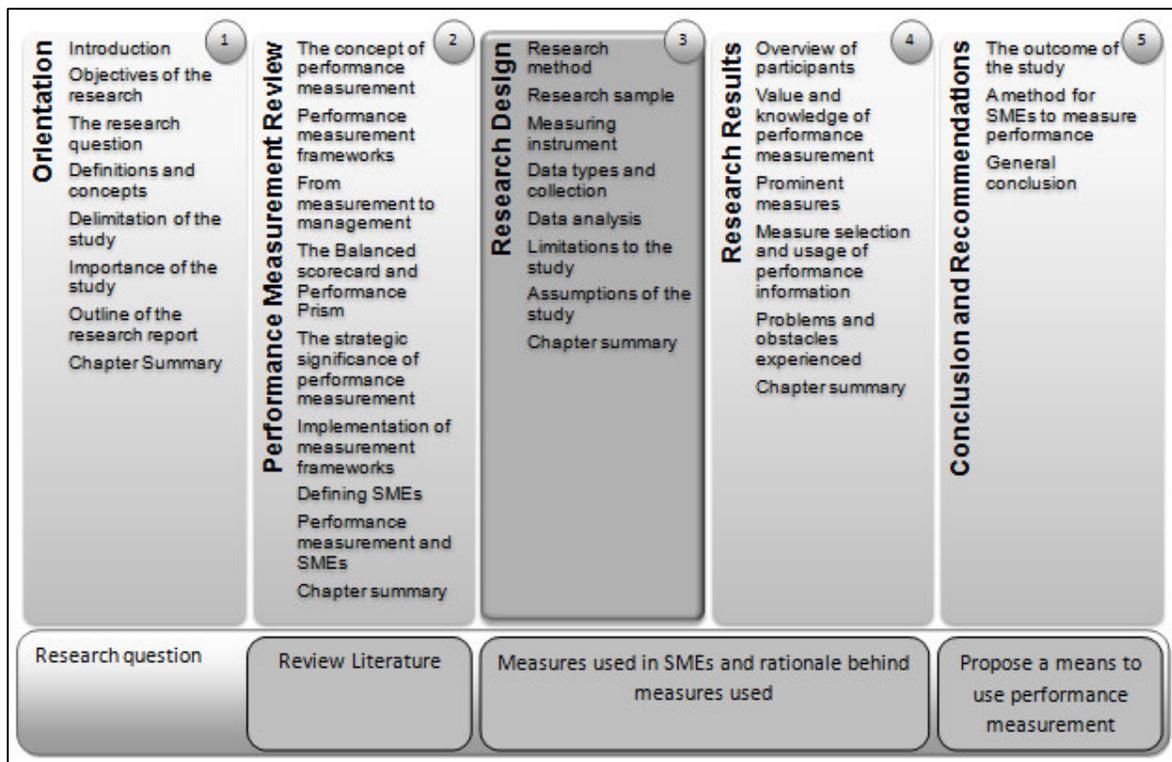
Issues regarding the implementation and continuous usage of performance measurement frameworks were also discussed. Problems that all organisations experience to prevent the successful implementation of such frameworks were uncovered.

The literature was finally related to SMEs and covered the unique situation faced by these organisations. Various problems experienced by SMEs in the implementation of performance measurement frameworks were discussed. The characteristics of performance measurement frameworks were related to SMEs and the possible advantages of these frameworks to SMEs were specifically highlighted.

## **3 Research Design**

The research design is described in this chapter. Figure 3.1 provides a graphical outline of this chapter.

Figure 3.1 Layout of Chapter 3



The purpose of the research design is to create a structured approach to answering the research question as given below:

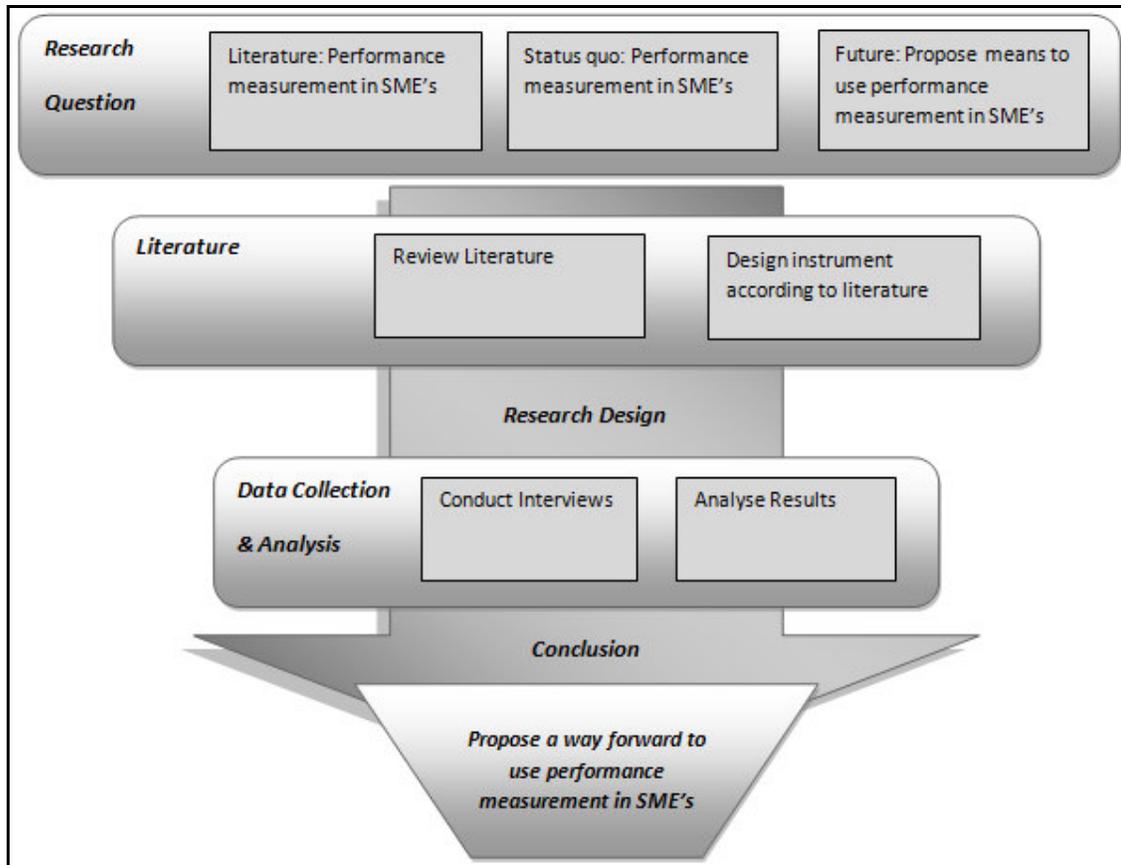
*To what degree is organisational performance measured in Small and Medium Enterprises (SMEs) within the Information and Communication Technology (ICT) sector in the Limpopo Province of South Africa?*

The literature review in Chapter 2 indicated that SMEs experience various problems in the process of implementing and using performance measurement (Section 2.8). This research is designed to study performance measurement in SMEs, and relate it to the literature.

Different approaches to research are reviewed in this regard and the use of a qualitative approach is motivated. The population of ICT SMEs in the Limpopo Province of South Africa is reviewed as well as the sample selection method used. The data collection method is discussed and the methods of data analysis are also covered. Limitations and assumptions are also covered in this chapter.

The research process for this study is illustrated in Figure 3.2.

**Figure 3.2 The research process**



### **3.1 Research method**

The method used in research should be appropriate to the research problem or question, and to the nature of the data collected (Leedy and Ormrod, 2005). The two most common approaches to research are quantitative and qualitative. Qualitative and quantitative approaches can be combined in different designs (Lee, 1999). A two-phase design starts with a quantitative study and is followed by a qualitative study, or the reverse, a dominant-less dominant design adds a quantitative component to a qualitative study, or the other way around and a mixed-methodology design uses multiple quantitative and qualitative techniques within a single study (Lee, 1999).

Quantitative methods are often associated with the positivism paradigm that uses a scientific approach to quantify, measure, predict and explain relationships among variables (Silverman, 1998). Quantitative methods are concerned with relationships between variables with the purpose of explaining or predicting a trend or incident (Lee, 1999). These methods normally start with a hypothesis that will be confirmed or rejected using statistical analysis (Leedy and Ormrod, 2005). Only a few variables are identified and data collected for those variables only. Quantitative research rely more on deductive reasoning by starting with a hypothesis and drawing conclusions from it. By nature, quantitative research is more objective.

Interpretivism is concerned with understanding and subjective meaning and uses qualitative methods to obtain knowledge and different views of research subjects. Questions about complex situations can be answered with qualitative research, with the purpose of describing and understanding the situation (Lee, 1999). A qualitative study will normally start with a research question and takes on a holistic approach. Verbal and other types of data are gathered from a small number of participants which is then described in a narrative style to explain the situation studied (Leedy and Ormrod, 2005). These studies normally end with tentative answers to the research questions and can be used as basis for further research (Lee, 1999). The reasoning used in this type of research is normally more inductive by using various observations and drawing conclusions about general situations. The data analysis of this type of research tends to be subjective.

The main differences between qualitative and quantitative approaches to research are depicted in Table 3.1. It should be noted that these approaches sometimes overlap.

**Table 3.1 Summary of differences**

<b>Research</b>	<b>Quantitative</b>	<b>Qualitative</b>
Purpose	Explain and predict	Describe and explain
	Confirm and validate	Explore and interpret
	Test theory	Build theory
Process	Focused	Holistic
	Known variables	Unknown variables
	Established guidelines	Flexible guidelines
	Predetermined methods	Emergent methods
	Fairly context free	Context bound
	Detached view	Personal view
	Objective	Subjective
	Deductive	Inductive
Data	Numeric	Textual and/or image-based
	Representative, large sample	Informative, small sample
	Standardised instruments	Loosely structured or un-standardised observations and interviews
Results	Numbers	Words
	Statistics, aggregated data	Narratives, individual quotes
	Formal voice, scientific style	Personal voice, literary style

Adapted from: Leedy and Ormrod (2005); Lee (1999)

There are limitations and disadvantages to both approaches. One of the foremost critiques of the qualitative approach is that it doesn't allow for a researcher to be objective, while the quantitative approach is normally perceived to be unbiased (Lee, 1999). Qualitative studies assume a real world scenario where as quantitative studies have a single objective world. A disadvantage of qualitative research is that it is normally bound to the circumstance of the research and can thus not easily be generalised to other situations, which is to a lesser extent the case with quantitative research methods (Lee, 1999).

Lee (1999) suggests that the two approaches can be blended to reinforce and complement each other. In such research designs, more focus can be placed on one approach while certain aspects of the research are conducted using the other approach. This combination is called a dominant-less-dominant approach. Research

can also be done in two phases, by starting with a qualitative study and then moving towards a quantitative approach for instance, or *vice versa*.

Qualitative methods are suitable when relevant theory and literature are insufficient while quantitative methods are typically used to confirm and validate existing theory (Leedy and Ormrod, 2005). In relation to this study, in depth research has been done on performance measurement (Bititci, *et al.*, 2000) but limited information is available on SMEs. The researcher also found no previous performance measurement studies on SMEs in the ICT industry. Thus, a qualitative approach was followed.

Leedy and Ormrod (2005) suggest that qualitative studies should serve one or more of the following purposes: description, interpretation, verification and evaluation. These purposes can be related to this study as follow:

- Description: The research revealed the situation of SMEs and performance measurement.
- Interpretation: The research provided a higher level of insight and understanding in SMEs and discovered the problems experienced within SMEs.
- Verification: The research provided the opportunity to verify certain assumption and theories regarding SMEs.
- Evaluation: The research created the opportunity to evaluate the effectiveness of performance measurement in SMEs.

The purpose, process, data collection, data analysis and findings of this study also supported the view of a qualitative approach (Leedy and Ormrod, 2005). The purpose of the research was to provide insight into the situation of SMEs in relation to performance measurement, and to describe and explain their situation.

A holistic research process was followed using in-depth interviews as a measuring instrument. The context based information from the study assisted in explaining the situation of SMEs. Data collection was conducted with a small number of participants who could provide the best information regarding the research question. Also, the researcher was personally involved in the collection of data.

During data analysis, the data was analysed by searching for patterns and themes. The findings of the study were narrated in a literary style while capturing the perspectives of the participants.

The information listed above supported the view that a qualitative research method could be used for this research. To address the research question the study was based on a phenomenological research design. Table 3.2 shows possible designs that could be followed.

**Table 3.2 Different qualitative designs**

<b>Design</b>	<b>Purpose</b>	<b>Focus</b>	<b>Methods of Data Collection</b>	<b>Methods of Data Analysis</b>
<b>Case Study</b>	To understand on situation (or a very small number) in great depth	One case or a few within its/their natural setting	Observations, Interviews, Appropriate written documents and/or visual material	Categorisation and interpretation of data in terms of common themes, synthesis into an overall portrait of cases(s)
<b>Ethnography</b>	To understand how behaviours reflect the culture of a group	A specific field site in which a group of people share a common culture	Participant observation, structured or unstructured interviews with "informants", artefact/document collection	Identification of significant phenomena and underlying structures and beliefs, organisation of data into a logical whole
<b>Phenomenological study</b>	To understand and experience from the participants' point of view	A particular phenomenon as it is typically lived and perceived by human beings	In-depth un-structured interviews, purposeful sampling of 5-25 individuals	Search for "meaning units" that reflect various aspects of the experience, integration of the meaning units into a "typical" experience

<b>Design</b>	<b>Purpose</b>	<b>Focus</b>	<b>Methods of Data Collection</b>	<b>Methods of Data Analysis</b>
<b>Grounded theory study</b>	To derive a theory from data collected in a natural setting	A process, including human actions and interactions and how they result from and influence another	Interviews, any other relevant data sources	Prescribed and systematic method of coding the data into categories and identifying interrelationships, continual interweaving of data collection and data analysis, construction of a theory from the categories and interrelationships
<b>Content analysis</b>	To identify the specific characteristics of a body of material	Any verbal, visual, or behavioural form of communication	Identification and possible sampling of the specific material to be analysed, coding of material in terms of predetermined and precisely defined characteristics	Tabulation of the frequency of each characteristic, descriptive or inferential statistical analysis as needed to answer the research question

Adapted from: Leedy and Ormrod (2005:144)

Phenomenology is a method of describing situations and concepts. This type of design is suitable in situations where more information and understanding is required (Leedy and Ormrod, 2005). Also, as discussed above, and with the unique situation of SMEs, especially in context with performance measurement, with limited information available, a phenomenological method is appropriate.

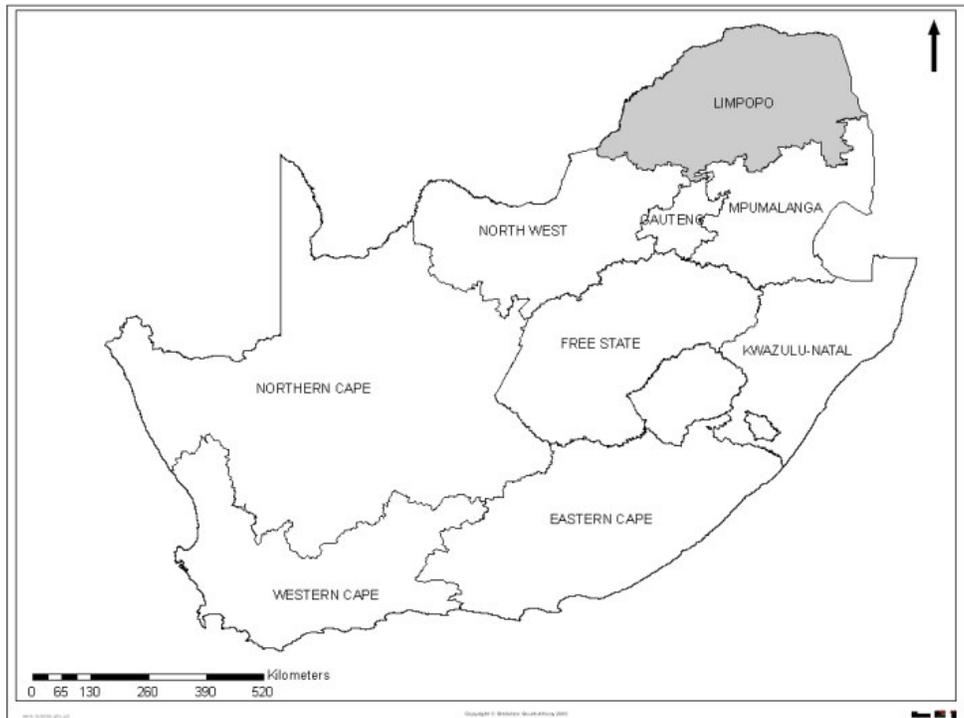
### **3.2 Research sample**

The nature of research does not always allow one to study an entire population, in this case all ICT SMEs in the population. A sample is part of a larger population and should preferably represent the population (Diamantopoulos and Schlegelmilch, 2005).

### 3.2.1 Sample selection

The population from which the sample was chosen is ICT SMEs in the Limpopo Province of South Africa. South Africa consists of nine provinces with Limpopo at the northern most point of the country. A map of South Africa indicating the Limpopo Province is shown in Figure 3.3.

**Figure 3.3 South Africa, Limpopo**



Source: Statistics South Africa (2004)

The Limpopo province represents 10.2% of the total area of South Africa. The majority of the population of Limpopo live in non-urban areas, making Limpopo one of the least urbanised provinces in South Africa (Statistics South Africa, 2004). The total population of Limpopo was 5 273 642 during the national census in 2001 which represents 11.8% of the South African population. Unemployment in the province is estimated at 71.8% (Statistics South Africa, 2004). Limpopo contributed 6.7% to the Gross Domestic Product (GDP) of South Africa according to the latest provincial profile of Statistics South Africa (2004). Table 3.3 shows the population and contribution to GDP by province.

**Table 3.3 Population and contribution to GDP by Province**

Province	Population	Contribution to GDP %
Eastern Cape	6 436 763	8
Free State	2 706 775	6
Gauteng	8 837 178	33
KwaZulu-Natal	9 426 017	17
Limpopo	5 273 642	7
Mpumalanga	3 122 990	7
Northern Cape	822 727	2
North West	3 669 349	6
Western Cape	4 524 335	14
<b>South Africa</b>	<b>44 819 778</b>	<b>100</b>

Adapted from: Statistics South Africa (2004)

A demographic view of the Limpopo Province is provided in Table 3.4.

**Table 3.4 Limpopo Province demographic information**

<b>Sex</b>	Female	55%	Male	45%
<b>Home language</b>	Afrikaans	2%	Tshivenda	16%
	English	0.5%	Xitsonga	22%
	Sepedi	52%		
<b>Age</b>	15 – 24	21%	45 – 54	8%
	25 – 34	16%	55 – 64	5%
	35 – 44	13%		
<b>Education</b>	Grade 12 / Standard 10		14%	
	Higher		7%	

Adapted from: Statistics South Africa (2004)

The economic sector for business services employs only 5% of the labour force in the Limpopo Province (Statistics South Africa, 2004).

A purposive sampling approach was used to ensure that participants can provide as much information as possible (Leedy and Ormrod, 2005). This approach was adopted to ensure that participants added value to the research.

The participants that were involved in the study were selected from the Limpopo Province with a specific focus on the City of Polokwane, the main city and economic hub in the Limpopo Province. This sample was directly accessible by the researcher at a low cost.

A list of all SME ICT service providers in the sampling area was used as the sampling frame. The sample frame is listed in Table 3.5 and represents the population.

**Table 3.5 Sample frame**

<b>Company Name</b>	<b>Company Name</b>
2KG International	Limpopo Information Technologies
Accetech Limpopo	Malhi Trading & Projects
Blue Six Business Enterprise	Meso ICT Solutions
BurikaIT	Moetsapelo Trading Enterprise
Bokang Technologies	Mogale Intergrated Management
Bucan Office Equipment	MMCons
Chipiwa Consulting cc	North Shore Trading
CMN IT Connections	Northern Fiber Optic
Computer World	Palesa Tech
Computers 'R' Us	Peter Chauke PC Works
Data Inn	Pshika Trading Enterprise
Enabling ICT Solutions	Ramakgolo IT Consultants
Esperi Computers	Ramoroko Electrical Contractors
Future Source Technologies	Selecom New Media
Ikando (Pty) Ltd t/a iTMaster	Setibe Business Trading
Ingelosi Trading	Silver Solutions
Itellitech	Sunship IT Consultants
Jesten Technologies	Thabiso IT
Joon IT Connections	TNS Networking Solutions
Kwara IT	Twin-G Technologies

The research required a minimum of 5 participants and a maximum of 10, due to time constraints. The final sample size was determined by the availability of Directors and Senior Management at the time of study, as well as their willingness to participate. It should be noted that the larger the sample the more conclusive and informative the results of the study would be (Diamantopoulos and Schlegelmilch, 2005).

To participate in the research, an SME had to:

- Fit the description of a SME according the National Small Business Act (South Africa. Government, 2003) and as described in Section 2.7,
- be based in the Limpopo Province,
- provide services in the ICT industry, and
- had more than 5 and less than 50 employees.

### **3.2.2 Sample bias**

The sampling was biased in certain ways. It only represented SMEs in a specific geographical area and only the willing participants were involved in the study. As the final sample of participants all had organisational relationships with SMEs and large organisations in other provinces as well as nationally, the geographical bias was minimised as these organisations were influenced by other organisations. Purposeful sampling also created some bias although it ensured that meaningful contribution was made to the research.

The participants might have been willing to participate in the research because of certain pretences towards performance measurement which would have influenced the objectivity of the results. The research instrument and the approach of the researcher during the interview were structured in such a way as to attempt to eliminate any pretences of the participant without influencing him or her.

### ***3.3 Measuring instrument***

Lee (1999) noted that the researcher is the main research instrument when following a qualitative approach. A predefined interview structure was developed before engaging in interviews to act as guide in the interview process and ensure that all relevant areas are covered in the interview.

### 3.3.1 Interview schedule

The literature review provided the basis for the structure of the interview, which was used to determine the usage of performance information in the sample (See Appendix B for the interview schedule used). The three main sections of data gathered were demographic data about the organisation, knowledge of performance measurement and the use of performance information within the organisation.

The following literature informed the interview schedule and is discussed in more depth in Chapter 2:

- The attributes of performance measures (Hudson, *et al.*, 2001),
- The dimensions of performance (Hudson, *et al.*, 2001),
- The characteristics of performance measurement frameworks (Garengo, *et al.*, 2005),
- The elements of performance management (Bititci, *et al.*, 2000),
- The obstacles experienced in developing and implementing a performance measurement frameworks (Hudson, *et al.*, 2001; Manville, 2007; Sousa, *et al.*, 2006),
- The requirements to ensure successful implementation of a performance measurement framework (Bourne, *et al.*, 2002; Turner, *et al.*, 2005), and
- The characteristics of SMEs that create obstacles to the implementation of performances measurement frameworks (Garengo, *et al.*, 2005),

The interview schedule (Appendix B) was structured in such a way that data could be related to the literature during the analysis of the data. The structure was as follows:

- Demographic data: The number of employees, annual turnover, number and types of clients, products and services rendered and the organisational strategy. This provided a background of the organisation and was used to determine and ensure that the participant is suitable for this study. An overview of the organisational strategy also provided the opportunity to

determine whether the performance measures and performance measurement frameworks in place were aligned to the strategy.

- Knowledge about performance measurement in the organisation: Familiarity with performance measurement frameworks and the perceived value of such frameworks. This section indicated the knowledge of performance measurement and management in the organisation. The potential benefits of using performance measurement frameworks in the light of the participating SMEs were evaluated. These benefits include organisational growth, linking operations with the organisational strategy, creating long and short term goals and providing management with a tool to manage the organisation, using relevant and up to date information.
- The use of performance measurement information in the organisation: Which measures are used and how were they selected, how the measures are used and the barriers in the use and implementation of performance measures.

Guiding questions based on the literature were incorporated in the schedule to assist the researcher in guiding the interviewee. The purpose of guiding questions was not to force the interview into a structured question approach, but merely to ensure that all possible areas are covered. The nature of the interview, being open ended, would allow the participant to answer freely. The structure of the interview would be adapted as the research and interview process continue to ensure that relevant and reliable data would be collected.

### **3.3.2 Validity and Reliability**

The Validity and Reliability of instruments and research design are important to ensure that the research question is answered in an authentic manner (Leedy and Ormrod, 2005). Validity of research instruments ensures that research results have a high level of confidence (Maimbo and Pervan, 2005).

The instrument used in this study is representative of the information available on performance measurement and thus has a high content validity. Further, the instrument was informed by the literature and covers the domain of performance

measurement, which is a confirmation of validity (Lee, 1999; Leedy and Ormrod, 2005).

Construct validity of an instrument is the extent to which the instrument measures what it should measure (Lee, 1999). Certain interviewees were approached to review and validate their transcripts as a method to ensure that the interview was accurately interpreted.

Furthermore, experts in the field of performance measurement were requested to analyse the instrument to ensure that the instrument measures the required characteristics of performance measurement. The feedback from experts was used to adapt the instrument where it was required.

The reliability of an instrument is the degree to which it provides consistent results repeatedly (Maimbo and Pervan, 2005; Leedy and Ormrod, 2005). To enhance reliability the instrument was administered in a consistent and standardised manner. The interview transcripts were reviewed to ensure that no inconsistencies between single responses exist. This indicated that interviewees interpreted the questions correctly, understood the questions posed and provided consistent responses which are an indication of reliability (Maimbo and Pervan, 2005).

The instrument was also applied to one participant on two different occasions and provided similar results. This is referred to as test-retest reliability (Leedy and Ormrod, 2005). The researcher conducted the interviews personally and had a sound knowledge of the domain of performance measurement, thus applying the instrument consistently. This further strengthens reliability.

While reliability ensures that instruments obtain similar results consistently it is a requirement for validity (Leedy and Ormrod, 2005). The reliability of the instrument is further ensured by its validity.

### ***3.4 Data types and collection***

Primary and secondary data sources, as obtained from participants, were used for analysis.

### **3.4.1 Data types**

Primary data is the data obtained that provides the most facts, are directly applicable to the research and can be collected by means of surveys, interviews and observations (Leedy and Ormrod, 2005). Data that are not collected specifically for this study and that has a different purpose, are referred to as secondary data (Diamantopoulos and Schlegelmilch, 2005).

Qualitative studies mostly use observation, focus groups and interviews as primary data collection techniques (Leedy and Ormrod, 2005). Primary data collection in this research, using a phenomenological approach, was done with the use of lengthy semi-structured interviews.

Semi-structured interviews are a combination of structured and unstructured interviews (Lee, 1999). This approach was followed since a small portion of the interview had fixed responses. These interviews were used to gather information that provided a holistic picture of the situation and views of the sample SMEs.

Organisational profiles, performance related documentation and related documented policies and procedures were collected as secondary data.

### **3.4.2 Data collection**

Two hour interview sessions were scheduled and conducted with Directors and Senior Management of the selected participant SMEs. The nature of the semi-structured interview with open ended questions resulted in unconstrained answers from interviewees (Leedy and Ormrod, 2005). This type of interview provided interviewees the opportunity to respond on issues in a way that a formal questionnaire or survey may not allow.

The open ended questions were explained in depth to participants to ensure understanding, and were guided by possible answers, for example certain dimensions, barriers or usage patterns. The response from the interviewee was discussed to ensure that the situation was fully understood by the researcher. The interviews were recorded, with the consent of the interviewee, and written notes were taken.

Due to the expected lack of performance management related knowledge in SMEs, the researcher avoided the use of technical terms and information, for example different dimensions of performance and specific frameworks, but guided the interview so that dimensions and other information could be categorised at a later stage.

Notes were typed using a word processor and areas of uncertainty were confirmed using the recorded audio and by comparing the notes with the transcripts. Follow up interviews were scheduled in instances where more information was required.

During the interviews relevant documented information was obtained as secondary data.

### **3.4.3 Ethical issues**

To ensure an acceptable ethical standard for this research, certain steps were taken.

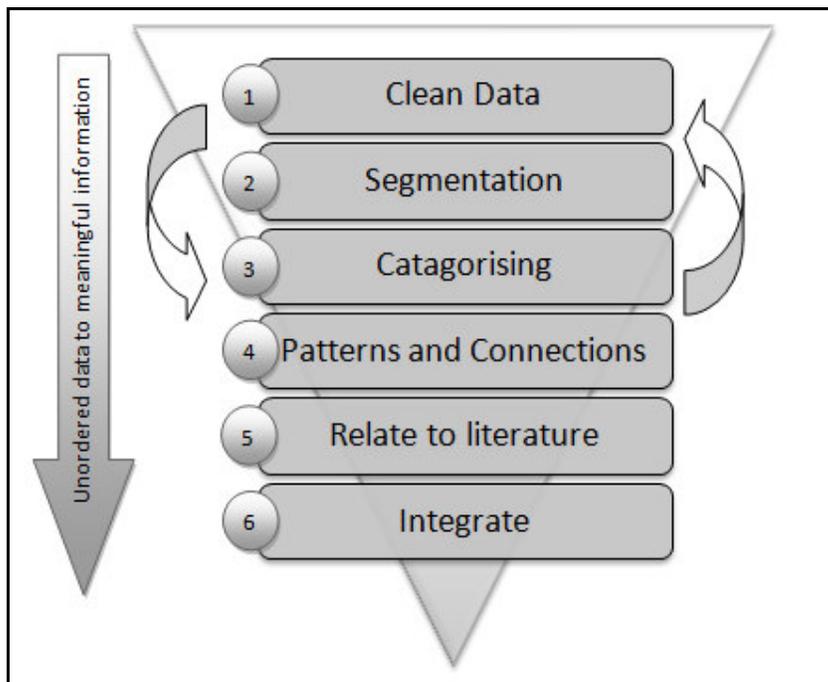
- A signed letter of confidentiality and consent was provided to all participants as well as a verbal confirmation that all information provided will be held strictly confidential and will not be used for any other purposes than this study. The letter of consent is attached as Appendix A;
- The researcher communicated the purpose of the study in full and answered all questions that the participant had regarding the research. Further, it was made clear that participation in the study is strictly voluntary. This created a reciprocal trustworthy relationship and ensured full consent on the part of the participant;
- The participant and organisation had the right to stay anonymous and thus not using the actual identity of the participant in the study;
- The interviewee was made aware of, and consented to, the usage of an audio recorder and written notes during the interview;
- The researcher's contact information, previous experience and qualifications was made available to participants; and
- The final research report was made available to all participants.

### 3.5 Data analysis

Data analysis techniques were used to extract meaning from the data gathered (Leedy and Ormrod, 2005). Several steps were followed (Figure 3.4) where the end result was a general description of the findings. The data analysis process was based on the guidelines from Leedy and Ormrod (2005) relating to data analysis for phenomenological studies.

Logical reasoning was used to complete the analysis process. Although the instrument was deduced from the literature, an inductive reasoning approach was used during the analysis process (Leedy and Ormrod, 2005).

**Figure 3.4 Data analysis process**



At the time of data analysis the researcher was already familiar with the data and the typed transcripts were used as a starting point for data analysis. This step in the process was the reduction and cleaning of data to ensure that only relevant data were analysed in the analysis steps to follow. The transcripts were reviewed and irrelevant information removed. The open-ended question approach that the interview followed allowed for some information to be recorded that was of no importance to

this study. The data was captured using Microsoft Excel and the respondents were numbered.

Step two involved the segmenting of data where the transcripts were broken down into small meaningful segments and specific thoughts (Leedy and Ormrod, 2005). The segments were related to the questions and areas covered in the interview to be analysed as a whole. These areas are:

- Demographic information regarding the organisation
- The knowledge about performance measurement in the organisation.
- The use of performance measurement in the organisation.

The third step involved grouping the statements into categories or meaningful units. The categories were related to the area of performance measurement and were as follow:

- The strategy of the organisation. A brief overview of the strategy of the organisation provided background information for investigating the usage of performance information.
- Familiarity with performance measurement and measurement frameworks.
- The perceived value and benefits of performance measurement and measurement frameworks.
- The measures used.
- How these measures were selected.
- The usage of performance measurement information.
- The barriers experienced in implementation.
- The problems experienced with the usage of performance information.

In the fourth step patterns and connections were identified. These were done to provide answers to why certain measures and approaches were or were not used. Also, this step considered the different approaches that the sample of participants adopted towards performance measurement. Some approaches might be the use of a pre-defined framework, linked to strategy and organisational goals or an ad-hoc approach. Steps one to four were repeated until data was organised in a meaningful manner.

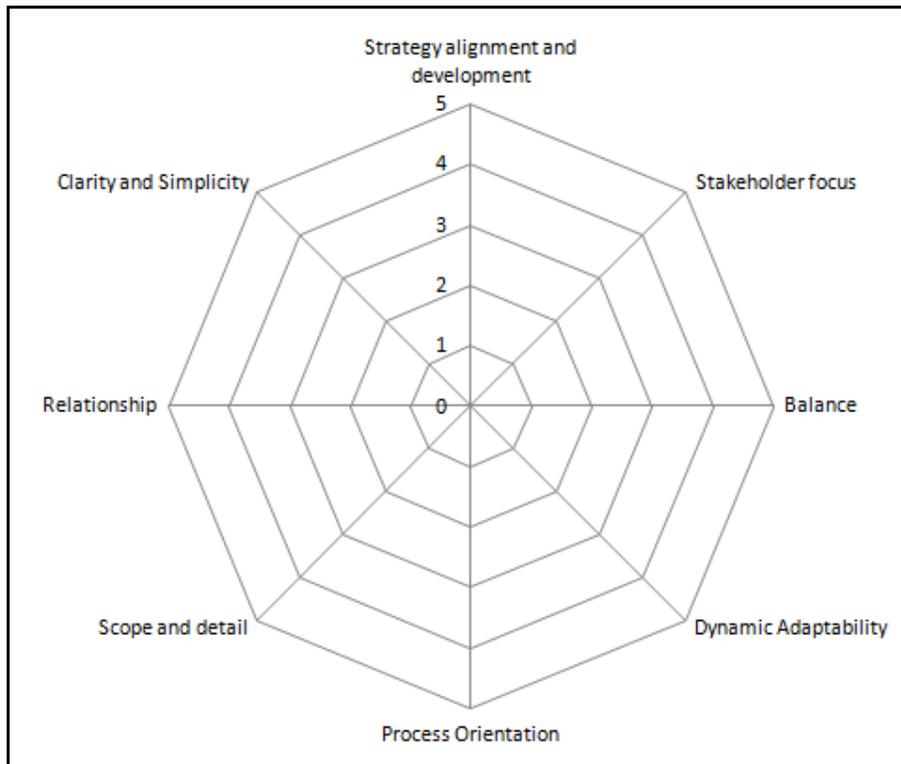
The fifth step related the findings to the reviewed literature. The following were compared to the findings.

- Attributes of performance measures as described in Section 2.1.
- The dimensions of performance as in Section 2.2.1 was used to analyse measures within the organisations. Table 3.6 was used to indicate the attributes and dimensions of performance.

**Table 3.6 Measure analysis**

Measure	Attributes of performance measures							Dimensions of Performance					
	Derived from strategy	Clearly defined with an explicit	Relevant and easy to maintain	Simple to understand and use	Provide fast and accurate feedback	Link operations to strategic goals	Stimulate continuous improvement	Quality	Time	Flexibility	Finance	Customer Satisfaction	Human Resources
1													
2													
3													

- The characteristics of performance measurement frameworks as in Section 2.2.2 was used as basis to map the measures, using Figure 3.5, and provide an indication whether the measurement framework used will respond to the needs of the SMEs. This was done by evaluating the prominent measures in combination with the primary and secondary data by means of triangulation and plotting the results against every axis of Figure 3.5 on a scale of 1 to 5.

**Figure 3.5 Framework map**

- The usage of performance information in the management processes of the organisations will be assessed, using Section 2.3 as a guide. This information will provide clarity on whether SMEs in the ICT sector act on performance information, thus applying it in their management activities and strategy formulation.
- Barriers in the implementation and usage of performance measurement frameworks as in Section 2.6 and Section 2.8.

The last step was informed by the previous steps. The information was integrated to interpret and describe the situation. The information was used to determine the gap between theory and literature, and to propose a means for SMEs to use and gain from performance measurement within their unique environments.

### **3.6 Limitations to the study**

The competitive nature of the industry and specifically SMEs in a small city like Polokwane resulted in a low response rate of the sample. This was due to the

sensitive nature of performance information and the risk involved in divulging it to others.

The competitive environment and sensitive nature of the information required also created a scenario where participants might have exaggerated certain aspects of their organisation. To counter act this response the researcher ensured the participants that information will be held strictly confidential and would only be used for the purposes of the study while the participants had the option to stay anonymous.

The qualitative approach and use of semi-structured interviews with open ended questions, might lead interviews to focus on areas less relevant to the research. The researcher strictly kept to the research instrument and applied it in a consistent manner to ensure that the correct and relevant data was gathered.

Another limitation of this research is that only SMEs in a specific geographical area were studied and are not necessarily comparable in all situations. The geographical area also contains a small population which influenced a smaller sample and response rate. This also contributed to a biased sample.

The sampling was biased because the whole population did not have an equal chance of selection. Also, respondents that were not willing participate in the study and make time for the interviews, influenced the sample not to be a random selection of the entire population.

With the small research sample used, purposeful sampling ensured that participants selected would provide insightful and content rich information on the topic of research, thus enabling a certain extent of generalisation.

The low response rate indicates that generalisations to the entire population should be done carefully. The study still provides meaningful insight towards performance measurement and SMEs.

Qualitative analysis introduces a sense of the researcher's subjectivity which was limited by basing the analysis on facts obtained from the data while not make ungrounded assumptions.

### ***3.7 Assumptions of the Study***

The researcher assumed that the participants in the study were competent practitioners in the ICT environment, and possessed some management skills.

Another assumption was that these participants were willing to share information honestly, in the purpose of improving their organisational performance measurement frameworks and assisting the researcher to conduct a detailed and accurate study.

The researcher also assumed that the organisations are of such a nature, due to their line of business and operations, that performance measurement should be practiced in an attempt to achieve their organisational objectives. Based on the literature review, it was further assumed that the usage of performance measurement is practical for SMEs, as well as beneficial.

Finally, the researcher assumed that to start managing performance, an organisation must first measure performance in an effective and consistent manner. Thus, the main focus of the research was performance measurement.

### ***3.8 Chapter summary***

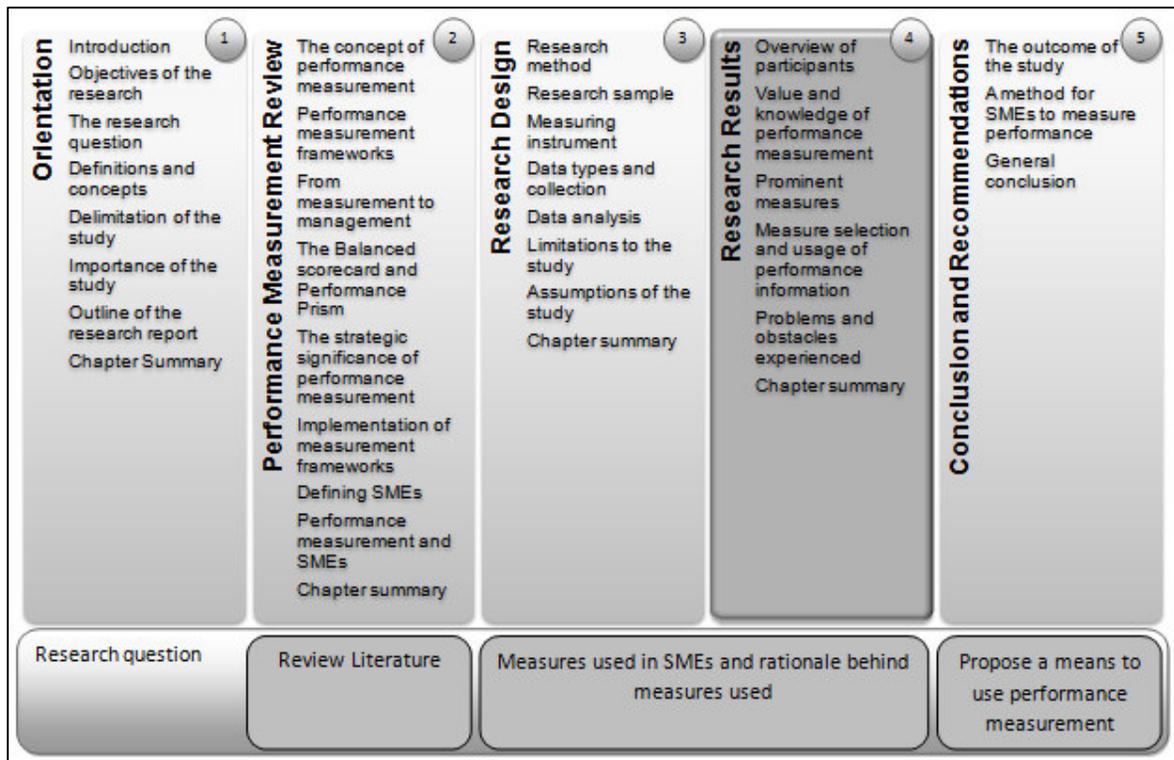
The research design was discussed in this chapter. An evaluation of different research approaches proved that a qualitative approach was best suited for this research. The limited information available in the field of performance measurement that is related to SMEs created an environment where a phenomenological study was appropriate.

The sample selection and procedure for data collection was described. The interview schedule was provided in Appendix B. The data gathered was analysed using several steps, starting from organising the data and ending with a description of the situation. Analysis included relating the data to the literature. The assumptions and limitations to the research were also discussed.

## 4 Research Results

The results of the research are discussed in this chapter. An overview of the sample and participants is presented and their knowledge and perceived value of performance measurement are described. The prominent measures used in these organisations as well as the reasons for selection and usage of these measures are discussed. The problems experienced by the sample of SMEs regarding the implementation and use of performance information are explained. Figure 4.1 provides a graphical layout of this chapter.

Figure 4.1 Layout of Chapter 4



### 4.1 Overview of participants

The demographic information of participants and an overview of the organisations were compiled from the primary and secondary data. Further, the organisational performance measurement activities relating to familiarity with performance measurement, the measures used, the usage of performance information and the

obstacles experienced in the measurement of performance in the organisations are briefly provided.

Table 4.1 tabulates general comparative demographic data of all participant SMEs which is further discussed in the sub-sections to follow.

**Table 4.1 Demographic data of participants**

<b>SME</b>	<b>Number of Employees</b>	<b>Years in business</b>	<b>Target market / sector</b>	<b>Structure</b>	<b>Formal strategy</b>
SME A	12	8 years	Private, semi-government and government	Hierarchical	No
SME B	12	3 years	Private and semi-government	Flat	No
SME C	17	6 years	Government and semi-government	Hierarchical	No
SME D	8	8 Years	Government and semi-government	Flat	No
SME E	6	4 years	Private	Flat	No
SME F	18	1 year	Government and semi-government	Hierarchical	No
SME G	13	9 months	Private, semi-government and government	Hierarchical	No

#### **4.1.1 SME A**

SME A has been operational for eight years and employs 12 full-time employees and 20 part-time consultants that are managed according to a hierarchical organisational structure. The SME provides ICT related services, consulting and labour broking services to public and private sectors. The organisation has the vision to become the preferred service provider for whom the main organisational objective being to grow the organisation and seize more opportunities although no formal strategy is followed.

Management in this SME was familiar with performance measurement and are actively applying it in the organisation, although no specific framework is used. The purpose of performance measurement in this SME was to measure the performance of employees as well as to measure how the organisation is governed. Further, the purpose of performance measurement was described by the participant as:

*“to take away some subjectivity and instil some sense of objectivity in the process”.*

It was indicated that the benefit of performance measurement was that it provides feedback to management from which informed decisions can be made. Performance measurement also assists this SME to achieve its strategic objectives.

The manual performance measurement framework that has been implemented uses targets based on project deliverables and the project charter, employee responsibilities and several financial indicators. Monthly performance review sessions are held with administrative and project based employees to determine their progress and performance. The SME's management act on performance related information by finding solutions and placing timeframes for achieving these solutions. After the period has lapsed, further actions are taken. Management indicated that performance measurement is a tool that enhances management's analysis of the business and resources.

Responses indicated that the time consumed by performance measurement is helpful as it determines where the organisation and its employees are in relation to what should be achieved. Compensating for external influences that impact measures and metrics was found to be an obstacle when measuring performance. This SME also experienced challenges to continuously have projects in the pipeline as there are periods where certain employees do not have a project to work on.

#### **4.1.2 SME B**

The second participant has a flat organisational structure with two directors at the head of the structure. The organisation has been in business for three years and mainly provides services to semi-government agencies and the private sector. Limited government business is conducted by this SME. SME B focuses mostly on hardware supply and installations, Service Level Agreements (SLAs) and networking, where networking was a key strength. SME B did not have a defined strategy or strategic objectives in place although certain equity, empowerment, skills and management structure targets were in place.

The organisation had limited knowledge of performance measurement without being familiar with specific performance measurement frameworks. The SME had an

internally developed performance matrix that is used as a basis to measure performance.

The responses indicated that performance measurement frameworks can assist the organisation in achieving its objectives while removing emotion from the business and implementing the science of business, thus providing balance. Further, it was indicated that performance information should be used for benchmarking purposes, among others, but this was not done in this SME.

This SME measures performance mainly from an employee perspective which covers areas from employee commitment to debtors' days and revenue. Employees are reviewed twice a year where incentive schemes are attached to results. Other performance measurement information such as financial data is reviewed daily. This SME takes action on performance information by attempting to find the root causes of problems or issues and resolving them.

Management in this SME indicated that performance measurement can provide value to an organisation, although this value was not realised due to implementation issues. The main problem experienced in performance measurement was the lack of top management support in fully enforcing the implemented performance measurement framework and not allowing employees and management the required time to measure performance. Another problem that was indicated by the participant was that:

*"measurement is done on hear-say, rather than facts and figures".*

Knowledge about the usage and approach of the implemented system was also lacking as no formal training or induction was provided to employees prior to using the performance measurement framework. Another problem was that of monitoring measures and was indicated as a cost to the SME. Further, although the time required for measuring performance was found to be beneficial to the organisation, the required time was not spent.

### 4.1.3 SME C

SME C is in business for six years and focuses mainly on the government and semi-government sector with the provision of hardware and related services, communication services and information technology consulting. This is done within a hierarchical organisational structure which manages 17 employees. There are strategic objectives in place but no strategy has been implemented due to time constraints.

Knowledge about performance measurement frameworks, although limited, was available in the organisation, specifically the Balanced Scorecard. The purpose of performance measurement was stated by the participant as:

*“to increase performance and productivity”.*

Management recognised the value of performance measurement, especially to achieve organisational objectives, and further indicated that performance measurement frameworks provide clarity to organisational results. The SME has a limited manual or paper based framework in place to measure organisational and employee performance. The framework has been improved and updated over time to measure more relevant metrics and not only financial indicators. This SME mostly measured financial performance at the time of the study and this was measured and reviewed on a weekly basis. Measurement information is used and acted upon 50% of the time by attempting to alleviate the problem.

Regarding the obstacles faced by this SME, the respondent indicated that:

*“If we implement it, it will really solve a lot of the problems in the company.”*

The biggest problem with performance measurement experienced by SME C was the time to implement and track performance. The selection of appropriate measures that keeps all environmental factors, internal and external, in mind was also problematic. Management of this SME also found that the cost of performance measurement increased as the measurements was automated with the support of relevant IT and software systems.

The current financial system did not have up to date information, which created an obstacle in obtaining real time performance related information. The culture of the organisation was also found to pose an obstacle to performance measurement as employees have shown resistance to measurement. This resistance is mainly because performance was not actively measured within the SME until recently.

#### **4.1.4 SME D**

The fourth participant uses a flat organisational structure to manage eight employees and provide services to government and semi-government clients. The SME is in business for eight years with no formal strategy. Services provided included the provision of hardware and software, computer repairs and cabling services. Most services are provided with the use of outsourced technicians and specialists.

The SME did not have any knowledge of performance measurement or performance measurement frameworks but were busy researching the area as management sees real value in performance measurement and are thus familiar with it. Management indicated that a performance measurement framework will assist them with organisational goal achievement and they would implement some type of performance measurement framework shortly. The participant pointed out that performance measurement:

*“is a way to see whether what we are doing is leading us to goal achievement.”*

The main metrics being measured were profit and the number of orders received. Current measures were selected from a record keeping point of view. The organisational financial statements are also reviewed from time to time and exceptions are acted upon.

Negative trends in these measurement areas were acted upon by meeting with the responsible parties and improving the situation. Other elements, like customer complaints, are acted upon by exception. Time was the only obstacle found in the process of performance measurement although management of this SME is of the opinion that if implemented correctly, time should not be an issue.

This SME indicated that government clients create obstacles to the SME with late payments, the splitting of business between several organisations and unethical behaviour of government officials.

#### **4.1.5 SME E**

This SME provides a wide spectrum of IT related services, hardware supplies, technical support and web related services to the private sector. The SME does not have a formulated strategy or defined organisational goals, although their underlying strategic focus is high quality client service. They provide their services with a flat organisational structure and employ six employees. SME E has been in business for four years.

There was no knowledge of performance measurement or performance measurement frameworks in this organisation. Management indicated that:

*“formal performance measurement is not suitable for small businesses, and cannot provide real value in this [SME’s] situation.”*

SME E indicated that the need for a formal performance measurement framework will arise as the organisation grows and they will benefit from it at that time.

Management acknowledges that performance would need to be measured when there is a specific target that needs to be achieved as performance measurement would indicate the organisational performance. Performance measurement would provide an indication if their service, products and client satisfaction are on the right standard. SME E’s management indicated that the organisation would first need to grow, before it starts implementing formalised frameworks as such.

This organisation focuses mainly on measuring service related metrics, i.e. problem solving, call-out time and client satisfaction. Operational measures are measured manually whilst financial measures are tracked with a financial system. For example, although management find cash flow to be important, the focus of measurement is service, as without service there would be no cash flow. Performance information is acted upon by attempting to improve the situation. The main organisational challenge

is finding and keeping technical expertise which will not be solved with performance measurement alone.

#### **4.1.6 SME F**

SME F has very limited knowledge of performance measurement and is not familiar with any frameworks. The organisation provides ICT infrastructure related services to government and semi-government clients through a defined hierarchical structure and 18 employees. Further, the SME has only been in business for one year. The SME has no real strategy in place but have an organisational goal of growth, especially in the private sector. The new organisational objective of growth in the private sector is due to problems experienced with relying on government business alone.

Management of SME F are currently enrolled in a business management course to improve their organisational management skills. This SME realises the benefits and value of performance measurement and was in the process of improving and implementing their organisational strategy, operational controls and performance measurement systems with the assistance of external consultants that would ensure they operate on industry standards.

The participant indicated that the value of performance measurement is to:

*“determine growth in terms of achieving the overall objective”.*

Also, performance measurement information provides a better understanding of the environment.

The main measure for this SME is Gross Profit per region that the organisation operates in; however, management accepts that this should be broadened to cover more organisational aspects, including soft skills of employees. For operational purposes, closed, completed and outstanding calls of technical personnel are monitored on a weekly basis, although these have been specified as non-prominent measures. Measurements are tracked with the use of in-house developed database software which is up to date and reliable.

Performance measurement information is acted upon by resolving the issue at hand. The culture of the organisation is slowly being changed to accommodate the new measurement and control systems that will be implemented.

#### **4.1.7 SME G**

The final participant provides ICT related services to government, semi-government and private sector clients. This SME has been in business for nine months at the time of the study and employs 13 employees which are managed in a hierarchical structure. As the company was only recently established, a focus on specific products or ICT solutions has not yet been established. The company has no defined organisational strategy in place but has a vision of becoming the leader in the provision of ICT solutions and IT related goods and services.

Management of this SME are familiar with performance measurement but do not have the time to put a performance measurement framework in place. Management pointed out that such a framework will be implemented once a proper business model is in place as at this time other elements of the organisation have priority.

The purpose of performance measurement was found to determine the SMEs current state which will then be used to determine how the organisation can reach its five-year objectives. Management will also adopt the objectives and operational plan as environmental factors changes.

This SME uses turnover, new business opportunities and Service Level Agreements (SLAs) with clients as a basis to measure performance. In the event that terms defined in an SLA are not met, the organisational processes and business model would be re-engineered to ensure that adequate service is delivered. Other methods used to track performance are based on internal policies and procedures. All elements and procedures within the organisation have been documented and are constantly updated.

Management indicated that a performance measurement framework will provide value to the organisation. Further, the participant pointed out that:

*“the most important thing is to implement PMS properly”*

An obstacle to the SME is the monitoring of measures as well as the time spent on measurement.

#### **4.2 Value and knowledge of performance measurement**

The SMEs that represented the sample in this study had no or very limited knowledge of performance measurement and performance measurement frameworks. The sample did not prioritise performance measurement because the benefits of performance measurement are not directly identifiable in comparison with the resources required for successful performance measurement, which was also found by Neely, *et al.* (2000). The sample did indicate that performance measurement will be prioritised at a later stage, after a certain level of organisational growth has occurred.

Table 4.2 briefly tabulates the knowledge and value of performance measurement and performance measurement frameworks in the sample SMEs.

**Table 4.2 Knowledge and value of PM**

<b>SME</b>	<b>Knowledge of PM</b>	<b>Value of PM</b>
SME A	Familiar with PM, have heard of the BSC.	Enhances management analysis, instils objectivity, assist with achieving strategic objectives
SME B	Very limited, no performance measurement frameworks	Provides balance to business, assist in achieving objectives
SME C	Limited, familiar with the BSC	Does see value in PM, especially to reach organisational objectives
SME D	Limited knowledge of PM, researching the subject area	PM will assist organisation to see if actions are leading to goal achievement
SME E	No knowledge of PM	Does not see value in small organisations, would be valuable if a target needs to be achieved
SME F	Very limited, no performance measurement frameworks	Growth in terms of achieving the overall objective
SME G	Familiar with PM, no performance measurement frameworks	To determine the organisation's current state and derive a method to achieve objectives

These SMEs are not familiar with performance measurement frameworks with the exception of the Balanced Scorecard in one SME.

The sample indicated that there is definite value in performance measurement, although performance measurement is not applied comprehensively in these organisations. Sousa, *et al.*, (2006) also indicated that SMEs recognise the potential value that can be provided by performance measurement but do not implement and use such frameworks. All participants in the sample measured certain metrics in their organisations although no formal approach was followed.

The foremost benefit from performance measurement was indicated as goal achievement and the tracking of progress towards achieving organisational goals. This was also found by Gumbus and Lussier (2006), especially with the use of the Balanced Scorecard. Increased performance and productivity was also a highly acclaimed value of performance measurement.

Some respondents indicated that performance measurement has the advantage of instilling a sense of objectivity while removing unnecessary subjectivity and emotion from the management of the organisation. Performance measurement also provides feedback for management to base decisions on.

Even though the SMEs in the sample did not have officially implemented performance measurement frameworks in place, the sample indicated that these frameworks can solve various organisational problems and add value to their organisations. One organisation indicated that in small businesses no real value can be added with the use of performance measurement frameworks, although it was seen as a requirement as the organisation grows. Manville (2007) supports the statement that the cost of implementing a performance measurement framework outweighs the benefits to SMEs, although the researcher and various other authors contradict this notion (Turner, *et al.*, 2005; Garengo, *et al.*, 2005).

### **4.3 Prominent measures**

The SMEs in the sample used mostly financial indicators, although some were using different operational measures, which were also found by Jarvis, *et al.* (1999). The measures used by participants are listed and analysed in the following sub-sections, and integrated in Section 4.3.8.

### 4.3.1 SME A

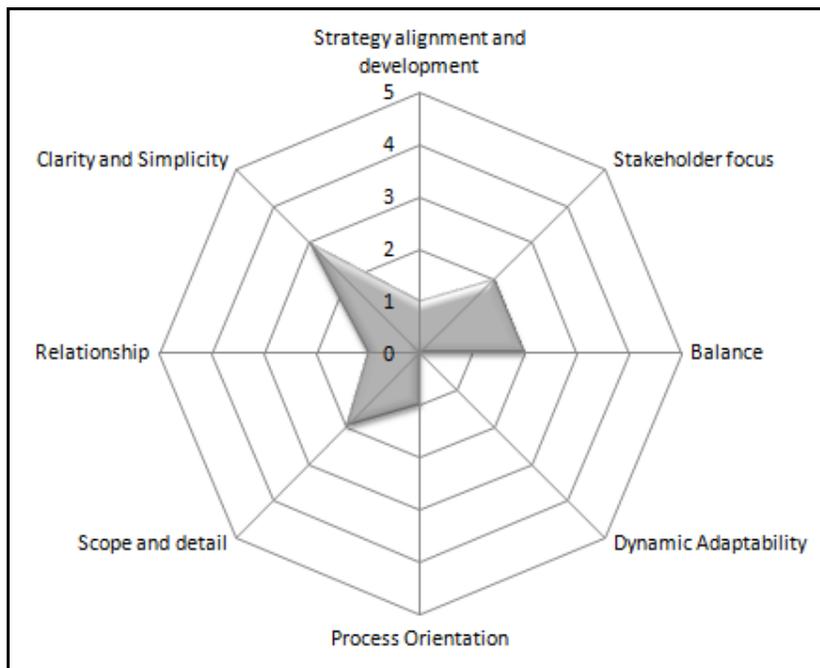
SME A had a relatively wide selection of measures with a focus on financial measures. The prominent measures were indicated as:

- Project deliverables according to the relevant project charter
- Employee turnover
- Billing targets
- Turnover
- Gross profit
- Net profit after tax

Some other measures are according to employee responsibilities and area of operation within the organisation, i.e. administration.

Figure 4.2 provides an analysis of the characteristics of the performance measurement framework adopted by SME A as discussed in Section 2.2.2 and Section 2.8.

**Figure 4.2 SME A framework map**



As SME A did not have a formal strategy, the performance measurement framework adopted does not align with the organisational strategy. The management of this SME did indicate, however, that performance measurement assists the organisation in achieving their strategic objectives which can assist the organisation in further developing their strategy.

The measuring of employee turnover provides an internal stakeholder focus to the organisation, while project deliverables caters for some of the needs of clients as external stakeholders.

The majority of measures employed by SME A are financial in nature while only project deliverables cater for operational performance. Employee turnover and employee responsibility measures does provide a more balanced approach to the organisation performance measurement framework, however, the main focus is on financial measures.

There are no indication that the measures or performance measurement framework of this SME are adaptable to changes in the environment. The measurement of employee responsibilities and the area of operation provides for limited process orientated measures.

The measures that are used by SME A cover some financial, employee and operational aspects which provides it with adequate scope. The details of operational measures are limited though. The measures used do not provide a clear holistic view of the organisation.

There is a relationship between the objective of organisational growth and the financial measures in use. No feedback processes are in place to ensure improvements.

All the measures in use are clear and simple, except for “employee responsibilities” which provides for a complex framework.

### 4.3.2 SME B

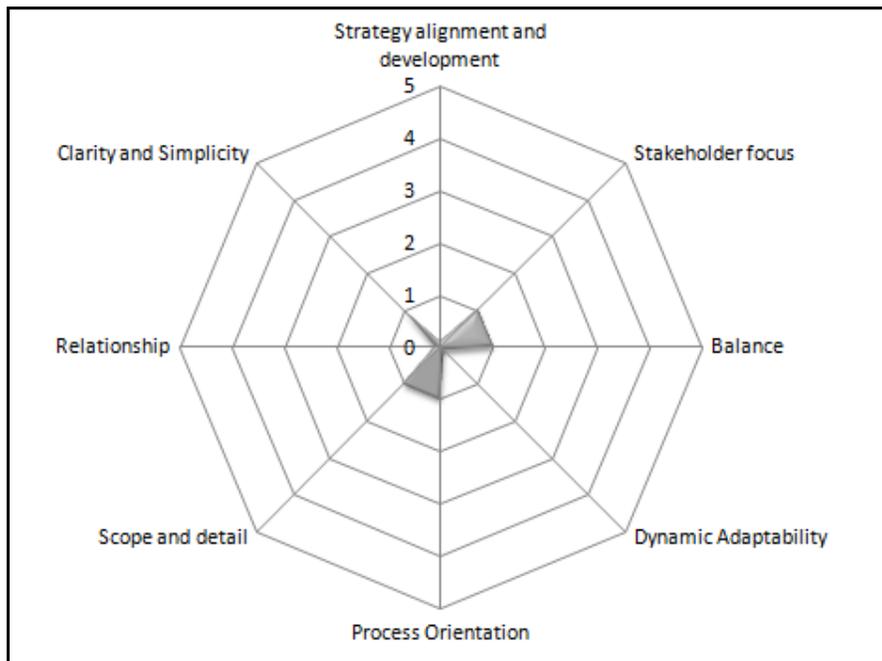
This SME measures organisational performance mainly from an employee perspective, where employee roles and responsibilities are monitored. Some financial measures were also prominent:

- Turnover
- Debtor's days outstanding
- Creditors

Cash flow was indicated not to be of very high importance in this SME.

Figure 4.3 provides an analysis of the performance measurement framework implemented by SME B as discussed in Section 2.2.2 and Section 2.8.

**Figure 4.3 SME B framework map**



With no organisational strategy in place and no visible alignment to organisational objectives, the performance measurement framework does not provide for strategy development, neither is it aligned to the organisational strategy.

There is no focus on external stakeholders, with employee roles and responsibilities as a vague internal stakeholder focus. The defined financial measures provides for an unbalanced performance measurement framework with only employee roles and responsibilities as another area of measurement.

There is no indication that the performance measurement framework is adaptable to changes in the environment. Limited process orientation can be found within employee responsibility measures. The measures employed provide a vague holistic view of the organisation with low detail.

There are no relationship or feedback processes in place. The performance measurement framework is clear but lacks completeness while the employee responsibility measures are complex.

#### **4.3.3 SME C**

This SME focused only on financial measures and is in the process of selecting and implementing operational measures. The measures used are:

- Cash flow
- Revenue
- Debtor's days outstanding
- Creditors

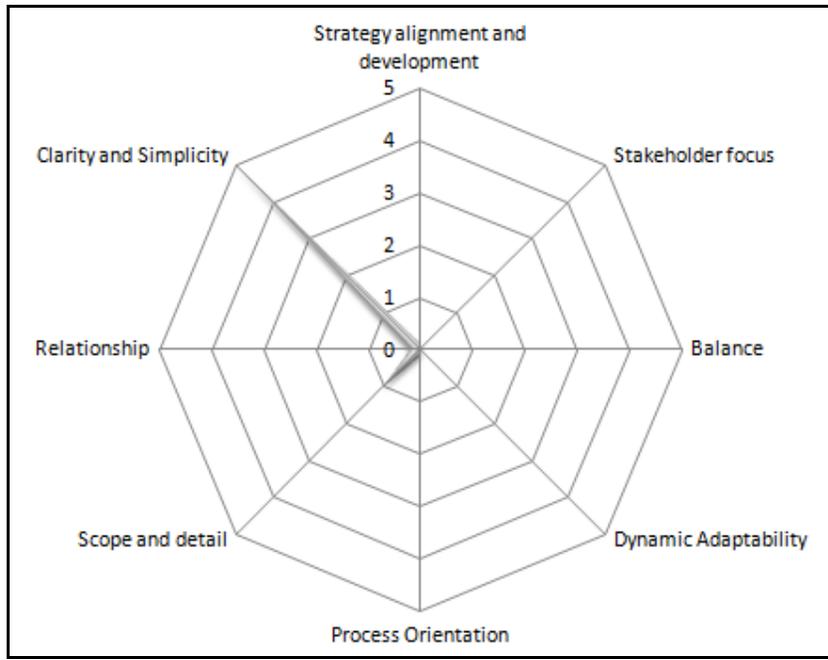
Figure 4.4 illustrates the analysis of the performance measurement framework in place at SME C according to the characteristics of performance measurement frameworks as discussed in Section 2.2.2 and Section 2.8.

An analysis of the characteristics of performance measurement frameworks within this SME reveals that there is no strategy alignment or development from the framework in place. Further, no stakeholder focus, internally or externally, is present.

As the measures currently in place are only financial in nature, the performance measurement framework is unbalanced. The nature of the measurement used provides for no adaptability and also have no process orientation. Further, a very

limited scope is provided by only adopting financial measures, although the financial measures do provide some relevant detail.

**Figure 4.4 SME C framework map**



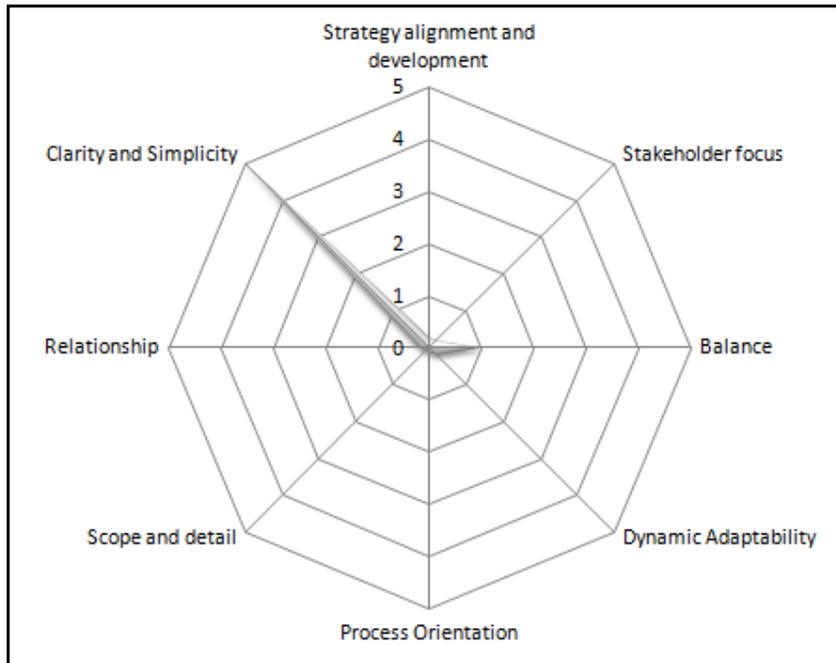
There are no relationship between the measures and objectives. Although a limited number of measures are in place, the performance measurement framework adopted by this SME is clear and simple.

#### **4.3.4 SME D**

SME D has a very small number of prominent performance measures, namely:

- Gross Profit
- Number of orders

Figure 4.5 shows the analysis of SME D according to the characteristics of performance measurement frameworks as discussed in Section 2.2.2 and Section 2.8.

**Figure 4.5 SME D framework map**

With no strategy in place and the small number of measures, no strategy development or alignment is provided for with this performance measurement framework. Further, there is also no stakeholder focus evident from the framework.

As the measures are not only of financial nature, with the single addition of number of orders received, the performance measurement framework is not completely unbalanced. The framework is also not adaptable to any changes in the environment, nor is there any notion of being process orientated.

The measures cover a very small organisational area with little detail. Also, there is no relationship between objectives and performance related results. The type and limited number of measures does provide for a very clear and simple performance measurement framework, although it lacks completeness.

#### **4.3.5 SME E**

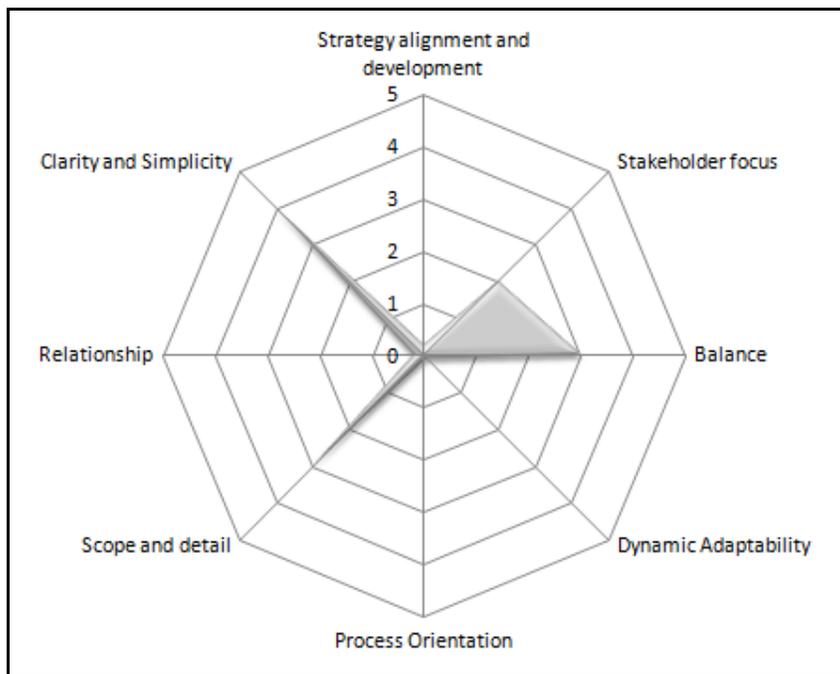
This SME focuses more on customer service and thus have various operational measures. The measures employed by SME E are:

- Cash flow

- Call out time
- Problem solving skills
- Customer satisfaction

The analysis according to the characteristics of performance measurement frameworks as discussed in Section 2.2.2 and Section 2.8 are shown in Figure 4.6.

**Figure 4.6 SME E framework map**



SME E does not have a formal strategy and the measures used does not allow for development of an organisational strategy. The customer satisfaction measure does provide an external stakeholder element to the performance measurement framework of this SME.

The range of measures implemented by SME E provides for a balance between the customer, operational and financial aspects. There is no evidence of adaptability to the framework in use. Also, none of the measures are process orientated and feedback from these measures can not directly be used to improve internal processes.

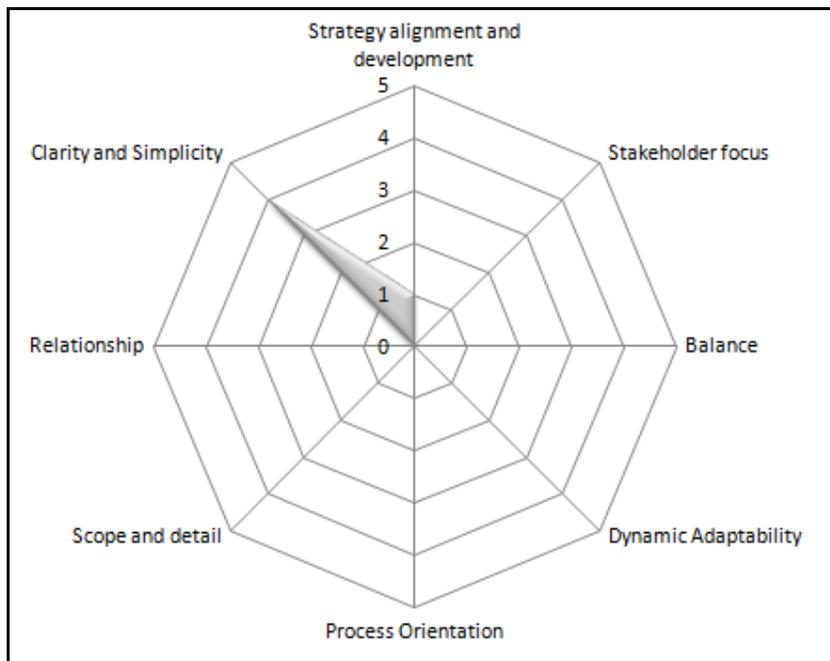
The performance measurement framework used by SME E provides a fairly holistic view of the organisation in an amount of detail suitable for SMEs. With no defined organisational objectives in place, a relationship between measures and objectives cannot be found. The majority of measures are clear and simple without providing a very incomplete performance measurement framework.

#### 4.3.6 SME F

The only prominent measure used by SME F is Gross Profit. Although this SME does track certain operational elements it was indicated by management that Gross Profit is the only performance measure that is tracked and used.

Figure 4.7 shows an analysis of the approach to performance measurement of SME F according to the characteristics of performance measurement as discussed in Section 2.2.2 and Section 2.8.

**Figure 4.7 SME F framework map**



The single prominent measure used by SME F, Gross Profit, does not provide for strategy development, although, having an organisational goal of growth, this measure does capture the financial aspect thereof.

The measure does not, however, provide a stakeholder focus, balanced approach, dynamic adaptability, nor is it process orientated. With the use of only one measure, there is extremely limited scope and detail to the performance measurement framework.

As only one measure is used it is a very clear and simple framework, although very incomplete.

#### **4.3.7 SME G**

SME G measures performance with the following measures:

- Turnover
- New business
- SLAs

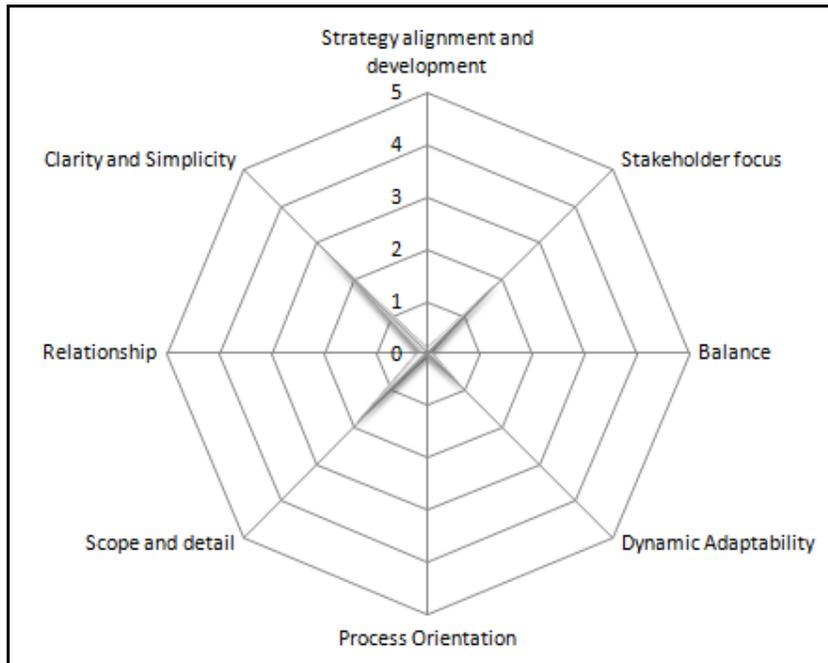
Other measurements are based on organisational policies and procedures but these are not prominent.

The analysis of measures according to the characteristics of performance measurement frameworks as discussed in Section 2.2.2 and Section 2.8 are shown in Figure 4.8.

SME G has no organisational strategy in place, thus the performance measurement framework in use are not aligned to, and does not support the development of a strategy. The measurement of SLAs provides an external stakeholder approach to clients.

The combination of measures used by this SME provides some balance to the performance measurement framework. The indication from management of SME G that the measures and business model currently in place is constantly adapted according to environmental change provides for a more adaptable performance measurement framework.

Figure 4.8 SME G framework map



The selection of measures in place is not process orientated. The scope of the measures is not holistic to the organisation, although the detail is acceptable for an SME. There is no relationship between performance related results and the organisational objectives.

Although the framework is incomplete, it is fairly clear and simple.

#### 4.3.8 Prominent measures of sample

Measurement in the sample was focused on financial measures and on employee roles and responsibilities in general, rather than holistic organisational measures. This is supported by Garengo, *et al.*, (2005) and Jarvis, *et al.*, (1999) who found that SMEs utilise measures that mostly focus on financial and operational issues.

The prominent measures found were:

- Cash flow,
- Gross Profit,
- Turnover / revenue,
- Outstanding debtors' days, and

- Creditors.

Other metrics being measured by the sample are depicted in alphabetical order in Table 4.3.

**Table 4.3 SME measures**

<b>Financial</b>	<b>Non-financial</b>
Billing targets	Client service
Net profit after tax	Customer satisfaction
Savings	Fuel usage
	New business
	Number of orders
	Problem solving and turnaround time
	Project deliverables
	Time spent / Call out time
	Number of quotations
	SLAs

Financial and some non-financial measures were tracked with the use of internal IT systems and bank account statements. Other non-financial measures were tracked manually through the use of documents, performance reviews and weekly or monthly operational meetings.

The prominent measures utilised by the SMEs in the sample can be related to the attributes of performance measures and the dimensions of performance as discussed in Section 2.1 and Section 2.2.1 and are tabulated in Table 4.4.

These measures were financial measures only and were all clearly defined, but as these SMEs had no defined organisational strategies, the measures were not derived from strategy. As a common organisational goal was growth, these financial measures had an explicit purpose. The researcher also found that the measures were used in most cases to measure organisational survival.

**Table 4.4 Prominent measure analysis**

Measure	Attributes of performance measures							Dimensions of Performance					
	Derived from strategy	Clearly defined with an explicit purpose	Relevant and easy to maintain	Simple to understand and use	Provide fast and accurate feedback	Link operations to strategic goals	Stimulate continuous improvement	Quality	Time	Flexibility	Finance	Customer Satisfaction	Human Resources
1 Cash flow		X	X	X	X	X					X		
2 Gross Profit		X	X	X	X						X		
3 Turnover / Revenue		X	X	X	X						X		
4 Debtor's days outstanding		X	X	X	X	X					X		
5 Creditors		X	X	X	X						X		

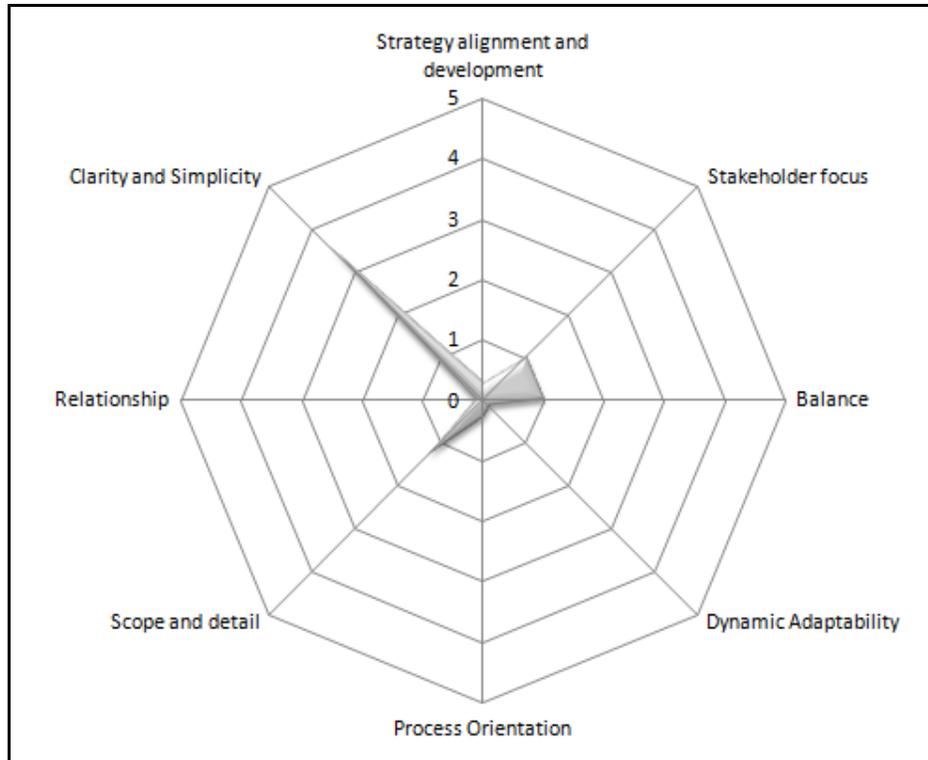
The prominent measures were easy to maintain, simple to understand and use and provided fast and accurate feedback, as they were tracked with the use of a financial system which was up to date and reliable in all but one SME. The measures did not link operational activities to strategic objectives, as they were only of financial nature, although, cash flow and debtors' days outstanding (which is a sub-component of cash flow), may be seen as a financial link between operational and strategic goals. Financial measures alone do not stimulate continued improvement, especially if they cannot be linked to organisational strategy.

The potential benefit of performance measurement cannot be realised by the SMEs in the sample as they do not contain the required attributes of performance measures (Kennerly and Neely, 2002; Hudson, *et al.*, 2001).

Some SMEs used certain forms of operational measurements (quality, time and flexibility), customer satisfaction and human resources, but these measures were not prominent. The only dimension of performance that the measures from the SMEs in the sample can relate to is the financial dimension. This limited number of measures does not provide for a holistic approach to performance measurement and cannot fully support an organisational strategy (Hudson, *et al.*, 2001).

All SMEs in the sample were measuring performance on certain levels within the organisation. The approach to performance measurement and the prominent measures used in these SMEs was related to the characteristics of performance measurement frameworks as discussed in Section 2.2.2 and Section 2.8, and the combined results of the sample are provided in Figure 4.9.

**Figure 4.9 Sample framework map**



With no clearly defined strategies and organisational goals that do not align to the measurements used (except for growth, specifically financial growth) the measurement systems used by the SMEs in the sample has very limited alignment with organisational strategy. This was also found by Garengo, *et al.* (2005). The financial measures used also do not facilitate the development of organisational strategy, although feedback from these measures can initiate operational changes in an attempt to reach the overall goal of growth.

One SME in the sample had a very high stakeholder focus although this is not evident from the prominent measures used by other SMEs within the sample. SMEs tend to focus on financial and operational measures (Jarvis, *et al.*, 1999). The SMEs

in the sample used completely unbalanced approaches to performance measurement and with the limited number of measures used it was not adaptable to changes in the environment.

The measures used were not measuring any organisational processes and are thus not process orientated. The scope of prominent measures found covers mainly financial aspects of the organisation which is a very narrow scope, while the financial areas that was measured was measured only with limited detail. Although the effectiveness of a performance measurement framework is weakened by a large amount of measures, such a framework should still provide a holistic view of the organisation (Bourne, *et al.*, 2002).

There was a relationship between the organisational goals, mainly growth, and the measurements. Only a small number of measures were used, and all being financial in nature, provided for a very simple and clear approach to measurement. The small number of measures will ensure successful implementation and use of the performance measurement framework (Hudson, *et al.*, 2001) but simplicity should not compromise the completeness of such frameworks.

The limited number of measures and method of selection and implementation of measures in the sample of SMEs do not allow for an accurate analysis of the performance measurement framework or its measures.

#### ***4.4 Measure selection and usage of performance information***

The selection of measures in the sample of SMEs was based on the notion of being in business to create profit and according to the responsibilities of employees. In general measure selection was accidental and done as the need arose. The selection of measures within SMEs was also indicated by Turner, *et al.*, (2005) and Sousa, *et al.*, (2006), as an obstacle faced by SMEs.

The measure selection and usage of performance information within the sample is tabulated in Table 4.5.

**Table 4.5 SME Measure selection and usage**

<b>SME</b>	<b>Measure selection</b>	<b>Usage of performance information</b>
SME A	According to project, employee responsibilities and operational area, the need to make profit	Monthly performance assessment sessions, issues addressed and time frames agreed upon
SME B	According to employee roles and responsibilities	Actions are taken to find the problem if targets are not met
SME C	Mostly accidental	Measurement information is used and acted upon 50% of the time by attempting to alleviate the problem
SME D	From a record keeping point of view	Investigate exceptions or problems and find a solution to solve the problem
SME E	Measures are selected as the organisation grows and the need arise	Performance information are acted upon with an attempt to improve
SME F	No method	The SME act on performance measurement information
SME G	Constant process, as the need arise	Address deviations, re-engineer business model

Weekly meetings were used in all SMEs in the sample to track the measures used. Actions are taken on negative changes in the information provided from measurements by finding the root of the problem and an attempt to create solutions. Actions involve meetings with employees and clients. Actions are mostly taken upon exceptions in performance information, i.e. low cash flow or revenue.

With the limited and unbalanced measurements used in the sample of SMEs, only the financial performance of the organisation can be managed. Other information for measurement purposes, like customer needs, competitors, customer service, operations and suppliers, are acted upon by exception only.

Thus, the performance measures used in the sample of SMEs were not comprehensive enough to provide effective information to management to make strategic and operational decisions (Amaratunga and Baldry, 2002).

#### 4.5 Problems and obstacles experienced

The primary problems experienced regarding performance measurement within the sample of SMEs were:

- Cost,
- Time,
- Management commitment, and
- The lack of human resources.

Similar results were obtained by Garengo, *et al.*, (2005) and Sousa, *et al.* (2006).

Table 4.6 tabulates the main problems as indicated by the sample.

**Table 4.6 SME Problems experienced**

SME	Problems experienced
SME A	Selecting measures and compensating for external influences
SME B	Top management support, not implemented efficiently, no training or induction, time consuming - although time spent seen as valuable, monitoring was seen as a cost
SME C	Time and cost, monitoring measures, personal relations and organisational culture, financial system not up to date, human resources
SME D	Time, although time spent will be valuable to organisation
SME E	Time – using a manual system for operational measures
SME F	No obstacles with measuring single current measure, management sees the need to extend measures
SME G	Time, cost, monitoring of measures

The sample indicated that the cost of implementing and maintaining a performance measurement system or framework is high, while concern was noted regarding the time required for updating and monitoring such a system. Some SMEs pointed out that performance measurement will be time well spent if implemented and used correctly.

The SMEs recognised that an electronic or software based system would be very advantageous as it would decrease the time needed to effectively use performance measurement, but would in turn increase costs. The IT systems proved to be up to

date and reliable and pose no problem or barriers in most SMEs, although they provided only limited information. The limited hardware and software to support performance measurement within SMEs were also found by Hvolby and Thorstenson (2001) and Sousa, *et al.* (2006).

The lack of a formal strategy in these SMEs also indicates a problem towards the implementation of performance measurement and was also found by Migiro (2006). Some SMEs do have a performance measurement framework in place but it is not enforced or implemented efficiently, thus not providing the required results. There are also limited to no knowledge of performance measurement available in the sample of SMEs which is a barrier in itself. Some SMEs have approached advising consultants to assist with strategic and performance related issues. The usage of an advisor in the process of implementing a performance measurement framework was also suggested by Turner, *et al.* (2005). Organisational culture has also been noted to provide resistance.

#### **4.6 Chapter summary**

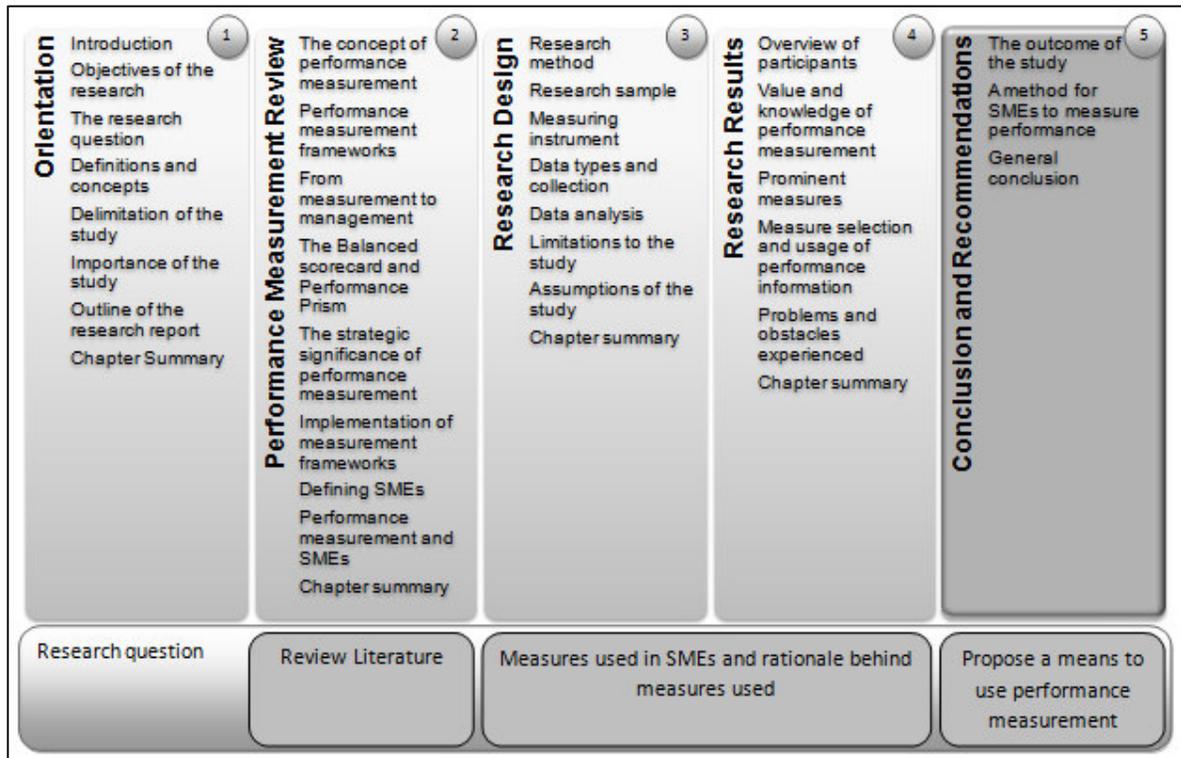
An overview of the participants was provided discussing demographic and relevant organisational information. The knowledge and perceived value and knowledge of performance measurement within the sample of SMEs were discussed. The prominent measures within the sample were found to be cash flow, gross profit, revenue and outstanding debtor's days.

The usage and selection of prominent measures were covered, as well as the problems experienced in using and implementing performance measurement. The main issues were found to be cost, time, management commitment and the lack of human resources.

### **5 Conclusion and Recommendations**

The outcome of the research is discussed in relation to the degree of organisational performance measurement within SMEs to answer the research question. Figure 5.1 provides a graphical layout of this chapter.

Figure 5.1 Layout of Chapter 5



Based on the information available a method is proposed for SMEs to use organisational performance information to their benefit. The implications of the results are also discussed. Finally, areas of further study are proposed.

### 5.1 The outcome of the study

The purpose of the research was to answer the research question as given below:

*To what degree is organisational performance measured in Small and Medium Enterprises (SMEs) within the Information and Communication Technology (ICT) sector in the Limpopo Province of South Africa?*

To address the research question the available literature was reviewed in relation to performance measurement and SMEs. The reviewed literature formed a basis for investigating the measures used in SMEs as well as the rationale behind these measures. A method for applying performance measurement in SMEs is proposed in Section 5.2.

Firstly, general organisational information was documented and it was noted that most SMEs in the sample provided various ICT related services to public and private sector clients. These SMEs had no formalised organisational strategies but had one common organisational objective: To grow their business. The extent to which this organisational object is achieved can be evaluated with performance measures (Jarvis, *et al.*, 1999).

With no formal organisational strategies in place, an environment was created where the participants' performance measures were not aligned to strategy. The financial measures used, however did measure financial growth. Migiro (2006) indicated that SMEs neglect strategic planning due to resource constraints. The results of this study were consistent with this view. Further, the process of developing and implementing a performance measurement framework can be beneficial to SMEs as the implementation process forces an organisation to do some strategic planning (Kaplan and Norton, 2001b).

The unbalanced approach to measurement, the limited number of measures used and the lack of alignment between measurements and strategic objectives hinder SMEs from realising the potential benefits from performance measurement (Bourne, *et al.*, 2002; Kaplan and Norton, 2001b; Inamdar, *et al.*, 2000). All SMEs in the sample realise that there is a potential benefit and value that performance measurement can provide in their organisations, although their level of usage of performance information is very low. This was also found by Sousa, *et al.* (2006). The foremost benefit from performance measurement was indicated as goal achievement and the tracking of progress towards achieving organisational goals.

Knowledge of performance measurement and performance measurement frameworks was also limited to non-existent in the sample of SMEs. The limited knowledge regarding performance measurement and related frameworks in SMEs was confirmed by Sousa, *et al.* (2006). Some SMEs recently approached external consultants to provide guidance in implementing an organisational strategy, operational controls and performance measurement. The use of an advisor in the process of the implementation of a performance measurement framework is supported by Turner, *et al.* (2002).

It should be noted that although these SMEs did not have a defined and formal organisational strategy, they were following some kind of operational plan. This was evident from the fact that they were providing certain services and focused on specific clients. Unfortunately, the informal strategy followed does not provide the necessary guidance that an organisation needs (Kaplan and Norton, 2001a).

The prominent measures were found to be cash flow, gross profit, revenue, debtors' days outstanding and creditors which are similar to a study conducted by Jarvis, *et al.*, 1999). The focus of measurement in these organisations is only on financial measures and they did not follow a balanced approach to measurement (Inamdar, *et al.*, 2000). No formal frameworks were used in any of the participant SMEs.

The measures used by the SMEs did not cover the dimensions of performance and did not have the desired attributes of performance measures (Hudson, *et al.*, 2001). The approach to performance measurement also did not cover the characteristics of performance measurement frameworks (Garengo, *et al.*, 2005).

Measures were selected as the organisation grows with no formal plan. Management was mainly done by exception. This assumption can be made as older organisations were found to have more measures than younger SMEs. It was found however that all the SMEs act upon and use the information provided by performance measures.

The primary problems and obstacles experienced by the sample of participants were cost of performance measurement, the time to administrate performance measurement, top management commitment in enforcing and implementing performance measurement and the lack of human resources. The obstacles found in the use and implementation of performance measurement frameworks in SMEs were also found by Garengo, *et al.*, (2005) and Sousa, *et al.* (2006). These problems indicate that the potential value of performance measurement cannot be realised in these organisations (Turner, *et al.*, 2005).

One participant confirmed a study done by Manville (2007) that suggested that the cost of implementing a performance measurement framework outweighs the potential value and benefits to SMEs. The majority of the sample indicated that a performance measurement framework would provide the desired value.

For performance measurement to be successful in these organisations several elements regarding organisational context, development processes and measurement content should be carefully evaluated (Bourne, *et al.*, 2002). The organisational context of the organisations in the sample of SMEs did not provide the desired quantity of time and expense required for successful implementation, also these SMEs did not have comprehensive information systems. No formal performance measurement framework development process was engaged in by the sample, and without a guiding organisational strategy, a successful performance measurement framework could not be achieved. The measurement content was also not comprehensive, which further ensured an unsuccessful implementation of the performance measurement frameworks used by the sample. Several obstacles experienced with the implementation and usage of performance measurement in SMEs was identified in the sample (Bourne, *et al.*, 2002; Turner, *et al.*, 2005).

The research revealed that SMEs that have been in business for a longer period, being relatively more mature in comparison with other SMEs in the sample, had a higher level of priority regarding performance measurement. SMEs also indicated that performance measurement will only be prioritised after a certain level of organisation growth has occurred. The lack of performance measurement can be the result of the relative immaturity of these SMEs.

During interviews, participants were very open and honest, but hesitant to provide organisational information relating to financial data, organisational strategy and operational processes. As participants provided relevant and accurate information surrounding performance measurement within their organisations, this was not regarded as a problem.

The lack of strategic and operational information makes it difficult, though, to accurately relate performance measurement to the achievement of strategic goals. Secondary data obtained was less reliable as all participants did not manage according to their own documented policies and procedures, or these were not updated regularly and provided outdated and thus less relevant information.

A similar study was conducted by Sousa, *et al.*, (2006) on the background of the organisation, the knowledge of performance measurement and the usage of

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performance measurement in the organisation and obtained similar results to those obtained in this study.

The results of the research provided an answer to the research question: There is a very low degree of organisational performance measurement in SMEs. This is in line with previous studies conducted as discussed in Chapter 2.

## **5.2 A method for SMEs to measure performance**

The unique environment of SMEs and the obstacles faced by these organisations indicate that performance measurement should be approached differently in comparison with large organisations (Jarvis, *et al.*, 1999; Sousa, *et al.*, 2006).

The requirements for the development and implementation of performance measurement frameworks in SME's should be resource effective and provide noticeable short and long term benefits, to continue the momentum and enthusiasm of the employees. Such a system should be dynamic and flexible enough to accommodate changes in their environment and strategies (Hudson, *et al.*, 2001).

It is evident from the results of the research that SMEs use an unbalanced approach to performance measurement with a very limited number of measures. The main reason for this is the elements of cost and time. To provide a solution for SMEs to realise the benefits of performance measurement these obstacles should be kept in mind.

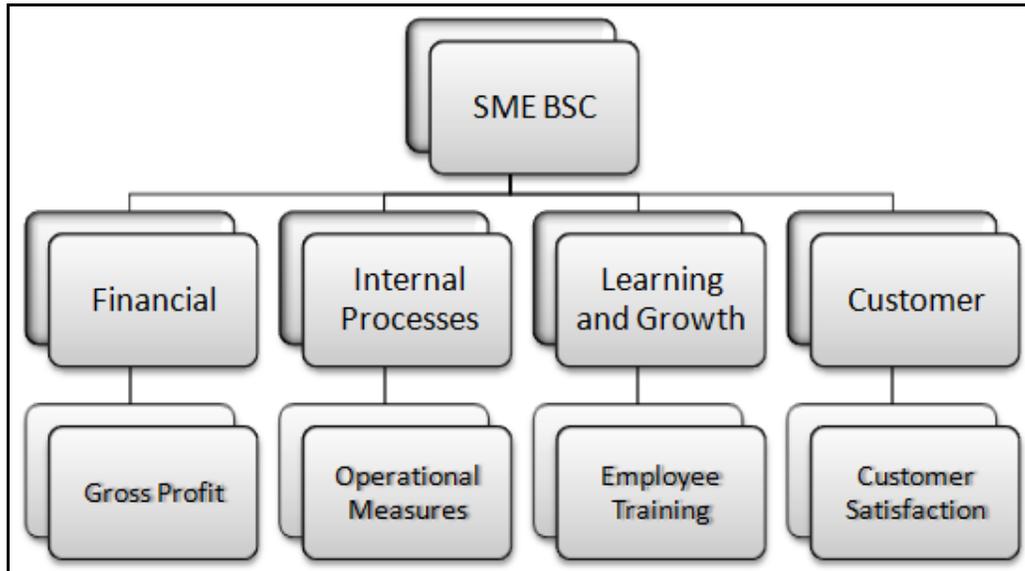
SMEs should base their performance measurement on principles of the Balanced Scorecard for several reasons:

- It is simple to understand and use,
- It is proven and effective, and
- It has various resources and assistance is available.

A limited number of measures should still be used but should not only be focussed on the financial dimension. This notion is also supported by Hvolby and Thorstenson (2001). The usage of the Balanced Scorecard can promote organisational growth, track performance, provide focus, align and clarify goals and provide accountability

(Gumbus and Lussier, 2006). An example of a simple Balanced Scorecard for SMEs is depicted in Figure 5.2, and can be used as a starting point for measurement in SMEs.

**Figure 5.2 SME Balanced Scorecard**



Each perspective of the Balanced Scorecard should have a maximum of three measures. In smaller SMEs one measure in each perspective could be used. The low number of measures will enforce simplicity and clarity (Hudson, *et al.*, 2001) with the correct level of scope and detail (Bourne, *et al.*, 2002), as well as making the framework easier to use and administrate with lower resource requirements.

The approach should be to start balancing measurement in the organisation and focusing on improving the framework and adding more measures over time. Also, a systematic approach to implementation should be followed (Turner, *et al.*, 2005). This will defer the cost and time of implementation and maintenance over a long period, while still realising the benefits during that time. The development of a performance measurement framework will promote strategic planning within SMEs with the limited resources available (Kaplan and Norton, 2001b).

This approach will also inspire management commitment as the implementation and maintenance will have limited cost and time factors while providing positive results.

Commitment to the implementation of the performance measurement framework is a very important component to ensure successful implementation (Sousa, *et al.*, 2006).

### **5.3 General conclusion**

This research can be used as a basis for applying performance measurement in SMEs. It is evident that performance measurement proves to be valuable to all organisations and can assist in overcoming the obstacles faced by SMEs.

The limited literature on SMEs, particularly in the ICT industry, presents a gap that should be filled with further research in the field of performance measurement related to SMEs. Further studies are needed to refine a measurement framework that will overcome the obstacles faced by SMEs and provide the potential value to these organisations. There is also a need to focus future research on the successful measure selection and implementation of performance measurement frameworks, as this area has not been fully explored.

An unexpected finding was that all SMEs experienced significant problems in receiving payment from government agencies to whom services were provided for, which could be another area for further investigation.

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## **Appendix A – Letter of Consent**

[Date]

[To]

[Organisation]

[Address]

[Title] [Name]

### **Letter of Confidentiality and Consent**

A study on the measurement of organisational performance in Small and Medium Enterprises (SMEs) in the Information and Communication Technology (ICT) industry is being conducted and I would like to include your organisation in the research. The purpose of the research is to determine to what extent SMEs measure performance.

Should you agree to participate, an interview will be scheduled which will not extent two hours. The possibility exists that a follow-up interview will be required, which will be much shorter. I will take notes during this interview, and if you allow it, record the conversation using a tape recorder. We will discuss the measurement of performance within the organisation, the usage thereof and the problems experienced regarding performance measurement.

The participation in this study is completely voluntary. The information provided by you will be kept confidential and destroyed after the research project is completed. You, and the organisation you represent, have the option to stay completely anonymous. At no point will you be required to divulge sensitive information regarding you or your organisation. The final research report will be made available to you and your organisation.

Please note that you can contact me at any time should you require more information. My contact details are as below. If you would like to verify some of this

information, please contact UNISA's School of Business Leadership. The Programme Administrator, Mrs Elsabé Broodryk would clarify any possible concerns, can be reached at 011 652 0352.

Thank you for your time and input to make this research a success.

Dirk Naude

Tel: 082 332 9017

E-mail: [naudedirk@gmail.com](mailto:naudedirk@gmail.com)

Address: 134 Bendor Drive, Bendor, Polokwane

## Appendix B – Interview Schedule

### *First section: Demographic Data*

Organisation Name					
Number of employees			Organisation chart attached Y / N		
			Organisational profile attached Y / N		
Annual turnover	> R200 000	> R3 mil.	> R13 mil.	> R26 mil.	More than R26 mil.

- Provide information regarding the clients your organisation provide products and services to?
  - How many clients?
  - In what sectors are they? I.e. Public, private, mining, etc.
- What products and services do you provide? Please expand.
  - Does the organisation sell hardware?
  - Does the organisation provide technical support or installations?
  - Does the organisation provide consulting services?
- Please provide a brief overview of the strategy of the organisation?
  - What is your organisational vision and mission?
  - What are your organisations strategic objectives?
  - How do you intent on achieving these objectives?
    - Can you explain your operational processes?
    - Is the organisation differentiated, focused, etc.?
    - Does the organisation make use of a shop front or sales team?

### *Second section: Knowledge about performance measurement in the organisation*

- Are you familiar with performance measurement frameworks?
  - Do you know what performance measurement is? Please elaborate.
  - Are you familiar with specific performance measurement frameworks? I.e. the Balanced Scorecard, Performance Prism etc. Please elaborate.
  - What is the purpose of performance measurement?
- What are the value and benefits of performance measurement frameworks?

- Is there a high / low value to an organisation and to your organisation?
- Does your organisation use a PMS? Please elaborate.
- What challenges does your organisation have and how can PMS solve any of these challenges?
- How do PMS assist with implementing strategy and achieving goals?
- What negative or positive thoughts do you have regarding PMS?
  - Do PMS improve control?
  - Do PMS improve accountability?
  - Do PMS motivate or de-motivate employees?
  - Is PMS expensive?
  - Is PMS practical?
  - Etc.

**Third section: The use of performance measurement in the organisation**

- What is being measured and how were the mentioned measures selected?
  - Can you state the measures used? Examples of measures:
    - Cash and cash flow indicators / Non-financial measures

Quality	Time	Flexibility	Finance	Customer Satisfaction	Human Resources
Product performance	Lead Time	Manufacturing effectiveness	Cash flow	Market share	Employee relationship
Delivery reliability	Delivery reliability	Resource utilisation	Market share	Service Image	Employee involvement
Waste	Process throughput	Volume	Overhead cost reduction	Integration with customers	Workforce
Dependability	time	flexibility	Inventory performance	Competitiveness	Employee skills
Innovation	Process time	New product introduction	Cost control	Innovation	Learning
	Productivity	Computer systems	Sales	Delivery reliability	Labour efficiency
	Cycle time	Future growth	Profitability		Quality of work life
	Delivery speed	Product innovation	Efficiency		Resource utilisation
	Labour efficiency		Product cost reduction		Productivity
	Resource utilisation				

Source: Hudson, *et al.* (2001:1102)

- Why these measures and not others?
- What process do you use for measurement?
- What systems and methods are in place to ensure measurement and accurate measurement?
- Which are the most important measures?
- How are these measures used in the organisation?
  - Are operational or strategic decisions based on measurement information?
  - What actions are taken based on measurement information?
  - Are results and outcomes compared to measurement information?
- Which barriers and obstacles are experienced in the implementation and use of these measures?
  - What would be the process for adopting new measures / a measure?
  - What time does it take to implement and administrate performance measurement?
  - What is the cost of PMS usage? I.e. people, stationary, systems, etc.

Limited resources - Human Resources - Financial Resources - Time	Management - Capacity - Commitment
Not using a systematic implementation process	Poor strategic planning
Measurement systems being a too strategically orientated process	Not acknowledging the purpose and perceived benefits of a performance measurement system
Available information from IT systems	The culture of the organisation
The usage and availability of an advisor	Other