Cape Peninsula
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MANAGEMENT ACCOUNTING PRACTICES AND THE PERFORMANCE OF MANUFACTURING SMALL AND MEDIUM ENTERPRISES IN CAPE TOWN

by

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DECLARATION

I, **Endsen Kefasi**, declare that the contents of this dissertation/thesis represent my own unaided work, and that the dissertation/thesis has not previously been submitted for academic examination towards any qualification. Furthermore, it represents my own opinions and not necessarily those of the Cape Peninsula University of Technology.

Signed **Date**

ABSTRACT

Small and Medium Enterprises (SMEs) in South Africa play a pivotal role in the economy. However, sustainability and operational problems are hindering these business entities, and researchers continue to report extremely high rates of business failure. Arguably, not making adequate use of management accounting practices (MAPs) could be a contributory factor to this status quo. These MAPs are a set of established accounting tools and techniques that have been developed through practice to provide timeous, accurate and relevant information for decision making in a firm. In this regard, MAPs can be used to aid operational efficiency and improve the overall performance of the business. This study sought to determine the extent of MAPs utilisation and the relationship with perceived organisational performance in manufacturing SMEs located in Cape Town. A quantitative approach was adopted using a structured questionnaire to collect data. Through a stratified random sampling technique using sub-industries in the manufacturing sector as the basis for stratification, a total of 104 usable responses were obtained. This data was analysed using the statistical package for social sciences (SPSS). The results showed that the mostly utilised MAPs were costing, budgeting and performance measurement techniques. Decision support systems were used to a lower extent, and strategic management accounting techniques were rarely used. The intensity in competition and rising costs of productions were cited as the most influential factors in the adoption of MAPs. These results implied that manufacturing SMEs relied on basic MAPs and did not fully utilise the more sophisticated ones. Using the Spearman's rank of the correlation coefficient, the associative relationship between MAPs utilisation and perceived organisational performance was tested. Results showed a moderate positive significant relationship between costing, budgeting and performance measurement techniques utilisation and increasing operating profits. A weaker positive significant relationship was found between decision making support, strategic management accounting techniques and increasing operational profits. These results implied that there was a positive relationship between MAPs utilisation and perceived organisational performance represented by operational profits. This study extends the current knowledge of MAPs utilisation and performance links in SMEs particularly in developing economies. Also, this research is vital to SME owners in considering adoption of MAPs, and it is recommended that they take the initiative to explore these tools. Furthermore, the Department of Small Business Development (DSBD) can incorporate strategic MAPs in their training materials. Lastly, accounting advisory firms need to expand their services rendered to the SMEs to include the utilisation of relevant MAPs.

Keywords:

Costing practices, Budgeting, Performance Measurement, Decision Making Systems, Strategic Management Accounting, Organisational Performance

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ABBREVIATIONS AND ACRONYMS

ABC	Activity-based costing
AMT	Advanced manufacturing technology
ARR	Accounting rate of return
BSC	Balanced scorecard
CA	Chartered accountant
CIMA	Chartered Institute of Management Accounting
CPUT	Cape Peninsula University of Technology
CVP	Cost-volume-profit
DCF	Discounted cash flow
DSBD	Department of Small Business Development
GDP	Gross domestic product
GVA	Gross value-added product
IMA	Institute of Management Accounting
IRR	Internal rate of return
MAPs	Management accounting practices
MAS	Management accounting systems
NPV	Net present value
SEDA	Small Enterprises Development Agency
SIC	Standard industrial classification
SMA	Strategic management accounting
SME	Small and medium enterprises
SMMEs	Small, micro and medium enterprises
VAT	Value-added tax
WTO	World Trade Organization
ZBB	Zero-based budgeting

CHAPTER ONE
INTRODUCTION AND BACKGROUND

1.1 Introduction

This study explores the use of management accounting practices (MAPs) amongst manufacturing small and medium enterprises (SMEs) in Cape Town and their association with perceived organisational performance. This chapter commences with the background to the study, and then the problem to be researched is enunciated. The purpose of the study is then communicated, leading to the formulation of the research question, sub-questions, and objectives of this study. After this, the design and approach of the study are elaborated. Ethical considerations and delineation of the study are identified. This is then followed by highlighting the significance, limitation and contribution of the research. A brief overview of the remaining chapters of this thesis is then given, followed by a summary conclusion of the chapter.

1.2 Background to the Research Problem

Small and medium business enterprises (SMEs) have exponentially grown in number, to the extent of dominating most global economies. For instance, in the United Kingdom (UK), 99.9% of businesses can be categorised as SMEs (Lucas, Prowle, & Lowth, 2013:3). Similarly, Ayandibu and Houghton (2017:135) estimate that more than 90% of businesses in South Africa fall in the SME category. Therefore, SMEs form a vital segment of most economies and deserves recognition. Policymakers in South Africa have recognised the importance of SMEs as a vehicle to achieving many economic goals, citing sustainable growth, poverty alleviation, unemployment reduction, and socioeconomic stability amongst their desired outcomes (Mazanai & Fatoki, 2012:922).

SMEs are found in all the sectors of the economy. This study explicitly focuses on SMEs in the manufacturing sector because of the unique characteristics and attributes of this sector. The Small Enterprise Development Agency (SEDA) highlights the promotion of SMEs in the manufacturing sector as being of utmost importance because of their ability to act as a catalyst for the growth of industries in other economic segments, as well as for the creation of new products and innovations (SEDA, 2012:15). Therefore, it can be postulated that SMEs in this sector supports the entire economy. In light of this, their promotion should result in overall benefits to the rest of the economy. Of concern, nonetheless, is that despite efforts to promote these SMEs, high rates of failure are still prevalent.

In South Africa, Mutezo (2013:153) estimates that more than 75% of SMEs failed within two years of their operation, and this high failure rate remains unabated. Indeed, the situation remains as critical as it was two decades ago, according to business observers (Businesstech, 2018). Various factors have been cited as major contributors, and other underlying root causes

remain mostly unaddressed. For instance, access to finance and funding issues have been given the spotlight, and less attention has been given to operational and strategic management challenges faced by manufacturing SMEs (Mazanai & Fatoki, 2012:59). Admittedly, providing access to funding and financial support is essential and goes a long way in addressing business failure, but without the relevant management support tools and skills, the risk of failure still remains. In light of this observation, Ramukumba (2014:24) identified a lack of business management skills as a contributory factor to the failure of SMEs in the Western Cape region. Most importantly, the results of the Ramukumba (2014:33) study showed that improving business management skills is correlated with increased productivity. This suggests that improving management skills and their usage or relevant supporting tools can actually lead to improvements in organisational performance. Therefore, a comprehensive solution to business failure need not only to address major issues such as funding and finance but also other related issues such as business management skills and application of relevant supporting tools. Consequently, in the quest for sustainable solutions to the scourge of business failure, it is also essential to evaluate internal management challenges faced by the SMEs such as usage of management support tools and techniques.

Fatoki (2014:945) pointed to the cause of this challenge by observing that SMEs are often started by entrepreneurs with a marketable product or idea and, as the company expands, they rarely hire professional managers or accountants for their companies. For example, in the manufacturing sector, these owner-managers might even be engineers whose expertise is in producing products and not business management. Chimucheka and Mandipaka (2015:310) seem to agree by observing that a lack of financial management skills was mostly prevalent in owner-managed businesses. Management accounting as a discipline has provided tools and techniques that can be used by managers to improve their management decision making (Ahmad & Zabri, 2016). This study proposes that the utilisation of MAPs by SMEs may result in improved organisational performance and ultimately becoming part of the solution in the fight against business failure.

MAPs are accounting tools and techniques designed to supply timeous, accurate and relevant information that can be used to promote efficiency and aide decision-making (Ahmad, 2013:519). Also, Rufino (2014) identifies the primary function of MAPs as being the tools and techniques for collecting and analysing relevant information in an organisation which forms the basis of well-informed decisions in controlling and planning activities. The Chartered Institute of Management Accountants (CIMA) provides an exhaustive list of individual tools and techniques which constitute (Eaton, 2005; Lucas et al., 2013). Therefore, to aid the feasibility, a few relevant MAPs individual tools and techniques are grouped under five functional areas and forms the primary focus of this study. The five function areas are costing, budgeting, performance measurements, decision support and strategic management accounting. Various

scholars have used this grouping, but the techniques that constituted each group varies according to the scope and design of the study. (Lucas et al., 2013; Ahmad, 2017).

MAPs, by their nature, are designed to improve organisational performance from the operational to the strategic level. For instance, utilising MAPs tools such as Cost-Volume-Profit analysis can improve decision making in a firm and ultimately lead to improved organisational performance (Abdullahi, Sulaimon, Mukhtar & Musa, 2017). Therefore, MAPs can influence performance directly and indirectly (Ahmad, 2017). Generally, measuring organisational performance is debatable since multiple measures can be adopted depending on the goals of the firm (Oyewobi, Windapo, Rotimi & Jimoh, 2016; 2321). It can be implied that the lack of sustained organisational performance will eventually lead to business failure (Fatoki, 2014; Kirsten, Vermaak & Wolmarans,2015). Considering the possibility of MAPs role in enhancing organisational performance, it is worthy researching the usage of these tools in small businesses.

The trend in prior research on MAPs showed an inclining towards larger organisations while small business remained under-researched (Armitage, Webb, & Gynn, 2016). This situation has led to the questioning of the relevance of these techniques in small businesses. Withal, Collier and Nandan (2010:65) postulate that just like their large counterparts, smaller firms require management accounting techniques and systems that can enable them to efficiently allocate scarce resources and improve customer and owners' values. This claim is consistent with Rufino's (2014:57) affirmation that information is a competitive tool for businesses. Considering that all businesses operate in a dynamic environment and need timeous information for decision-making, research on techniques, such as MAPs, in small businesses, is essential.

1.3 Problem Statement

Arguably, the practical utilisation of MAPs can provide timely and relevant accounting information which can improve business operational and strategic management (Ahmad, 2017). It is therefore essential for a business to make use of these tools since they improve their business management skills. Chimucheka and Mandipaka (2015:322) cited the lack of business management skills as a challenge to sustainable business operation in SMEs. Maduekwe (2015) reported that SMEs owners often resorted to unconventional techniques of making business decisions with no supporting information by using gut feelings and guess work. Most of these SMEs owners might not be aware or might lack competencies of using the relevant management accounting tool which can supply the information required. Urban and Naidoo (2012) lamented that manufacturing SMEs in South Africa were plagued by a lack of business management skills which were hampering their operations and making them less competitive globally. Given this background, the problem to be researched is that there is a perceived lack of MAPs utilisation particularly in manufacturing SMEs in South Africa including Cape

Town. This lack of usage of relevant MAPs is, in turn, contributing to poor organisational performance which eventually leads to business failure. Given the many potential benefits that SMEs can derive from increased and practical MAPs utilisation, it is essential to investigate the existence and frequency of use of these tools and techniques, as well as their contribution to perceived organisational performance in SMEs (Lucas et al., 2013; Armitage et al., 2016).

Currently, studies focusing on the utilisation of MAPs, especially in SMEs in developing countries, are scarce. Ahmad and Leftesi (2014:2) also noted the scarcity of MAPs research in developing countries focusing on small businesses. A limited number of studies on MAPs utilisation currently exist in South Africa. These studies have focused mainly on larger firms, and of those who researched SMEs, the fast-moving consumer goods (FMCG) segment seemed to be their focus (Brijal, Enow & Isaacs, 2014, Maduekwe, 2015). Considering this dearth in studies on the utilisation of MAPs in South African SMEs especially in the critical manufacturing sector, this study attempts to bridge this gap by investigating the utilisation of MAPs in manufacturing SMEs located in Cape Town. Little is also known about the effect of MAPs utilisation on organisational performance in SMEs in South Africa. The few studies which exist on this subject did not consider the correlation of individual MAPs techniques with performance (Maziriri & Mapuranga, 2017; AlKhajeh & Khalid, 2018b). This study adds knowledge to this gap by providing further information on the correlation of MAPs utilisation and organisational performance.

1.4 Purpose Statement

The primary purpose of this research is to identify the most commonly used MAPs, and the factors affecting their use in Cape Town SMEs in the manufacturing sector. Subsequently, this study also investigates the relationship of MAPs utilisation with perceived organisational performance. The rationale beyond this approach is that since the identified problem is the persistent failure of SMEs, the adoption of relevant MAPs may be part of the solution by improving the organisational performance of these SMEs.

1.5 Research Question, Sub-Questions, Methods, and Objectives

From the identified research problem and purpose of this study, this section formulates the research question and hypothesis. The objectives are then mapped out with suggested methods of meeting these intentions listed.

1.5.1 Research question

The research question for this study is: “To what extent are Cape Town manufacturing SMEs utilising MAPs, and how does this affect perceived organisational performance?”

1.5.2 Research sub-questions and hypothesis

The sub-questions that can facilitate investigating the aspects of the broad research question are as follows:

- What MAPs do manufacturing SMEs in Cape Town utilise the most?
- How frequently do manufacturing SMEs in Cape Town utilise their adopted MAPs?
- What factors affect the adoption of MAPs utilised by these SMEs in Cape Town?
- To what extent do the manufacturing SMEs in Cape Town associate their adopted MAPs with perceived organisational performance?

The last sub-question contains an independent and dependent variable and can be rephrased hypothetically as follows:

H_1 There is a significant association between MAPs utilisation and the perceptions of organisational performance.

1.5.3 Research objectives

In order to answer the research above question, the following specific objectives will be addressed:

- To identify and establish the most commonly utilised MAPs by Cape Town manufacturing SMEs.
- To determine the frequency of MAPs utilisation by Cape Town manufacturing SMEs.
- To determine the adoption factors of the MAPs utilised by Cape Town manufacturing SMEs.
- To establish the correlation of current MAPs and the perceived organisational performance of Cape Town manufacturing SMEs.

1.5.4 Research sub-questions, methods, and objectives summary

Table 1.1: Research sub-questions, methods, and objectives summary

Sub-Questions	Research Methods	Objectives
What MAPs do manufacturing SMEs in Cape Town utilise the most?	Questionnaire supported by descriptive statistical analysis and a literature review	To identify and to establish the most commonly utilised MAPs by Cape Town manufacturing SMEs.
How frequently do manufacturing SMEs in Cape Town utilise their adopted MAPs?	Questionnaire supported by descriptive statistical analysis and a literature review	To determine the frequency of MAPs utilisation by Cape Town manufacturing SMEs.
What factors affect the adoption of manufacturing MAPs utilised by these SMEs in Cape Town?	Questionnaire supported by descriptive statistical analysis and a literature review	To determine the adoption factors of the MAPs utilised by Cape Town manufacturing SMEs.
To what extent do the manufacturing SMEs in Cape Town associate their adopted MAPs with perceived organisational performance?	Questionnaire supported by bivariate analysis and a literature review	To establish the correlation of current MAPs and the perceived organisational performance of Cape Town manufacturing SMEs.

Source: Researcher's own compilation

Table 1.1 provides a summary of this study's research sub-questions, methods, and objectives.

1.6 Research Methodology Overview

Creswell (2014:41) asserts that a research design is an overall strategy used in a study to answer the research question. This strategy includes procedures used to collect, measure, and analyse data. The research design also reveals the purpose of the enquiry, which can be descriptive, analytic, or exploratory. This study follows a quantitative approach that involves collection and analysis of quantifiable data. This method also involves testing of theories in a deductive way and is underpinned by the positivist paradigm (Bryman, 2012:36). In the research methodology chapter (see Chapter Three), the full research design for this study is explained. In this current chapter, a brief outline of the main elements of the research design is discussed in the following subsections.

This study follows the positivist paradigm approach, which assumes that reality is objective and can be measured using methods independent of a researcher and research instruments (Collis & Hussey, 2013:44). The rationale for following this paradigm was that quantifiable data could be collected independently without the researcher influencing the subject, which increases objectivity. Specifically, for this study, the assumption was that the state of MAPs utilisation and its association with perceived organisational performance is best measured independently, without researcher interference. This objective process leads to data collection following a quantitative method. Notably, many MAPs studies focusing on a range of MAPs techniques adoption frequently adopt a quantitative approach (Ahmad, 2017; Maziriri & Mapuranga, 2017). The research methodology is fully explored in Chapter Three.

A population, as defined by Denscombe (2010:24), can include units of organisations that are in a specific location and that hold some similarities. The targeted population of this study is located in the City of Cape Town in South Africa. The industries in its manufacturing sector, found throughout the city, comprise very small to large firms. This study targets, explicitly, manufacturing SMEs employing six to 250 full-time employees. The exclusion of small firms with less than six employees was based on the notion that they are too small to make any meaning utilisation of MAPs (Armitage et al., 2016:13). The target population is explored fully in the literature review.

Through the Kompass online directory, 1,187 manufacturing SMEs in Cape Town were identified, forming the target population for this study (Kompass, n.d). The population was sampled using stratified random sampling based on sub-industries categories. The sample size was limited to 10% of the population, which was deemed significant enough to represent the population. Further details regarding sampling are presented in Chapter Three.

Data collection spanned over the eight months, and care was taken to ensure that only targeted decision-makers completed the questionnaire. After data were collected, capturing, coding, and analysis followed. The Statistical Package for Social Sciences (SPSS, Version 25) was used for data analysis. Descriptive analysis was conducted for data concerning the first three objectives of the study. The last objective of the study required a correlation analysis, and the Spearman's rank correlation coefficient was used. The analysis methods were discussed in detail in the methodology chapter.

1.7 Ethical Considerations

Ethical approval was considered essential to this study, and the data collection only began after the Cape Peninsula University of Technology's (CPUT) Ethics Committee issued clearance (see Appendix A). Details of ethical consideration for this study are discussed in detail in Chapter Three.

1.8 Delineation of the Research

In order to justify valid responses from respondents, the following delineation criteria were applied:

- Respondents should be SME owners/managers and/or other decision-makers, such as accountants and financial directors.
- Only non-franchise SMEs operating in the manufacturing industry should be considered.
- These non-franchise SMEs should be located in the Cape Town metropole.
- These SMEs should have been in existence for a minimum of six months in the manufacturing industry and have a minimum of six and a maximum of 250 employees.

1.9 Significance of the Research

The significance of this study is that it advances the discussion of the relevance of MAPs utilisation in SMEs. Some scholars have questioned the role and suitability of MAPs in SMEs considering the unique characteristics of these businesses and the rapidly changing business environment (Brierley, 2011; Elhamma, 2012; Reynolds, Fourie & Erasmus, 2015; Greene & Hopp, 2017). For instance, Pelz (2019) questioned the suitability of MAPs in small companies citing that most studies did not clearly articulate the benefits of these techniques in particular in small firms. However, advocates of MAPs utilisation in SMEs have continually stressed that these techniques do improve the overall organisational performance (Collier & Nandan, 2010; Ng, Harrison, & Akrod, 2013; Armitage et al., 2016; Omsa, Ridwan, & Jayadi, 2018). Therefore, this study attempts to further this discourse in the South African context by exploring the association of MAPs utilisation and perceived organisational performance in SMEs.

1.10 Limitations and Constraints

The narrower focus adopted for this study limits the application of the findings. It would have been ideal for researching SMEs across all economic sectors, but due to financial and time constraints, this idea appeared not to be feasible. Given this limitation, the research population was limited to make it accessible to the researcher at a lower cost. Also, only one economic sector, namely manufacturing, was chosen considering the importance of this sector and supporting role it plays to other sectors. The entire project was self-funded and was conducted part-time as the researcher was engaged in full-time employment and other work-related projects. Due to these additional issues with time, time management was critical.

1.11 Contribution of the Research

This study explores the extent of MAPs utilisation in manufacturing SMEs in Cape Town and how this relates to their perceived organisational performance. Literature search results reveal that this topic is relatively unexplored in South Africa. Of the few studies on this topic in South Africa, none of them took a broader approach of investigating the utilisation of a broader range of MAPs or even explored their relationship with organisational performance. Notably, two comparable studies explored the link between MAPs and business performance in SMEs in the Gauteng region (Maziriri & Mapuranga, 2017; AlKhajeh & Khalid, 2018b). Unlike this study, they both focused on SMEs in the retail sector and did not explore specific techniques under each MAPs functional area. Therefore, little is currently known about the extent to which SMEs in South Africa utilise specific MAPs techniques in different areas and the resulting impact on perceived organisational performance. This study provides answers to these research knowledge lacunas. In so doing, a contribution is made to the body of knowledge of utilisation of MAPs in SMEs and effects on overall organisational performance.

1.12 Structure of the Remaining Part of the Thesis

Chapter Two – Literature review

In this chapter, the terms and concepts used in this study are put into perspective. Definitions of terms that are used continuously in this study are elaborated. The concepts of manufacturing SMEs, MAPs, and organisational performance are explained. The literature review is conducted as follows: firstly, the theoretical framework that underpins this study is explained. Secondly, prior literature on the utilisation of MAPs in SMEs and the associative relationship with performance will be reviewed as per the objectives of this study.

Chapter Three – Research methodology

In Chapter Three, the research design is elaborated upon – from the paradigms used, to the instrument employed for data collection. The reliability and validity of the research, including ethical issues, are also discussed.

Chapter Four – Presentation, analysis and interpretation of data

The fourth chapter presents, discusses and interprets the results of the data collected. Descriptive and bivariate analyses, using SPSS (Version 25), are conducted in order to interpret the data.

Chapter Five – Summary, conclusions, and recommendations

Chapter Five presents an overview conclusion and summary of the results of the study. The implications, contributions and limitations of the study are noted. The chapter concludes with a recommendation for further studies.

1.13 Summary

In this chapter, the research problem was identified as the persistent failure of SMEs in South Africa, despite governmental and support organisation intervention. This study is positioned to investigate the use of MAPs as tools that can be used to mitigate the failure of SMEs. The research process, ethical issues, and proposed contribution were discussed. The next chapter continues with an exploration of the key concepts used throughout this study, along with a review of prior literature.

CHAPTER TWO
LITERATURE REVIEW

2.1 Introduction

This chapter reviews the literature on MAPs utilisation and organisational performance in SMEs. It provides a basis for the study design followed and the research method adopted. The nine sections of this chapter begin by defining and unpacking the critical concepts used throughout this study. This is followed by identifying the theoretical framework that underpins this study. The literature review on MAPs utilisation in SMEs is then conducted with a focus on the themes extracted from these prior studies. The review then continues with a discussion of the association of MAPs utilisation and organisational performance in SMEs. Consequently, the gaps in the literature are identified, leading to a conclusion of this chapter.

2.2 Defining Key Concepts

This is intents to identify and establish the most commonly utilised MAPs by Cape Town manufacturing SMEs. Therefore, before the review of relevant literature, the variables of this study need to be defined and clarified. Firstly, SMEs will be defined in the context of small businesses in South Africa. This will be followed by highlighting their importance and contribution. Lastly, discussions will narrow down to our target population that is SMEs in Cape Town.

2.2.1 Understanding SMEs in South Africa

Berisha and Pula (2015:18) concur with the view that a universally accepted definition of small to medium-sized enterprises do not currently exist. Various authors use a definition from three primary sources, namely international institutions, national laws, and industry classifications. The criteria that these institutions often use are the number of employees and another financial criterion basis, such as turnover. Therefore, what classifies a small business in one region may be classified as a medium or even a large enterprise in another region, depending on the measurement criteria applied.

The National Small Businesses Act No. 102 of 1996 defines small, micro-, and medium business enterprises (SMMEs) in the South African context as, "…separate, distinct business entities including co-operative enterprises, organisations managed by one owner or more which, including their branches or subsidiaries, if any, are predominantly carried on in any sector or subsector of the economy" (South Africa, 1996). Recently, the Government Gazette elaborated further that the classification of small businesses is divided into four categories: industrial sector, size, number of employees, and turnover (South Africa, 2019:111). Table 2.1 offers a breakdown of SMME classification in South Africa.

Table 2.1: Classification of the manufacturing sector SMMEs

Sector or subsector in accordance with the Industrial classification	Size or Class of enterprise	Total Full-time equivalent of paid employees	Total Annual Turnover in Rands
Manufacturing	Medium	51-250	≤ 170.0 million
	Small	11-50	≤ 50.0 million
	Micro	0-10	≤ 10.0 million

(Source: South Africa, 2019:111)

For this study, micro-manufacturing businesses, which comprise five or fewer employees, were exempted, as they have been deemed less likely to make notable use of MAPs for their business operations. Instead, the focus of this study was on SMEs employing six to 250 persons and falling in the appropriate financial criteria bracket, as defined by The National Small Business Amendment Act (Act 399) of 2019. For this study, the term "SMEs" is used as an equivalent substitute of "SMMEs" term in the South African context. The reason for this is uniformity of reference since the term SMMEs is limited in use. The next segment identifies the role SMEs plays in the economy and highlight their importance.

2.2.2 Contributions and Importance of SMEs

Burns (2016:16-18) attributes the growth of SMEs to various factors. Among these factors is the flexibility of these businesses in providing tailor-made services and serving other unique markets which large businesses often neglect. Advancements in technology – for example, in the printing industry – have made it possible for SMEs to operate at reduced costs. Furthermore, changes in consumer tastes have created demands for highly personalised services, of which SMEs are at an advantage to supply. Given the exponential growth of the SME segment, the South African government has recognised that these businesses could play a significant role in achieving socio-economic goals (Urban & Naidoo, 2012:147).

The South African government has, therefore, taken several steps in promoting SMEs. For example, in 1995, the government published a White Paper outlining its policy stance on SMEs. According to that paper, the government aims to increase its financial and non-financial support of SMEs, create demand for their products, and reduce the regulatory burden on these businesses. This announcement led to the government establishing various institutions that have been tasked with the implementation of these SME-related policies. Nonetheless, these institutions have faced many challenges, including conflict of interest resulting from overlapping and/or conflicting mandates. To remedy this issue, the Ministry of Small Business Development was created in 2014 to oversee the processes of developing and promoting SMEs, as well as to co-ordinate the various roles of supporting organisations (SEDA, 2016).

Fatoki (2014:992) highlights the importance of small businesses as avenues of job creation, as the government continues to battle unemployment. The unemployment rate remained high at 26.7% in the first quarter of 2018 in South Africa (SEDA, 2018:5). Of concern was a drop of 1.7 million lost jobs compared to the same period of the previous year. About 56% of these were employed by small businesses in the formal sector (SEDA, 2018:12). Despite the contraction witnessed, small businesses remain the highest employer in South Africa. Direct employment in the manufacturing sector accounted for 9% of small businesses' total employment. Although not dominating in this area, SMEs fuelled the growth of other small businesses, thereby contributing to the overall small to medium-sized business employment rates indirectly.

In terms of economic contribution, it is estimated that SMEs contribute about 34% of the gross domestic product (GDP) in South Africa (Fin24, 2017). Therefore, SMEs in the manufacturing sector plays a vital role in the economy. Understandably, Godil and Shabib-ul-Hasan (2018:53) draw parallels between the spinal cord to the human body and the manufacturing sector to the economy. In the next section, the role of SMEs in Cape Town is explored.

2.2.3 Cape Town manufacturing sector

The City of Cape Town is the capital of the Western Cape Province and is poised as its main economic hub contributing 72% of the province's GDP in 2015. Most of the province's area consists of agricultural land, dominated by wine and fruit farms in the Winelands region. The Karoo region is mostly desert land and is dominated by animal rearing (Western Cape Provincial Government Treasury, 2017:42). Figure 2.1 shows the distribution of the GDP contributions by region in 2015.

The service industry is the main economic activity in the province. However, the manufacturing sector lags due to a declining growth rate, which can be attributed mainly to the surge in highly competitive imports, rising wage levels and electricity costs. These challenges affect all firms nationally, but their impact is largely felt in manufacturing SMEs (Urban & Naidoo, 2012). Unlike, the manufacturing sectors in other provinces, the Cape Town manufacturing sector has its own unique strategic advantages. In the context of this study, the name 'Cape Town' is used to represent the entire City of Cape Town, as shown in Figure 2.1.

Figure 2.1: Western Cape Province gross domestic product by region

(Source: Western Cape Provincial Government Treasury, 2017:43)

The Cape Town manufacturing sector is supported by a large agro-based industry, which is a formidable role player as the largest supplier in the food and beverage processing industry. This strategic location enables the city to host large grain mill factories such as the Bokomo wheat biscuit factory in Atlantis, which is one of the three largest wheat biscuit factories in the world. The biggest beverages production plant in South Africa, the South African Breweries (SAB) plant is located in Newlands. The harbour also facilitates the import and export business, supplies deep-sea fish stocks and enables the city to host one the country's three largest seafood companies (City of Cape Town, 2016a:47).

Most of Cape Town's manufacturing firms are found in 23 designated industrial sites. These firms engage in heavy and light manufacturing activities (City of Cape Town, 2016b). The International Standard Industrial Classification (SIC) codes used for classifying and comparing economic activities have also been adopted in South Africa, with the manufacturing sector falling under Section C and Divisions 10-33 of the code (Statistics South Africa, n.d). In Figure 2.2, the manufacturing industries located in the designated industrial sites are summarised using the SIC classification. As of 2016, the dominating category was the primary metals, fabricated metal products, and machinery with 654 firms. The smallest section was the radio, television and communication equipment with 43 firms located in these industrial sites (City of Cape Town, 2016b). However, some of the manufacturing companies are sporadically located across Cape Town outside these designated sites.

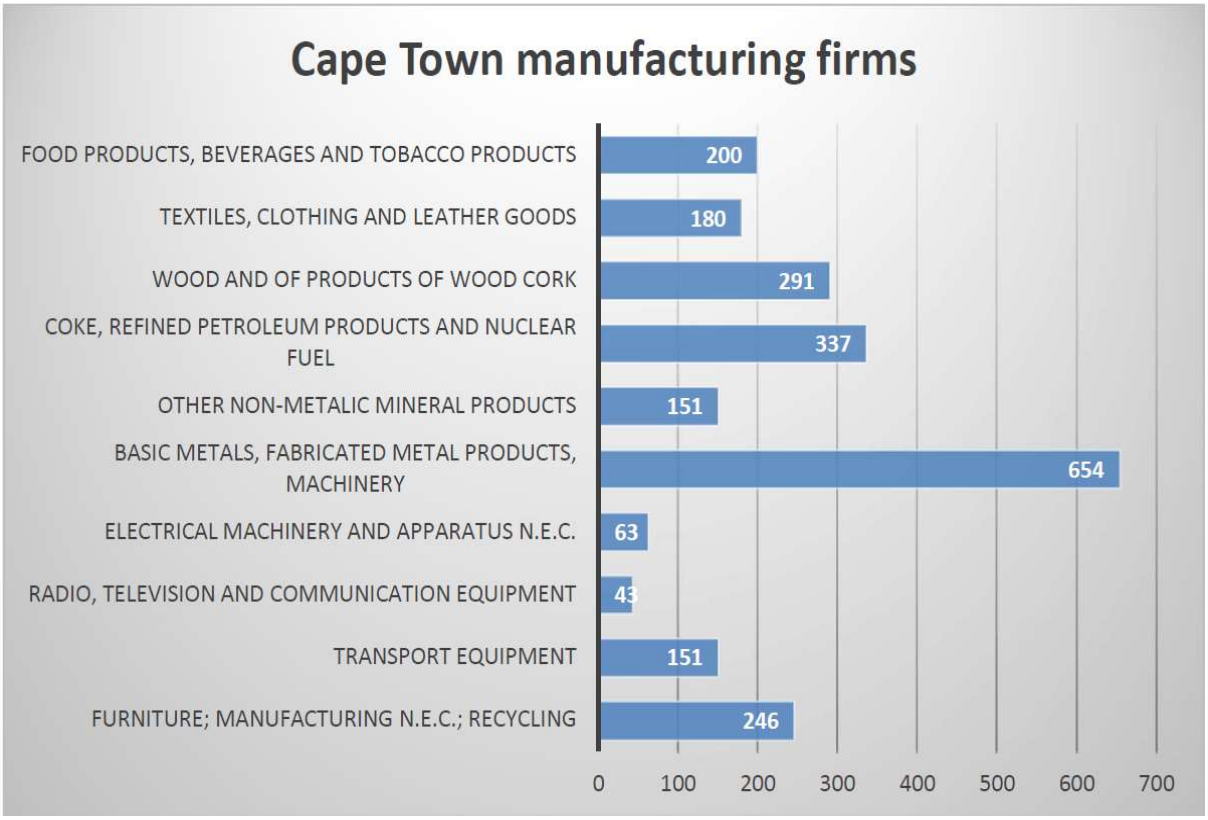

Figure 2.2: Distribution of manufacturing firms in Cape Town industrial areas

(Source: City of Cape Town, 2016b:15)

The manufacturing sector contributed 14.9% of the Western Cape's total gross value-added product (GVA) and created more than 21,500 new jobs in the first quarter of 2018. Despite this, the negative growth-rate trend continued from the previous period, as this sector lost 6.5% of its size in this quarter (City of Cape Town, 2018).

Bhorat and Rooney (2017) cited increased intense competition, especially from Asian countries and skills shortage in the manufacturing sector as factors contributing to its poor performance. Given the state of the manufacturing sector in South Africa, it is of importance that in this study we evaluate the use of MAPs in SMEs in this sector, which can be linked to improved performance and may be used in formulating governmental intervention policies.

In the next section, we define and explore what constitutes our other variable that is MAPs before the literature review.

2.3 Management Accounting Practices (MAPs)

Johnson and Kaplan (1987) trace management accounting origin to the early 19th century during the industrial revolution. Since then, many MAPs techniques have been developed in practice as a response to the dynamic business environment. Understanding what constitutes MAPs is essential and can aid our appreciation of the usage of these tools and

techniques by SMEs. In this part, theoretical definitions of management accounting are given, followed by a discussion of MAPs techniques under each functional area. The five areas, namely, costing, budgeting, performance measurement, decision support and strategic management accounting forms a broad overview of MAPs which a manufacturing firm can utilise.

2.3.1 Defining management accounting

The definitions of management accounting, as postulated by various institutions, are subjected to the changing scope of the discipline in response to business environment demands. The Institute of Management Accounting (IMA) defines of management accounting emphasises the strategic decision-making approach to the field, and defines management accounting as, "…a profession that involves partnering in management decision-making, devising planning and performance management systems, and providing expertise in financial reporting and control to assist management in the formulation and implementation of an organisation's strategy" (IMA, 2008). From this definition, it is essential to note that management accounting has evolved from being limited to using tools and techniques to the analysis and quantification of data to become a strategic decision-making system.

The Chartered Institute of Management Accounting (CIMA) also adopts a similar focus, as it defines management accounting as a process of "…analysing information to advise business strategy and sustainable business success" (Eaton, 2005:18). This means that the role of management accounting has changed from collecting and reporting information on the operational management level to that of advising on strategy and business decisions. A broad set of tools and techniques has, therefore, been developed for use by management accountants and stakeholders over the years. These have culminated in MAPs which firms around the world use to control and improve their operations (Lavia López & Hiebl, 2014). As mentioned earlier, these practices can be categorised into five functional areas, namely costing practices, budgeting practices, performance measurement practices, decision support systems, and strategic management accounting. Each of these categories is explored further in the following subsections.

2.3.2 Costing practices

Costing is probably the oldest technique in management accounting (Pitcher, 2015). Costing practices provide management with detailed cost information on all businesses processes, which enables management not only to control current operations but to also predict and plan for future operations (Scarlet, 2009). For instance, standard costing, which involves the use of pre-set average expected unit costs of products, is used to budget product costs that can then be compared to actual production costs when incurred (Eaton, 2005:30). The costing process involves collecting, classifying, and allocating costs, which are incurred by a business.

Firms can choose various cost collection, classifying, and allocation methods suitable to their business. The most widely used cost collection methods in manufacturing firms include techniques such as job costing and contract-to-cost. Drury (2012:46-50) identifies job costing in an organisation as the identification of a unit or batch of a product or service as unique and assigning all costs that are associated with that unit or 'job' to the product or service. For example, when an engineering company is designing a machine according to customer specifications, then all costs incurred in manufacturing the machine can be allocated to that specific machine. On the contrary, this system does not work effectively if a company is mass-producing identical units of products that consume the same amount of material and overheads per unit. In such cases, it becomes necessary to assign costs to different processes in the production of the products, and this is known as process costing (Eaton, 2005:10).

Drury (2012:443) notes that after costs have been collected, they need to be allocated in such a way as to enable the process of product/service pricing. Full absorption costing and variable costing are often used by firms, depending on the product type and manufacturing processes, to achieve this objective. It is also possible to use a costing system which has elements of these two methods. The choice of an appropriate costing system has a considerable effect on both short-term and long-term decision-making in areas such as cost control, making versus buying, pricing, and product mix decisions (Zhuang & Chang, 2017).

Lavia López and Hiebl (2014) noted that costing practices research has mainly focused on advancing the debate between using traditional absorption methods or marginal or variable costing, which separates fixed and variable costs for short-term decision-making, based on the notion that fixed costs are not necessary for short-term decision-making. However, the main limitation in the adoption of marginal costing in firms is its non-acceptance by accounting reporting and regulatory bodies. For example, in the UK, the statement of standard accounting practices on stocks and long-term contracts (SSAP 9) implemented in 1988 recommended the use of absorption costing for financial reporting.

There have also been developments in the costing systems with the introduction of newer costing systems such as activity-based costing (ABC). Unlike the traditional costing systems, this system collects costs around identified activities and allocates them using cost drivers (Elhamma, 2012:91). These and other later developed costing systems such as target costing, life cycle costing and throughput costing found under strategic management accounting techniques because of their multidimensional and strategic approaches (Ahmad, 2017). Table 2.2 summarises product costing methods definitions, benefits and shortcomings.

Table 2.2: A list of selected product costing methods

Definition	Pros	Cons
Throughput Costing ❖ Includes only direct materials as product costs ❖ Treats all other costs as period costs	❖ Consistent with just-in-time and discourages inventory build-up ❖ Relatively simple	❖ May lead to strategic errors (e.g., under-pricing products) ❖ Not allowed under GAAP
Variable Costing ❖ Classifies cost by behavior(e.g., variable or fixed) ❖ Treats variable manufacturing costs as product costs ❖ Treats all other costs as period costs	❖ Allows cost-volume-profit (break-even) analysis ❖ Consistent with contribution margin approach ❖ Relatively simple	❖ May lead to strategic errors (e.g., under-pricing products) ❖ Not allowed under GAAP ❖ May require extra training
Full Absorption Costing ❖ Includes all materials, labor, and manufacturing overhead as product costs. ❖ Treats all other nonmanufacturing costs as period costs	❖ Required for GAAP and IAS ❖ Commonly used and understood	❖ Does not include nonmanufacturing costs ❖ Can motivate unnecessary inventory built-up ❖ May treat fixed production costs as variable
Life-cycle Costing ❖ Includes all production-related costs plus upstream and downstream costs as product costs (e.g., R&D, customer, service, and disposal costs)	❖ Recognizes overall value-chain cost ❖ Best fit for long-term product decisions	❖ downstream costs often not known ❖ May treat all value stream costs as variable

(Source: Fisher and Krumwiede, 2012:47)

The importance of a relevant costing system for a firm is related to its ability to control costs and may affect product or service pricing, which in turn, can enable a firm to remain competitive in the business environment (Obigbemi, 2010). However, as discussed earlier, management accounting has developed costing techniques that can be used in different manufacturing environments.

The advanced costing systems are fully explored under the strategic management accounting section later in this chapter. In the next section, budgeting practices are explored.

2.3.3 Budgeting practices

Control is often achieved through the planning and coordinating of various resources, functions, and activities in a company. Drury (2012:358) noted that in order to achieve these objectives, budgets are often used. Budgets are future action plans of an organisation that detail how resources and activities will be used to achieve the desired outcome. Various types of budgets can be prepared for different functions and periods, and they are usually consolidated into one master budget (Scarlet, 2009:238-240). Budgets can be prepared for different operational areas such as sales, purchasing and production. Therefore, budgets can play a pivotal role in operational planning. The budget period or interval is the time frame which the budget covers. Most firms prepare budgets for a year, but this can also be split into monthly periods as required by the purpose of budgeting (Nobles, Mattison, & Matsumura, 2014).

Manufacturing enterprises usually rely on budgets for planning and control (Armitage et al., 2016). Budgets are usually interrelated. Figure 2.3 shows a flow diagram of a typical budget structure in a manufacturing enterprise.

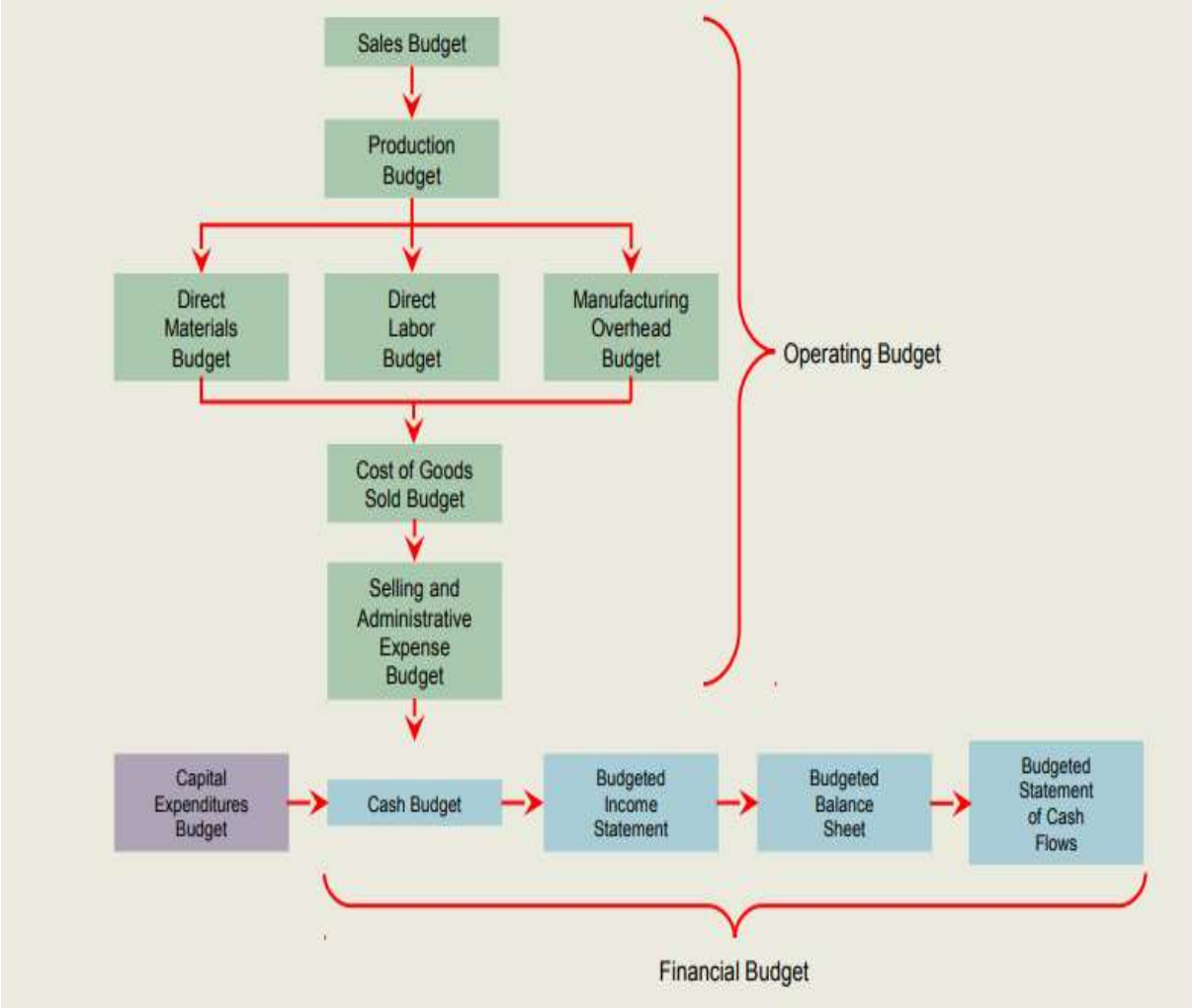

Figure 2.3: Components of master budgets for a manufacturing enterprise

(Source: Nobles et al., 2014:269)

There are two extreme ways in which organisations can approach budgeting processes. CIMA official terminology identifies top-down budgeting as a process where executives at the head of an organisational hierarchy prepare the budget and then impose it down to participants on the bottom, who are then tasked with implementing the budget. Conversely, bottom-up budgeting is when the budget holders have an opportunity to set or participate in the process of budgeting (Eaton, 2005:6). In SMEs, both types of budgeting can apply. Owners or top managers can impose a budget on users, or they can invite users to participate in the process.

Types of budgets are largely determined by the way the budgeting process is approached. For example, zero-based budgeting (ZBB) is when the whole process is started from scratch, while incremental budgeting is when a new budget is based on the previous one, with changes for the current period (Waweru et al., 2004).

MAPs, in the budgeting field, continues to develop. Hope, Bunce and Röösli (2011) argue that traditional budgets create barriers between departments, are bureaucratic, are too internally focused, and often waste of a lot of an organisation's time in preparation. They, therefore, advance the idea of going 'beyond budget', advocating for the use of rolling forecasts and other strategic, focused plans (Hope et al., 2011). Despite the emergence of these improved budgeting MAPs, their implementation is still limited and debatable (Heupel & Schmitz, 2015; Sandalgaard & Nikolaj Bukh, 2014). In the next section, the MAPs for performance measurements are reviewed.

2.3.4 Performance measurement practices

Neely, Mills, Platts, Richards, Gregory, Bourne and Kennerley (2000) define a performance measurement a 'metric' of performance. Melnyk, Bititci, Platt, Tobias, and Andersen (2014:3) further elaborate that a performance measure is more of an "instrument that can be used with the aim of quantifying the efficiency and effectiveness of a given action". Most importantly, Neely et al. (2000) identify that performance measurements have two main processes, namely the 'measurement' and 'management'. The measuring process encompasses the processes of setting goals and deciding what to measure. The process includes collecting, analysing, and interpreting performance data. The management process is concerned with assessing the differences between actual and desired outcomes, critically analysing these differences, and in some instances, implementing corrective action.

The measures which a firm can use to measure performance may incorporate both financial and non-financial performance indicators. The list of performance measures is broad and exhaustive. Zaman and Yoon (2016) have simplified this list by grouping the measures into four categories: financial measures, non-financial measures, hybrid or multiple measures, and strategic measures.

Financial measures include accounting measures based on objective financial data and are often expressed as ratios. These ratios can be used to measure the performance of a firm in terms of profitability, solvency risk, and efficiency (Sangster, 2016:115). Financial measures are reliable but may be prone to human error and accounting policy distortions and can be manipulated (Richard, Devinney, Yip, & Johnson, 2009).

On the other hand, non-financial performance measures are concerned with other variables in a business such as customers, employees, products, and quality (Cvetkoska, 2016). Non-financial measures such as the number of on-time deliveries, customer complaints, and absenteeism rates are often used by many firms (Ahmad, 2013; Micheli & Mari, 2014; Maduekwe, 2015). Most of these measures are short-term in nature. However, strategic measures can be used to support long-term decisions (Kariuki & Kamau, 2016:168).

It was discovered that firms tend to place more emphasis on financial over non-financial performance measures. Arguments put forward in academic literature against such tendencies note that financial performance measures often lack strategic focus, are too internally focused, and cannot be used for planning and control in the long-term (Melnky et al., 2014). To counter this, frameworks such as the BSC have been developed, which seek to strike a balance in using performance measures and align them to long-term goals of a firm (Kaplan & Norton, 1992). Most small businesses might not ultimately adopt framework tools such as BSC due to limited resources and lack of expertise but may choose instead to incorporate a mix of financial and non-financial measures to ascertain the performance of their organisations (Lucas et al., 2013). In the next section, we focus on MAPs which support both long-term and short-term decisions in a firm are reviewed. These decision support systems can be used to inform decision-making.

2.3.5 Decision support systems

Collier (2009:7) stresses the importance of decision-making in an organisation and identifies that management accounting can be used to provide financial and non-financial information to support these decisions. Scarlet (2009) categorises decisions as operational, investing, and/or financing decisions. Collier (2009:22) further identifies operational decisions a promotional, product pricing, and mix decisions. For each decision type, profitability as crucial. Investing decisions include the optimum level of raw material stocks and acquisitions of company assets.

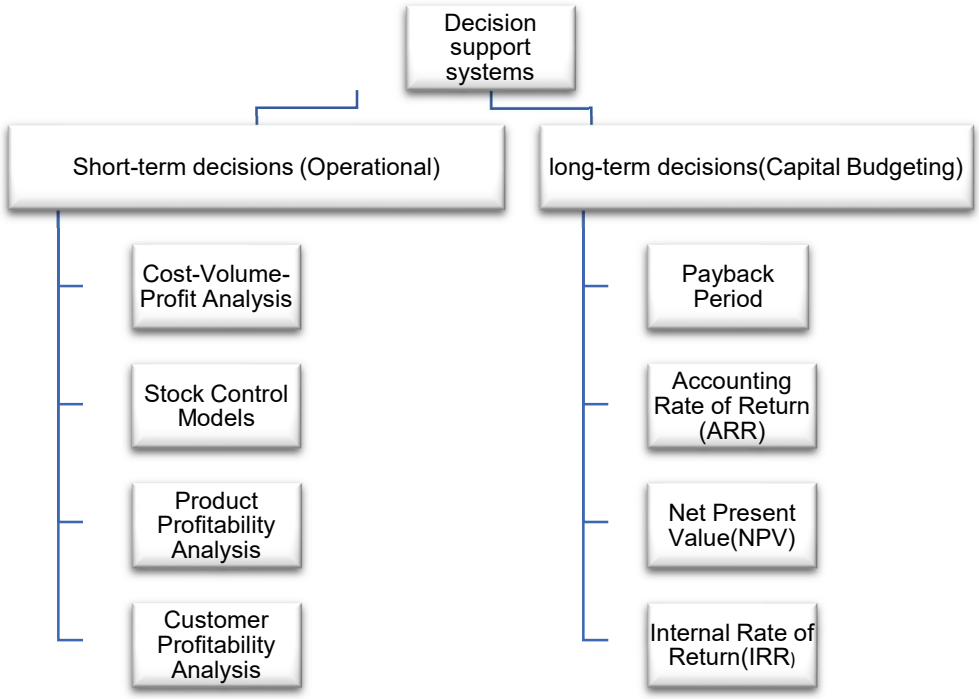

Figure 2.4: Management accounting decision support system techniques

(Source: Researcher's own compilation)

Financing decisions are often long-term and strategic and include a mix of debt, equity, and cost of capital decisions. Figure 2.4 shows a diagram depicting the link between decision support systems. These tools and techniques can be used to analyse short-term or operational decisions as well as long-term or capital investment decisions of a firm (Scarlet, 2009). Drury (2012:152) makes a distinction between short-term and long-term business decisions, noting that short-term decisions are easily adjusted and reversed, whereas long-term decisions are often irreversible.

Drury (2012:169-174) also observes that mathematical models and linear programming are often used in management accounting as the building blocks of decision support MAPs such as cost-volume-profit (CVP) analysis (commonly referred to as break-even analysis), profit maximisation models, payback period, internal rate of return, and various other decision support making techniques. CVP analysis can be used to measure the impact of costs on operating profit by increasing the volume of production. This type of analysis can aid management in finding the optimum rate of production. Despite its popularity and simplicity, this technique fails to take into consideration the uncertainty and risks associated with the business environment (Abdullahi, Bello, Mukhtar, & Musa, 2017).

Not only are manufacturers faced with complex production level decisions, but they also have to take into consideration inventory and stock decisions, which are also critical in their businesses. Therefore, management accounting has provided tools and techniques for controlling and overseeing inventory order levels, storage, production, and sales of stock

(Scarlet, 2009). Linear techniques such as economic order quantities, for example, can be used by a firm to maintain inventory order levels while minimising costs associated with storage. Nyabangwa and Ojero (2012) investigated a small sample of small-scale businesses in Kenya and discovered that there is a positive relationship between proper inventory management practices and business performance. Nonetheless, the authors noted that owner/managers of small businesses often lacked the required knowledge of proper inventory management (Nyabangwa & Ojero, 2012).

Product profitability and customer profitability analysis can also be used by firms to aid their business decisions. These profitability analysis methods involve an analysis of revenues and costs associated with the product line. These concepts also form an integral part of the ABC system but can be used without adopting it (Scarlet, 2009). Despite the advantages offered by these analyses in aiding management decision-making, Stefan and Reka (2010:574) note that these methods are sophisticated, resource-consuming, and have to be continuously updated.

Long-term capital and investment decisions can be supported by using the payback period method. Payback period calculates the time it will take to recover an initial outflow of cash or funds invested. The main advantage of this technique is its simplicity in the calculation. The main drawback is that time factor, and other variables which affect the value of money are not considered. To counter this, discounted cash flow (DCF) can be used. In turn, this approach makes the calculation a lot more sophisticated for the ordinary user (Scarlet, 2009:342). Therefore, Andor, Mohanty, and Toth (2015:164) note that the payback period is often used by firms who have short-term goals such as profit and sales maximisation.

Another simple investment appraisal method which does not use DCF is the accounting rate of return (ARR). The method calculates the expected rate of return on a project or investment and gives the arithmetic mean of accounting income expected from the project each year (Scarlet, 2009:342). Similarly, the net present value (NPV) considers the time value of money and calculates future payments or income from a project using the present value. The advanced method is the internal rate of return (IRR), where a rate is calculated by making the cash flows from the NPV equal to zero. This rate is then used to decide alternative uses of the funds. If an investment has a higher rate of return than what has been calculated, then funds might be diverted to that more profitable option (Scarlet, 2009).

Generally, SMEs make limited use of decision support techniques for various reasons, including due to a lack of educational skills (Fatoki, Okubena, & Herbst, 2010). Also, the lack of computer end-user skills can be a barrier since most of these MAPs are included in computer software packages (Bruwer, Le Roux, & Smit, 2018). The next section considers another group of sophisticated MAPs termed strategic management accounting practices.

2.3.6 Strategic management accounting practices

The CIMA official terminology defines strategic management accounting as "…a form of management accounting in which emphasis is placed on information which relates to factors external to the entity, as well as non-financial information and internally generated information" (Eaton, 2005:54). Strategic management accounting practices, unlike traditional MAPs, adopt a holistic approach by considering multiple perspectives in contrast with the traditional approach of focusing on a single variable (Abdelmoneim Mohamed & Jones, 2014). These sets of tools and techniques include processes such as benchmarks, Porter's value chain model, lifecycle costing, target costing, Kaizen costing, BSC, and value chain analysis. The emphasis of strategic management accounting is to provide a forward-looking management accounting model that a business can use to make decisions (Pitcher, 2015).

Juras (2014) noted that there was no general consensus on the definition of strategic management accounting and researchers often have different interpretations of the concept. Therefore, the inclusion of MAPs techniques included in various studies often depends on the definition adopted. Afonina (2015:20) noted that most of the strategic management accounting techniques focused on non-financial performance, such as market share growth and quality leadership. Therefore, use of these techniques can help a firm analyse data such as customer complaints, product innovations and can support the overall strategy of the firm.

Despite all the benefits reported in management accounting literature, strategic management accounting techniques remains generally unused by firms (Ahmad & Leftesi, 2014). The main reason for the low adoption of these techniques in firms is the lack of clarity on the practical implementation of some of these techniques and competencies of users (Langfield-Smith, 2008). Case studies of results of the implementation of these techniques continue to dominate the management accounting research.

The discourse above has unpacked the prominent tools and techniques under each MAPs functional area. This study is not only concerned about MAPs utilisation but also its association with perceived organisational performance. Therefore, the next part will discourse our second variable organisational performance.

2.4 Organisational performance

Richard et al. (2009:719) note the lack of researcher consensus on an acceptable theoretical definition of organisational performance. Variances also exist on what constitutes this concept of performance. For instance, some authors have defined organisational performance as effective and efficient use of an organisation's assets, which results in gaining competitive position and improved profits (Arora, Arora, & Sivakumar, 2016:214). Richard et al. (2009) further distinguished organisational performance from organisational effectiveness by noting

that organisational performance incorporates three areas in a firm: financial performance, market performance, and shareholders return. Conversely, organisational effectiveness is measured by internal performance, which leads to the effective operation of the firm. Management accounting seeks to measure and achieve both organisational effectiveness and performance. Despite the challenges encountered in defining the concept, most researchers recognise the importance of measuring and achieving organisational performance.

Measuring organisational performance is challenging and can be done in multiple ways. Afonina (2015:24) alludes to the idea that organisational performance measurement can be approached in two different ways, namely subjective or objective. The subjective approach uses primary data as a basis for measurement. In this approach, a manager's perceptions are used to gauge performance over a period. The objective approach, on the other hand, analyses quantitative performance data and conclude. The major setback of the objective approach is that many organisations are reluctant to share their financial and operational data, and, therefore, most researchers rely on the subjective approach. This current study also adopts subjective measures because of the non-availability of objective data, since SMEs rarely publish their financial data.

Richard et al. (2009:735) observe that researchers often ask targeted respondents their perceptions of organisational performance. They note that this approach needs to be used with caution, since there is a possibility of psychological bias as humans, by nature, tend to view themselves positively (Richard et al., 2009:736). These biases can be reduced by adopting a carefully constructed research design and selecting well- informed respondents.

2.5 Theoretical Frameworks

Various theoretical frameworks have been adapted in studying the utilisation of management accounting techniques in firms. In a review study of 25 years of management accounting research, Bromwich and Scapens (2010) make a critical observation that the choice of theoretical approaches chosen by authors was mainly influenced by publishing journal preferences. Furthermore, they documented the history of theoretical frameworks from applied theories used in the 1990s, which were often deduced from the contents of studies and were not explicitly named to identify economics-based theories such as the agency theory. Undeniably, many theories from different sources have been used in different studies. The bottom line is the most appropriate theoretical approach which aids the extraction of appropriate knowledge for the particular study purpose should be adopted.

For this study, the contingency theory approach is adopted. This theory is appropriate because it aims to answer 'why' specific MAPs are being used in a particular environment as opposed to other different environments (Otley, 2016:47-49). To elaborate, the contingency theory

seeks to identify specific aspects of MAPs and establish a match between these factors and specific environmental characteristics. The assumption of this approach is that there is no prescription of MAPs that suits all firms, but utilisation of MAPs is dependent on the environment in which the firm operates in (Amara & Benelifa, 2017:47). Therefore, to understand MAPs utilisation in a specific environment, the best approach is to analyse the underlying contingency factors.

Contingency theory studies often classify the factors that affect the adoption and utilisation of MAPs in firms as internal and external organisational factors. Internal organisational factors which have been identified includes but are not limited to, organisational structure, size, strategy, culture, key staff characteristics and organisational change (Chenhall, 2003; Mat, Smith & Djajadikerta, 2010; Baird, Jia Hu, & Reeve, 2011; Fowzia, 2011; Laitinen, 2011; Abdel Al & McLellan, 2013; Sandalgaard & Nikolaj Bukh, 2014; Lavia López & Hiebl, 2014). External factors include changes in technology, increasing global competition, changing governmental regulations, consumer tastes, and uncertainty amongst others. (Alawattage, Hopper & Wickramasinghe, 2007; Ajibolade, 2013; Mohamad, Karami, Bajuri, & Asgharizade, 2015; Kordlouie & Hosseinpour, 2018).

The implication of the contingency theory on MAPs utilisation in a firm is that it is the fit or match of MAPs characteristics and the environment, which explains the adoption of specific MAPs in certain environments (Otley, 2016). This study sought to identify and establish the most commonly used MAPs of manufacturing SMEs in Cape Town. Following the contingency approach, environmental factors, which explain the choices of these MAPs, have to be explored in order to establish a match between relevant MAPs and the environment.

Therefore, in the next section, prior literature on SMEs in the related environment is reviewed to obtain an overview of MAPs utilisation, which may apply in our context.

2.6 Review of Studies on MAPs Utilisation in SMEs

This section review literature on the utilisation of MAPs in SMEs noting the current avenues of knowledge and exposing the lacuna in the studies. After the introduction to the review, themes which speak directly to the objectives of this study are synthesised, and gaps for further studies are revealed.

2.6.1 MAPs utilisation in SMEs introduction

It can be postulated that since South Africa is still in the development phase, the environmental factors found in SMEs in developing economies are similar or identical to a higher degree to those in the South African context. Bearing in mind the dearth of MAPs utilisation research in

South Africa, in this section, we explore themes found in developing countries regarding MAPs utilisation and adoption factors of these SMEs as we adopt a contingency perspective. Lastly, we summarise these themes and identify the research gaps which this study intends to fill.

2.6.2 Internal organisational factors

A plethora of studies on utilisation of MAPs in developing economies have identified internal organisational factors such as size, age and structure of firm as possible determinants of adoption of MAPs in SMEs (Mat et al., 2010; Ahmad & Zabri, 2016; Zaman & Yoon, 2016; Arora & Raju, 2017; Eman & Nassar, 2017). On the use of MAPs by firms of different sizes, Lavia Lopez and Hiebl (2014:99) in a systematic review discovered that 24 articles concluded that SMEs made less use of MAPs compared to larger firms and in contrast with only three articles that found no differences between MAPs use and size. Nair and Nian (2017) highlighted this theme in a survey study that investigated the factors affecting the adoption of MAPs in 200 SMEs in Malaysia. Using the Pearson correlation coefficient, firm size, competition, level of qualifications of decision-makers and advances in production technology all correlated with MAPs usage. In a quest to test the causal relationship, multiple regression analysis was done using the R squared technique, and ANOVA were used, and results showed that mainly firm sizes forced firms to adopt MAPs.

Other studies situated in different developing economies reinforced this notion. Wu and Boteng (2010) found evidence of firm size being a factor pushing a firm to adopt more MAPs in Chinese firms. Most importantly, they admitted that growth in firm size is usually accompanied by operational challenges, which can lead to the adoption of more MAPs. Despite this study focusing on mainly large firms, this view can be relevant in small firms. Tan and Low (2017) provide a practical example in a study that focused on the budget practices of firms in Singapore. They observed that firm growth resulted in changes uses and focus of their budgeting practices. Smaller firms were concerned mostly with the operational control, but medium-sized firmed turned their focus to the strategic planning function of the budget.

Although this study collected data through professional accountants only, the findings obtained were similar elsewhere in developing economies studies. For instance, Oyerogba (2015:81) in a survey of 78 Nigerian manufacturing firms concurred with the view that the size of the firm affected the utilisation of MAPs. On the other hand, Rundora, Ziemerink, and Oberholzer (2013:494) investigated the use of ABC in SMEs in Gauteng region and noted most of the users of this MAPs technique have been in operations longer than the non-users and were bigger in size. Other studies in the South African context seems to be acknowledging the effect of firm size on MAPs utilisation in SMEs (Rundora, et al., 2013; Maduekwe & Kamala, 2016a).

Nonetheless, caution needs to be exercised when considering the effect of firm size on the utilisation of MAPs in SMEs. Most studies who generalise the firm size as the main push factor

for MAPs usage always cite other secondary factors that vary directly with firm size. Ultimately it could be those other factors that are responsible for the increase in MAPs usage. The two most prominent of these supporting factors are firm structure and complexity.

Armitage et al. (2016) postulated that as firms grow in size, the structure usually becomes more complex, leading to the adoption of MAPs which can be used to affect more control. This study was based on SMEs in Canada and Australia. Despite not being located in developing economies, this study pointed to the effects of growing firm size worth exploring in developing economies, including South Africa. This apparent research lacuna needs to be explored. Withal, there seem to be suggestions that larger firms with complex operation and management structures usually adopt more sophisticated MAPs. Ajibolade (2013:284) goes on further to suggest that the structure of an organisation affects the decision-making process and how performance is measured. The more the level of decentralisation, the higher the need for administrative controls and related MAPs.

Despite this difference in operation complexity being pointed out by many scholars as one of the main differences of between small and large firm, this effect of size also impacts on types of MAPs used by firms of different sizes. Consider, Elhamma (2012), in a survey of 62 firms in Morroco, showed that smaller firms were less likely to adopt sophisticated MAPs compared to larger firms. Howbeit, the main limitation of these result was that only one sophisticated technique was tested, that is ABC. This study would have been more useful if multiple techniques were considered. Fatoki et al. (2010) did just that in the South African context. Their study focused on 124 SMEs in Nelson Mandela Bay and highlighted that most of these SMEs did not use sophisticated MAPs in their investment appraisal decisions. Arora and Raju (2017) sampled 23 manufacturing companies in India and results showed that the size of the organisation was an essential factor in the adoption of ABC. Due to the sophistication of this technique, it was likely adopted by larger firms with resources and capabilities to implement it. Therefore, firm size and its other related factors like firm structure and complexity might be a determining factor in the type and nature of MAPs adopted by South African SMEs.

2.6.3 Key staff characteristics

The second theme which resonates from the literature on MAPs utilisation in SMEs in environments related to and including South Africa is key staff characteristics. These factors which include lack of skills and awareness of utilisation of MAPs amongst potential users have been highlighted by various scholars (Waweru et al., 2004, Amoako, 2013; Chimucheka & Mandipaka, 2015). In South Africa, Waweru et al. (2004:678) located a lack of adequate accounting skills amongst management as an obstacle to MAPs adoption and utilisation in firms. This pivotal study was, however, limited to the case studies observed and cannot be generalised to all firms. However, these results raised two essential factors found in South

African firms. These are lack of adequate skills and awareness of utilising MAPs amongst firm owners and other decision-makers (Maduekwe, 2016). This observation is not limited to South Africa only. Amoako (2013) asserted that half of the SMEs sampled in the study of accounting practices in Ghana possessed less than average accounting skills. In Zimbabwe, Maseko and Manyani (2011:180) surveyed 100 SMEs and observed that most of them did not use any accounting practices because of limited financial knowledge and avoiding the expense of engaging an accountant.

In Sri-Lanka, Subasighe, and Fonseka (2009) conducted a mixed methodology study on factors affecting the adoption of MAPs in this country. Twenty-two firms were sampled using a questionnaire followed by in-depth interviews and then focus group discussions. Regression analysis of the quantitative results using R squared technique indicated that management awareness was amongst the main factors affecting the utilisation of MAPs. Kalkhouran, Nedaei, and Rasid (2017) studied Malaysian SMEs and asserted that qualifications, experience and networks directly affected the adoption of mainly strategic MAPs in SMEs. Nonetheless, this study was mainly based on small businesses in the service sector. The results, therefore, might not be directly applicable to SMEs in the manufacturing sector.

The key staff that is the decision-makers and managers of SMEs can directly impact on the adoption and utilisation of MAPs in their firms. To illustrate this point, Cheffi and Beldi (2012) in their in-depth case study of the use of management accounting by managers identify two types of managers were passive to the use of MAPs in their firms. The first group considered themselves lacking the competence to use and interpret accounting information. They often rely on technical advice and carry out accounting directives without fully understanding them or being critical. The second group ultimately rejected accounting information, and they do not realise the importance of the figures and operate solely from their intuition and experience. They also found that operational managers, especially those from production, did not consider accounting information necessary for them and often criticised accountants more than technology for the firm's shortcomings.

However, the impact of skills capacity and usage of MAPs even though implied in most studies is seldom analysed by scholars in developing economies. On the contrary, Intakhan (2018) researched MAPs usage in SMEs in Thailand and their effectiveness on decision-making. Results from 107 questionnaires which tested 19 MAPs from all functional areas revealed that traditional MAPs such as budgets and standard costing were frequently used. Interestingly, this study showed a higher level of sophisticated MAPs utilisation that included benchmarking, ABC and target costing.

The higher level of sophisticated MAPs usage in these SMEs was attributed to the fact that most of the respondents targeted were accounting managers and had higher educational skills with 72% of the sample at bachelor's degree level. R squared analysis of the results showed

that management support and accountants' competencies directly influenced the successful usage of MAPs. In turn, there was a positive relationship between successful MAPs usage and decision-making effectiveness. However, the main limitation of this study was its concentration in one industry, which makes the findings difficult to generalise. Therefore, there could be a relationship between education and skills competency level with the utilisation of MAPs in SMEs as implied by most studies.

For instance, Urban and Naidoo (2012:147) acknowledged that the lack of technical and critical business operation skills lacked in most SMEs owners and decision-makers in South Africa. Shaku (2011) discovered that out of 150 SMEs surveyed in Pretoria, South Africa, only five knew about ABC costing. Mazanai (2012), in a survey of manufacturing SMEs in Gauteng, reported that advanced inventory management techniques such as Just-In-Time (JIT) were not commonly used. More than half of the sample lacked knowledge of this technique. As a result, these SMEs suffered higher inventory storage costs that could have been avoided. Maduekwe and Kamala (2016b) also lamented the lack of formal performance measurement structure in most of the SMEs surveyed in Cape Town citing that they rarely invested in integrated software systems that can make such tasks easier given their lack of skills.

This lack of competence, skills and awareness in the utilisation of MAPs in SMEs has adversely impacted their performance. Kirsten et al. (2015) in the result analysis of their study showed that SMEs owners lack the knowledge and skills to identify and implement performance measures relevant to their businesses, and this has contributed to the high failure rate of small businesses. This observation points directly to the research problem of this study.

Other authors not only identified this problem but also highlighted the chosen solutions prevailing in SMEs and shortcomings thereof. Brijal et al. (2014:341) revealed that most of the South African SMEs examined made use of external parties such as accountants to perform their accounting duties and more than 60% of those SMEs still depend on those external parties to interpret and use their accounting information for decision making. They also discovered that the majority of SMEs owners are not financially literate as they cannot interpret financial statement and do not have analysis skills. However, Collier and Nandan (2010:73) cited that these SMEs owners and decision-makers can benefit immensely from possessing accounting skills of which they usually rely on third parties to provide. Other studies even offered practical suggestions on how this can be achieved. Schwarze (2008:148), after assessing the lack of critical financial and accounting skills of SMEs owners in South Africa, provided clarity on how accounting professionals can be part of the solution. Amongst the intervention strategies were the need for accounting clinics which can be set up by existing entrepreneur development organisations with the collaboration of accounting professionals. These centres can offer SME owners assistance on how to make use of accounting tools such as MAPs in a practical way to improve their decision making.

2.6.4 Informal approach to MAPs utilisation

The third theme from prior literature on SMEs is the informal approach to decision-making and avoidance of MAPs, which aids strategic decision-making. Ng et al. (2013:93) noted that due to factors such as owners' involvement in business operations tends to lead to informal decision making without using strategic MAPs. Ayandibu and Houghton (2017:134) asserted that SMEs in South Africa were usually owner-managed or employed a related family member in management positions, and unlike larger organisations, their management structure was informal. The resulting decision-making process followed is very flexible and informal, with no carefully constructed strategies. Therefore, these observations seem to imply that some SMEs do not have explicitly formulated strategies that usually require information before decisions are made. In contrast, decision support systems techniques and strategic management accounting techniques are often used by larger firms to provide relevant information for decision-making (Lucas et al., 2013).

Uwonda and Okello (2015) in their study of Northern Uganda SMEs revealed that SMEs often ran into cash flow problems by making unplanned once-off capital expenditure decisions that could have been avoided by using the relevant decision support tools. Tran, Abbot, & Jin Yap (2017) also discovered that SMEs in Vietnam also did not use any management accounting information and decision support techniques for their businesses but often relied on their experience and memories. In South Africa, Maduekwe (2015) cautioned that un-supported decision making or using crude techniques such as gut feelings by SME owner-managed businesses often led to business failure. Maziriri and Mapuranga (2017) also mirrored similar results when they reported that SMEs in Gauteng rarely used the information for decision support. Non-usage of such tools has had an impact on studies that ran an analysis of the impact of using these tools on the performance of SMEs (AlKhajeh & Khalid, 2018b). The main implication which can be drawn from this discourse is that SMEs can benefit from incorporating relevant information to inform their decisions. The utilisation of decision support MAPs may be used to achieve this.

Not only are decision support MAPs shunned by SMEs but also strategic management accounting techniques. Low to non-usage of these techniques have been reported in most developing countries. Ojua (2016) noted low usage of strategic management accounting tools such as lifecycle costing, Kaizen costing, target costing, and quality costing and most Nigerian manufacturing firms even lacked awareness of these tools. Other studies seem to concur with the view that these techniques can be beneficial to SMEs. For instance, Omsa et al. (2018) investigated the strategic management practices of SMEs in Indonesia. Results showed that strategic planning, implementation and evaluation in SMEs resulted in improved profits.

In contrast, most scholars appear to be questioning the suitability of these techniques for SMEs. This argument is mainly based on the competence of SMEs in adopting such involving and costly techniques. Taticchi, Cocca, and Alberti (2010) advanced this argument on the utilisation of the BSC in SMEs. They argued that most of these advanced MAPs techniques were explicitly designed for larger organisations and presented significant challenges when SMEs attempts to adopt them.

These challenges, which include cost and competencies in adopting these sophisticated techniques in SMEs, are some of the reasons that limit SMEs from utilising these techniques. Rundora et al. (2013) contended that the higher costs in the implementation of ABC were the main reason for its non-adoption in small manufacturing firms in Southern Gauteng region. However, other authors attempted to counter these challenges by redesigning these techniques and providing alternative frameworks best suited for SMEs. For example. Reynolds et al. (2015) developed a simplified BSC tool for South African manufacturing SMEs. This framework remains untested and will definitely need adequate awareness and promotion for it to be adopted by SMEs.

2.6.5 Over-reliance on basic MAPs

The fourth theme from the literature review on the utilisation of MAPs in SMEs is the over-reliance on basic and less sophisticated MAPs by SMEs. This observation can be best illustrated by considering a few results from various developing countries, highlighting the reliance of SMEs on basic MAPs. Alkhajeh and Khalid (2018a) conducted a MAPs study on Malaysian manufacturing SMEs and reported higher usage of techniques in all the five categories of MAPs. Costing was mostly used at 83% followed by performance management systems (79%), budgeting systems (76%), decision support systems (63%) and strategic management accounting (50%). However, a closer look at the results revealed that SMEs tended to rely profoundly basic MAPs in each area and were less likely inclined to utilise sophisticated ones. These results reinforced previous observation from Ahmad (2017), who also conducted a comparison study on SMEs in that country. In Pakistan, Ashfaq, Younas, Usman, and Hanif (2014) illustrated this point by noting that SMEs relied on basic fixed budgets and rarely adopted sophisticated, flexible ones in environments plagued by uncertainty. Mwanza and Benedict (2018) alluded to this anomaly noting 72.5% of the SMEs in Cape Town opined that the environment was too uncertain for budgets. Not only in budgeting but also other areas such as costing is the reliance on basic or traditional MAPs producing challenges for SMEs.

Rao and Ahamed Beg (2015) investigated 61 manufacturing firms covering both SMEs and large firms in India. The results showed that job costing was the widely used technique and costing information was mostly used in pricing decisions. Furthermore, traditional accounting

MAPs were perceived as more critical than the newer strategic MAPs such as customer profitability analysis. Despite their relative ease of use, basic MAPs are often found wanting in rapidly changing environments. In Bangladesh, the situation sounded similar. Khan (2018) revealed that 95% of the respondents indicated that they were reluctant to adopt new and sophisticated MAPs in their firms because they were not aware of the benefits. The respondents were manufacturing firms. However, due to the smaller size of the sample, the applicability of the results is severely limited. These observations were also echoed by developing economies in Africa.

Such a study was Abdel Al and McLellan (2013) survey of Egyptian manufacturing firms during a transitional period. Previously state-owned firms were being privatised. Notably, the Kompass online directory was used to identify the population. From the 92 respondents, it was observed that most of the firms relied on traditional MAPs as opposed to newer sophisticated MAPs. These results were similar to what Oyerogba (2015) obtained in a study of Nigerian firms. However, it must be noted that both of these studies were focused on large stock exchange listed firms, therefore not applicable to SMEs, but they do offer invaluable comparative insights. Lastly, in South Africa, Fatoki, Okubena, and Herbst (2010) discovered that 69% of the manufacturing SMEs of Nelson Mandela Bay surveyed did not make use of any sophisticated investment appraisal techniques but preferred to use traditional methods such as payback period.

Most importantly, through regression analysis of the results, the payback period was shown to have a negative impact on the profitability of these firms. This seems to imply that reliance on basic or traditional MAPs instead of adopting sophisticated ones can be detrimental to firms in some context. Rufino (2014:72) suggested that advanced MAPs usage, even in SMEs, led to improvements in areas such as customer relationships and product quality. Furthermore, this also resulted in long- term achievement of profitability and stability goals in the firms. Given such benefits of these MAPs in SMEs, it is vital to study their utilisation, particularly in SMEs.

2.6.6 Uncertainty and increased competition

The fifth theme from the utilisation of MAPs in SMEs is the effect of environmental uncertainty mainly caused by increased competition (Granlund & Lukka, 2017). This contingency factor was identified and established in the earliest MAPs studies (Otley, 2016). Decision making in an environment of high uncertainty requires complex models to predict the most likely outcome (Merigo, 2015:104). Most sophisticated or strategic MAPs are suitable for such tasks. Environmental uncertainty affects most developing economies. The evidence seems to suggest that in developing economies SMEs utilisation of MAPs, this factor is mostly at play.

For instance, Godil and Shabib-ul-Hasan (2018) investigated internal and external factors that impacted MAPs in Pakistan firms. Findings seem to suggest that environmental uncertainty was mainly responsible for the uptake of more sophisticated MAPs in a firm. Amara and Benelifa (2017:56) cautioned against using traditional performance measures in uncertain environments. The reason given was that these less sophisticated techniques would not give multi-perspective information that reflects the firm performance accurately.

Noordin, Zainuddin, Mail, and Sariman (2015) used a postal survey to investigate 97 manufacturing firms in the Electrical and electronics sub-sector in Malaysia the study showed that an increase in market competition resulted in the usage of strategic MAPs information by firms. The main limitation of this study was focusing on a single manufacturing sub-sector. Therefore, the result cannot be generalised to other manufacturing firms.

In most developing economies market volatility, changing interest and currency exchange rates, increased competition, changes in government policies and rising inflation seems to be the leading causes of environmental uncertainty (Heupel & Schmitz, 2015:733). On the contrary, South Africa's economy has been relatively stable. Recently, Statistics South Africa (Stats SA) (2018) published a report that noted that the consumer inflation rate only rose to 4.5% in April 2018, the previous month it was on its lowest rate in seven years of 3.8%. This rise was triggered by a 1% increase in Value Added Tax (VAT), fuel price increased by about 9% over the 12 months.

However, manufacturing SMEs are not sparred from the effects of uncertainty mainly driven by increased competition due to an influx of cheaper imported products. A change of MAPs utilisation is warranted. Mwanza's (2018) study on budget utilisation on SMEs in Cape Town reported higher usage of basic budgets, but results showed that 72.5% of those firms studied opined that the business environment was too uncertain and changed too drastically for budgets to keep up. Instead of these developments leading SMEs to adopt more relevant MAPs, their response may include decreasing their frequency of use of these tools.

2.6.7 Technological advances

The sixth and last theme from the review of literature on the utilisation of MAPs in SMEs is the effect of technological advances. In the quest of improving product quality and production efficiency, manufacturing companies often engage the use of advanced manufacturing technology (AMT) supported by management accounting systems (MAS). Egbunike, Egolum, and Agwaramgbo (2015) outlined the advantages of adopting AMT will result in high quality and cheaper mass-produced products, reporting is improved, and multiple analysis can be done. Japan has been a widely focused case study due to its rapid adoption of these lean manufacturing technologies like Just-In-Time (JIT) and Total Quality Manufacturing (TQM) systems (Baird et al., 2011; Kober, Subraamanniam, & Watson, 2012; Seseni & Mbohwa, 2017).

These technologies often require computerised systems to aid utilisation of MAPs that can complement them (Kariuki & Kamau, 2016). These systems known as management information systems (MIS) are platforms that involve the use of information technology is not only collection and classification of financial information but also utilisation of MAPs (Duan & Kinman, 2000; Omiunu, 2015). These systems are also capable of aiding decision making and incorporating related MAPs. However, their usage appears limited in SMEs because of various challenges.

Ismail, Isa, and Mia (2018:3) noted that the adoption of computerised systems does not guarantee automatic improvements in performance, but rather, the practical usage and suitability of these systems is essential. Bruwer et al. (2018) not only acknowledged the reliance on manual systems in the majority of SMEs in Cape Town but also noted the lack of using these systems in decision making amongst the users. The competencies of using computers effectively could limit the usage MAPs on these systems. This study was on SMEs in the FMCG industry and might not be directly applicable to those in the manufacturing sector.

However, another factor which hinders the utilisation of these systems in most developing countries including South Africa are the high acquisition costs involved since most of these systems often have to be imported (Waweru et al., 2004:677). Despite these challenges, in South Africa, SMEs have relatively adopted technology in their manufacturing processes, and this is most evident in the instruments and optical manufacturing industries (SEDA, 2016). Therefore, the use of complementary MIS needs to be further explored.

2.6.8 MAPs utilisation in SMEs conclusion

In conclusion, the review above has highlighted important themes that explain the utilisation of MAPs in SMEs environment, particularly in the developing economies. Themes identified as far as utilisation of MAPs in SMEs can be summarised as follows:

- Internal organisational factors such as size, age and structure of the firm influences the choices of MAPs adoption and utilisation in SMEs.
- Key staff characteristics such as educational level and user competencies, awareness and seem to be impacting MAPs utilisation in SMEs. For instance, the reasons for not adopting or changing to more advanced MAPs in SMEs included lack of skill and awareness.
- An informal approach to decision making based on management structure and strategic focus in SMEs influences MAPs utilisation. For example, SMEs did not have formal strategic plans and often relied on emergent strategies that were not always compatible with strategic management accounting MAPs.

- The over-reliance on basic and less sophisticated MAPs by SMEs caused by various factors dominates the utilisation of MAPs in SMEs.
- Environmental uncertainty mainly caused by increased competition is evident.
- Technological advances also impacted the utilisation of MAPs in SMEs.

These themes from the literature on MAPs usage in SMEs in developing economies including South Africa are essential but as observed the studies in this area are limited, and most of the research is concentrated in Asian countries with few studies in the African continent. Given the contingency nature of MAPs, this study will add to management accounting knowledge on this topic and will provide a South African perspective by answering the first part of the research question: "To what extent are Cape Town manufacturing SMEs utilising MAPs? The next section reviews prior studies related to the second part of the research question "How does MAPs utilisation in SMEs affect perceived organisational performance?" A review of studies on this topic ensures.

2.7 Review of studies on MAPs utilisation in SMEs and effects on performance

The previous literature review section focused on the utilisation of MAPs in SMEs in developing economies and discussed six themes that are apparent in prior studies. In this section, we further our discourse by reviewing literature that relates to the last objective of this study. Most studies, particularly in developed economies, have investigated the link between MAPs utilisation and the overall performance of the firm (Lucas et al., 2013; Lavia López & Hiebl, 2014; Armitage et al., 2016). MAPs are adopted for this sole reason. Their relevance in a firm can be justified by their positive contribution to the improvement in performance (Chenhall & Langfield- Smith, 1998). A review of prior literature on the link between these two variables, MAPs utilisation and performance in SMEs is warranted and can reveal the current knowledge and further avenues of study on this subject. Therefore, in this section, we review prior literature in the context of developing economies since South Africa is found in such an environment.

Studies that investigate the relationship between utilisation of MAPs and performance in the SMEs context are scarce. Despite this, selected prior studies in manufacturing firms in developing economies can be useful in understanding the relationship between MAPs utilisation in SMEs and performance since they refer to them. In turn, we consider a few of these studies.

There seems to be a school of thought which argues that utilisation of traditional or basic MAPs does not positively influence performance in firms (Oboh & Ajibolade, 2017; Lucianetti, Jabbour, Gunasekaran, & Latan, 2018). These authors advocate that it is the newer

sophisticated MAPs that enhance firm performance. For instance, Noordin, Zainuddin, Mail, and Sariman (2015) used a postal survey to investigate 97 manufacturing firms in the Electrical and electronics sub-sector in Malaysia. Their different framework approach resulted in an analysis, which showed that strategic MAPs uptake was higher than perceived previously. There was a significant relationship between strategic MAPs information usage and performance. This idea of strategic or advanced MAPs influencing performance was further advanced by Ayedh, Eddine, and Oussama (2015). Their study investigated advanced management accounting techniques on listed Malaysian manufacturing firms. The results showed that techniques such as BSC had a significant positive influence on profitability, customer satisfaction and sales growth in a firm.

Most importantly, this study highlighted that there was greater advantage in adopting a range of complementing MAPs as opposed to utilising them in isolation. The implication of the research study is that there seems to be not only individual technique influence but also group influence. Therefore, MAPs studies design should be carefully constructed to encompass both effects. Given that this study focused only on large firms and evaluated advanced MAPs, which are rarely found in SMEs, the results are not directly applicable to SMEs can inform studies on smaller firms.

In contrast, a few studies in SMEs in developing economies supported the notion that even traditional or basic MAPs usage could have a positive influence on performance. Ahmad and Zabri (2016) expounded on this view in a study that found a positive relationship between utilisation of non-financial performance measurement MAPs with the performance of SMEs. In a later study, the authors reported that inventory management MAPs positively influenced performance in micro-businesses in the retail sector (Ahmad and Zabri, 2018). The main limitation of the studies cited above is their focus effect of one area of MAPs on firm performance in SMEs. Considering the effects of a broader range of techniques under multiple areas of MAPs on the performance of SMEs can broaden the knowledge of this subject area. Therefore, we consider three recent studies that did just that.

Ahmad (2017) conducted a study on manufacturing SMEs in Malaysia. The study tested the relationships of MAPs under the five areas with firm performance. A significant and positive relationship between costing practices, budgeting, performance measurement practices with financial performance was noted. These results implied that SMEs dependent mostly on MAPs in these three areas, which consists mainly of basic or traditional MAPs. Strategic MAPs were found to have a positive relationship with non-financial performance. Decision support system techniques reportedly did not influence firm performance. Results of this study are significant in the sense that they provided an overall picture of MAPs utilisation and performance. However, the results cannot be applied to all SMEs in developing economies noting the differences in contingency factors at play in a different environment. Regardless of this

limitation, they form the basis of understanding the relationship between utilisation of MAPs and organisational performance. A slightly different study was conducted on South African SMEs and expanded on this subject.

Maziriri and Mapuranga (2017) conducted an overview MAPs study using a questionnaire survey on 380 retail SMEs in the Gauteng region of South Africa. The purpose of this study was to establish the effects of MAPs on the business performance of these SMEs. The results were relatively positive as regression analysis showed that costing, budgeting, performance MAPs generally contributed to the improved performance of these SMEs. The exception was information for decision making, which had no significant impact on these SMEs performance. The authors alluded to the observation that decision making in SMEs studied was simple and informal, thereby limiting the relevance of these decision-making tools in the given context.

Moreover, strategic analysis MAPs were found to have a stronger positive influence on business performance. They attributed these findings to the characteristics of the research population, which was SMEs in the retail sector. Citing Parnell (2013), they noted that SMEs in this particular sector often had high strategic clarity.

In comparison, AlKhajeh and Khalid (2018b) conducted a follow-up study on the impact of MAPs on business performance in Gauteng. The study sampled 280 SMEs and obtained similar results to Maziriri and Mapuranga (2017) study. The results seemed to imply that increased usage of MAPs in SMEs resulted in improved business performance. However, despite the results of both of these studies being limited to SMEs in the retail sector, these studies do shed some light on the utilisation of MAPs in SMEs in South Africa.

In conclusion, the relationship between MAPs utilisation in SMEs remains under-researched, particularly in South Africa. This research study intends to further this knowledge. In the next section, a summary of avenues for further research from the overall review of prior literature will be given to theoretically position this study.

2.8 Gaps for further research

From the review of prior literature, the following research gaps were identified:

- Researchers tend to focus on a single or a few selected MAPs, and these studies do not show the full picture of MAPs utilisation. Extensive studies on broad MAPs utilisation, particularly in developing economies, are limited. Most of the results of these types of studies have come from Asian countries, and these results are not directly applicable to African countries. Therefore, a broad MAPs study on South African SMEs can add knowledge to the management accounting field regarding the use of MAPs in developing economies.

- Studies on a single or a few selected MAPs conducted in South African SMEs have not investigated the adoption or non-adoption factors of MAPs or in simple terms have not applied the contingency approach to identify the underlying environmental factors. This study will evaluate these factors and validate their fit with the current MAPs usage in SMEs.

- The association of MAPs utilisation and performance has also remained relatively unexplored in developing economies. Most studies on MAPs in SMEs in South Africa assumed a positive relationship and never tested this relationship. Those who did were located in the retail sector, and the manufacturing sector is yet to be explored.

In an attempt to fill the theoretical gaps identified above, it is clear that this current study is of importance not only to SMEs in South Africa but also to the research related to the contribution of MAPs use in SMEs in developing economies. Given the three highlighted gaps, this study provides information on the utilisation of MAPs in SMEs in Cape Town, as well as on their effect on organisational performance.

2.9 Chapter Summary

This chapter defined the key concepts used throughout this study, reviewed prior literature related to MAPs utilisation in SMEs, and presented previous research related to a possible relationship between MAPs usage and organisational performance in the context of developing economies. Themes from prior literature were identified and will be used to inform the design of this study. By answering the question “To what extent are Cape Town manufacturing SMEs utilising MAPs, and how does this affect perceived organisational performance?” The next chapter discusses the design and methodology approach adopted by this study to answer this research question.

CHAPTER THREE
RESEARCH METHODOLOGY

3.1 Introduction

In this chapter, the research design, and data collection and analysis methods which this study used are explored. The chapter commences with exploring aspects of the overall research design, starting with the research paradigm and methodology. The research population is then described, along with the method used to extract a representative sample from the population. A survey was used to collect data based on the review on prior literature on MAPs utilisation. The format of the structured questionnaire, which was also largely adopted from prior literature and redesigned to fit the study environment explained. This is then followed by a discussion of the reliability and validity tests used for the questionnaire and the study since the instrument was redesigned. The proposed data analysis methods are explained. Lastly, details related to the ethical considerations in the data collection process are discussed, followed by the chapter summary.

3.2 Research Design

The research design entails the entire plan that a study undertakes to answer the research question. This section elaborates on the main aspects of the research design adopted for this study. Firstly, the type of approach taken and its suitability for this study are explained, followed by the underlying philosophical assumptions. The methodology is then identified outlining the strategy of data collection, sampling techniques and the data collection instrument. After this section, the details of the questionnaire design are discussed.

3.2.1 Introduction

3.2.2 Research paradigm

The basic directions for conducting a research study are revealed in research design. The research design is based on underlying assumptions, values, and sets of beliefs, which are commonly termed the ‘research paradigm’. A paradigm is a set of beliefs and assumptions that can be adapted to map out an absolute reality (Bryman, 2012:632). In this study, a positivistic paradigm, which is commonly used in social sciences, has been followed (Tayles & Drury, 1994; Chenhall & Langfield-Smith, 1998; Abdel-Kader & Luther, 2006; Ahmad, 2013; Maziriri & Mapuranga, 2017). Neuman (2014:96) states that this paradigm postulates that a society can be analysed as accurately as any other science field. Babbie (2011:35) noted that the main characteristic of the positivists approach as being centred on the assumption that reality is external and can be governed by specific laws. The other assumption of this paradigm is that reality can be independently observed, and the observer can extract data from the observations. Creswell (2014) argues that in accounting research, the positivist approach is essential since it can enable a researcher to analyse quantitative data to provide explanations for any accounting phenomenon.

Therefore, the methodology of this study is mostly guided by this positivistic paradigm given that research question can possibly be best answered by obtaining data independently from the population and analysing it to make inferences and reach conclusions. This is in line with Denscombe (2010:149) assertion that the research question often dictates which approach to take in order to obtain conclusive answers. The methodology adopted for this study is detailed in the next section.

3.2.3 Research methodology

Research methodology encompasses the overall approach a researcher undertakes to answer a research question (Neuman, 2014:97). Leedy and Ormrod (2012:97) compare methodology to a highway, emphasising that no single highway can lead, exclusively, to the enlightenment of knowledge. The choice of the research methods is of importance since the process that is used to undertake the research has a direct bearing on the validity of the results (Creswell, 2014:43). However, practical issues which cover the feasibility of the research should not be overlooked. These issues include time and financial constraints (Denscombe, 2010:6). The most appropriate and feasible method which was chosen for this study is a cross-sectional survey which is quantitative in nature (Bryman, 2012:59). This quantitative approach enables measurable data to be collected and quantified so that associations and relationships of the variables can be inferred and analysed. Prior MAPs utilisation studies have adopted this method, and this study follows suit to aid comparability of the results. However, the main limitation of the cross-sectional survey is that unlike experimental designs, the credibility of causal relationships of variables observed is often questionable and appears ambiguous. Bryman (2012:59) cations the researcher on attempting to draw conclusions on the causal effects of relationships observed using this method. Therefore, this study is limited to analysing the associations in relationships of variables observed, which is sufficient considering the research method adopted. To clarify, the relationship between the independent variable, which is MAPs utilisation and the dependent variable, perceived organisational performance could only be analysed for patterns of association. The extent to which one variable causes the other variable to change and will not be considered based on the cross-section survey design used. Additional reasons for using this method for this study are discussed below.

Studying characteristics of a larger population can be done through a quantitative approach. The target population of the study was 1,187 SMEs operating in a vast geographical area. Therefore, a larger sample was required to ensure accurate and representative findings. A quantitative approach using a questionnaire was, therefore, deemed the most appropriate and cost-effective method to collect data. Additionally, the potential MAPs which SMEs can use are numerous, and most of them had to be covered in a single study to address the gaps above in the literature (see Chapter Two, Section 2.9). A questionnaire was again, therefore, the most

appropriate data collection tool to use. This was because one of the characteristics of a questionnaire is that it allows for a more substantial amount of comparable data to be collected timeously from a larger sample.

Furthermore, according to Creswell (2014), a quantitative approach is best suited for studies that seek to establish and measure relationships between two or more variables. This study aimed to investigate the relationship between MAPs use and perceived organisational performance, which called for a quantitative approach. As discussed earlier, it is the patterns in association and not the causal effect of the relationship considered. Therefore, this approach was sufficient.

Besides, Creswell (2014:41) notes that quantitative research approaches can be experimental or non-experimental. This study can be regarded as survey research, which is non-experimental. It sought to correlate variables using the questionnaire presented to a sample. The next section discusses said sample concerning the target population and sampling method.

3.2.4 Target population and sampling technique

The target population of the study consisted of SMEs in the City of Cape Town. These SMEs were easily accessible since the study specifically focused on a single industrial sector (i.e. the manufacturing sector). In so doing, the study was able to avoid industrial variations that could be expected on a multi-industry study (Messner, 2016). The Kompass (n.d) online business directory was consulted to identify firms in the target population. Specifically, identification was conducted through location, business activity, and the number of employees (Kompass, n.d). A total of 1,187 firms that met the study criteria for the target population were identified through this process. That is, these firms all recorded employee sizes of more than six but less than 200 employees. The sample was drawn from this identified population.

In Chapter Two, it was noted that the manufacturing sector consists of sub-sectors. Denscombe (2010:30) proposes that stratified random sampling can be used to randomly select participants from different sub-groups. This sampling technique was found to be most appropriate for this study. Bryman (2012:192) highlights the advantage of this technique in reducing sampling errors caused by the over-representation of some members of the population. For instance, the population under consideration for this study, that is the manufacturing SMEs, consists of sub-industries with different manufacturing processes. This implies that a variation of MAPs utilisation can be expected depending on the sub-industry. Therefore, using the stratified random sampling technique ensures that uniform representation of each sub-industry is achieved in the overall sample. Other similar studies also implemented this probability sampling technique where the population was known (Aminu & Shariff, 2015;

Baird et al., 2011; Nyabangwa & Ojero, 2012), which further substantiated its use in this current study.

To aid the sampling process, an appropriate sample size had to be determined. Denscombe (2010:56) stipulates that a primary rule for determining a sufficient sample size is "…the bigger, the better". Sample size must be large enough to be an appropriate representation of the entire population. However, a larger sample does not always guarantee precision. Many online sample size calculators exist and attempt to provide a statistically acceptable sample size.

Table 3.1: Target population sample based on the Kompass business directory database

Sub-Industry	Total	Sample
Clothing & Footwear	211	21
Chemicals, Pharmaceuticals, & Plastics	305	31
Electrical, Electronics, & Optical	151	15
Paper Printing & Publishing	164	16
Metals Machinery & Engineering	165	17
Food & Beverages	191	19
	1,187	**119**

(Source: Researcher's own compilation)

Generally, the sample size can also be affected by time and cost factors that affect feasibility. These two factors were of importance in determining the sample size of this study (Bryman, 2012:198). A 10% sample size of the total population was chosen for this study, bearing in mind the financial resources and time available for data collection. Similar studies have successfully used sample sizes in this range and applied the results as a true representative of the population (Shaku, 2011; Giachaaga, 2013; Ahmad, 2017). Hence, the 10% margin was deemed sufficient for this study. Table 3.1 shows how a 10% stratified sample was drawn from the target population.

3.3 Questionnaire Design

This study uses a structured questionnaire as an instrument for data collection. This section details the design of this instrument and the measures taken to counter its limitations so that the validity of data collected is increased.

3.3.1 Questionnaire structure

The most important aspect of a questionnaire is how its design encapsulates the objectives of the study. The questions for the instrument used for this study were derived directly from the objectives. Also, the questionnaire for this study was adapted from previous research questionnaire from similar studies on MAPs and changed to match the aim of the study (Tayles & Drury, 1994; Chenhall & Langfield- Smith, 1998; Abdel-Kader & Luther, 2006; Ahmad, 2013; Maziriri & Mapuranga, 2017). Denscombe (2010:156) notes that questionnaire is a robust data collection instrument that can be used for the mass collection of data from a large number of respondents in different locations.

The questionnaire for this study consisted of five pages. The first page was an introductory letter, which briefly explained to the respondents what this study was about as well as the ethics around their voluntary participation. Also contained were the researcher's contact details in case the questionnaire was completed in the researcher's absence, and a respondent needed clarification on any item(s). Pages 2 to 4 of the questionnaire covered the questions presented to respondents. These questions were presented in four sections, from A to D.

Data which directly linked to the research sub-questions were collected using this study's questionnaire. The first two research sub-questions enquired about the type and frequency of MAPs use, and questions from Section A covered these. The third sub-question investigated the existence of adoption and non-adoption factors that affect MAPs use. This was covered by Section B questions. The last sub-question, which was further developed into a hypothesis (see Chapter One, Section 1.5.2), investigated the association between MAPs usage and perceived organisational performance. Section C of the questionnaire covered this part. Section D profiled the respondents and their businesses, providing information necessary for classification and analysis of the data collected in Sections A to C.

Different types of questions were used to simplify the questioning format and to suit the purpose of collecting the required information and coding. The question types included 5-point Likert-type scale questions. Neuman (2014:230) recommend using broader scale type questions because precise and definite responses are made possible. Another advantage of using questioning scale is that respondents are not forced to commit to a particular position, thereby reducing research bias. However, a potential limitation in providing a neutral position is that most respondents might find it convenient to use such a position unnecessarily.

As noted previously, the questionnaire consisted of four sections. Section A of the questionnaire focused on MAPs types and frequency of their use which is the first two objectives of this study. A total of 44 management accounting individual tools and techniques were tested across the five MAPs categories in this section as follows: costing systems (8 techniques), budgeting systems (12 techniques), performance measurements (11 techniques), decision support systems (8 techniques), and strategic management accounting (6 techniques).

Section B provided information on the types of MAPs used by the firms, as well as on their frequency of use. The section consisted of two questions. The first question asked respondents to indicate, on a 5-point Likert-type scale, the extent to which selected MAPs adoption and non- adoption factors impacted their businesses. The options for this question ranged from 'Not at all' to 'Very great extent'. The factors investigated included the rising cost of production and labour, changes in production methods and operating systems of the business, increase in competition, the participation of owners in MAPs use, and changes in an organisational

structure. Due to the complexity of the technological advances factor, an additional question was added to offer clarity on the level of technological adoption. Respondents rated their use of computerised and manual systems on another 5-point Likert-type scale, with values ranging from ‘Not at all’ to ‘Very great extent’.

Section C consisted of two questions. These questions were linked to the last research objective, which aimed to establish the associative relationship of MAPs utilisation and perceived organisational performance. Only two measures related to organisational performance were chosen for this study. Richard et al. (2009) stress that organisational performance should encompass financial performance, product or market performance, and shareholders return. In this study, one financial performance measure (i.e. operating profits) and one market share measure (i.e. product sales) were chosen to represent organisational performance. These two measures are relied upon by SMEs when measuring profitability (Enow & Brijlal, 2014:9). Noting that most SMEs do not publish their financial results, seldom make comparative figures from previous years available, and rarely divulge their financial information, the use of perceptions was considered necessary. Other MAPs studies have also relied on the perceptions of organisational performance owing to this challenge in obtaining absolute figures (e.g. Ahmad, 2017; AlKhajeh & Khalid, 2018a). Respondents used a 5-point Likert-type scale to show their opinion regarding the increase or decrease in the two chosen variables. The scale ranged from ‘Decreased significantly’ to ‘Increased significantly’.

Section D explored the respondents personal and business profiles and was used for the delineation and classification of the businesses. The full questionnaire used for this study appears in Appendix B.

3.3.2 Questionnaire administration

Despite the benefits of collecting data through the questionnaire, this method is often prone to different types of biases. Firstly, deficiencies in the questionnaire design, such as ambiguous structured questions can result in unintended responses. With this in mind, CPUT statisticians were consulted in the questionnaire design in order to guarantee a useful and better-quality instrument. Questions were rephrased and made concise. Another limitation of using a questionnaire to collect data is non-response bias. Non-response bias refers to how some respondents might decline to participate in a survey for various reasons (De Vos, Strydom, Fouché, & Delport, 2011). This practice is to be anticipated when dealing with internal company information, which respondents might be reluctant to share (De Vos et al., 2011). In order to minimise this bias, proper authorisation was obtained before data collection commencement, and the questionnaires were distributed face-to-face so that any misconceptions were addressed promptly. Some of the respondents were visited more than once to encourage them to complete the questionnaires.

Bryman (2012:233) notes that one of the challenges with the process of data collection is response fatigue, which prevents participants from responding accurately and carefully over time. To counter this challenge, the questionnaire for this study was designed to be as short as possible, and questions were structured unambiguously. Admittedly, pre-coded answers tempt respondents to tick boxes as routine, leading to incongruity in the responses (Denscombe, 2010:169). Therefore, self-administering of questionnaires, though time-consuming was considered necessary.

Sunarni (2013:620) cites the advantages of personally administering the questionnaire. For example, the collection of completed questionnaires is prompt, clarity can be given, and confusion can be addressed directly. Since the questionnaires were self-administered, respondents were introduced to the research and motivated to answer correctly, and this strategy may reduce nonresponse bias and encourage respondents to participate in the study (Sunarni, 2013:620). A further consideration when employing a questionnaire is that the confidentiality and anonymity of participants need to be stressed to assure respondents that their identities will be protected.

3.4 Reliability and Validity Tests

Even though the questionnaire was mainly adopted from prior studies, the structure, content, and questioning were modified to suit the environment and prevailing business culture within the current study. Therefore, before the collection of primary data, it is was essential to test for reliability and validity. Neuman (2014:212) states that reliability refers to the consistency of a research instrument in measuring the same variable in the same manner when used repeatedly. The opposite of this is erratic or unstable results caused by the measurement instrument. Leedy and Ormrod (2012:94) elaborate further that reliability differs from accuracy in the sense that a reliable instrument is standardised, uses the same scale to measure a variable, and can produce the same results if used on multiple occasions to measure the same variable, given that the variable has not changed. This does not, however, imply that there is accuracy in the measurement. Therefore, validity also needs to be established. Validity tests the accuracy of an instrument in measuring what a researcher intends to measure (Babbie, 2011:157).

In this study, reliability was necessary, and the internal consistency of the instrument was tested using the Cronbach's alpha test, which uses a scale of 0 to 1 to obtain the measure of the reliability of all items. Values of less than 0.7 usually show flaws in the consistency of an instrument (Bryman, 2012:174). An average Cronbach's alpha coefficient of 0.934 was obtained for this study's instrument, depicting that the instrument was of functional reliability. Appendix C shows the Cronbach's alpha results for individual items in the study questionnaire.

Leedy and Ormrod (2012:91) explain that content validity is the extent to which an instrument captures all parts of a construct. This means that the questioning should be done in such a way that adequate coverage of the subject being researched is obtained. Validity was achieved in this study by aligning the questionnaire questions to the objectives of the study.

Specifically, content validity was enhanced by adapting measures and question constructs that were previously used from expert studies in the field cited earlier. Construct validity refers to the ability of an instrument to measure precisely what it was designed to measure (Leedy & Ormrod, 2012:92). To improve construct validity in this study, experienced management accounting scholars at the CPUT were consulted to critique and refine the content of the questionnaire to ensure that questions were aligned to what needed to be researched and adequately answered the main research question. A doctoral researcher was also consulted to check for ambiguity in the instrument. Besides these approaches, consultations were undertaken with a statistician to refine the structure and use of measures in the instrument. During the field study, due diligence was exercised to make sure that only targeted decision-makers completed the questionnaire.

This study focused on SMEs in Cape Town, and the stratified random sampling technique covered the breath of all major sub-industries in this sector. Therefore, there is a possibility that SMEs in South Africa might exhibit the same characteristics of those presented in this study's sample since they operate in the same environment. Thus, the results of this study may apply to other manufacturing SMEs in South Africa, if all conditions are the same.

3.5 Questionnaire Piloting

The time it takes to complete a questionnaire can be a stumbling block to the effectiveness of the instrument. Walliman (2018), therefore, recommends piloting a questionnaire, since the target population is expected to spare time to provide answers. Thus, for this study, a pilot test was conducted on a sample of the targeted population using the initial ten questionnaires. Feedback related to the suitability of the instrument was sought from the ten pilot participants. No significant objections were obtained from this trial run, and it was concluded that the target population clearly understood the questions and could efficiently respond to them without demanding much of their time. The questionnaire was also subjected to the CPUT internal process of presenting it before the ethics committee for approval before the commencement of data collection. Only once the ethics approval certificate (see Appendix A) was obtained was the instrument administered to the sample.

3.6 Data Collection and Analysis

The data collection process was expected to last three to four months since the researcher was in full-time employment. However, the process was extended to over six months due to challenges encountered in the process. Data collection commenced by telephonically calling the identified respondents and setting up appointments with them at their most convenient time. During the telephone conversation, any issues regarding consent were addressed. This proved to be time-saving and cost-effective, as it immediately eliminated potential respondents who were not willing to participate upfront.

The next stage was to visit willing participants at their premises and allow them to complete the questionnaire in the presence of the researcher. In some cases, the strategy worked and motivated the respondents to complete all the questions, but some of the respondents opted to complete the questionnaire at their own convenient time and required an average of more than three follow-up visits before the questionnaires were completed. This added to the time allocated for data collection and increased the cost of the process significantly.

Time constraints were the main reason given by participants who refused to be part of the survey, as they did not see any direct benefit in participating. Most of the participants were promised a summary of the results and recommendations of this study, which could be of use to their firms. Other participants cited research saturation as a reason for not participating, as many university students were asking them to participate in different studies.

SPSS (Version 25) was used to conduct data analysis using the primary responses obtained from 104 participants. Descriptive statistics were used, along with bivariate analysis, for testing the hypothesis. The descriptive statistics that this study proposed to use were frequency distribution tables mean for central tendency and standard deviation for the spread of data. Frequency tables showed the percentage of the respondents who chose a particular response for each question (see Chapter Four). Bar charts were also used, when appropriate, to give a visual view of the responses (see Chapter Four). The fourth research sub-question, which was expressed in hypothesis form, was tested using bivariate statistical analysis. Spearman's rank coefficient was used to determine the associations in the relationship between the independent and dependent variables. This test was appropriate since the data were non-parametric and measured using ordinal scales (Walliman, 2018). Data analysis and results of the study are fully explored in Chapter Four.

3.7 Ethics

Ethics are generally accepted principles that guide moral choices in a society (Leedy & Ormrod, 2012:111). In research, ethics are essential in safeguarding respondents from any adverse effect that might arise from research activities. This study proposed and was guided by the following ethics:

- Explicit consent/approval was obtained from respondents who took part in this research before proceeding with the questionnaire survey.
- Any information provided during data collection by any of the respondents participating in the research was kept highly confidential.
- Anonymity was granted to respondents who so wished.
- Respondents were informed that their participation was voluntary.
- The nature and purpose of the study, as well as of any risks that may be involved, were communicated to the respondents.
- All respondents were protected, as far as possible, from any physical harm.

Furthermore, the research proposal was subjected to an internal ethics clearance process conducted by the University, and the Ethics Committee had to first issue a certificate of clearance before data collection commenced (see Appendix A).

3.8 Conclusion

This chapter covered the research methodology adopted for this study. The overall design of the study and data collection methods were described. The target population, sampling methods, reliability and validity checks conducted were discussed. Lastly, ethical considerations adopted for this study were discussed. The next chapter focuses on the findings that emanated from following the research process described. Furthermore, analysis and discussion of the results are done to further our understanding of the subject studied.

CHAPTER FOUR
PRESENTATION, ANALYSIS AND INTERPRETATION OF DATA

4.1 Introduction

In the last chapter, the research process followed was outlined. This chapter presents the research findings and statistical analysis of the data obtained from the responses to the questionnaire. Firstly, the response rate and the respondents profile data is presented. After that, the results of the study were presented in the order of the objectives of the study. The first three objectives of this study were as follows:

- To identify and establish the most commonly utilised of by Cape Town SMEs.
- To determine the frequency of MAPs utilisation by Cape Town SMEs.
- To determine the adoption factors of the MAPs utilised by Cape Town SMEs.

The findings related to these objectives are presented and analysed using descriptive statistics and discussions ensues with comparisons of prior literature. The fourth objective of the study was formulated into hypothesis as follows:

H_1 There is a significant association between MAPs utilisation and the perceptions of organisational performance.

Bivariate analysis is conducted to test the association patterns in the relationship between the variables. These results are then discussed and compared to prior literature. A summary of the results and inferences of the findings concludes this chapter.

4.2 Response Rate

Using stratified random sampling, data were collected from a targeted sample of 119 manufacturing SMEs in the city of Cape Town, South Africa. Of the 115 copies of the questionnaire collected, 104 were usable, giving a response rate of 87%. The copies of questionnaire that were excluded from this study were either too incomplete or included conflicting distorted responses, making them unusable. The relatively high response rate was attributed to constant follow-up on outstanding questionnaires and, ultimately, increasing the time employed for conducting the fieldwork. Table 4.1 presents a breakdown of the response rate related to the total number of questionnaires sent out.

Table 4.1: Response rate

Description	Number of Respondents	Percentage (%)
Targeted respondents (Total)	119	100%
Response Received	115	96.6%
Unusable responses (Incomplete and spoiled)	-11	-9.2%
Usable responses	104	87.4%

(Source: Researcher's own compilation)

4.3 Profile of Respondents

Cape Town manufacturing SMEs owner-managers and other decision-makers were the target respondents. Section D of the questionnaire collected data on individual profiles, including the position held in the business, educational level, accounting-related qualifications and years of management experience. Information on the profile of the businesses included the manufacturing activity of the business, use of external accountants and advisory firms, years in operation, the firm size measured by the number of employees and annual turnover estimates. This information was necessary for explaining the context of MAPs utilisation results of this study. The profile results are presented and briefly explain in ensuring parts of this section.

4.3.1 Manufacturing sub-sectors

Table 4.2 summarises the classification of the respondents by manufacturing activities. The manufacturing SMEs were grouped according to their activities, based on the given Kompass online business directory sections (Kompass, n.d). This private directory covers global companies and has been used in various management accounting studies to identify target populations, since accessing public directories is a challenge and time-consuming bureaucratic process (Husein, 2018). Chemical, pharmaceutical, and plastic manufacturers formed 26% of the sample, followed by clothing and footwear manufacturers, who represented 18.3%. The food and beverages industry comprised 17.3% of the sample. The smallest group was the electrical, electronics, and optical companies, which constituted 9.6% of the sample. This limited inclusion of electronics-related manufacturing companies in this study was mainly because most of these companies in Cape Town are too large and cannot be classified as SMEs based on their number of employees and annual turnover estimates. Some of these companies were even multinational. However, this study focused explicitly on SMEs with 6 to 250 full-time employees, those who did not meet this criterion were filtered out and excluded from the targeted population.

Table 4.2: Respondents results by manufacturing activities

Manufacturing Activity	Targeted Responses	Responses obtained	Sample Size %	Difference
Clothing & Footwear	21	19	18.3%	2
Chemicals, Pharmaceuticals, & Plastics	31	27	26.0%	4
Electrical, Electronics, & Optical	15	10	9.6%	5
Paper Printing & Publishing	16	14	13.5%	2
Metals Machinery & Engineering	17	16	15.4%	1
Food & Beverages	19	18	17.3%	1
Total	**119**	**104**	**100.0%**	**15**

(Source: Researcher's own compilation)

Table 4.2 shows that the sample size was relatively closer to the targeted collection. The most substantial variation was on the electrical, electronics, and optical category, which provided five fewer questionnaires than the targeted number.

4.3.2 Position of the respondent in the company

A total of, 23% were owners of the businesses, 61% were different types of managers, and only 16% were accountants Owners, managers, and accountants are often required to make decisions in a firm, which may involve the use of management accounting information and MAPs. It can be implied that accountants are more likely to adopt MAPs compared to owners and other managers. However, since a limited number of the respondents were accountants, this may negatively impact on the utilisation of MAPs in these firms.

4.3.3 Highest qualification of respondents

Figure 4.1 shows that 12.5% of the respondents reported a high school level of education. However, most of the respondents had a post-matric qualification, with 36.5% holding short-course certificates, 34.6% holding a college diploma, and 14.4% having obtained a bachelor's degree. Only 1% had a master's degree. It can be argued that the highly educated respondents are more likely to utilise MAPs.

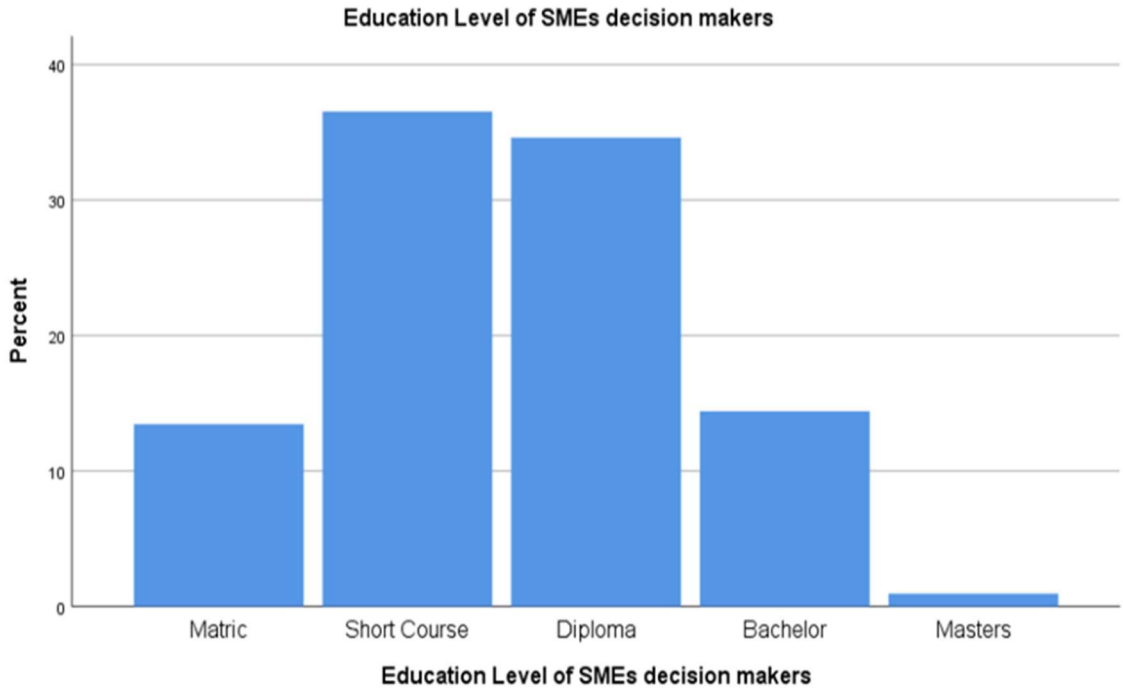

Figure 4.1: Educational level of SMEs decision-makers

(Source: Researcher's own compilation)

4.3.4 Accounting-related qualifications

Only 22.1% of the respondents had an accounting-related qualification. Two individuals chose not to respond. These results reveal that most of the respondents had no accounting background. Practical use of MAPs is often related to exposure to those tools and techniques which are taught in accounting-related qualifications. This lack of accounting-related qualification was concerning since it was likely that most of the respondents who did not possess accounting qualifications were not aware of MAPs and their benefits in an

organisation. However, some entrepreneur training courses training does teach use basic MAPs, such as budget use; therefore, some of the respondents who have no accounting exposure might have benefited from these.

4.3.5 Use of external accountants

The results showed that 56.7% of the respondents engaged an external accountant or business advisory firm. Drawing from practical experience, an external accountant or business advisory firm usually offers taxation and statutory returns submissions services. These firms are usually operated by chartered accountants (CAs) who, for an extra charge, can be consulted for business advice. This implies that SMEs internal accounting departments can be staffed by less qualified personnel who are restricted to bookkeeping functions and rarely conduct management accounting analysis. This option seems attractive for a firm that cannot afford to hire full-time qualified accountants and business analysts. However, the main set back is that MAPs utilisation is neglected, leading to foregoing benefits of using these techniques.

4.3.6 Management-related experience

Most of the respondents were highly experienced in management since 24% of the respondents had experience of between 6 and 10 years, and 43.7% had 11 to 20 years of experience. This confirms the notion that most of the respondents may base their decisions on experience since most of them had been in the industry for a long time. This might, in turn, impact negatively on MAPs utilisation.

4.3.7 Number of employees in the business

Table 4.3 presents descriptive statistics regarding the number of employees per SME in this study.

Table 4.3: Descriptive statistics of the number of employees in the business

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	6 to 20 Employees	21	20.2	20.2	20.2
	21 to 50 Employees	59	56.7	56.7	76.9
	51 to 250 Employees	24	23.1	23.1	100.0
	Total	104	100.0	100.0	

(Source: Researcher's own compilation)

Table 4.3 shows that 20.2% of the respondents employed between 6 to 20 employees, with the majority (56.7%) employing between 21 to 50 employees. Those with more than 50 but less than 250 employees accounted for 23.1% of the sample. As discussed in Chapter Two, the size of the firm may impact on the utilisation of MAPs.

Table 4.4 provides further analysis of the number of employees by manufacturing activity and classification of the business's sizes, as per the National Small Business Amendment Act (26 of 2003) which was amended recently (South Africa, 2019:111). The small-sized businesses (i.e. those with 21 to 50 employees), which accounted for most of the sample, was dominated by clothing and footwear firms who accounted for79% of the total respondents in this category. The chemical and pharmaceuticals companies had the most significant medium-sized (i.e. those with 51 to 250 employees) firm representation, with 44% in this category. This analysis was vital for a MAPs study since the types of MAPs adopted can also be affected by sub-industrial variations and the age of the firm (Zainun Tuanmat & Smith, 2011).

Table 4.4: Descriptive statistics of firm sizes by a percentage of employees

Description	% of Employees by firm size			Number of respondents
	Very Small	Small	Medium	
Clothing & Footwear	16%	79%	5%	19
Chemicals, Pharmaceuticals, & Plastics	11%	44%	44%	27
Electrical, Electronics, & Optical	20%	60%	20%	10
Metals Machinery & Engineering	29%	43%	29%	14
Paper Printing & Publishing	31%	50%	19%	16
Food & Beverages	22%	67%	11%	18
Total				**104**

Notes: Classification by number of employees, Very small = 6 to 20 employees, Small = 7 to 50 employees, Medium = 51 to 250 employees

(Source: Researcher's own compilation)

4.3.8 Annual sales turnover

Annual turnover estimates given by the respondents revealed that they all fall in the category of the SME definition according to the amended small business definition (South Africa, 2019:111), discussed in Chapter Two. Most of the respondents displayed some reservation when revealing their annual turnover figures, with some preferring to keep their financial information confidential. Two of the respondents with missing figures referred this question to their external accountants who declined to participate. Therefore, the size of the firms for the study is mainly based on the number of employees, which is a more reliable statistic than the annual turnover amounts given. Figure 4.2 shows that most of the respondents (43.1%) were in the R1 million to R5 million annual turnover range. Those who reported over R10 million were just 2% of the respondents.

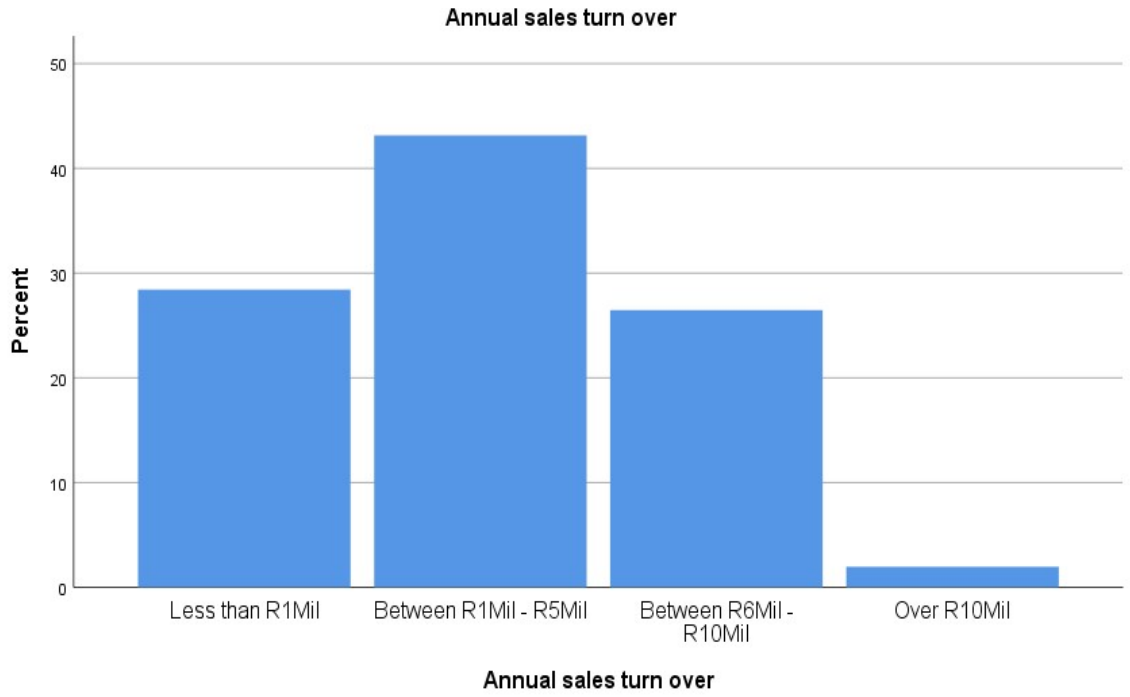

Figure 4.2: Descriptive statistics of firm sizes by the percentage of employees

(Source: Researcher's own compilation)

4.3.9 Number of years in operation

Table 4.5 results summary shows that most of the respondent's businesses were not new to the industry. Results show that 89.3% of the businesses were in operation for more than five years, meaning they have established businesses. Most of the businesses (44.7%) have been in operation between 11 to 20 years. Therefore, it was expected that most of the sampled firms had already established management structures and adopted MAPs suitable for their business needs.

Table 4.5: Descriptive statistics of years of the firm in business

		Frequency	Percent	Valid percent	Cumulative percent
Valid		11	10.6	10.7	10.7
	6 to 10 years	21	20.2	20.4	31.1
	11 to 20 years	46	44.2	44.7	75.7
	Over 20 years	25	24.0	24.3	100.0
	Total	103	99.0	100.0	
Missing		1	1.0		
Total		104	100.0		

(Source: Researcher's own compilation)

4.4 The Extent of Use of MAP Practices by SMEs

This study aimed to identify and establish the most commonly used MAPs by SMEs in Cape Town. The MAPs techniques tested were grouped under five broad areas: costing systems, budgeting systems, performance measurement systems, decision support systems, and strategic management. Results of the types and frequency of MAPs utilisation under the five areas are presented and discussed in the following subsections.

4.4.1 Utilisation of Costing systems results.

Table 4.6 shows the use of costing collection and allocation techniques by the respondents. The table separates the collection and allocation techniques and shows average scores for each technique in three summarised categories (S1/S2, S3, and S4/S5). The mean and standard deviation is given to show the spread of the data, highlighting the diversity of the respondents. It should be noted that a firm can use more than one technique, depending on its production processes, as discussed in Chapter Two. From the results, it became evident that the most used collection method was job costing, with 69% of the respondents either using it frequently or very frequently. Surprisingly, the non-use of other costing methods was higher. For example, 44% of the sample never or rarely used processes costing, and 50% barely, if ever, used batch costing methods.

Table 4.6: Descriptive statistics for costing systems

Costing systems	Number of users (%)			Other statistics		Total number of respondents
	S1 & S2	S3	S4 & S5	Mean	SD	
Cost collection methods						
Job costing	14%	16%	69%	3.89	1.173	104
Batch costing	50%	37%	13%	2.49	0.92	102
Contract costing	58%	26%	16%	2.36	1.148	104
Process Costing	44%	21%	36%	2.89	1.442	101
Cost allocation methods						
Absorption costing	23%	23%	54%	3.46	1.246	104
Variable costing	58%	35%	7%	2.25	0.938	102
Variable absorption costing	44%	32%	25%	2.61	1.067	101
Activity-based costing	96%	4%	0%	1.35	0.559	99

Notes: S1 = Never, S2 = Rarely, S3 = Sometimes, S4 = Frequently, S5 = Very Frequently, SD = Standard Deviation

(Source: Researcher's own compilation)

According to the profile of the respondents, higher use of process costing was expected, since most of the industries sampled use processes for which this costing method is highly recommended. It was found that absorption costing was the most used costing allocation technique, with 54% of the respondents frequently using this technique. In contrast, only 7% frequently used variable costing, and those who frequently used variable absorption costing were only 25%. The reason for the SMEs' reliance on absorption costing might be that it is

easier to allocate the full cost in product costing than trying to differentiate between fixed and variable costs, as required by variable costing.

Discussion on costing systems utilisation findings

The results in Table 4.6 reveal that the most used cost collection method was job costing, which was frequently used by 69% of the respondents. This result is in line with most findings on SMEs' cost collection methods. For instance, Annan, Doe, Anyamadu, and Ahiale (2016), reported higher use of the job costing method (98%) by SMEs in Ghana. These results resonate with findings by other scholars, even in the developed economies (Uyar, 2010; Brierley, 2011). In contrast with other studies, process costing use was prominent in other developing economies (Ahmad, 2017). However, as noted previously, the choice of costing method is mostly dictated by the production method in use, so variations can be expected, depending on the production process of dominating firms.

Results on cost allocation showed that absorption costing or full costing was the most used cost allocation method, with 54% of the respondents using this method frequently. In contrast, variable costing, also known as marginal costing, was only frequently used by 7% of the respondents. Oyerogba (2015) affirms that variable costing use is essential in short-term decision-making, since fixed and variable costs are separated, and only relevant costs are considered in product pricing. Since most of the respondents relied more on absorption that variable costing, the finding implies that there was no separation of relevant and irrelevant costs in their pricing decisions.

Nonetheless, 25% indicated that they used a mixed cost allocation system and variable absorption costing, which indicated that a few of the respondents had advanced cost allocation systems in place. These results were also in line with many of the reviewed studies, which ascertained that absorption costing in different forms is used more than variable costing by SMEs in both developing and developed economies (Elhamma, 2012; Rufino, 2014; Oyerogba, 2015).

None of the respondents adopted the more advanced costing system, ABC. From previous studies, low to non-adoption of this technique was evident in developing economies – not only in SMEs but also in larger firms (Geri & Ronen, 2005; Sartorius, Eitzen, & Kamala, 2007; Quinn, Elafi & Mulgrew, 2017). Rundora et al. (2013) did, however, discover that 16 out of 48 SMEs surveyed in Gauteng used ABC, and noted that those who adopted ABC were relatively larger SMEs. In their recommendations, the authors advised firms to do a cost-benefit analysis before adopting ABC, since expected results from this method can be different from actual outcomes (Rundora et al., 2013).

From the details presented in this section, it is clear that the respondents in this current study rely on basic costing techniques as opposed to sophisticated ones. Separation of fixed cost from variable cost is practised by fewer firms, and ABC has not yet been adopted.

4.4.2 Utilisation of Budgeting systems findings

Budgeting systems techniques were classified under three categories. The first category investigated the use of budget types, which are commonly found in manufacturing firms. The second category investigated the period in which these budgets were prepared, while the last category investigated the level of sophistication of the budget techniques used.

In summary (see Table 4.7), respondents ranked sales budgets as the most prepared type of budget, with 75% frequently using this budget type. This shows that the manufacturing firms in this study were mostly sales driven and monitored their sales figures closely. The financial position budget was the least used type, with 59% of the respondents either rarely using this budget or not using it at all. Financial position budgets are highly relied upon by newer firms who need to seek funding, as well as by larger firms with external shareholders. Production budget and cash flow budget reported 56% and 39% frequent users, respectively. This finding reflected the production and cash resources planning of the firms.

The most frequent budget period was annual, with 68% of the respondents regularly preparing budgets for this period. Short-term budgets for the quarter and monthly periods were not frequently prepared, with 6% and 10% of the population using these periods, respectively. The budget period has usually dictated the type of budget and can indicate environmental uncertainty. This is because, in an uncertain and continuously changing environment, forecasts must be adjusted frequently, and this calls for shorter budgeting periods.

Incremental budgets were frequently used by 65% of the respondents, which shows that respondents changed the amounts within their existing budgets to create new ones. In contrast, ZBB was done frequently by only 22% of the firms in this study. Most of the respondents rarely or never flexed their budgets. This implied that they did not frequently adjust their budgets, even when changes such as activity levels are implemented. This shows that the firms surveyed relied heavily on less sophisticated methods of budgeting and that the adoption of new techniques is still low.

Table 4.7: Descriptive statistics for budgeting systems

Budgeting systems	Number of users (%)			Other statistics		Sample size
	S1 & S2	S3	S4 & S5	Mean	SD	
Budget types						
Sales budget	14%	11%	75%	3.96	1.215	103
Purchasing budget	15%	23%	62%	3.68	1.085	103
Production budget	17%	26%	56%	3.56	1.063	103
Cash flow budget	31%	30%	39%	3.26	1.231	104
Financial position budget	59%	31%	10%	2.3	0.91	102
Budgeting periods						
Monthly budgeting	47%	44%	10%	2.47	0.955	101
Annual budgeting	21%	11%	68%	3.68	1.246	103
Quarter budgeting	72%	22%	6%	2	0.959	101
Budgeting techniques						
Flexible budgeting	51%	34%	15%	2.49	0.990	100
Incremental budgeting	23%	13%	65%	3.55	1.321	96
Zero-based Budgeting	51%	27%	22%	2.44	1.122	98

Notes: S1 = Never, S2 = Rarely, S3 = Sometimes, S4 = Frequently, S5 = Very Frequently, SD= Standard Deviation

(Source: Researcher's own compilation)

Discussions on budget practices utilisation findings

Operational budgets (i.e. sales budget, purchasing budget, and production budget), were reported as being frequently used by more than half of the respondents in this study. The higher use of operating budgets is consistent with other studies in the same environment (Maduekwe & Kamala, 2016a). Mwanza (2018) reported that sales budgets were frequently prepared by 84% of participants compared to this current study, which reported 75%. Similarly, production budgets were frequently prepared by 59% of the participants in the Mwanza (2018) study, compared to 56% in this study. There is also a consensus on the higher use of operating budgets in SMEs in most developing economies (Kyei, Kwaning, & Francis, 2015). However, in developed economies, mixed results have been reported. Ross, Laing, and Parle (2015) reported that 76.5% of 68 SMEs surveyed in Australia were not using operating budgets, in contrast with Armitage et al. (2016:19), who offered results of 10 out of 11 SME case studies indicating reliance on operating budgets. These variances suggest that firms operating in a different environment may adopt and use different types of budgets depending on the contingent factors at play.

Armitage et al. (2016:11) further noted that there was an increase in the use of budgets when SMEs were faced with resource constraints. Therefore, operational budget functions, such as planning, forecasting, and resource allocation, can benefit SMEs in developing economies that are often faced with limited resources. Surprisingly, results for financial budgets such as cash flow budgets and balance sheets, or financial position budgets were relatively low.

Respondents had to be given clarity between cash and cash flow budgets. A cash budget is simply a schedule of anticipated future cash receipts and payments that can be used, for example, monthly, to plan expenditure and avoid shortfalls.

In contrast, a cash flow budget is a projected cash flow statement that can be used for long-term financing and investing decisions, such as taking out a business loan or acquiring more assets (Uwonda & Okello, 2015). Of the respondents, 39% indicated that they prepared cash flow budgets frequently, there could be a possibility that some respondents cannot distinguish between cash flow and a basic cash budget. In spite of this, liquidity challenges may prompt SMEs to start using cash flow budgets. The other long-term budget, financial position budget, was frequently used by 10% of the respondents.

These results are in contrast to Ahmad's (2017) MAPs study in Malaysia, which reported higher use of these two types of budgets, with more than 75% of the respondents in that study using them. Comparisons of use of long-term planning budgets, like these, amongst SMEs is difficult due to the scarcity of studies on these budgets in SMEs. However, the results of this study on these types of long-term planning budgets are essential, since they show a tendency of SMEs being too short-term focused and rarely considering long-term survival.

As per the previous findings, the most used budget period for this study was annual. A few respondents prepared budgets for shorter periods, with 10% frequently doing monthly and 6% frequently doing quarterly budgets. These results were consistent with other studies related to SMEs, which found annual budgets to dominate these businesses (Segun & Olamide, 2015). In comparison, Waweru et al. (2004) also reported the annual period as the most used period in larger firms in the same environment. Often, firms prepare monthly budgets that ultimately culminate in an annual budget (Ahmad, 2013).

The respondents in this study who frequently used flexible budgets reported in at 15%. This was much lower than the results reported by other authors in both developing and developed economies (Oyerogba, 2015; 2006; Ahmad, 2017). For instance, Maduekwe (2015) reported a higher 47% in the same environment. This difference may be attributed to the composition of the respondents sampled. Maduekwe (2015) study consisted of 52% of the sampled SMEs in the food and beverage industry, compared to 17% for this study. Besides, this study only concentrated on SMEs with core manufacturing activities. Therefore, variations can be expected when compared to SMEs in other sectors, such as the distribution and retail sector.

Incremental budgets were frequently used by 65% of the respondents, in contrast with only 22% who used ZBB. These results are comparable to Tan and Low (2017) who, through an online survey in Singapore of 356 firms, discovered that 63.7% and 29.5% of the respondents used incremental and ZBB, respectively. Incremental budgeting is easier to use, does not

consume too many resources, and is often used in stable environments. However, this method often carries over the shortcomings of the current budget into the next period (Segun et al., 2015). The low use of ZBB was also found in other SMEs studies, and this finding seems to be consistent across developing economies (Ashfaq et al., 2014; Cuzdrioreana, 2017).

4.4.3 Utilisation of Performance measurement systems findings

In Table 4.8, performance measurement systems were divided into financial and non-financial measures. Financial measures were relatively adopted, except for variance analysis. Operating income measures were frequently used by 66% of the respondents, and sales growth was measured by 62%. Return on investment and cash flow measures were also frequently used by more than half of the respondents, with 57% and 58%, respectively. Conversely, variance analysis use was slightly lower, with only 43% of the respondents using this system frequently. It should be noted, however, that 35% of the respondents sometimes used this technique, indicating that the use of this technique was still evident but not frequent.

Table 4.8: Descriptive statistics for performance measurement systems

Performance measurement systems	Number of users (%)			Other statistics		Sample size
	S1 & S2	S3	S4 & S5	Mean	SD	
Financial measures						
Operating income	18%	15%	66%	3.74	1.199	104
Return on investment	28%	15%	57%	3.34	1.288	103
Variance analysis	22%	35%	43%	3.13	1.098	103
Sales growth	17%	21%	62%	3.69	1.215	104
Cash flows	19%	23%	58%	3.6	1.258	104
Non-financial measures						
Number of customers complaints	14%	21%	65%	3.82	1.161	101
Number of products returned	14%	31%	55%	3.56	1.082	103
On-time delivery	15%	29%	56%	3.59	1.12	102
Employee turnover	19%	27%	54%	3.57	1.195	101
Defective products from production	15%	32%	53%	3.55	1.118	101
Absentee rates	7%	34%	59%	3.75	0.951	102

Notes: S1 = Never, S2 = Rarely, S3 = Sometimes, S4 = Frequently, S5 = Very Frequently, SD = Standard Deviation

(Source: Researcher's own compilation)

Non-financial performance measures were positively adopted, with more than half of the respondents frequently using them, and the number of customer complaints was frequently used by 65% of the respondents. The number of products returned, on-time delivery, and employee turnover was found to be essential measures with more than half of the population adopting them. Generally, the uptake of all performance measures tested was positive.

Discussions on performance measurement utilisation findings

Performance measurement results from this study reflected a higher usage trend. These results are cohesive with those of similar studies on the use of performance measures in SMEs from different economic sectors in South Africa (Sitharam & Hoque, 2016; Kirsten et al., 2014). From these results, it can be inferred that SMEs in Cape Town tend to rely on both financial and non-financial performance measures, but this does not mean that they link the measurement to overall strategy or framework.

Management accounting scholars often recommend that firms use a mix of financial and non-financial performance measures linked to their strategy (Armitage et al., 2016). There is a possibility that SMEs rely on financial performance measures chosen and calculated by external accountants or advisory firms. For example, Halabi, Barrett and Dyt (2010) discovered that when SMEs used external accountants, they were often limited to services provided concerning taxation and returns submissions, and SMEs had a tendency of gauging their financial performance based on bank balances only. However, from results obtained in this study, 66% of the respondents frequently used operating income, and 62% measured their sales growth frequently.

Considering that most of the respondents had post-matric qualifications, higher use of these financial measures revealed that most SMEs were interested in the profitability of their firms. Cash flows were also frequently used by 58% of the respondents. These results are consistent with other studies on SMEs. For instance, Uwonda and Okello (2015) reported that 55.83% of SMEs sampled in Uganda prepared cash flow statements. This study also highlighted that interpretation of these financial statements were a challenge to SMEs. Unfortunately, this study did not investigate the level of use, which could have highlighted the full purpose of cash flow preparation in SMEs.

Variance analysis was also found to be frequently used by only 43% of the study respondents. Kyei et al. (2015) highlighted that a budget variance report could be a useful performance measure. Meanwhile, Shaku (2011) discovered that only six out of 150 SMEs surveyed in Pretoria knew about variance analysis. Considering that the size of the SMEs sampled were tiny start-ups, it is possible, since very small SMEs rarely use any MAPs. In contrast, variance analysis was found to be widely used in Canadian and Australian SMEs, which were considerably larger (Armitage et al., 2016).

Encouragingly, non-financial performance measures were used by most of the SME respondents of this study. Measures such as customer complaints, the number of returned products, and the number of defective products from production were frequently used by more than half of the respondents. These performance measures feature in internal operations and customers perspective of the BSC (Kaplan & Norton, 1987). However, the BSC links these

measures to strategy and aligns them to the goals of a firm. In contrast, SMEs usually adopt non-performance measures in reaction to past shortcomings identified, as well as in attempts to control a problematic area. Therefore, the use of such measures is usually not co-ordinated and random in nature (Mashavira, 2016:43).

Employee turnover and absenteeism rates were frequently used by 54% and 59% of the respondents, respectively. These results reveal that SMEs often monitor their employees' performance and attendance. An online business report quoting the Occupational Care South Africa report states that South Africa experiences higher work absenteeism due to various reasons (Business Report, 2016). Furthermore, these results infer that SMEs adopts performance measures in a reactive way as opposed to being proactive.

4.4.4 Utilisation of Decision support systems findings

Table 4.9: Descriptive statistics for decision support systems

Decision support systems	Number of users (%)			Other statistics		Total respondents
	S1 & S2	S3	S4 & S5	Mean	SD	
Short-term techniques						
Break-even analysis	51%	31%	18%	2.49	1.052	104
Stock control model	43%	30%	27%	2.69	1.107	104
Product profitability analysis	47%	38%	14%	2.51	0.995	104
Customer profitability analysis	56%	25%	19%	2.39	1.228	102
Long-term techniques						
Payback period	38%	37%	26%	2.79	1.188	104
Accounting rate of return	89%	10%	1%	1.61	0.703	104
Net present value	86%	13%	2%	1.72	0.756	104
Internal rate of return	85%	13%	2%	1.64	0.787	104

Notes: S1 = Never, S2 = Rarely, S3 = Sometimes, S4 = Frequently, S5 = Very Frequently, SD = Standard Deviation

(Source: Researcher's own compilation)

Table 4.9 summarises the results of decision support systems. It was found that the respondents in this study did not make much use of decision support tools in their firms. These techniques showed a mean of less than 3, indicating shallow use of the techniques. Those who frequently used stock control models were only 27%.

Howbeit, other short-term decision support tools such as CVP analysis, and product and customer profitability were frequently used by less than 20% of the respondents. The awareness of such techniques was found lacking amongst the respondents, as most the respondents who completed the questionnaire in the researcher's presence had to ask for clarity on the nature of these techniques.

Long-term decision support systems adoption, except for the payback period, also reported very low to non-adoption of these techniques. For instance, only 26% of the respondents frequently used payback period technique for their long-term asset and capital acquisition. Most of the respondents were, however, relatively aware of this technique, as 37% of the respondents sometimes used the technique. In contrast, the ARR, NPV, and internal rate of return were rarely or never used by more than 80% of the respondents.

Discussions on decision support systems utilisation findings

Short-term decision-making techniques were generally under-utilised by most of the respondents in this study. The reason for such low use might be the exclusion of distribution warehouses in this study, which are often included in the manufacturing sector. The target population comprised mostly of core manufacturing firms that did not hold many stocks of products but, instead, used retail distribution warehouses.

Product and customer profitability analysis is often associated with ABC techniques, which are rarely used by small SMEs (Stefan & Réka, 2010). Long-term decision-making techniques were the least used, with only payback period being frequently used by 26% of the respondents. These results are similar to other studies related to SMEs (Rossi, 2015). Such studies determined that the payback period is usually used by SMEs as opposed to other sophisticated capital budgeting techniques because of its simplicity. Oyerogba (2015:80) reported higher use of techniques such as ARR and IRR and very low use of payback period amongst large stock exchange-listed firms in Nigeria. Similarly, Andor et al. (2015) compared capital budgeting techniques in different countries and discovered that they were significantly different for each country. Factors such as size, availability of financial resources, prevailing culture, and strategy were all found to have an influence on the choice of these techniques.

4.4.5 Utilisation of Strategic management accounting findings

Strategic management accounting techniques are considered relatively new in management accounting, and Table 4.10 shows a summary of the survey results in this study. It was quite clear that the respondents were yet to adopt most of these techniques. Awareness of these techniques seemed limited. Value chain analysis and competitor position monitoring showed a bit of frequent use, with 7% and 5% of the respondents, respectively, indicating that they used them frequently. This study did not investigate the depth of the use of such techniques as the details and levels of application of the use of these techniques remains unknown by those few respondents. This section also had the most considerable number of missing responses, as some respondents chose to skip answering the questions.

Table 4:10: Descriptive statistics for strategic management accounting

Strategic management accounting	Number of users (%)			Other statistics		Total respondents
	S1 & S2	S3	S4 & S5	Mean	SD	
Target costing	92%	8%	0%	1.51	0.641	102
Strategic costing	86%	14%	0%	1.66	0.714	100
Product life cycle cost	91%	9%	0%	1.56	0.659	98
Value chain analysis	80%	13%	7%	1.78	0.931	96
Competitor position monitoring	82%	13%	5%	1.7	0.94	96
Balance scorecard	92%	7%	1%	1.37	0.669	95

(Source: Researcher's own compilation)

Discussions on strategic management accounting utilisation findings

Results from this study revealed that strategic management accounting techniques are yet to be adopted by SMEs in Cape Town. The main reason is that SMEs lack clear and well-formulated strategies, which often affects the adoption of such tools. In contrast, Maziriri and Mapuranga (2017) found evidence of strategic clarity in retail SMEs in Gauteng. However, the absence of a clearly defined strategy does not imply the non-existence of strategy. The other factor which impacts on the adoption of strategic management MAPs is the awareness and competence in using these MAPs in SMEs (Urban & Naidoo, 2012).

4.4.6 Summary of MAPS utilisation results

The overall findings of MAPs utilisation results in SMEs, which relates to the first two objectives of this study show that basics MAPs techniques are mostly used across all areas. Costing, budgeting and performance measurement MAPs are mostly basic or less sophisticated compared to decision support systems and strategic management. Appendix D shows a ranking of all the MAPs techniques by frequency of use tested in this study and mostly basic MAPs clearly tops this list. This list classifies each of the 44 individual technique as either basic or advanced depending on the sophistication of using the technique. The techniques are then sorted by their means and ranked. This confirms the notion of the existence of over-reliance on simple and less sophisticated MAPs by SMEs despite the rapidly changing environment.

The second prominent findings on the utilisation of MAPs by SMEs in this study is the revelation that decision support systems are rarely used by SMEs, implying less utilisation of information for decision making provided by these MAPs. Lastly, strategic management accounting techniques which are considered sophisticated barely exists in SMEs. The next section continues by presenting the results concerning the third objective of this study which is to determine the existence of adoption factors of MAPs in SMEs.

4.5 MAPs Adoption Factors

A few environmental factors which from the literature review were found to affect the utilisation

of MAPs were tested. Results showed that 73% of the respondents opined that the rising cost of production and labour was impacting their businesses to a great extent. Similarly, 69% stated that technological changes, such as changes in production methods and operating systems, impacted their businesses to a great extent.

The intensity of competition was also evident, as 82% of the respondents noted that competition affected their businesses to a great extent. In contrast, the participation of owners in using MAPs was not considered as an essential factor, as only 31% of the respondents indicated that it affected their businesses to a large extent. Owner participation, as discussed in Chapter Three, is often lacking due to many reasons, including, but not limited to their level of education and skills to use MAPs. Table 4.11 summarises the findings on the existence of factors that affect MAPs utilisation in SMEs.

Table 4.11: Descriptive statistics for factors that affect the adoption of management accounting practices

Factors that affect the adoption of MAPs	Number of users (%)			Other statistics		Total respondents
	S1 & S2	S3	S4 & S5	Mean	SD	
The rising cost of production and labour	9%	18%	73%	3.98	1	104
Changes in production methods and operating systems of the business	12%	20%	69%	3.84	1.051	104
Increases in the competition by other businesses producing similar products	4%	14%	82%	4.16	0.876	104
The participation of owners in using MAPs	26%	43%	31%	3.15	0.984	104
Changes in organisational structure or management	17%	41%	42%	3.37	1.024	102

Notes: S1 = Not at all, S2 = Low extent, S3 = Moderate Extent, S4 = High Extent, S5 = Very High Extent
(Source: Researcher's own compilation)

Lastly, changes in the organisational structure were cited by 42% of the respondents as a factor impacting their businesses to a great extent. The level of decentralisation of management structure can determine the types of MAPs required.

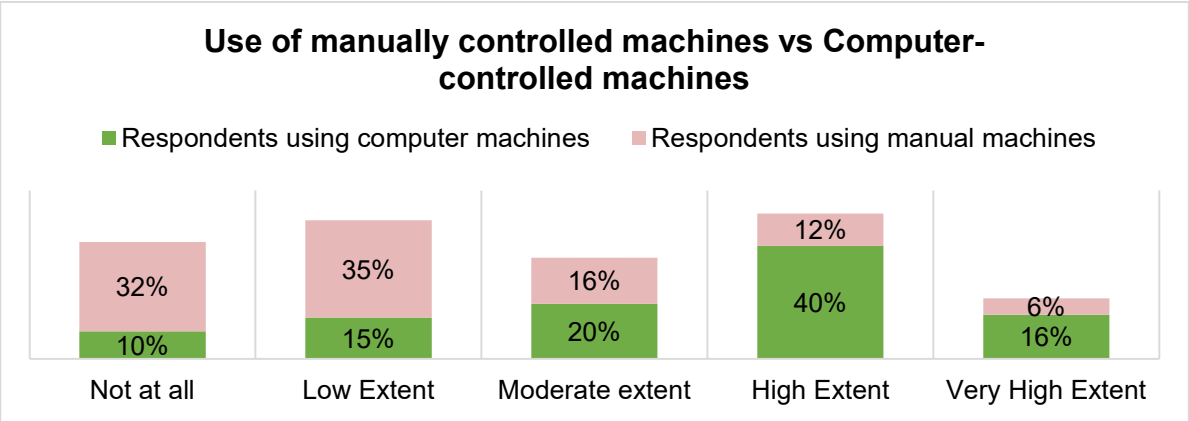

Figure 4.3: The extent of manually and computer-controlled machines usage

(Source: Researcher's own compilation)

To elaborate on the effect of technological changes on the firms, the extent of use of manually and computer-controlled machines was enquired. This comparison was necessary because the adoption of technology was considered as a contingent factor in MAPs adoption and utilisation. Respondents not using computer-controlled machines reported in at only 10%, compared to 32% who did not use manually controlled machines. Respondents who used computer-controlled machines to a higher extent were 40%, compared to only 12% who relied on manually controlled machines. These results imply that most of the manufacturing companies surveyed were highly computerised. Figure 4.3 illustrates these results. It can be deduced that most of the samples SMEs relied heavily on technological advancements. The implications of results on the existence of the noted environmental factors and their possible effect on MAPs ensure in the next section.

4.6 Discussions on MAPs Adoption Factors Findings

The results on the existence of environmental factors which has a bearing on MAPs utilisation are discussed. The singled-out factors were identified in the literature review, and their existence and impact on firms were tested. In this section, the findings are discussed in the context in which they are found.

4.6.1 Economic constraints

Rising labour and production costs were chosen to represent economic constraint factors in this study. Results showed that economic factors, such as rising labour and production costs, affected SMEs to a high extent (73%). The South African economy is considered stable compared to other African economies, yet, inflation often results in price increases, and this, in turn, affects the inputs of SMEs. Research has shown that when input costs increase, firms often search for ways to lower their production costs and maintain the quality of their products at the same time (Chimucheka & Mandipaka, 2015:311; Khocha, 2017). Therefore, MAPs should be implemented to help SMEs in this environment.

4.6.2 Technological advances

As noted in the current study, changes in production methods and operating systems impacted 69% of the respondents, with 56% confirming that they used computer-operated machines to a great extent. Technology has been considered as a disruption in South Africa, as firms scramble to adapt to constant changes in the face of global competition (Waweru et al., 2004). Ramukumba (2014:24) suggests that the adoption of technology is a critical success factor for any SME. However, AMT, despite their advantages in mass production, reduction of waste, provision of real-time information, and improvement in product quality are often expensive to acquire and maintain for SMEs (Egbunike et al., 2015). Therefore, MAPs which helps monitor and reduce production costs can be beneficial for an SME in this environment.

4.6.3 Human resources factor

The involvement of owners in using MAPs was tested as a representative of human resource factors in this current study. Ramukumba (2014:34) cautions against the idea of outsourcing the financial management functions of a business to external accountants by SMEs owners, and advocates, instead, for the use of skilled mentors who can coach less skilled owners. This reasoning suggests that owner involvement in financial management matters of a business is critical. However, this current study showed that most SMEs are of the view that owner participation in using MAPs is not critical for their businesses – only 31% of the SMEs had owners involved in the use of MAPs to a great extent.

There are so many underlying reasons for the lack of participation of owners in the financial management side of their business. For example, a lack of relevant skillsets has been listed as a possible reason (Maduekwe & Kamala, 2016a). Cheffi and Beldi (2012:118) also discovered that owner/managers with limited knowledge of accounting often do not perceive decisional usefulness of accounting tools. This lack of awareness can hinder and block the use of MAPs in SMEs. It should be noted that there are also many other human resource factors which may impact the choice of MAPs such as culture, diversity, and management orientation, which were not considered in this study.

4.6.4 Internal organisational factors

The structure of the organisation was chosen to represent internal organisational factors in this study. Most SMEs are founded and managed by the owner for years, and due to the growth of the organisation, managers are usually hired. However, decision-making usually remains centralised. In contrast, large organisations are often decentralised, and decision-making is conducted at different levels of management (Chenhall, 2003:149).

In this study, results showed that 42% of the respondents were impacted by changes in the organisational structure. Mixed results were obtained regarding the association of organisational structure and MAPs use. Zainun Tuanmat and Smith (2011) reported that changes in organisational structure did not have any significant impact on changes in MAPs use. Conversely, many contingency-based studies found that structure determines the adoption of MAPs (Chenhall, 2003; Baird et al., 2011; Sandalgaard & Nikolaj Bukh, 2014). Other internal organisational structures, such as size, organisational learning, and strategy, have also been found to impact MAPs adoption (Cescon, Costantini & Grassetti, 2016; Muktiyanto, 2017).

4.7 MAPs and Organisational Performance

The association of MAPs utilisation and perceived organisational performance. Data on two measures of perceived organisational performance, namely, product sales and operating profit, was collected. Specifically, product sales and operating profits changes over the last three years were enquired. Table 4.12 summarises the results. Most of the respondents believed that both product sales and operating profits increased in the last three years, with results showing 76% (43 + 33), and 72% (38 + 34), respectively.

Table 4.12: Perceptions of respondents on product sales and operating profits

	% of Frequency of use					Mean	Standard deviation
	Decreased significantly	Decreased	No change	Increased	Increased significantly		
Product Sales	0%	4%	20%	43%	33%	4.05	0.829
Operating Profits	1%	3%	24%	38%	34%	4.01	0.887

(Source: Researcher's own compilation)

In turn, respondents were also asked the extent of MAPs utilisations in the past three years in their organisation.

Table 4.13: Perceptions of respondents on the extent MAPs utilisation

	% of Frequency of use					Mean	Standard deviation
	Not at all	Low extent	Moderate extent	High extent	Very High extent		
CS	1%	8%	16%	47%	28%	3.93	0.917
BS	1%	3%	24%	38%	34%	4.08	0.932
PMS	1%	10%	15%	37%	38%	4.01	1.005
DSS	16%	37%	32%	10%	4%	2.48	1.014
SMA	21%	40%	28%	9%	2%	2.31	0.965

Notes: CS = Costing Systems, BS = Budgeting Systems, PMS = Performance Management Systems, DSS = Decision Support Systems, SMA = Strategic Management Accounting.

(Source: Researcher's own compilation)

Table 4.13 summarises the results. Most of the respondents believed that they used costing, budgeting and performance measurement MAPs to a higher extent in the past three years. 38% believed that performance measurement MAPs were used to a very high extent during this period. In contrast, only 4% and 2% used decision support systems and strategic management accounting MAPs very frequently during the same period, respectively.

These results obtained on organisational performance and MAPs utilisations are further analysed using the bivariate analysis in the next section to determine the associative relationship of these two variables.

4.8 Bivariate Analysis

The fourth objective of this study was to establish the associative relationship between current MAPs utilisation and perceived organisational performance of SMEs in Cape Town. In this section, the statistically significant association of the selected variables is analysed to establish a relationship between the use of specific MAPs and organisational performance variables. Walliman (2018:135) states that a bivariate analysis investigates how two variables are related to each other. The strength of the relationship, known as 'correlation', is often measured within a range of -1 to +1. The closer the value of a relationship is to -1, the more likely that a negative linear relationship exists, and the variables can be seen as moving in opposite directions. That is, as one variable increases, the other decreases. 'Zero' denotes that these variables are independent. Conversely, the closer the value is to +1, the stronger the positive linear relationship, meaning that as one variable increases, the other also increases. However, correlation does not imply that one variable causes the other to move in a specific direction. Further regression analysis is, therefore, required to measure this effect, and the focus of this study was limited to the association of the variables only.

The level of measurements used in the variables determines the correlation test, which needs to be conducted. In this study, Spearman's rank coefficient was applicable since the variables were ordinal and are categorised by a 5-point Likert-type scale (Leedy & Ormrod, 2012). This study also used the Spearman's rank coefficient because it has been commonly used in comparative studies (Ahmad, 2017; Choe, 2004; Gosselin, 2005; Kirsten et al., 2015; Omiunu, 2015; Wu & Boteng, 2010). In order to best achieve this study's fourth objective, the following hypotheses were formulated:

H_0 There is no significant association between MAPs utilisation and the perceptions of organisational performance.

H_1 There is a significant association between MAPs utilisation and the perceptions of organisational performance.

For the comparison to be made, the MAPs utilisation was chosen as the independent variable, and organisational performance was represented by an increase in operating profit. Only the operating profit variable was chosen from the two organisations because of the similarities in the two measures. A close analysis of the results product sales and operating profits shows the same trends. Therefore, performing two separate correlations for these variables was pointless, since they would produce similar results.

MAPs utilisation variable was represented by the five functional areas. Figure 4.4 shows the conception of testing the MAPs utilisation in each functional area against changes in operating profit.

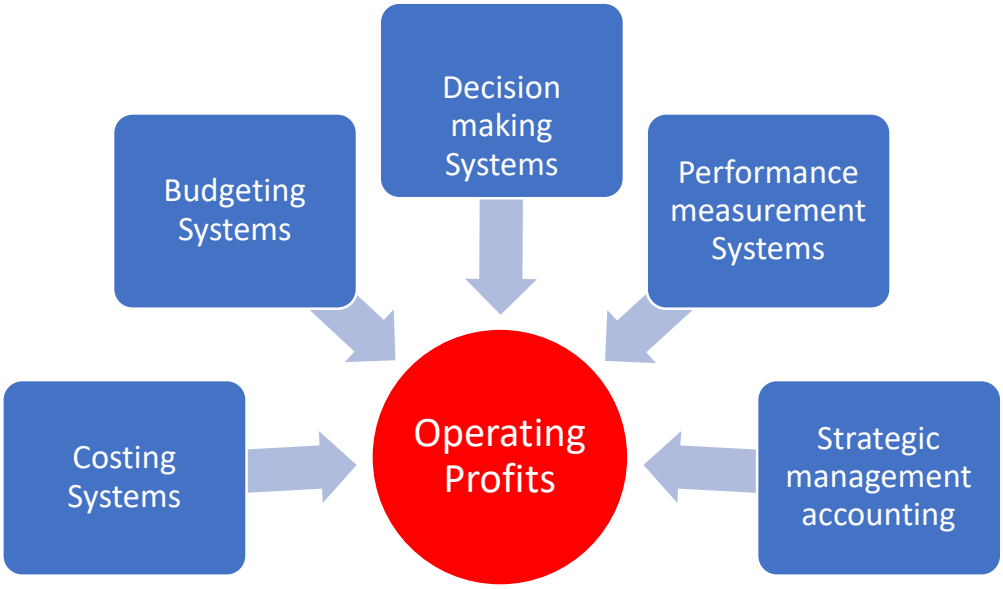

Figure 4.4: The association of MAPs use with changes in operating profit

(Source: Researcher's own compilation)

Results of the hypothesis testing for correlation between the variables are presented in Table 4.14.

Table 4.14: Spearman's rank coefficient results of the association of MAPs with changes in operating profit

Correlations								
			OP	**CP**	**BP**	**PM**	**DSS**	**SMA**
Spearman's rank coefficient	Operating profits	Correlation coefficient	1.000	.551**	.540**	.539**	.294**	.300**
		Sig. (2-tailed)		0.000	0.000	0.000	0.003	0.002
		N	104	104	104	103	99	102

** Correlation is significant at the 0.01 level (2-tailed).
Notes: OP = Operating Profits, CP = Costing Practices, BP = Budgeting Practices, PM = Performance Measurement, DSS = Decision Support Systems, SMA = Strategic Management Accounting.
(Source: Researcher's own compilation)

Results in Table 4.14 show that there was a moderately positive and significant association between operating profits and the use of costing, budgeting, and performance measurement MAPs. The significant values levels were all less than 0.01; therefore, the null hypothesis was rejected. From the results, it can be deduced that those SMEs which reported higher use of costing, budgeting, and performance measurement MAPs also reported increases in their operating profits. However, for management decision support, there was a weak positive relationship with the increase in operating profit (0.294). Strategic management accounting also showed a weak relationship with an increase in operating profit (0.3). The null hypothesis was, therefore, also rejected in these two cases.

4.9 MAPs Association with Perceived Organisational Performance Discussion

The ultimate goal of adopting MAPs in an organisation is performance improvement. This can be achieved by using different MAPs, which contribute to efficiency in operations and increased control and monitoring, including informing decision-making (Uyar & Kuzey, 2016:171-172). Bivariate analysis conducted for this study using Spearman's rank coefficient found a moderately positive associative relationship between the use of costing, budgeting, and performance measurement MAPs with increasing operating profit. These results are consistent with Maziriri and Mapuranga (2017), who investigated the impact of these practices on business performance and found them to have a significant impact. Ahmad (2017) concurred with the correlation of these MAPs with financial performance. However, the Ahmad (2017) study found no significant correlation between these three groups of MAPs with non-financial performance.

This study also found a weaker linear relationship for the use of decision support systems and strategic management accounting with an increase in operating profits. Comparable mixed results have been found in various studies. For instance, Maziriri and Mapuranga (2017) found strategic analysis MAPs to have a powerful impact on business performance. On the contrary, Alzoubi (2018) found no statistically significant impact of strategic management accounting on industries in Jordan. Therefore, the results of the effect on the performance of these MAPs needs to be understood within the context they are obtained. In this current study, the lack of awareness and use of these MAPs might have impacted the perception of the decision-makers on the effect of these MAPs on performance. Another factor that cannot be overlooked is some MAPs, which is not associated with profitability, might as well be linked to non- financial performance (Pelz, 2019).

4.10 Chapter Summary

This chapter has presented the findings of this study and used descriptive analysis and bivariate analysis to interpret the results. Costing, budgeting, and performance measurement MAPs were predominantly used. Decision-making and strategic management accounting MAPs had relatively low use. Increases in production and labour costs, changes in technology, and intensity of competition were reported as having been the factors that had the highest impact on firms in the study and might have influenced these businesses' choice of MAPs. Participation of owners in the use of MAPs as well as changes in the organisational structure was perceived as having less impact on the firms. From the bivariate analysis conducted, costing, budgeting, and performance measurements were discovered to have a moderate positive significant relationship with operating profit. Decision support and strategic management accounting MAPs had a weak positive relationship with operating profit. Therefore, it can be assumed that MAPs utilisation is linked to increasing operational profits. The next chapter provides a summary of this study. The implications and contributions, including limitations, will be highlighted. Finally, recommendations will be made.

CHAPTER FIVE
SUMMARY, CONCLUSION, AND RECOMMENDATIONS

5.1 Introduction

The previous chapter presented analysed and interpreted the findings of this study. This chapter summarises the entire research process by providing a general overview of the study. The contributions, recommendations, limitations and suggestions for further studies conclude this chapter.

5.2 Overview and summary of the study

This study noted that SMEs are not only employment providers but play a pivotal and critical role in promoting innovation and economic growth. Most importantly, the success and growth of other sectors in the economy are dependent on manufacturing. This justifies governmental intervention in promoting and growing SMEs. However, challenges such as access to finance and a lack of business management skills continue to pose a risk of failure to these small businesses.

Other challenges include increasing competition and other market forces which threaten business survival. Thus, it can be argued that effective MAPs use in manufacturing SMEs can reduce the risk of business failure by increasing operative efficiency and, ultimately, organisational performance (Lucas et al., 2013). Meanwhile, it was found that research into the use of MAPs in South African SMEs remains scarce. Academics play an important role in providing knowledge which can be used by policymakers in developing policies. Furthermore, studies on MAPs use can be used by SMEs to identify best practices in their industry. This study intended to fill this research gap by investigating the following question:

> *To what extent are Cape Town manufacturing SMEs utilising MAPs, and what is their perception of the relationship between MAPs use and organisational performance?*

In the quest of answering this question, objectives were formulated. The first objective aimed at identifying and establishing the most commonly utilised MAPs in manufacturing SMEs in Cape Town. This objective was achieved by surveying the individual MAPs techniques under five functional areas. A total of 44 tools and techniques were surveyed and were ranked according to their usage (See Annexure D). The second objective was determining the frequency of usage of these MAPs by the manufacturing SMEs. Analysis of results showed the trends of usage of various MAPs, and most importantly, the third objective evaluated the contingency factors affecting usage of these techniques. The fourth objective of the study examined the associative relationship of the MAPs utilisation with perceived organisational

performance. Bivariate analysis was conducted to determine the association of these two variables.

After these objectives were identified and proposed, a review of the literature was conducted to synthesise the knowledge already existing on this subject. The review also included defining the parameters of all the variables used in this study. The targeted population manufacturing SMEs in Cape Town were discussed. This discussion followed by defining MAPs in each of the five functional areas identified, namely, costing practices, budgeting practices, performance measurement, decision support systems and strategic management accounting.

These five groups consisting of individual MAPs tools and techniques formed the primary variable of the study; which is MAPs utilisation. The other variable was perceived organisational performance and was defined and discussed. This study also identified the theoretical framework which underpins the overall approach. This framework is the contingency theory. This theory was practically applied in the literature review, which ensured. Prior studies on MAPs utilisation were reviewed thematically, and lacunas were identified in the knowledge. MAPs in developing economies were a particular focus because our target population was located in a similar environment. Review of prior literature on the second variable, organisational performance and association with performance was also done. This literature review also informed the objectives of this study as they aimed to address the gaps identified in the literature.

To achieve the objectives of this study, a quantitative approach was adopted. The target population for this study was identified through an online directory. The total population was 1,187 manufacturing SMEs that specialise in core manufacturing activities and were grouped into six sub-industry categories based on the online directory classification. The classification is according to similar manufacturing processes. To achieve equal representation of each sub-industry, stratified random sampling was used on a 10% sample, and data were collected using a structured questionnaire. A response rate of 87% resulted in 104 usable responses. The data collected was then statistically analysed, and the finding was reported and discussed. The following section will summarise the main findings of this study and its implications.

5.3 Summary of the study findings

The study revealed that traditional and basic MAPs such as costing, budgeting and performance measurement are widely used by manufacturing SMEs in Cape Town. In contrast, advanced MAPs such as the ones used for decision support systems and strategic management accounting remained underutilised. The factors with the highest impact on the choice of MAPs by these firms included increasing production and labour costs, changes in technology and intensity of market competition. Participation of owner-managers in implementing MAPs and well as responding to changes in the organisational structure were

cited as having a relatively low impact on the choice of MAPs. The study also concluded that costing, budgeting and performance measurement MAPs had a moderate positive significant relationship with increasing profits over time. This implied that there was a positive relationship between these MAPs utilisation and improved organisational performance. On the other hand, decision support systems and strategic management accounting MAPs were found to have a very weak positive relationship with increasing profits. The next section discusses the implication of these results.

5.4 Summary of the study results and implications

The major findings of this study revealed that costing practices, budgeting practices, and performance measurements were used moderately by the participating SMEs. The most frequently used MAPs techniques were basic, and more advanced techniques were seldom used. Further analysis revealed that there was less reliance on decision support systems and strategic management accounting. These findings infer that management accounting information is rarely used in decision-making by these firms. This situation can be attributed, mostly, to the lack of awareness and competencies in using these tools by owner/managers of these SMEs.

This study also investigated the adoption or non-adoption of MAPs. It was found that increasing competition, rising labour costs, and technological advancement were prevalent in the environment, and these factors impacted on the adoption and use of MAPs, as argued in the literature review. Understanding the effects of these factors can be a basis of formulating interventions for aiding the use of MAPs in SMEs. The perceptions of decision-makers on the usefulness of MAPs use in enhancing performance were also explored. This knowledge added insights into the current status of MAPs use and their users, which, according to Otley's (2016) contingency theory, does not aim to prescribe what works but instead investigates the fit between specific aspects of MAPs and the environment.

The hypothesis testing revealed that the utilisation of costing, budgeting and performance measurement MAPs was associated with increasing profitability. There was a moderate positive significant correlation implying that the firms with increased usage of MAPs also experienced increasing profits. These results suggest that MAPs utilisation can indeed be associated with achieving organisational performance. However, this does not imply that MAPs utilisation cause increases in profitability ceteris paribus. Further, a regression analysis of the variables causal relationship is required to establish this.

Nonetheless, the results of this study are important in the sense that MAPs utilisation is justified in SMEs for the presence of these techniques is associated with profitability. The results also

revealed that decision support systems and strategic management accounting had a weak positive associative relationship with profitability. The possible explanation to this scenario is low to non-usage of these techniques by SMEs. Strategic management has also been associated with non-financial performance and firms which are focused on survival usually pursue financial outcomes.

In conclusion, the overall results showed a trend of reliance on basic and less sophisticated MAPs by SMEs. Most MAPs which were recently developed such as BSC and ABB are yet to be adopted by Cape Town manufacturing SMEs. The result also showed that MAPs utilisation is positively associated with perceived organisational performance. The next section discusses the contributions of this study.

5.5 Contributions of the study

This study contributes both theoretically and practically. Theoretically, this study contributes to the current knowledge base of MAPs utilisation in SMEs in developing economies. This study provides an overview of MAPs utilisation in manufacturing SMEs and can be replicated and referred to by academicians who will further the knowledge of this topic in other areas not explored by this study.

Practically, this study exposes the state of MAPS utilisation in manufacturing SMEs and can help SMEs owner managers to become aware of most relevant and used techniques in their industry. To illustrate, the techniques described in this study can prompt SME managers or owners to research further into them and consider their relevance for their firms. Considering these contributions made by this study, recommendations can thus be made.

5.6 Recommendations

Based on this study's findings and contributions, the following recommendations are made:

- SMEs managers and owners need to take the initiative of upskilling themselves in the utilisation of MAPs, especially those which are strategically focused. This is because the business environment is constantly changing and becoming more competitive. In order to gain a competitive advantage, basic MAPs might not be adequate.

- The Department of Small Business Development (DSBD), with the help of SEDA, can use insights from studies such as this one to further refine their SMEs training materials. The focus should shift from merely providing basic financial and business management skills to infusing re-designed and simplified strategic MAPs that can be easily adopted by SMEs with low skills.

- The accounting and advisory firms need to play a far more significant role in SMEs services provisions and not only limit themselves to statutory returns submissions. This can be achieved by forming business partnerships with SMEs and exploring their other needs in terms of effective MAPs utilisation.

5.7 Study limitations

Although this study contributes to management accounting's body of knowledge by providing current insights on the use of MAPs by SMEs, limitations were identified that could be the basis for future studies. Firstly, the measurement of organisational performance can be achieved by using objective performance data. This method can compare actual performance data, such as financial results of firms, and should result in highly reliable results of a study. However, due to the difficulties encountered in accessing actual financial data of SMEs, subjective performance measures such as perceptions of managers on the performance of SMEs was relied upon instead.

Richard et al. (2009:737) postulate that most studies have shown a correlation of between 0.4 to 0.6 when comparing subjective and objective measures. This means that results obtained from using perceptions instead of objectively measured data are not significantly different. Therefore, results from analysis using perceptions can be acceptable. Furthermore, there were even studies with specific subjective constructs that achieved up to 0.81 correlation, showing how closely related perception-based measures can be too objective-based measures.

Secondly, due to perceived sector variances on the use of MAPs in SMEs, the focus was limited to the manufacturing sector. A much broader study which samples across SMEs in different sectors would have provided more insights on the use of MAPs in SMEs. Due to this narrower focus, the generalisation of the results of this study cannot be applied beyond the manufacturing sector.

5.8 Suggestions for further studies

Bromwich and Scapens (2016), in their review of management accounting papers spanning 25 years, recommended that for knowledge to be increased in this field, different sub-fields of management accounting should inform each other. The other recommendation was that studies from different frameworks and designs could be used to inform each other (Bromwich & Scapens, 2016). Therefore, insights from this study can be further investigated using different approaches and lenses. For instance, a triangulation approach can be followed to gain richer details. Also, as this study only addressed the relationship of MAPs utilisation with a chosen perceived organisational performance measure, increasing profits in this case.

Further studies can investigate the linkage of MAPs usage with the other aspects of organisational performance, such as non-financial performance. Another suggestion is that decision-making in SMEs needs to be investigated further, and simpler framework models need to be developed which SMEs can use so that they can make informed decisions. There is also a need for African solutions that can counter the effects of non-adoption factors of MAPs, peculiar to developing economies.

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APPENDICES

APPENDIX A: ETHICS CLEARANCE LETTER

P.O. Box 1906 • Bellville 7535 South Africa •Tel: +27 21 4603291 • Email: fbmsethics@cput.ac.za
Symphony Road Bellville 7535

Office of the Chairperson **Research Ethics Committee**	**Faculty:** **BUSINESS AND MANAGEMENT SCIENCES**

At a meeting of the Faculty's Research Ethics Committee on **19 June 2018**, Ethics **Approval** was granted to **Endsen Kafasi (216260299)** for research activities of **M Tech: Cost & Man. Acc.** at Cape Peninsula University of Technology.

Title of dissertation/thesis/project:	MANAGEMENT ACCOUNTING PRACTICES AND THE PERFORMANCE OF MANUFACTURING SMALL AND MEDIUM ENTERPRISES IN CAPE TOWN Lead Researcher/Supervisor: Prof L Obokoh

Comments:

Decision: APPROVED

Signed: Chairperson: Research Ethics Committee	**19 August 2018** **Date**

Clearance Certificate No | 2018FBREC559

APPENDIX B: CONSENT LETTER AND QUESTIONNAIRE

CONSENT TO PARTICIPATE IN THIS STUDY

Dear Participant,

You are invited to participate in a research study titled "Management Accounting Practices manufacturing Small and Medium Enterprises (SMEs) in the Cape Town." This study is being conducted by **Endsen Kefasi**, a Master's student at the Cape Peninsula University of Technology (CPUT). This study aims to determine the extent to which manufacturing SMEs are using Management Accounting Practices to influence their organizational performance. Results of this study will be of great use to policy makers in the manufacturing industry in South Africa.

Because you are a decision-maker of a South African SMEs, your opinions are very valuable for this study. Your participation in this study is voluntary and you are free to withdraw your participation at any time without obligation. The information provided will be kept in strict professional confidence. You are not required as the respondent to reveal your identification information as all responses will be recorded anonymously. While you will not receive any compensation for participating, the information collected in this study will hopefully contribute to the sustainability of the manufacturing SMEs in South Africa.

Support for our research will be greatly appreciated.

The research study is carried out under the supervision of Prof L O Obokoh

Contact details: Prof Obokoh Lawrence Ogechukwu (PhD, FCA)is the Head of Department for Cost am Management Accounting at the Cape Peninsula University of Technology : e-mail OBOKOH@cput.ac.za.

For further inquiries, you may contact me via email endsenk@gmail.com

Thank you for your time.

Signature ……..

Cape Peninsula University of Technology

Management Accounting Practices Questionnaire

Section A – Usage of Management Accounting Practices

To answer question 1 to 5 below mark (X) in the appropriate box.

(1 = Never, 2 = Rarely, 3 = Sometimes, 4 = Frequently, 5 = Very Frequently)

1	***How often does your firm use the costing techniques below?***	Never	Rarely	Sometimes	Frequently	Very Frequently
1.1	Job costing	1	2	3	4	5
1.2	Batch costing	1	2	3	4	5
1.3	Contract costing	1	2	3	4	5
1.4	Process Costing	1	2	3	4	5
1.5	Absorption costing	1	2	3	4	5
1.6	Variable costing	1	2	3	4	5
1.7	Variable absorption costing	1	2	3	4	5
1.8	Activity based costing (ABC)	1	2	3	4	5
2	***How often does your firm use the budgeting techniques below?***	Never	Rarely	Sometimes	Frequently	Very Frequently
2.1	Sales budget	1	2	3	4	5
2.2	Purchasing budget	1	2	3	4	5
2.3	Production budget	1	2	3	4	5
2.4	Cash flow budget	1	2	3	4	5
2.5	Financial position budget	1	2	3	4	5
2.6	Monthly budget	1	2	3	4	5
2.7	Annual budget	1	2	3	4	5
2.8	Quarter budget	1	2	3	4	5
2.9	Flexible Budget	1	2	3	4	5
2.10	Incremental budgeting	1	2	3	4	5
2.11	Zero Based Budget	1	2	3	4	5
3	***How often does your firm use the performance measurements below?***	Never	Rarely	Sometime	Frequently	Very Frequently
3.1	Operating Income	1	2	3	4	5
3.2	Stock turnover period	1	2	3	4	5
3.3	Variance analysis	1	2	3	4	5
3.4	Sales growth	1	2	3	4	5
3.5	Cash flow Analysis	1	2	3	4	5
3.6	Number of customers complaints	1	2	3	4	5
3.7	Number of products returned	1	2	3	4	5
3.8	On time delivery	1	2	3	4	5
3.9	Employee turnover	1	2	3	4	5
3.10	Defective products from production	1	2	3	4	5
3.11	Absentee rates	1	2	3	4	5

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4	*How often does your firm use the decision support systems below?*	Never	Rarely	Sometimes	Frequently	Very Frequently
4.1	Break-even analysis /Cost-profit Volume analysis (CPV)	1	2	3	4	5
4.2	Stock control model	1	2	3	4	5
4.3	Product profitability analysis	1	2	3	4	5
4.4	Customer profitability analysis	1	2	3	4	5
4.5	Payback period	1	2	3	4	5
4.6	Accounting rate of return	1	2	3	4	5
4.7	Net present value	1	2	3	4	5
4.8	Internal rate of return	1	2	3	4	5

5	*How often does your firm use the strategic techniques below?*	Never	Rarely	Sometime	Frequently	Very Frequently
5.1	Target costing	1	2	3	4	5
5.2	Strategic costing	1	2	3	4	5
5.3	Product life cycle cost	1	2	3	4	5
5.4	Value chain analysis	1	2	3	4	5
5.5	Competitor position monitoring	1	2	3	4	5
5.6	Balance score card (BSC)	1	2	3	4	5

SECTION B – Factors affecting choice of management accounting practices

To answer question 6 below mark (X) in the appropriate box.

(Indicate your option on a scale of 1-5) 1=Not at all, 2= Low extent, 3= Moderate Extent, 4=High Extent and 5= Very High Extent.

6	*To what extent has the following factors affected your company?*	Not at all	Low Extent	Moderate	High Extent	Very High Extent
6.1	The rising cost of production and labour	1	2	3	4	5
6.2	Changes in production methods and operating systems of the business	1	2	3	4	5
6.3	Increase in competition by other businesses producing similar products	1	2	3	4	5
6.4	The participation of owners in using management accounting practices	1	2	3	4	5
6.5	Changes in organisational structure or management	1	2	3	4	5

To answer question 7 below mark (X) in the appropriate box.

(Indicate your option on a scale of 1-5)1=Not at all, 2= Low extent, 3= Moderate Extent, 4=High Extent and 5= Very High Extent.

7	*To What extent do you use the following manufacturing systems?*	Not at all	Low Extent	Moderate	High Extent	Very High Extent
7.1	Computer controlled manufacturing systems	1	2	3	4	5
7.2	Manually controlled machines	1	2	3	4	5
7.3	Other (*Specify*) ……	1	2	3	4	5

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SECTION C – Association of management accounting practices and performance

To answer question 8 below mark (X) in the appropriate box

(Indicate your option on a scale of 1-5)1=decreased Significantly, 2=decreased, 3= No change, 4=Increased and 5= increased significantly.

8	***In the last three years, in your opinion indicate how the following items have changed in your company.***	Decreased Significantly	Decreased	No Change	Increased	Increased Significantly
8.1	Product Sales	1	2	3	4	5
8.2	Operating Profits	1	2	3	4	5

To answer question 9 below mark (X) in the appropriate box.

(Indicate your option on a scale of 1-5) 1=Not at all, 2= Low extent, 3= Moderate Extent, 4=High Extent and 5= Very High Extent.

9	***In the last three years, indicate to what extent the following techniques have been used in your company.***	Not at all	Low Extent	Moderate	High Extent	Very High Extent
9.1	Costing Systems	1	2	3	4	5
9.2	Budgeting Systems	1	2	3	4	5
9.3	Performance measurement	1	2	3	4	5
9.4	Management decision support systems	1	2	3	4	5
9.5	Strategic management accounting	1	2	3	4	5

SECTION D - Responded and business profile.

To answer question 10 below mark (X) in the appropriate box.

10	***In which manufacturing sector does your business operate in?***	
a	Clothing and footwear	
b	Chemicals, Pharmaceuticals & Plastics	
c	Electrical, Electronics & Optical	
d	Paper Printing and Publishing	
e	Metals Machinery & Engineering	
f	Food and Beverages	
g	Other (Specify)……	

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To answer question 11 to 18 below mark [X] in the appropriate bracket space.

11	**What is your position in the business?** Owner [ ] Manager [ ] Accountant [ ]
12	**What is your highest level of qualification?** Matric [ ] Short Course [ ] Diploma [ ] Bachelor [ ] Masters [ ] Other [ ] *Specify* ……
13	**Was the above qualification accounting related?** Yes [ ] No [ ]
14	**Do you have an external accountant or advisory firm for business advice?** Yes [ ] No [ ]
15	**How many years of experience do you have in a management role?** 0 to 5 years [ ] 6 to 10 years [ ] 11 to 20 years [ ] over 20 years [ ]
16	**What is the number of employees in your business?** 1 to 5 [ ] 6 to 20 [ ] 21 to 50 [ ] 51 to 200 [ ]
17	**What is the annual sales turnover (in million Rands) for your business?** Less than 1 Mil [ ] 1Mil to 5Mil [ ] 6 Mil to 20Mil [ ] 21 Mil to 50 Mil [ ]
18	**How many years has the company been in operation?** 0 to 5 years [ ] 6 to 10 years [ ] 11 to 20 years [ ] over 20 years [ ]
	Thank you for participating

APPENDIX C: CRONBACH'S ALPHA TEST

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
0.934	0.936	58

Item-Total Statistics

	Cronbach's Alpha if Item Deleted			Cronbach's Alpha if Item Deleted
Job costing	0.933		Absentee rates	0.932
Batch costing	0.934		Break-even analysis	0.932
Contract costing	0.934		Stock control model	0.932
Process Costing	0.932		Product profitability analysis	0.933
Absorption costing	0.932		Customer profitability analysis	0.932
Variable costing	0.933		Payback period	0.932
Variable absorption costing	0.933		Accounting rate of return	0.933
Activity based costing (ABC)	0.933		Net present value	0.933
Sales budget	0.931		Internal rate of return	0.932
Purchasing budget	0.932		Target costing	0.933
Production budget	0.932		Strategic costing	0.933
Cash flow budget	0.931		Product life cycle cost	0.933
Financial position budget	0.933		Value chain analysis	0.932
Monthly budget	0.933		Competitor position monitoring	0.933
Annual budget	0.932		Balance score card	0.933
Quarter budget	0.933		The rising cost of production and	0.932
Flexible Budget	0.934		Changes in production methods and	0.932
Incremental budgeting	0.933		Increase in competition by other	0.932
Zero Based Budget	0.933		The participation of owners in using	0.933
Operating income	0.932		Changes in organisational structure or	0.933
Return on investment	0.932		Computer controlled manufacturing	0.935
Variance analysis	0.934		Manually controlled machines	0.937
Sales growth	0.932		Product sales	0.932
Cash flows	0.931		Operating Profits	0.932
Number of customers satisfaction	0.931		Product costing Systems	0.932
Number of products returned	0.932		Budgeting Systems	0.932
On time delivery	0.931		Performance measurement systems	0.932
Employee turnover	0.932		Management decision support systems	0.933
Defective products from	0.932		Strategic management accounting	0.933

APPENDIX D: RANKING OF MAPS TECHNIQUES BY UTILISATION

Descriptive Statistics for MAPs utilisation in Cape Town manufacturing SMEs

MAPs Technique	Classification	N	Mean		Std. Deviation	Rank
		Statistic	Statistic	Std. Error	Statistic	
Sales budget	Basic	104	3.98	0.119	1.215	1
Job costing	Basic	104	3.89	0.115	1.173	2
Number of customers satisfaction	Basic	101	3.82	0.116	1.161	3
Absentee rates	Basic	102	3.75	0.094	0.951	4
Operating income	Basic	104	3.74	0.118	1.199	5
Sales growth	Basic	104	3.69	0.119	1.215	6
Purchasing budget	Basic	103	3.69	0.107	1.085	7
Annual budget	Basic	103	3.68	0.123	1.246	8
Cash flows	Basic	104	3.60	0.123	1.258	9
On time delivery	Basic	102	3.59	0.111	1.120	10
Employee turnover	Basic	101	3.57	0.119	1.195	11
Production budget	Basic	103	3.56	0.105	1.063	12
Number of products returned	Basic	103	3.56	0.107	1.082	13
Defective products from production	Basic	101	3.55	0.111	1.118	14
Incremental budgeting	Advanced	96	3.55	0.135	1.321	15
Absorption costing	Advanced	104	3.46	0.122	1.246	16
Return on investment	Advanced	103	3.34	0.127	1.288	17
Cash flow budget	Advanced	104	3.26	0.121	1.231	18
Variance analysis	Advanced	104	3.13	0.108	1.098	19
Process Costing	Advanced	101	2.89	0.143	1.442	20
Payback period	Basic	104	2.79	0.116	1.188	21
Stock control model	Basic	104	2.69	0.109	1.107	22

MAPs Technique Classification	Classification	N	Mean		Std. Deviation	Rank
		Statistic	Statistic	Std. Error	Statistic	
Variable absorption costing	Advanced	101	2.61	0.106	1.067	23
Product profitability analysis	Advanced	104	2.51	0.098	0.995	24
Break-even analysis	Advanced	104	2.49	0.103	1.052	25
Batch costing	Basic	102	2.49	0.091	0.920	26
Flexible Budget	Advanced	100	2.49	0.099	0.990	27
Monthly budget	Basic	101	2.47	0.095	0.955	28
Zero Based Budget	Advanced	98	2.44	0.113	1.122	29
Customer profitability analysis	Advanced	102	2.39	0.122	1.228	30
Contract costing	Basic	104	2.36	0.113	1.148	31
Financial position budget	Advanced	102	2.30	0.090	0.910	32
Variable costing	Advanced	102	2.25	0.093	0.938	33
Quarter budget	Basic	101	2.00	0.095	0.959	34
Value chain analysis	Advanced	96	1.78	0.095	0.931	35
Competitor position monitoring	Advanced	96	1.75	0.096	0.940	36
Net present value	Advanced	104	1.72	0.074	0.756	37
Strategic costing	Advanced	100	1.66	0.071	0.714	38
Internal rate of return	Advanced	104	1.64	0.077	0.787	39
Accounting rate of return	Advanced	104	1.61	0.069	0.703	40
Product life cycle cost	Advanced	98	1.56	0.067	0.659	41
Target costing	Advanced	102	1.51	0.063	0.641	42
Balance score card	Advanced	95	1.37	0.069	0.669	43
Activity based costing (ABC)	Advanced	99	1.35	0.056	0.559	44