Cape Peninsula
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INVENTORY MANAGEMENT PRACTICES OF SMALL, MEDIUM AND MICRO ENTERPRISES IN THE CAPE METROPOLE, SOUTH AFRICA.

by

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DECLARATION

I, Rutendo Melody Kanguru, declare that the contents of this thesis represent my own unaided work and that the 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.

Rutendo Melody Kanguru **October 2016**

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Signed **Date**

ABSTRACT

Small, medium and micro enterprises (SMMEs) in South Africa are perceived to be failing partly due to ineffective management practices. Using a questionnaire survey, this study sought to determine the inventory-management practices of SMMEs operating in the Cape Metropole, and to evaluate the effectiveness of the inventory-management practices currently used by these entities. In addition, the study sought to determine the challenges, if any, that are experienced by SMMEs from the inventory-management practices currently used. This study was motivated by a dearth of research on inventory-management practices of SMMEs.

The findings of the study revealed that most of the SMMEs used 'Rule of Thumb' as an inventory-management practice. Regarding the effectiveness of the practices used, the study revealed that the SMMEs investigated were perceived to be moderately effective, with SMMEs practising good inventory management techniques such as warehousing, stocktaking, budgeting, good ordering habits and segregation of warehouse duties.

In relation to the challenges faced by SMMEs from the inventory-management practices currently used, the findings suggested that theft, shortage of inventory, errors due to incompetent staff, physical inventory not matching up with records and an inability to keep up with the demand of the customers were some of the main challenges faced.

This study contributes to the literature on inventory-management practices of SMMEs and fills the gap of knowledge in this neglected area of research. The findings of this study are of significance to the decision-makers of SMEs as they will be enlightened on the best practices and different inventory-management practices that are vital for their businesses' survival and that have been adopted by their competitors. This should enable them to evaluate their own inventory-management practices and to decide whether to improve, change or continue with their current practice. The South African Government could also draw on the findings of this research to inform its future intervention strategies meant to improve the survival rates of these entities. This could be in the form of the creation of short courses meant to assist SMMEs to improve their inventory-management practices.

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DEDICATION

This thesis is dedicated to my parents Kenias Kanguru and Chipo Chiwonza. Thank you for creating an environment in which I was afforded an opportunity that many did not have, to make something meaningful out of my life. You have both been the wind beneath my wings, constantly lifting me up so I could soar high. This thesis is dedicated to your hard work, support and love. May it stand as a memorial to everything you have worked for and have accomplished through me.

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GLOSSARY

Abbreviations	Definitions/Explanations
SAPS	South Africa Police Services
SMMEs	Small, Medium and Micro-sized Enterprises
IM	Inventory Management
JIT	Just in Time
EOQ	Economic Order Quantity
FMCG	Fast Moving Consumer Goods
ERP	Enterprise Resource Planning
USA	United States of America
UK	United Kingdom
SSE	Small-Scale Enterprise
MRP	Material Requirement Planning
IDSS	Integrated Decision Support Systems
DTI	Department of Trade and Industry

CHAPTER ONE

BACKGROUND AND PROBLEM STATEMENT

1.1 BACKGROUND

Sound inventory management is important for Small, Medium and Micro Enterprises (SMMEs) because the mismanagement of inventory threatens these entities' viability (Sprague & Wacker, 1996; Kruger, 2005). Keeping excess inventory consumes physical space, creates financial burden, and increases the possibility of damage, spoilage and loss (Mbonyane, 2006:23). By contrast, too little inventory often disrupts operations and increases the likelihood of poor customer service, which damages an entity's reputation (Rajeev, 2008). Therefore the main goal of sound inventory management is to strike a balance between the conflicting objectives of not wanting to keep excessive stock that ties up capital and incurs costs such as storage, spoilage, pilferage and obsolescence, and the desire to avoid stock-outs (Chikán & Whybark 1990).

Sound inventory management is the art and science of maintaining the stock levels of a given item with a view to minimising inventory costs (Drury, 2004). According to Drury (2004), inventory costs include holding costs, ordering costs and shortage costs. Holding costs relate to costs of having physical items in stock. These include insurance, obsolescence and opportunity costs of funds tied up in inventory, which could have been productively invested elsewhere (Ladzani, 2006). Ordering costs, on the other hand, are costs of placing an order and receiving inventory (Drury, 2004). These include determining how much is needed, preparing invoices, transport costs and the cost of inspecting goods. Shortage costs result when demand exceeds the supply of inventory on hand (Ladzani, 2006). The costs include the opportunity costs of making a sale, and loss of customer's goodwill.

Given the fact that a significant proportion of SMMEs' current assets are in the form of inventory, the sound management of inventory is of paramount importance for these entities' survival (Pieterson, 2012). The sound management of inventory influences these entities' financial strength and competitive position because the approach taken to inventory management affects working capital, operations and customer service (Rajeev, 2008). Unsound management of inventory by SMMEs creates a plethora of problems such as loss of productivity, unwitting stocking of unwanted items, accumulation of costly physical

inventories or stock-outages that ultimately can result in the failure of these entities (Chikan & Whybark, 1990). Accordingly, a sound inventory management can result in substantial cost savings that enhance the viability of SMMEs (Meyer, 1991).

Although the importance of sound inventory-management practices in enhancing the survival of SMMEs is well recognized in theory, in practice most SMMEs in South Africa appear not to have embraced these practices (Mbonyane, 2006). It is therefore not surprising that the failure rate of SMMEs in the country is estimated to be between 70% and 80%, and is one of the highest in the world (Mbogo, 2011; Phenya, 2011). Indeed, Mbonyane (2006) partly attributes the high failure rate of SMMEs to the ineffective use of or a lack of sound inventory-management practices. Given the importance of SMMEs in alleviating unemployment and inculcating entrepreneurial skills, it is imperative that these entities adopt practices that enhance their survival rates, such as sound inventory-management practices.

In response to the high failure rate of SMMEs, the South African Government has committed itself to promotion and growth of these entities (Nieman, 2001:445). To this end, the Government has undertaken measures to create an enabling environment for SMMEs to survive and thrive (Department of Trade & Industry, 2004:01). Notable among the measures undertaken by the Government is the establishment of the Small Enterprise Development Authority (SEDA), whose aim is to partner the best in class global entities with the local SMMEs, with a view to enhancing skills transfer to SMMEs and the uptake of best practices by the same (Department of Trade & Industry, 2004:01). Despite the efforts of the Government, SMMEs have continued to fail at an alarming rate (Musara, 2010:13; Mazanai, 2011:208). Therefore alternative interventions are required to enhance their survival rates (Rogerson, 2010:18).

Prior research in other countries has revealed that most SMMEs employ ineffective inventory-control techniques, which encourage employee theft and prevent businesses from diagnosing shoplifting problems or even knowing the value of stolen inventory (Mbonyane, 2006:23). In addition, some SMMEs deal in slow-moving goods (Asiamahyeboah, 2012:11), or perishable Fast Moving Consumer Goods (FMCG) which are susceptible to spoilage (Mbonyane, 2006). Furthermore, most SMMEs lack guidance from top management on inventory management, lack accurate, real-time and suitable aggregate information of stock levels, and endure financial pressures that compel them to minimise inventory to a point where they suffer from stock-outs (Chikán & Whybark, 1990).

Besides, most SMMEs have a negative attitude toward sound inventory-management practices as they perceive the practices to be unnecessary and costly, which often is not the

case (Chikán & Whybark, 1990). In fact, most SMMEs lack professional expertise and generally take decisions based on intuition and elementary inventory-management practices that often value inventories inaccurately or inappropriately (Mohanty, 1985).

Despite the advantages of sound inventory management, only a few studies have been conducted on the uptake of these practices by SMMEs in South Africa (Silver, 2007:17). Instead, most studies have focused on investigating the general factors that lead to the failure of these entities (see for example Ladzani, 2006). Yet other studies have adopted an equally comprehensive approach by investigating working capital-management practices of SMMEs (Phenya, 2011). Accordingly, there is very little research evidence on the inventory-management practices of SMMEs in South Africa (Peel & Wilson, 2000:01).

1.2 STATEMENT OF RESEARCH PROBLEM

The problem to be investigated by the proposed research is that SMMEs in South Africa are perceived to be failing partly due to a lack of sound inventory-management practices. Taking into account the fact that a typical FMCG SMME's working capital mostly comprises inventory, and also considering that SMMEs are perceived as the best possible vehicle to reduce unemployment, research is required to obtain an understanding of FMCG SMMEs' usage of sound inventory-management practices.

Despite the availability of Government assistance to the SMMEs, there is still a high failure rate. The failure rate raises a question whether appropriate assistance has been given to the SMMEs and in the right functional areas, such as working capital management in general and in inventory management in particular.

1.3 PURPOSE STATEMENT AND RESEARCH QUESTIONS

1.3.1 PURPOSE STATEMENT

The main purpose of the proposed study is to determine the inventory-management practices of SMMEs in the Cape Metropole.

1.3.2 RESEARCH QUESTION, SUB-QUESTIONS, RESEARCH METHODS, & OBJECTIVES

1.3.2.1 Research question:

The research question for this study is:

What inventory-management practices are used by SMMEs in the Cape Metropole to manage their inventory?

1.3.2.2 Sub-questions, research methods and objectives:

The research sub-questions and objectives together with the method of investigating each objective are presented schematically as follows:

Table 1.1: Research Question, Sub-Questions, Methods and Objectives.

Research Question		
"What inventory-management practices are used by SMMEs in the Cape Metropole to manage their inventory?"		
Research Sub-Questions	Research Method (s)	Objectives
1. What inventory-management practices are used by SMMEs in the Cape Metropole?	Questionnaires underpinned by descriptive, inferential statistical analysis and literature review.	To determine the inventory-management practices of SMMEs in the Cape Metropole.
2. How effective are the inventory-management practices used by SMMEs in the Cape Metropole?	Questionnaires underpinned by descriptive, inferential statistical analysis and literature review.	To evaluate the effectiveness of the inventory-management practices used by SMMEs in the Cape Metropole.
3. What challenges, if any, are experienced by SMMEs from the inventory-management practice currently used?	Questionnaires underpinned by descriptive, inferential statistical analysis and literature review.	To determine the challenges, if any, that are experienced by SMMEs from the inventory-management practice currently used.

1.4 RESEARCH DESIGN

1.4.1 The Empirical Study

Given that the main purpose of the proposed study is to investigate the inventory-management practices of SMMEs in the Cape Metropole, the empirical research will adopt the positivist paradigm. This paradigm assumes that reality is objectively measurable using

metrics that are independent of the researcher and the research instrument (Wilson, 2010). Knowledge emanating from a positivist research is considered to be objective and quantifiable, hence a research that adopts the paradigm is quantitative by nature.

1.4.2 Sampling

The targeted population will comprise the FMCG SMMEs located within the Cape Metropole. A computer-aided simple random sampling technique will be employed to draw a sample size of 127 SMMEs in the FMCG sector in the Cape Metropole (Watkins, 2008:54). The use of the random sampling method is justified on the grounds that it permits the drawing of a representative sample from the population, as each member of the population will have an equal chance of being selected as a subject. A representative sample validates the generalisation of the findings of a research to the entire population. The Cape Metropole was selected because it has a high concentration of the targeted units of analysis which enables the researcher to capture a representative sample. In addition, it can be easily and conveniently accessed by the researcher in a manner that reduces the average costs per respondent surveyed. The sample size selected is justified on the grounds that a similar size was employed successfully in a related prior study (Bruwer, 2010).

1.4.3 Data Collection, Analysis and Interpretation

A questionnaire consisting of close-ended questions will be employed. Door-to-door visits to the selected SMMEs will be conducted and questionnaires presented to the respondents for completion as the researcher waits. The purpose of the study will be explained and a brief overview of the methodology discussed. No questionnaires will be e-mailed or left for the respondents to complete in their own time. Descriptive and inferential statistics will be employed for the analysis and interpretation of data collected. The Statistical Package for Social Sciences (SPSS) version 22.0 will be used to analyse and draw conclusions from the data collected.

1.4.4 Ethical Consideration

Considering that the proposed study will involve human participants, ethical guidelines as specified by the Research Ethics Committee of the Cape Peninsula University of Technology will be adhered to. Ethical clearance will be obtained before the field study commences.

1.4.4.1 Informed Consent and Voluntary Participation

The researcher will acquire an informed consent from the respondents before collecting data. The respondents will also be informed that their participation is voluntary, and that they can withdraw from the study at any time if they so wish.

1.4.4.2 Confidentiality and Anonymity

The survey will collect no identifying information of any respondent as all responses will be recorded anonymously. In addition, the respondents will be assured that their information will be held in strict confidence and used for research purposes only.

1.4.4.3 Compensation and Benefits

Whereas the respondents will not receive any compensation for participating in the proposed study, the information collected in the study will benefit the SMME sector of South Africa by providing a better understanding of inventory-management practices and the best practice. Participants will be thanked in writing for their participation and involvement in the study, and will be provided with an option of receiving a copy of the findings of the proposed study upon its completion.

1.5 DELINEATION

The focus of the study is on inventory-management practices of SMMEs in the FMCG sector. Respondents to be interviewed will be limited to owners/managers directly responsible for inventory management, as these are generally knowledgeable representatives of SMMEs who should be familiar with these entities' inventory-management practices. The scope of the study will be limited to the Cape Metropole due to financial constraints and the geographical convenience to the researcher.

1.6 SIGNIFICANCE

The proposed study will inform policy makers in the Government on the effectiveness of the current inventory-management practices employed by SMMEs, as well as advise on the necessary interventions that may be needed to improve the practices (Berry, Von Blottnitz, Cassim, Kesper, Rajaratnam & Van Seventer, 2002:34).

Due to a dearth in research on inventory management by SMMEs, the proposed study will provide insight to SMMEs' owners on the inventory-management practices currently

employed by SMMEs, raise more awareness on the best practice in inventory management and consequently focus attention to this neglected aspect of business management that could make a difference between their success and failure. Furthermore, the proposed study will encourage SMMEs' owners and managers to acquire sound inventory-management skills if the skills are found to be lacking, or even encourage them to invest their finances in accounting experts with the know-how of managing inventory soundly.

1.7 LIMITATIONS

Due to the nature of the units of analysis (owners/managers of SMMEs) and their busy work schedules, it is likely that they will be reluctant to participate in the survey. To avoid this pitfall, a one-on-one facilitation technique will be used to persuade the respondents to participate in the survey.

A common pitfall with a questionnaire survey is a low response rate which can lead to biased results that do not represent the views of the population (Saunders & Lewis, 2000:98). To avoid this pitfall, a short questionnaire that consists of closed-ended questions will be used. In addition, the researcher will personally hand-deliver all questionnaires to increase the response rate.

Another probable limitation that could arise is that the respondents could provide ethically correct answers that do not reflect their true perception. This could arise if, for example, responses are altered or influenced by the mere presence of the researcher during participation. To avoid this predicament, the respondents will be informed that all information acquired from the study will be handled in the strictest professional confidence. They will also be encouraged to feel free when answering the questions in order to answer truthfully all the questions in the questionnaire. In addition, the respondents will be advised that the information divulged will neither be revealed nor linked to any particular respondent.

To avoid a possibility of questionnaires being completed by persons other than the intended respondents, the researcher will enquire about the role of a respondent in the SMME before handing over the questionnaire for completion. In addition, the researcher will include a question asking the respondents to specify their role in the SMME.

Another limitation is that the sample in the proposed study only consists of SMMEs in one business sector, namely, the FMCG sector. This is attributed to both time and financial constraints. The respondents that will partake in the survey will only be owner/managers as these are the key decision-makers of SMMEs with an in-depth knowledge on the inventory-

management practices employed by their businesses, and should be able to supply reliable information needed by the researcher.

1.8 CONTRIBUTION

Given the scarcity of studies on the inventory-management practices of SMMEs in South Africa, the proposed study will fill a gap of knowledge in this neglected area of research. Furthermore, the proposed study will encourage additional research by providing recommendations for further studies, in other sectors apart from the FMCG sector.

1.9 VALIDITY

Validity is the extent to which the data-collection instrument measures what it is supposed to measure and determine if it will lead to valid conclusions (Leedy & Ormrod, 2005:31). To ensure construct and content validity, a pilot test of the questionnaire will be conducted on five academics with vast experience in questionnaire design. The pilot test will be used specifically to eliminate any ambiguities that may result in confusing statements or instructions, and to ascertain whether the language used is clear, understandable and concise.

During the pilot-testing stage, the academics will be required to elaborate their understanding of each question and highlight possible weaknesses in the questionnaire. Based on their responses, the questionnaire will be amended to reflect the suggested corrections. In so doing, validity should be achieved. In addition, as suggested by Rowley (2002), the questions in the questionnaire will be as closely linked to the original research questions to further ensure that construct validity is achieved.

External validity requires that the sample selected be representative of the population (Leedy & Ormrod, 2001). Given that the sample selected is small and convenient in nature, it may not be possible to generalise the opinions and views of respondents across the entire population. The researcher therefore accepts this as a limitation of the study. Another method of improving external validity will be through replication in another context (Leedy & Ormrod, 2001). The study at hand uses the same methodology as a number of other international studies in replicating research in a new context. If the work study yields similar findings to those of the international studies, then this will serve as an external validity check.

1.10 RELIABILITY

Reliability is defined as the extent to which similar research conducted in future will yield similar outcomes (Leedy & Ormrod, 2001). To enhance reliability, the researcher will compute Cronbach's Alpha Coefficient to determine the internal consistency of the items in the questionnaire (Cronbach, 1951). The Alpha coefficient ranges in value from 0 to 1 and the higher the score, the more reliable the questionnaire will be. Nunnally (1978) indicated 0.7 to be an acceptable reliability coefficient. If the Alpha coefficient is, however, found to be between 0.7 and 0.9, then the research instrument will be deemed to be reliable.

1.11 OUTLINE OF RESEARCH STUDY

Chapter 1: The Introduction will provide an overview of the proposed study. The background, statement of research problem, the preliminary literature review, proposed statement, research questions, research design, delineation of research, significance of research, limitations and constraints, and contribution of the research as well as validity and reliability will be covered in this chapter.

Chapter 2: The Literature Review will review the prior studies on inventory-management practices of SMMEs, the effectiveness of the inventory-management practices used by SMMEs, the challenges faced by SMMEs that employ the practices, and the benefits derived by SMMEs from adopting the best practices of inventory management.

Chapter 3: The Research Methodology will describe the methodology used for data collection. The chapter will address research design, sampling and data-collection methods in depth.

Chapter 4: The Analysis and Discussion of the Results will analyse and discuss the results of the proposed study using inferential and descriptive statistics, and relate the findings to the prior literature.

Chapter 5: The Conclusion and Recommendations will provide conclusions to the research findings as well as recommendations on further research in the niche area.

CHAPTER TWO

LITERATURE REVIEW

2.1 INTRODUCTION

The central aim of this chapter is to review the prior literature on inventory-management practices of SMMEs with a view to determine if there are any significant gaps in the literature that need to be filled. This chapter commences with the definition of SMMEs, their classification and importance to the South African economy in Section 2.2. Section 2.3 defines inventory management and discusses the importance of effective inventory-management practices to SMMEs as well as outlines the various models/systems that can be employed to manage inventory. This is followed by a review of prior studies on the inventory-management practices of SMMEs in Section 2.4. Section 2.5 reviews the prior studies that evaluated the effectiveness of inventory-management practices of SMMEs. This is followed by a review of prior studies on the challenges faced by SMMEs when managing their inventory in Section 2.6. Section 2.7 highlights the gaps identified in prior literature. Finally, Section 2.8 provides the summary and the conclusion of the chapter.

2.2 DEFINITION, CLASSIFICATION AND IMPORTANCE OF SMMES

2.2.1 Definition

Over the years many attempts have been made to define SMMEs, with both researchers and policy makers using different criteria, the most common ones being number of employees, annual sales and net-asset value (Government Gazette of the Republic of South Africa, 2003). Pobosky (1992) concurs that a number of other different criteria can and have equally been used to define SMMEs, some of which include forms of ownership, volume of sales, number of clients, level of energy consumption, size of capital and so on. Carter and Jones-Evans (2006) conclude that there is no simple way of defining an SMME. The definition therefore varies from country to country.

In South Africa, SMMEs have been defined by the National Small Business Act No.102 of 1996 of South Africa as separate and distinct business entities, including cooperative enterprises and nongovernmental 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).

2.2.2 Classification

Given the diverse criteria of defining SMMEs which appear to vary from one country to another, and even from one industry to another, it is important for a study that investigates SMMEs to clearly outline the criteria for classification of these entities.

In the South African context, SMMEs are generally classified according to their size based on three criteria: 1) number of employees, 2) total annual turnover, and 3) their estimated gross asset value (excluding fixed property) (Bruwer, 2010).

Table 2.1: The classification thresholds for SMMEs (Source: South Africa, 1996)

Enterprise size	Number of employees	Total annual turnover	Total gross asset value
Medium	Between 51 and 200	Between R10 000 001 and R40 000 000	Between R3 750 001 and R15 000 000
Small	Between 21 and 50	Between R4 000 001 and R10 000 000	Between R1 500 001 and R3 750 000
Very Small	Between 6 and 20	Between R150 001 and R4 000 000	Between R100 001 and R1 500 000
Micro	Between 0 and 5	Between R0 and R150 000	Between R0 and R100 000

For the purpose of this study, SMMEs will be classified according to the number of employees, given that this criterion is straightforward, simple and does not use sensitive information, unlike the total annual turnover or gross asset value.

2.2.3 Importance of SMMEs

To a developing country such as South Africa, SMMEs are important for various reasons.

Firstly, SMMEs are the engine of economic growth and socio-economic integration through job creation, especially among historically disadvantaged groups (Chimucheka, 2013). Ahmad (2012) attributes over 90% of employment in countries such as Malaysia, Nigeria and Indonesia to SMMEs. Since SMMEs are more labour intensive than larger firms, the growth of SMMEs means more employment opportunities for people, and thus the growth of these

entities determines the growth of the economy. For this reason, it has become internationally accepted and acknowledged that the SMME sector is an essential vehicle for the creation of wealth and employment (Nieman & Niewenhuizen, 2009:276). In the South African context, SMMEs have increasingly played an important role in the economic development of the country, given that large enterprises are dramatically restructuring themselves and downsizing.

Secondly, SMMEs have emerged as a vital tool for fighting poverty (Amra, Hlatshwayo & McMillan, 2013). Post-apartheid South Africa faces a plethora of socio-economic problems that need urgent attention, similar to those in other developing countries. Poverty remains at the top of the list. Given that SMMEs are widely dispersed, and unlike large entities are also located in small towns, locations and even villages, they do not only create employment opportunities for local people in remote areas, they aid in the redistribution of wealth and reduction of wealth disparity (SBP Alert, 2013:2).

Thirdly, SMMEs, through intense competition with their larger counterparts, provide positive spin-off benefits to the customers by not only availing quality and innovative products, but also by providing consumers with a wider variety of products to choose from and at a low price (Fan, 2003:8).

Fourthly, SMMEs do not only inculcate the spirit of entrepreneurship perceived to be lacking in emerging countries such as South Africa, they also act as training grounds by providing apprenticeships for the youth and transferring skills and technical knowhow to them (Antonites, 2003:9). SMMEs thus serve as an important incubator for emerging businesses and seedbeds for indigenous entrepreneurship. By so doing, SMMEs can lead to a reduction in the crime rate given that the youth, who are typically the worst hit by unemployment, get productively engaged by such apprenticeships (Yanta, 2001:44).

Fifthly, SMMEs provide larger entities with effective distribution outlets for products by acting as intermediaries between customers and the large entities. In so doing they aid the large entities in reaching the customers, some of whom may be remotely located. SMMEs also supply vital products to the large entities and may even be sub-contracted for certain jobs (Zulu: IOL, Speech, 2014: Online). The latter does not only promote specialisation, it also improves the productivity of the country (Fjose, Grunfeld & Green, 2010).

Given the importance of SMMEs and their limited access to finances, and bearing in mind that inventory forms a significant part of their working capital, it is imperative that these entities adopt the best inventory-management practices if they are to survive and even thrive.

2.3 INVENTORY MANAGEMENT

2.3.1 Definition of inventory management

Inventory management is the process of effectively overseeing the constant flow of units into and out of an existing inventory (Onkundi & Bichanga, 2016). This process usually involves controlling the transfer of the units in order to prevent the inventory from becoming too high, or dwindling to levels that could put the operation of a business into jeopardy. Effective inventory management seeks to control the costs associated with the inventory, from the perspective of the opportunity cost of the capital tied up in the inventory, the holding cost and the ordering costs.

2.3.2 Importance of effective inventory management

Effective inventory management is important because it can help an SMME to be more profitable by lowering its cost of goods sold and/or by increasing sales (Ngubane, 2015). A lower cost of goods sold is achieved by making the inventory smaller and therefore turn more often, while making sure that stocks are large enough which will result in increased sales because products are available when customers need them (Wang, 2006). Inventory management is balancing those two opposing factors for optimum profitability. Effective inventory management can also provide critical answers to questions such as:

- What is the inventory turnover and, more importantly, is the business incurring excessive holding costs by surplus inventory?
- How accurate are the business's inventory records? Have customers been lost due to poor record keeping? Has poor record keeping resulted in overstocking?
- What inventory system is currently used by a business and how can it be improved?
- Where no inventory control system exists, what system should be installed? Should it be manual or computer based?
- By how much will the gross profit increase if the inventory turnover is improved?

By answering the above questions, an SMME is able to improve its customer service, reduce inventory investment, increase productivity, and prevent poor inventory-record accuracy (Wang, 2006). Regarding the latter, inventory-record errors are costly. No computer system, be it old or new, will work properly if the transactions are not entered correctly. The costs of poor inventory-record accuracy are not always apparent to management. These include:

- unanticipated stock-outs;

- decreased production efficiency;
- higher investment in safety stock;
- requirement for staging of items to determine availability or shortages;
- invalid data for inventory replenishment system; and
- obsolete and excess inventory.

Three key components of effective inventory management are: knowing how to balance ordering time, knowing the right buffer stock, and having an intimate understanding of how fast inventory turns over. Stating similar claims, Silver (2008) reports that the three key questions that effective inventory management attempts to answer are:

i. How often should the inventory status be determined? That is, what is the review interval?
ii. When should a replenishment order be placed?
iii. How large should the replenishment order be?

Knowing this cycle aids a business in managing and mastering the cycle well. Lavely (1996) describes effective inventory management as an active control programme that allows a firm to manage its manufacturing, sales, purchases, distributions and payments. Effective inventory management (IM) requires the analysis of the costs attached to maintaining certain levels of inventory, as there are costs associated with holding excessive inventory and those associated with holding too little inventory (Atrill, 2006).

The objective of effective inventory management is to strike a balance between inventory investment and customer service (Heizer & Render, 2008). The business must be able to know how long it takes a supplier to process an order, how much buffer stock (safety stock) is required, how long it will take for suppliers to execute a delivery; and how long it will take for material to transfer out of the receiving business's inventory. A buffer stock or safety stock needs to be known as it acts as excess stock that is required to maintain production levels. This minimises the chances of production or business interruption. The consequences of understocking and interruptions include unhappy customers, lost sales, missed deliveries and backlogged orders.

Record keeping becomes important even in the operational process as inventory is going through the transformation process from raw material to work in progress and to finished goods. Keeping an effective and efficient recording system of inventory during the conversion process reduces the likelihood of raw materials running out. Good inventory management also translates into good records of finished goods. Maintaining accurate figures on how

much the business has as finished goods assists the sales personnel to know how much inventory is at their disposal and helps them do their job more effectively.

Good inventory record-keeping is also useful for claiming tax rebates. It also minimises the risk of underpaying tax due to a lack of proper information on inventory held in the business. For most SMMEs, inventory forms a significant part of their current assets reported in their balance sheet at any given time. Therefore it has to be managed effectively, given the limited access to resources that faces these entities. Inventory also impacts on SMMEs' profitability and cash flows as costs have to be incurred for purchasing, holding, transporting and managing it. Therefore, it is essential that SMMEs adopt the best models for managing inventory. Management of inventories ultimately influences a firm's financial strength and competitive position because the approach taken on inventory directly affects working capital (Ng et al., 1993; Vergin, 1998). The critical role of inventories to the survival of small businesses is well recognized in theory. However, some researchers have lamented that effective inventory management is not practised by many SMMEs.

2.3.3 Main types of inventory management models and systems

2.3.3.1 Economic Order Quantity (EOQ)

The Economic Order Quantity (EOQ) model is an inventory-management model that aims at minimising the average of holding costs of inventory and ordering costs. It is based on a formula that determines the optimum size of inventory (EOQ) that should be ordered to minimise the holding costs and ordering costs of inventory. The EOQ becomes the basis of a minimum-cost procurement policy as well as a basis for a continuous-review inventory system, in which inventory levels are monitored at all times and a fixed quantity ordered each time.

Le Roux and Lotter (2003) assert that, under this model, assumptions are made that there are no discounts available on purchase; costs and demand are constant, and known with certainty. In this classical inventory model, however, things like quality and shortages are ignored. In other words, it assumes a fixed quality level which is not subject to control. With this in mind, Arslan and Metin (2010) have revised the standard EOQ model to incorporate sustainability considerations to include environmental and social norms.

There are a number of reasons why any small business would use the EOQ model. Muhammad and Omar (2011) state that this model can be very useful to small-business owners who need to ascertain how much inventory to keep on hand, how many units of

inventory to order at a time, and how often to re-order while incurring the lowest possible cost. This is useful to small-business owners as it minimises storage and holding costs, two costs which are usually unbearable for small-business owners. By providing details on when to re-order and how much to re-order, the EOQ model eases the ordering process for small-business owners and allows them to concentrate on more pressing matters.

Although a useful tool, the EOQ model, however, requires a good understanding of maths which tends to disadvantage small-business owners who typically lack math skills. The EOQ also assumes a steady demand of a business product and an immediate availability of inventory items to be re-stocked, and it does not account for seasonal fluctuations (Houston Chronicle, 2015: Online).

2.3.3.2 Just in Time (JIT)

JIT is an inventory-management strategy which businesses employ to increase efficiency and decrease waste by receiving inventory only as they are needed, thereby reducing inventory costs (Lee et al., 2013). This method requires businesses to forecast demand accurately. It is a shift from the older just-in-case strategy, in which businesses carried large inventories in case higher demands had to be met. Just-in-Time inventory management has several advantages over traditional models, the most important of which is that it reduces costs by eliminating warehouse storage needs (Monden, 2011). Businesses also spend less money on inventory because they buy just enough to meet their demand. On the other hand, any delays by a supplier may lead to losing both current and future sales as well as lead to higher costs of purchasing at short notice. Besides, when operating a JIT system, there is always a risk of a stock-out.

JIT is a system that ensures that inventory is received shortly before it is used – hence the term ‘just in time’ (Bruwer, 2010). Since the work by Schonberger (1982) on Japanese manufacturing techniques and Monden (1983) on the Toyota production system, progress has been made on the system. The system has also been further developed by Ohno (1988). Conceptually, the JIT system approach combines the apparently conflicting objectives of low cost, high-quality flexibility and delivery dependability (Chakraborty, 2012). Its philosophy is based on the planned elimination of waste and continuous improvement of productivity.

Small-business owners are likely to experience a number of benefits from implementing the JIT system, amongst which include flexibility in the system, a huge improvement in the quality of products and services, as well as an improved administration efficiency. By balancing the two JIT goals of avoiding stock-outs while minimising inventory, storage and

holding costs are also substantially reduced. There is also a smaller likelihood of disposing of stock due to expiration or obsolescence. Gupta (2012) asserts that the most significant benefit of the JIT system is the improvement of responsiveness of a business to changes in the market, thus allowing it to obtain a competitive advantage.

On the contrary, the pitfalls of this JIT system are that it requires significant coordination between retailers and suppliers in the distribution channel (Houston Chronicle, 2015: Online). To facilitate the process of coordination, retailers usually sync their computers with suppliers, an aspect that might be costly for SMMEs given that they may have to upgrade their systems. Besides, businesses that use JIT are constantly walking the on the fine line of having too much or too little inventory. This may not be a healthy space for SMMEs to be in as they cannot afford the luxury of a stock-out.

2.3.3.3 ABC Analysis

Another inventory-management system that can be used by SMMEs is the ABC Analysis system. According to this system, inventory items are categorised into three categories: A being the most valuable items, B the next most valuable items, and C being the least valuable items (Ravinder, 2004). Classification is usually based on the value per unit multiplied by the annual usage rate (Yu, 2010). The ABC system aims to draw a manager's attention to the critical few (A-items) and not to the trivial many (C-items). Through this categorisation, a manager can identify inventory hotspots, and separate them from the rest of the items, especially those that are numerous but not that profitable. Based on the ABC Analysis, different strategies should be adopted for the different categories, as follows:

- For category A items, there should be tight inventory control, more secured storage areas and better sales forecasts. Re-orders should be frequent, with weekly or even daily re-orders. The avoidance of stock-outs should be prioritised.
- For category C items, re-ordering should be less frequent. A typical inventory policy for these should consist of having only one unit on hand, and of re-ordering only when an actual purchase is made. This approach leads to stock-out situations after each purchase which can be an acceptable situation, as the C items present both a low demand and higher risk of excessive inventory costs. For C items, the question is not so much how many units are stored but rather whether there is even a need to stock these items.
- Given the intermediate status of category B items, they should be monitored for potential evolution toward category A or category C.

A number of benefits can be drawn by SMMEs with the use of ABC Analysis. One of them includes a better control of high-priority inventory in the business. A close and strict control is facilitated on the most important items which helps in overall inventory valuation or overall material consumption. This method also helps in reducing clerical costs by creating a scientific method of controlling inventory. It is also noteworthy that this method also helps in maintaining stock turnover at a comparatively higher level, and it ensures a reduced amount of storage costs. By helping maintain enough safety stock by using this method, the business is always safe from stock-outs (Nikolakopulos: **Online**).

On the other hand, the disadvantages of using this method are that for the success of this analysis, a number of other measures have to be in place which many small businesses might not be able to implement. Some of the measures necessary are a good system of codification of inventory and a proper standardisation of inventory in store. Ultimately, substantial resources are required to create this infrastructure, which in many cases SMMEs do not possess. It is also noteworthy that the analysis is based on the monetary value of the inventory item in use, thus other important factors are ignored (Nikolakopulos: **Online**).

2.3.3.4 Rules of Thumb

With inventory optimisation, most businesses typically set inventory targets using rules of thumb or single-stage calculations. Rules of thumb normally involve setting a number of days of supply as a coverage target. Single-stage calculations look at a single item in a single location and calculate the amount of inventory required to meet the demand. Rules of thumb may rely on unconventional techniques such as experience, observation, hearsay, or a combination of these; they are usually industry specific. Even though a rule of thumb might be appropriate for a specific context, it might not be applicable for another and therefore it varies according to a unique set of circumstances. This practice, though not formal, is widely used separately or alongside many of the inventory-management systems that are used by SMMEs. At their basic level, rules of thumb employ common sense to make decisions on inventory management as well as experience to determine the quantity to order and keep in stock (Rajeev 2008).

A number of benefits can be derived from the rule of thumb approach, the most obvious of which is its ease of use. This method is quick and relatively inexpensive, and can be done in-house as opposed to getting external valuations from professionals. It is also very easy to understand and follow. Accordingly the method is uniquely ideal for SMMEs, given that cost and time implications of other methods/systems render them impractical for these entities. However, the downside of the rules of thumb method is that it does not consider the key

variables that might affect inventory. In addition, it is not 'data driven' as it relies on assumptions that are based on previous experience, and which could be subjective. Furthermore, the method has also been questioned whether it is valid, reliable and useful. Besides, there is always a risk of potentially misleading results associated with this method, which makes it unreliable in some instances.

2.3.4 Inventory reduction practices

According to Cavitt (2010), an organisation that effectively implements the following ten inventory-reduction practices will see an improvement in terms of reduced inventory.

Table 2.2: Top Ten Inventory Reduction Practices

Top ten inventory reduction practices	Percentage reduction
Conduct periodic reviews	65%
Analyse usage and lead times	50%
Reduce safety stocks	42%
Use ABC Analysis approach	37%
Improve cycle counting	37%
Shift ownership to suppliers	34%
Re-determine order quantities	31%
Improve forecast of A and B items where ABS=C analysis is used	23%
Give schedules to suppliers	22%
Implement new inventory software	21%

2.4 A REVIEW OF PRIOR STUDIES ON INVENTORY-MANAGEMENT PRACTICES OF SMMES

A few studies have investigated the inventory-management practices of SMMEs. One such study was conducted by Chikán and Whybark (1990) in Finland and Greece, to determine the experiences of managers with regard to inventory management. In the first phase of the study, 15 case studies were undertaken in Finland which included examining the role of inventory management in corporate planning, inventory decision-making and performance measurement. The findings revealed that inventory-management decisions were made at the operational level with minimal guidance from top management. Furthermore, a lack of accurate, real-time and suitable aggregated information of material flows and stock levels prevented these enterprises from setting precise quantitative goals for inventory

management. Besides, financial pressures were also found to have compelled enterprises to reduce their inventories, a situation that typically led to internal as well as external stock-outs.

In the second phase of their study, Chikán and Whybark (1990) sampled 30 SMMEs in northern Greece. They found that although all sampled entities had computerised their information systems for the purposes of inventory record-keeping and accounting, none of the entities employed inventory decision-making models availed by the systems. Simply put, the Greek SMMEs did not use Integrated Decision Support Systems (IDSSs) as they were perceived by SMMEs owner-managers to be unnecessary and costly. However, Chikán and Whybark (1990) observed that the main obstacles to the adoption of IDSSs were the negative attitudes of the owner-managers as well as limited knowledge of workers, rather than the cost or even availability of software (Chikán & Whybark, 1990). Chikán and Whybark (1990) concluded that the SMMEs were slow to adopt and implement contemporary inventory-management practices. Although important, Chikán and Whybark's (1990) study was conducted in Europe and is more than two decades old. In addition, the study also employed a rather limited sample size which undermines the generalisability of its results.

Elsewhere in the UK, Howorth and Westhead (2003) studied working-capital management practices of small firms in the UK with an aim to provide a wider understanding of the extent of use of 11 working-capital management routines, amongst which included stock turnover, stock levels and stock re-order levels. Howorth and Westhead (2003) found that there were four types of firms according to their area of concentration. These included firms which concentrated on cash-management routines, revenue-management routines, inventory-management routines or the fourth type that were less likely to utilise any working capital management routine whatsoever. Howorth and Westhead (2003) further found that some small firms invested resources in a specific area of working-capital management, as long as they perceived these areas to be associated with the highest marginal return. The researchers also reported that, among the routines studied, inventory-management related routines were the less frequently used as only 64% of the firms monitored their stock levels, 60% monitored their stock re-order levels, and 59% monitored their stock turnover. In addition, the firms that focused on stock-management routines were smaller and younger, with less external finance and longer production cycles. Even though Howorth and Westhead's (2003) study is applicable to the study at hand, it was conducted on SMMEs in the United Kingdom, a developed country; therefore its findings may not be applicable to South African SMMEs. The study is also dated as it is over a decade old and a lot has changed in regard to inventory management since then. Therefore its findings may not be valid at present.

In a similar study conducted in the UK, Wallin, Rungtusanatham and Rabinovich (2006) investigated the right inventory-management approach to adopt for a purchased item using a review of relevant literature and anecdotal observations from four companies as case studies. The researcher found that the most commonly used inventory-management method was 'speculation', a result that agreed with Zinn and Bowersox (1988) and Pagl and Cooper (1998). Wallin et al. (2006) further found that generally owners relied on experience and intuition to make most decisions, as many of them lacked formal education. Using speculation, firms would purchase inventory beforehand and before demand was known with certainty. The advantage of this approach was found to be a prompt response to demand. However, the companies that adopted this approach incurred excessive holding costs due to storage. The limitations of the Wallin et al. (2006) study, however, are that it employed case studies, was based in the UK, and was conducted more than ten years ago. Therefore its findings may not be generalizable to South African SMMEs at present. Besides, the companies in these case studies were not from the FMCG sector, and neither were they SMMEs.

In a related Indian study, Rajeev (2008) investigated inventory management in SMMEs with a view to providing young Indian entrepreneurs with a guideline for implementing effective inventory-management practices. A sample of 40 SMMEs in the machine-tools enterprise sector was selected and primary data gathered using questionnaires. Rajeev's (2008) findings revealed several major shortcomings of inventory-management practices of the sampled SMMEs such as the use of rule-of-thumb for inventory management, as well as a low perception of the importance of forecasting techniques. This indicated that the use of a formal inventory-ordering policy, such as fixed-quantity ordering or fixed-period ordering, was not observed in the SMMEs in the sample size used in their study. Instead, a random policy was followed by the SMMEs for material procurement. In addition, the sampled SMMEs disregarded purchasing and delivery lead-time, and had low levels of training, development and computer knowledge. Although insightful, Rajeev's (2008) study employed a limited sample that renders the findings ungeneralizable to the entire population of the machine-tool sector in India. In addition, Rajeev's (2008) study only focused on SMME's in the machine-tool sector and thus the generalizability of its findings may not extended to SMME's in other sectors. Besides, the study was conducted in India; thus its findings may not be applicable to an African country, such as South Africa.

In another Indian study, Ranganatham (2011) conducted a research on the inventory-management practices of small-scale enterprises (SSE) located in Anantapur in India, which involved interviews with owner/managers of 95 SMMEs operating in six different industries. Ranganatham's (2011) findings reveal that 25.26% of the sampled businesses determined

the re-order level of raw material inventories on the basis of the consumption that had taken place over a specific period of time – 38.95% on the basis of consumption at the time of procurement, and 35.79% on the basis of consumption during the lead time but factoring in the safety stock required. Of the sampled businesses, 27.37% employed the fixed-period order system, while 72.63% ordered according to their needs. However, only 46.32% of the sampled businesses had set norms for the utilisation of raw materials to avoid wastages, but the majority did not do the same. 53.68% of selected SMMEs used 'classification and codification' for controlling the consumption of raw materials, whereas 12.63% of the enterprises used the ABC Analysis; 21.06% used 'variety reduction and standardization' and 12.63% did not use any method. Ranganatham (2011) also noted the existence of district inter-industry differences in the inventory-management practices of the sampled SMMEs, but concluded that the inventory-management practices of these entities were satisfactory. Although informative, Ranganatham's (2011) study was conducted in the manufacturing sector of a small district in India; thus its findings may not be applicable to South African SMMEs, particularly those in other sectors such as the FMCG sector.

After his 2008 study, Rajeev conducted a follow-up study investigating the inventory-management practices of 69 SMMEs in Bangalore's machine-tool industry in India. Rajeev's (2014) study revealed that 54% of SMMEs used simple heuristics, which entails using rule of thumb, educated guesses, intuitive judgement, stereotyping, profiling or common sense, when managing their inventory, while 26% used ABC Analysis for the same purpose. Ironically, all of the sampled SMMEs explicitly understood the importance of effective inventory-management practices in a firm's performance as the level of awareness on these practices was relatively high among the SMMEs in the machine-tool industry. Rajeev's (2014) study further reveals that only 40% of the sampled SMMEs that practiced heuristics employed computers in managing their inventory, an indication that modern inventory-management practices were largely absent in the sampled SMMEs. Rajeev's (2014) study findings, however, are not generalizable to South African SMMEs, particularly those operating in other sectors such as the FCMG, on the basis that the study was conducted in India and it employed a limited sample size of 69 SMMEs.

In the USA, Romano (2011) reports on a cross-section study conducted by the National Association of Accountants (NAA) that employed a sample size of 351 management accountants to determine current inventory-management practices in the country. The findings reveal that Just-in-Time (JIT) Inventory Management techniques were becoming more prevalent, as were automated time-phased inventory re-order systems. The findings also reveal that 85% of respondents had no plans to change their inventory-management practices and relied more on actual business experience than inventory-management

quantitative methods. In addition, certain inventory-management practices – such as measuring inventory levels and matching stock-out costs against expenses related to higher inventory levels – were rarely used in practice. The limitations of the foregoing study are that it was conducted in the US and might therefore not be generalizable to the South African context. It also used management accountants as part of the sample size, professionals whom SMMEs usually do not have the luxury to employ. Besides, the above study also generalised on the use of inventory-management practices as it was not specific as to the size of the businesses in question.

All of the above inventory-management related studies were conducted in other continents. In a related African questionnaire survey conducted in Ghana, Yiadom and Agyei (2011) investigated the working-capital management practices of 700 small and medium enterprises (SMEs) in six different towns. Yiadom and Agyei (2011) found that 57% of respondents used manual notebooks as a means of keeping records of transactions, and less than 1% of the respondents used computer software to track inventory. About 18% used surprise checks of inventory, whereas 9% used tally cards as most SME managers' felt that their scale of operations was too limited to warrant detailed records. About 61% of the respondents mentioned pilferage as their main problem, besides other problems such as low levels of inventory and unaccounted-for drawings of inventory by family members. Nevertheless, Yiadom and Agyei's (2011) study focused only on six towns in Ghana and only partially covered inventory management as it covered wide-ranging issues in working-capital management.

A similar Ghanaian study conducted by Yeboah-Asiamah (2012) on the inventory and trade credit-management practices of 50 SMEs reveals that most SMEs were aware of the importance of stock, stock-outs and stock-management techniques available. However, Yeboah-Asiamah's (2012) study only sampled the top 50 SMEs and thus ignored the SMEs below the top 50. In addition, the study covered working-capital management practices broadly and thus did not focus on inventory management.

In yet another but more recent Ghanaian study, Mensah-Agyei (2012) investigated the working-capital management practices of 800 SMEs using a case study and a questionnaire survey. Mensah-Agyei's (2012) findings reveal that a relatively high percentage of SMEs (83%) in the sample that did not use computers in their operations. In addition, a majority (60%) of the heads of finance departments of the SMEs had little or no accounting background as most of these entities believed that they were saving money by employing unqualified personnel to execute accounting functions. Mensah-Agyei (2012) further found that over 90% of SMEs made their decisions on inventory levels based on the owner/manager's experience, and about 83% were ignorant of the Economic Order Quantity

(EOQ) model. In general, the owner/manager's experience was found to be more important to SMEs than the application of theories of inventory management. However, like the two prior studies mentioned above, Mensah-Agyei's (2012) study was based on SMEs operating in Ghana and thus its findings may not be applicable to similar entities in South Africa.

More recently, Oroka (2013) conducted a questionnaire survey on the working-capital management practices required by small and medium scale enterprises for effective operations in Delta State, Nigeria. He posed six research questions amongst which included the inventory-management practices required by SMEs for effective operations. A sample size of 1,110 respondents made up of 616 managers and 494 accountants was used. Oroka's (2013) findings reveal that managers and accountants were indifferent to whether the EOQ model or JIT system should be used to ascertain inventory levels for the effective operations of SMEs. In addition, managers and accountants did not respond differently to the inventory-management practices required by SMMEs for effective operations. Furthermore, for effective operation, SMMEs require inventory-management policies, sales forecast, on-the-job training for staff in charge of inventory management, and laid-down guidelines for inventory orders as well as inventory planning at regular intervals. Besides, SMMEs require EOQ and JIT as practices to ascertain inventory levels. While Oroka's study is relevant to the study at hand, it mainly focuses on working-capital management rather than inventory management. Having been conducted in Nigeria, West Africa, its findings may not be applicable to South African SMMEs.

Elsewhere in Africa, Munyao, Omulo, Mwithiga and Chepkulei (2015) conducted a study on the role of inventory-management practices on the performance of a production department in Kenya. This study sought to determine the inventory-management techniques used by manufacturing firms in Mombasa County while also establishing the level of effectiveness of the inventory-management practices. The sample of the study comprised 45 textile, rolling mill, and food and beverage manufacturing firms. The Munyao et al. (2015) findings reveal that 15.8% of respondents used the EOQ model, 36.8% used Action Level methods, 13.2% used the Just-in-Time system, and 18.4% of the respondents used the Periodic Review Technique while 15.8% used the MRP 1. Therefore Action Level methods were the most popular methods used. Although the Munyao et al. (2015) study is closely related to the study at hand, it was conducted in Kenya and focused on manufacturing firms, an aspect that undermines the generalizability of its findings to South African SMMEs operating in the FCMG sector. It is also noteworthy that the study employed a stratified random sampling system which has several weaknesses, notable among which is unreliable results as it is hard to accurately sort each member of the population into a single stratum.

Few studies have examined the usage of inventory-management practices by SMEs in South Africa. In a unique South African study, Ladzani (2006) conducted an interview survey of 30 small businesses in Kagiso Township in South Africa to determine the factors that led to the failure of those businesses. Ladzani (2006) found that key among the major causes of the failure of small businesses was a lack of use of effective inventory-management practices which had increased their inventory-carrying costs, such as storage costs, insurance premiums and the opportunity cost of capital tied up in the inventory. Although pioneering, Ladzani's (2006) study covered a broad topic that dealt with causes of failure of SMMEs and as such did not focus on inventory management only. Furthermore, Ladzani's (2006) study was also based on a small township; hence its findings may not be generalizable to the rest of South Africa. Besides, the study employed a cluster-sampling system which has several weaknesses, notable among which is unreliable results.

In a subsequent South African study, Fatoki (2012) investigated the working-capital practices of immigrant-owned SMMEs in South Africa using a questionnaire survey administered on a sample size of 170 entities. Fatoki's (2012) findings reveal that 61.22% of the SMMEs that participated did not use computers for their operations. Only 57.14% of the SMMEs conducted weekly stock reviews, and none of these businesses used the EOQ model for restocking. Most SMMEs employed the 'run out of time' technique whereby inventory was restocked according to the estimated average demand from the restocking date till the time the inventory runs out, an indication that most of the entities continued to use traditional inventory-management practices despite the advent of computers which had revolutionised these practices. Fatoki's (2012) study was conducted in the Johannesburg Central Business District in Gauteng Province and focused only on immigrant-owned SMMEs. Therefore its findings may not be generalised to SMMEs located in the Western Cape Province that are not immigrant-owned.

In yet another closely related South African study, Ngubane, Mayekiso, Sikota, Fitshane, Matsoso and Bruwer (2015) conducted a questionnaire survey on the inventory-management systems used by 21 manufacturing SMMEs in Cape Town, South Africa. The study by Ngubane et al. (2015) found that the four most popular and widely used inventory-management systems/models were EOQ (14%), ABC analysis (14%), ERP (14%) and JIT (52%). Although all respondents were aware of effective inventory-management practices, the practices were not extensively used. Interestingly, the respondents opined that their informal inventory-management practices that their SMMEs employed had sufficed their businesses' needs. Although the Ngubane et al. (2015) study is highly relevant to the current study, it was conducted in the manufacturing sector, using a limited sample size, and

therefore its finding may not be generalizable to SMMEs operating in Cape Town, particularly those from other sectors such as the FCMG sector.

2.5 A REVIEW OF PRIOR STUDIES ON THE EFFECTIVENESS OF INVENTORY-MANAGEMENT PRACTICES OF SMMES

According to a US-based study by Zeng and Hayya (1999), effectiveness centres on three areas: cost, service level, and turnover ratio. In their study on the performance of two popular service measures on management effectiveness in inventory control, they attempted to evaluate the probability of no stock during lead time and the fill rate, in the context of continuous inventory systems. Results suggested that the condition that one measure outperforms the other depends on the ratio of EOQ to the variance of lead-time demand; and the two service measures (the probability of no stock-out during lead time and the fill rate) yield different levels of the total inventory cost and the turnover ratio. These indications give relevant guidelines for inventory managers to make good decisions. In addition, managers were recommended to seek a balance of the three elements based on their desired managerial objectives. Zeng and Hayya's (1999) study, however, is limited in that it is US-based and it is also theoretical, thus not empirical.

An earlier study by Sprague and Wacker (1996) in Germany, Japan, Mexico, New Zealand, Spain, Sweden and the US revealed that when business strategies are formulated, inventory management is not generally treated as a critical or strategic activity. There is therefore a certain level of passivity when it comes to consistency in carrying out inventory-management practices. The above indicated that IM practices were not successfully producing the desired or intended result as planned. Sprague and Wacker's (1996) findings are, however, not generalizable to South African SMMEs on the basis that their study was conducted in non-African countries.

In a related study, Michaelas, Chittenden and Poutziouris (1999) investigated the financial policy and capital-structure choice of all ten industries of UK-economy SMEs using empirical evidence from company panel data. Their findings reveal that one third of SMMEs relied on manual methods of stock control, and that a majority did not use stock optimisation techniques. In addition, there was evidence of a disconnect between knowledge of inventory management and the effective practical application thereof. Although insightful, the limitations of the above study are that it is a UK study conducted more than 18 years ago; thus its findings may not be generalizable to the South African context at present. The study also only partially covered inventory management while concentrating largely on financial policies.

DeHoratius (2004) conducted an empirical analysis study in the US to investigate inventory inaccuracy using a sample size of 37 retail stores of one retailer. The study explored the systematic variations in 370 000 inventory records and observed inaccuracy both within and across stores. Specifically, 65% of the records were found to be inaccurate. This high percentage suggests that the sampled stores were managing inventory poorly from a record-keeping perspective. In most cases, the recorded inventory level of an item was inconsistent with the quantity found in the store. These inaccuracies were likely to create a range of problems such as loss of productivity, manufacturing of unwanted items, and reduction in the levels of commitment to customer needs (Meyer, 1991). The above study was, however, conducted in the US and thus its findings may not be generalizable to South African SMMEs. The study also did not focus specifically on SMMEs but rather on the inventory-records accuracy of a large retailer, which incidentally is but a portion of inventory management.

Rajeev's (2008) Indian study mentioned in Section 2.4 also reveals a number of ineffective inventory-management practices employed by Indian SMMEs in his sample of 69 SMMEs. Some of these include lack of appreciation by entrepreneurs of the importance of inventory-management practices, lack of qualified staff, lack of progress in the area of human resources development, low usage of computers, low importance given to forecasting, and generally a low importance given to lead-time. Rajeev (2008) asserts that the effort to even introduce effective inventory-management practices in SMMEs was very limited due to a lack of initiation, expertise and financial constraints. However, as noted earlier, Rajeev's (2008) study employs a limited sample that renders the findings ungeneralizable to the entire population of the machine-tool sector in India. In addition, Rajeev's (2008) study only focuses on SMME's in the machine-tool sector and thus the generalisability of its findings may not be extended to SMME's in other sectors. Besides, the study was conducted in India; thus its findings may not be applicable to an African country, such as South Africa.

In Silver's (2008) Canadian overview of publications, practical applications and suggestions for future research on inventory management, inventory problems and associated models were categorized by a number of dimensions. Some of these categories included shelf-life, the nature of supply process, procurement cost structure, the nature of the product and type of demand process, information and control, and the number of stocking points, time duration and single versus multiple items. Silver (2008) mentions that a substantial gap exists between the theory and practice of inventory management. He asserts that there is a need for easily understood procedures, particularly in small organisations. Silver (2008) suggests that more attention needs to be given to the behavioural aspects of inventory management. He states that one of the most crucial phases of an effective inventory management is

convincing the decision-makers and those people providing inventory information that the 'decision system' is not replacing them but aiding them, and that it is in their best interests to cooperate. This suggests that the ineffectiveness of inventory management techniques may be as a result of a 'lack of cooperation' from users. Silver's (2008) overview, though informative, does not provide empirical results on whether SMMEs were managing their inventory effectively or not. Besides, it is also a Canadian overview which may not be generalizable to the South African context.

In a clear departure from the above international studies on IM effectiveness, Kiprotich (2011) conducted a study investigating the working-capital management practices and financial performance of sugarcane out-grower companies in Kenya. The study adopted a descriptive cross-sectional survey research design. A sample size of 30 managerial staff members from ten out-grower companies were approached and primary data collection was accomplished by the use of a semi-structured questionnaire. Findings revealed long inventory-holding periods, stock-out tendencies and in other cases inventory surpluses. Emergency ordering and supply stoppages were still, however, experienced at low levels. Kiprotich (2011) concluded that the out-grower companies lacked adequate knowledge and skills on inventory optimisation. Although this study is relevant to the current study, it was conducted in Kenya, using a limited sample size; therefore its findings may not be generalizable to SMMEs in Cape Town, particularly those in the FMCG sector.

In a related African study, Nyabwanga (2012) investigated the inventory-management practices of small-scale enterprises in Kenya, using a structured questionnaire of 70 businesses. Nyabwanga (2012) found that the owners/managers were effective in reviewing the inventory levels of their businesses, fairly effective in determining the appropriate maximum and minimum inventory levels to be held, and in making sure that adequate inventory is available at all times. However, the sampled SSEs were less effective in determining the appropriate re-order levels of their stock as the SSEs were not good at determining when to place replenish orders. This is because their re-order level did not depend on the lead time and the demand during the lead time. The SSEs were also found to be less effective in the use of computers in monitoring inventory levels, a finding that supports the assertion by Kwame (2007) that small businesses do not use computers in their business operations. Nyabwanga (2012) concludes that, in general, the SSEs surveyed were effective in managing the level of their inventory. Nyabwanga's (2012) study, however, employed a limited sample in a small town, which renders its findings ungeneralizable to the entire population of SSEs in Kenya, let alone in South Africa.

2.6 A REVIEW OF PRIOR STUDIES ON THE CHALLENGES FACED BY SMMES WHEN MANAGING THEIR INVENTORY

In a study mentioned earlier in Section 2.4 of this chapter, Chikán and Whybark (1990), who investigated inventory management among 30 SMMEs in northern Greece found that, some of the challenges encountered by the entities were a failure to employ inventory decision-making models, despite all the entities having computerised their information systems for inventory record-keeping and accounting. Although computers readily made available these inventory decision-making models, they were considered unnecessary and costly. Chikán and Whybark (1990) attributed the failure to adopt the models to a negative attitude of the owner-managers, as well as limited knowledge of workers, rather than the cost or even the availability of software. In general, SMMEs were found to be slow to adopt and implement contemporary inventory-management practices. The limitations of the above study, however, are that it is a European study and that is dated as it was conducted more than two decades ago. The sample size of the study was also limited, which undermines the generalisability of its results.

Elsewhere, a study by Cressy (1996) which investigates the inventory-management practices of 2000 business start-ups in the UK (among other objectives) found smaller firms had fewer human resources and were highly dependent on the principal owners' time and skills. This therefore required individuals working in the firms to be multi-skilled. In some cases, knowledge of inventory-management practices was available, but because of the many tasks that were left to one individual, the practices were not efficiently carried out effectively. To some enterprises, setting aside time to plan for IM was not considered to be directly linked to their day-to-day profit-making mandate. The above finding was consistent with the views of Jan DeVries (2007) who asserted that defining and developing an inventory-management concept consequently runs the risk of becoming a time-consuming and unproductive process; and sometimes it lays a too heavy burden on the enterprise, so much so that the costs do not outweigh the benefits. Although insightful, Cressy's (1996) study was conducted in the UK and is dated. It also partially covered inventory-management practices; thus it was more focused on these practices.

In a unique Taiwanese case study, Gunasekaran and Lyu (1997) investigated the implementation of the JIT system in a small company that produced different kinds of automobile lamps. During the implementation of the JIT system, a number of noticeable observations were made. Firstly, tremendous resistance was experienced from the suppliers and workers in the early stages of developing the system. However, a high-level commitment from the top managers and supplier-involvement made the process easier. This is in support

of the school of thought that a ‘negative perception’ by management or employees can radically affect the use of IM techniques in a business. Gunasekaran and Lyu (1997) concluded that the education and training of workers in SMMEs about JIT would tremendously aid in the implementation and use of the JIT system as a technique, and help reduce the negative perceptions of employees. The above study was, however, conducted in China and was in the form of a case study; thus its findings may not be generalizable to the SMMEs in the South African context.

In similar studies, Ramaswamy, Selladurai and Gurasekaran (2002) conducted a study on JIT implementation in small and medium enterprises. Making use of the JIT technique, a case study of a manufacturing system which manufactured apparel was employed. It sought to identify problems in the company and to improve the performance of the system. Findings revealed challenges in the system were the inventory-turnover ratio, which was very low in general. It was also observed that a huge pile of inventory between stations was a very common scenario in the business. Moreover, it was identified that there existed a total randomness and no pattern thereby indicating major problems in the system. The analysis clearly indicated that in 60% of the cases, buffer-stock removal was a major area to be addressed. In addition to this, lot-size reduction was also a key issue highlighted and in need of addressing. It became apparent that work in progress in the system was high and its reduction was also a key issue. It is noteworthy that the inventory-holding costs incurred due to keeping work in progress in the system included insurance, labour, risk of obsolescence, storage, theft, shrinkage and other associated costs. An increase in costs will ultimately act negatively on the profitability of the organisation. Similar to previous studies, this study also alluded to the fact that workers resist change and that education was necessary to resist the change. This was a clear indication that JIT was not working well for the business under study and therefore it needed improvements. Although relevant, this study is limited in that it is US-based and might not be generalizable to South African SMMEs.

In a UK study by Achanga, Shehab, Roy and Nedler (2005) which sought to investigate the critical success factors for lean implementation within SMEs, a literature review, observation of company practices and personal interviews were employed. The sample size was ten SMMEs and three large-sized manufacturers based in the east of the UK. Results were analysed and validated through workshops, case studies and the Delphi Technique. The study found that a lack of adequate funding denied many SMMEs opportunities to hire an ideal management team and as a result they suffered from a lack of astute leadership and planning of inventory-management practices. Ultimately SMMEs were therefore prevented from implementing good productivity-improvement strategies such as JIT/Lean Management. Lack of funding prohibited initiatives such as workforce training, and this denied SMMEs the

benefit of an improvement in knowledge, skills and cultural awareness. It was identified that a business could have knowledge of the right techniques to practise but lacked the financial capacity to implement. Noteworthy is the relative difficulty for small firms to get loans from finance providers. Ultimately, many of these techniques are set up, albeit with little knowledge of use as the budgets rarely permit for training. Some businesses ultimately decide just to stick to traditional practices, which are highly inefficient and inappropriate for their fast-growing enterprises. Although insightful, the limitations of this study are that observations involved a limited number of both independently and owner-managed SMMEs. The Achanga et al. study also was conducted in the UK and might not be generalizable to the African context.

Since it has been pointed out that excess inventory, resulting from the ineffective use of current practices, is one of the main challenges. Sanghal (2005) studied the effect of excess inventory on long-term stock-price performance. The study estimated the long-term price effects of excess inventory using 900 excess inventory announcements made by publicly traded firms from 1990 to 2002. Findings revealed that some of the challenges they faced were production curtailment, temporary shutdowns, price mark-downs, promotions to liquidate inventory, and inventory write-offs to deal with excess inventories. Sanghal (2005) found evidence suggesting that the stockmarket partially anticipates excess inventory situations and firms were found unable to recover quickly from the negative effects of excess inventory. Moreover, it was also established that inventory is an indication of demand-supply mismatches. Although insightful and relevant, the above study was conducted in the USA and might not be generalizable in the South African context. Needless to say, the firms that were incorporated in this study were publicly traded firms and not necessarily limited to small businesses.

Cavitt's (2010) study, mentioned earlier in Section 2.3.4, reveals that although there are well-defined formal organisational arrangements regarding the making of inventory decisions, management practices in the companies apparently were characterized by inadequate communication lines, conflicting interests between logistical parties, and unequal expectations about the performance of the inventory system. This brings to light a very important issue about expectation. Owner-managers might be implementing a certain inventory management practice with specific expectations, which unfortunately that practice cannot deliver. Although this is a relevant study, its limitation is that it is UK-based and might not be generalizable to the South African context.

Nyang'au (2013) investigated the challenges facing Micro and small enterprises in inventory management in Kisii Town, Kenya. The accessible population was the 308 registered MSEs in Kisii Town. A stratified random sampling of the population was employed by grouping the small business entities into homogenous entities. A random sampling was drawn from each group and, using questionnaires to extract information, findings depicted that some of the inventory-management challenges included demand variability, material handling, inventory costs, inadequate information and stock setting. Although insightful, Nyang'au's (2013) study employed a limited sample that renders the findings ungeneralizable to the entire population of South African SMMEs. Furthermore, Nyang'au's (2013) study only focused on SMMEs in Kisii Town in Kenya, and thus the generalizability of its findings may not be extended to SMMEs in other countries.

In a unique South African study, Phenya (2011) evaluated the financial management skills of owners/managers of 45 SMMEs. The study was conducted in Dr JS Moroka Municipality in Mpumalanga Province and a stratified sampling technique was used to draw the sample from the population to construct the sample frame. Data was collected using interviewer-administered questionnaires. Findings in this study revealed that there was a limited appreciation of financial-management skills. This was attributed to a lack of relevant experience and/or tertiary education. A staggering 4% of the owners/managers indicated that they had never worked prior to starting or joining the SMMEs, and 24% of the respondents' previous work was found to be unskilled. Only 9% of the respondents' previous work was at a professional level. Findings alluded that 6.7% of the respondents had no understanding of how to manage stock, whereas 62.2% had little understanding of stock management. Furthermore, 31.1% of the respondents proved to have a full understanding of how to manage stock. Given this limited knowledge of financial management, it was apparent that some of the respondents knew how to manage working capital but still needed training to improve their skills. Phenya's (2011) study, however, is limited in that it was conducted in Mpumalanga and its findings may not be generalizable to SMMEs operating in other provinces such as the Western Cape.

In a previously mentioned South African study by Fatoki (2012) investigating working-capital practices of immigrant entrepreneurs in South Africa, a sample size of 170 SMMEs was used to collect data through the use of self-administered questionnaires. His aforementioned author observed that only 57.14% of the respondents conducted weekly stock reviews, 24.48% on a monthly basis and none of these businesses used EOQ for restocking. In addition, 40.82% did not keep a stock book, while 61.22% of the respondents did not use computers for their operation. Findings also reveal that 77.55% of the respondents had no insurance cover on stock. This implies that there is a low safeguard of inventory against fire or theft. It is apparent through this study that SMMEs have over the years been known to

continue in the use of traditional inventory-management practices. Even though this is a South African study and is relevant, the limitations it poses are that it was conducted in the Johannesburg Central Business District in Gauteng Province and the study population centred on business in the retail sector. In addition, the study was also limited to immigrant entrepreneurs, thereby making it difficult to generalise the study to the Western Cape Province and to the FMCG sector.

In addition, a recent study by Ferenčíková (2014) investigated inventory management in small and medium-sized manufacturing companies and their main dilemmas. Secondary research data accompanied by the results of previous researches of the author and a case study from one selected Czech manufacturing company was used. A questionnaire was employed on 50 respondents from the SMMEs in Czech manufacturing companies. Findings reveal that problems of the current business environment included permanently higher customers' requirements for delivery times, product innovations and high unpredictability of customers' demands. In addition, more than 70% of the respondents mentioned a lack of unified inventor-management systems, non-realistic delivery times promised to the end customer, and chaotic production planning. This becomes a huge challenge in SMMEs as repeated stock-outs adversely distress retailers through the loss of customers and employee time, while the manufacturer simultaneously is harmed by lost sales, brand switching, and brand loss. As in previous in studies, in this study, though applicable, the sample size used was also relatively small. Another limitation is that it is based on Czech SMMEs and might fail to be generalizable to South African SMMEs.

2.7 GAPS IDENTIFIED IN THE PRIOR LITERATURE

From the review of the prior literature in this chapter, the following research gaps have been identified:

- Firstly, many studies in this review were conducted from a working-capital management perspective, and very few were conducted from an inventory-management perspective. This means that inventory management was very rarely investigated as the main emphasis, resulting in the literature lacking depth. Inventory management covered under literature on Working Capital Management (WCM) cannot deliver the richness of insights that are needed to explain this topic.

- Also noteworthy is the fact that most of the prior studies were conducted in European or Asian countries; thus very limited research has been done in the context of Africa,

particularly in South Africa. Those conducted in Africa focused on West African countries. Thus their findings may not be applicable to South African SMMEs.

- Another point to consider is that the methodology used in many of the studies was qualitative in nature, and investigated inventory management from the context of 'causes of SMME failure', 'perception of users', rather than the extent of use, if any, of IM practices. There is therefore a need to carry out more quantitative type research, so as to measure the effectiveness and extent of inventory management in SMMEs. The findings of such studies can be very helpful to policy makers in helping them make relevant decisions for SMMEs in South Africa.

- Moreover, since there is a dearth of existing studies that supply clear evidence as to the extent to which SMMEs are using IM practices, there is therefore a need to complement the existing body of literature by building upon several insightful studies already conducted; however, this should take the angle of 'extent of use'.

- Generally, the extents of studies used in this review were from all over the world, with a large portion being from western countries. Only a few studies represented the African IM practice situation. Hence their findings may not be generalizable to the South African context. This is likely due to the fact that western countries have more financial resources to carry out such research. Only in recent years have more African-based studies started to sprout, which is highly encouraging since much information is needed to make informed decisions when creating policies for SMMEs in government.

- Some of the studies were conducted among large companies, operating in sectors other than the FMCG sector; accordingly their findings may not be generalizable to SMEs operating in the FMCG sector.

- Companies used in many sample sizes were all SMMEs; but with the definition of SMMEs differing in different countries, the comparisons might therefore face some bias. The literature review also used studies which were varied industries such as the automobile industry, the farming sector, medical industry, manufacturing companies and the FCMG sector in question. This ultimately permitted the review below to have a rich and wide body of knowledge borrowed from other sectors and disciplines, and the discipline in question.

- Out of the few South African studies reviewed, only one was conducted in the Western Cape, but it focused on SMMEs in the manufacturing sector. Some of the studies were conducted in the West African region and were in the form of a 'case study'. They therefore may not be generalizable to South African SMMEs.

Given the aforementioned gaps identified in prior literature, these research questions have remained unanswered in the South African context:

1. What inventory-management practices are used by SMMEs in the Cape Metropole?
2. How effective are the inventory-management practices used by SMMEs in the Cape Metropole?
3. What challenges, if any, are experienced by SMMEs from the inventory-management practice currently used?

2.8 CHAPTER SUMMARY AND CONCLUSION

This chapter aimed at reviewing prior literature on inventory-management practices. The importance of SMMEs was discussed, followed by the definition of inventory management. The chapter then proceeded in focusing on the importance of inventory management in SMMEs in South Africa. The chapter then discussed the main types of inventory-management models and systems that are prevalent in SMMEs. This was followed by a review of literature on the inventory-management practices of SMMEs in South Africa. The chapter then reviewed prior literature on the effectiveness of the inventory-management practices of SMMEs. A review was also carried out on the challenges faced by SMMEs as they carried out the inventory practices mentioned.

There are several key findings arising from this review. With regard to the major practices in use in SMMEs, prior studies identified Economic Order Quantity (EOQ), Just in Time, Activity Based Costing and Rule of Thumb as some of the major practices. With regard to the effectiveness of practices in use, it was noted that there was a certain level of passivity when it came to consistency in carrying out inventory-management practices. The finding also revealed that there were still SMMEs which relied on manual methods of stock control, and the majority did not use stock-optimisation techniques. It was evident that there is still a disconnect between knowledge of inventory management and the effective practical application thereof. Ineffectiveness was also noted in a lack of integration of accounting records with the physical inventory available. In addition, some of the inefficiencies of inventory-management practices included a lack of appreciation by entrepreneurs of the importance of inventory-management practices, a lack of qualified staff, a lack of progress in

the area of HRD, a low importance given to forecasting, and generally a low importance given to lead-time.

Concerning the challenges encountered by SMMEs affecting the effective use of inventory-management practices; review of prior studies established that some of the factors were: high set-up costs, a lack of computer skills and an inability of owners to perceive the importance of good inventory-management practices. Other studies indicated a dearth of financial skills due to limited formal education and a lack of proper forecasting.

In conclusion, increased concern over the failure rate of SMMEs had heightened the importance of SMMEs practising good inventory management and, concurrently, finding ways in which small businesses can be aided in understanding the importance of inventory-management practices.

Gaps in prior literature still exist. There is still a very limited amount of studies on inventory management in South Africa, while those available were conducted a substantial number of years ago. There are also very few studies that examine the link between practices and their effectiveness in SMMEs. The majority of studies tackled inventory management from a working-capital management angle and so there was no depth in the inventory-management information provided. Samples used in prior studies were also either too small or not generalizable to other studies. With the aforementioned gaps in prior studies, there are many areas in inventory management still unresolved. Using the review on prior studies it is clear that the understanding of inventory-management practices still seems evasive in the South African context.

The following chapter (Chapter 4) will discuss the methods used to attain the objectives of this study. The chapter will discuss the research approach, the methodology employed during the collection of data, and the statistical tools that will be employed to analyse the data.

CHAPTER THREE

RESEARCH DESIGN AND METHODOLOGY

3.1 INTRODUCTION

The purpose of this chapter is to present the research methodology used to achieve the following objectives:

1. To determine the inventory-management practices of SMMEs in the Cape Metropole.
2. To evaluate the effectiveness of the inventory-management practices used by SMMEs in the Cape Metropole.
3. To determine the challenges, if any, experienced by SMMEs from the inventory-management practice currently used.

This chapter begins with a discussion on the research paradigm adopted in this study in Section 3.2. The chapter then goes on to justify the questionnaire survey methodology used to gather data in Section 3.3. A discussion of the research population and sampling technique employed then follows in Section 3.4. Section 3.5 provides an in-depth description of the sections of the questionnaire. This is then followed by a discussion of the pilot test that was conducted in Section 3.6. The data-collection process is then discussed in Section 3.7, while Section 3.8 presents the data methods used. Section 3.9 discusses how the reliability and validity of the research instrument was tested. This is then followed by a discussion of the limitations of the questionnaire survey in Section 3.10. The ethical consideration is discussed in Section 3.11 and, finally, a chapter summary and conclusion of the chapter are presented in Section 3.12.

3.2 RESEARCH PARADIGM

The positivist paradigm, which postulates that reality is objectively measurable using metrics that are independent of the researcher and the research instrument used, was embraced in this study for several reasons (Myers, 2009).

Firstly, the abovementioned objectives of this study required quantitative data to establish the inventory-management practices currently used by SMMEs in the Cape Metropole. Thus, the positivist paradigm was deemed to be suitable as it is the research paradigm that advocates the use of quantitative methods. Secondly, the positivist paradigm was selected because it

requires the use of the well-defined structure that enables a researcher to employ closed-ended questionnaires that can be easily analysed statistically.

Thirdly, the positivist paradigm was chosen because of its objectivity, since quantitative data is more dependable to use. Fourthly, the paradigm was selected due to time and financial constraints, given that it requires the use of methods that are relatively fast and fairly inexpensive to administer, such as the questionnaire survey. Because of the latter, the paradigm allows the researcher to use a large sample size which ultimately improves generalizability of the results obtained.

3.3 JUSTIFICATION FOR QUESTIONNAIRE SURVEY METHODOLOGY

Many options were considered for the collection of data, and finally a questionnaire survey distributed personally by the researcher was deemed to be the most appropriate method for various reasons. Firstly, a questionnaire survey is easy to administer in comparison to the other methods such as interviews. Combined with the convenient-sampling method, the researcher had to go to a conveniently located business centre within the Cape Metropole, approach potential respondents and, when given consent, wait as respondents filled in the questionnaire.

Secondly, using a self-administered questionnaire survey is one of the most effective ways of increasing the response rate. The approach allowed the researcher to request consent from potential respondents and to identify quickly those who were not interested. This enabled the researcher to achieve a desirable sample size with relative ease, unlike e-mailing the questionnaire which typically has a low response rate or selective responses to questions.

Thirdly, by distributing the questionnaire personally, the researcher was afforded an opportunity to easily explain, clarify and interpret the questions to business owners/managers, many of whom were foreign nationals and needed help in understanding the questions written in the English language. This enhanced the accuracy of their responses.

Fourthly, information collected through a close-ended questionnaire was standardised and easy to capture and analyse. Fifthly, the questionnaire format is one that was familiar to most respondents as many people have had to answer a questionnaire at one point in their lives. This aids in quickening the data-collection process. Lastly, using questionnaires was one of the most cost-effective and time-saving ways to collect data from many respondents.

3.4 RESEARCH POPULATION AND SAMPLING TECHNIQUE

A research population is not a demographic population but the entire collection of all observations of interest (people, objects or events) as defined by the researcher. (Burns & Burns, 2008:180). The target population in this study was 127 SMMEs in the Cape Metropole which operate in the Fast Moving Consumer Goods (FMCG) sector. This is justified on the basis that there was no comprehensive database present of all FMCG SMMEs in the Cape Metropole. Secondly, Bruwer (2015) successfully conducted a similar study with the same sample size. Consequently, 127 SMMEs were used to form the sample size.

A convenient-sampling technique was employed. Convenient sampling is also known as accidental sampling, haphazard sampling or availability sampling and is a non-probability or non-random sampling in which members of the target population are selected for the purpose of the study, if they meet certain practical criteria, such as geographical proximity, availability at a certain time, easy accessibility, or willingness to volunteer (Dörnyei, 2007). It involves using respondents who are nearest and most easily available (McBurney, 2001:246). This method was deemed appropriate as data collection could be facilitated in a short duration of time. It is also a very cost-effective method of collecting data if the units of analysis are located in areas accessible to the researcher, as was the case in this study. The simplicity of this method also justified its use in this study as it has relatively few rules that govern how the sample should be selected (Blance, Durrheim & Painters, 2006:34).

Using the convenient-sampling technique, 127 SMMEs were selected and approached from different suburbs across the Cape Metropole and 127 questionnaires were self-administered to respondents. Therefore a census approach was adopted given the limited population size. In this study, anyone with knowledge of a business's inventory management was allowed to respond to the questionnaire. Managers, owner-managers, shop workers or accountants were open to participating in the survey as it was assumed they had knowledge about the business's inventory management and could give relevant responses to the questions contained in the questionnaire. The use of the convenient-sampling method was justified on the grounds that it was quick, inexpensive and fairly easy to administer.

3.5 DESCRIPTION OF SECTIONS OF THE QUESTIONNAIRE

According to Burns and Grove (2005), a questionnaire is a well thought-out tool designed to elicit information that can be obtained through written responses from the study subjects. In this study, the questionnaire included quantitative questions thoroughly prepared and piloted

to ensure they reflected a high degree of 'validity' (Easterby-Smith, Thorpe & Lowe, 2002:239-59). It consisted of six pages divided into three sections namely A, B and C. A seventh page in the form of a cover page was included to provide an in-depth explanation of the aim of the study and the terms of the survey.

In the questionnaire, the sections were specifically structured in such a way that the questions therein would be eliciting answers to the research questions presented in Chapter 1 of this study. The questionnaire was designed to take roughly 15 minutes to answer and it comprised 21 questions, six of which contained sub-questions which needed the respondent to use a Likert scale to rate the degree of agreement or disagreement with the statement provided. A combination of Likert scale questions and both 'Yes or No' type questions were used to extract information from participants (see Appendix B attached). This was in a bid to reduce the time it would take to complete the questionnaire since it already comprised 21 questions. Many questions which were considered intrusive were excluded after the first pilot so as to encourage the respondents to participate more freely. The sections in the questionnaire contained the following information:

Section A: Profile of respondents

In an effort to profile the business and the respondent, the first page of the questionnaire consisted of Section A, which comprised seven questions (one to seven). The questions elicited information on the respondent's business's profile and personal profile. Care was taken not to ask any question that could be perceived to be intrusive or too personal, such as relating to the turnover of a respondent's business or the salary of the respondent. The questions asked focused on the industry the business is operating under, the position of the respondent in the company, the length of time in the position, the time period that the business had been in operation, the highest level of education, if the education was accounting-related, and a rough estimation of the number of people employed by the respondent's business. This section was deemed important to assist the researcher in classifying the SMMEs in accordance with the Small Business Act of 1996 and Amendment Act of 2003, and in ensuring that the appropriate respondents had been selected to participate in the study.

Section B: Inventory-management practices of SMMEs

This section was designed to answer the question "What inventory-management practices are used by SMMEs in the Cape Metropole?". Section B comprised eight questions (eight to fifteen) which were a mixture of Likert scale questions and 'Yes' or 'No' questions.

Question 8 was a ten-part question requiring the respondent to rate the answer using a Likert scale that ranged from ‘strongly disagree’ to ‘strongly agree’. This question was centred on the ordering process of the business. The aim was to find out how the ordering system of the business worked, or if there was a system in place at all. It would also help establish what form of inventory-management practice was in use in that business by asking questions intelligently constructed to unearth this information without directly asking for the name of the model or system used. This was necessary because many small businesses employ systems but are unaware of the accounting names of the systems.

In the first part of Question 8, respondents were requested to rate their reliance on common sense to determine the quantity of inventory. The aim of this question was to determine whether there was a system in place in the business or the business was just using general knowledge to manage inventory. In the second part, respondents were also asked to rate the use of an equation to calculate the quantity of stock to order, the aim being to find out whether the business had traces of the EOQ as an inventory management technique. In the third part, respondents were asked to use the scale to rate whether the business ordered a fixed quantity of inventory periodically. In the fourth part, respondents were asked to use the scale to rate whether inventory was purchased in bulk to take advantage of trade discounts. The aim was to ascertain if respondents had knowledge of good procurement practices of inventory.

In the fifth question, respondents were asked to use the scale to rate whether the business ordered when it received an enquiry from customers, the aim being to ascertain if there was a Just-in-Time component to their procurement of inventory. In the sixth question, respondents were asked to use the scale to rate whether the business received orders automatically from suppliers without placing an order. The aim was to identify if there was use of an automated system where information is shared between the two companies for quicker and more convenient deliveries. In the seventh question, respondents were asked to use the scale to rate whether they received their orders without delays. The aim was to establish once again if there was a Just-in-Time component in the system in use. In the eighth question, respondents were asked to use the scale to rate whether the suppliers of the businesses were from Cape Town only. This question had an aim to ascertain the proximity of suppliers and how promptly delivery of inventory would be. It would also help establish lead time and also ascertain if there was a JIT component in the system in use.

Questions 9 to 11 concentrated on finding out the warehousing arrangement the business had in place, if any. In Question 9, respondents were requested to provide a ‘Yes’ or ‘No’

answer to the question whether the business used a warehouse for storage. The aim was to establish if the business understood and practised the safekeeping of inventory in their business. Question 10 was a two-part question which used a Likert scale rating to ascertain the extent to which the respondents 'agreed' or disagreed'. In Part 1 of the question, respondents were asked to use the scale to rate whether all inventory stored in the warehouse was insured. Part 2 of the question asked respondents to use the scale to rate whether the inventory in use was owned by their business. The aim of both questions was to ascertain if there was a general understanding of the risk associated with keeping inventory and how that risk could be minimised. Both questions also aimed at helping the researcher ascertain if the respondents were aware of and sensitive to holding costs, and how they could be minimised by acquiring the services of an 'external' warehouse.

In Question 11, respondents were asked if the business planned in advance before ordering stock. The aim of this question was to find out if there was a sense of forecasting in place in the ordering of stock.

Question 12 was a 'Yes' or 'No' question asking whether the business prepared inventory budgets. The aim was to ascertain if the business was aware of the importance of inventory forecasting and how it can aid decision-making. Questions 13 and 14 concentrated more on the frequency of the use of the practice. Question 13 was a follow-up question where respondents were asked whether they compared their inventory ordered to the inventory budgeted. The aim of this question was to establish whether there was a process and control to establish if the inventory forecasts and plans were actually being implemented, through comparison of the budgeted amounts and the actual amounts. In Question 14, respondents were asked whether they updated inventory budgets on a regular basis. The aim was to identify whether budgeted amounts in use were realistic in nature and if small businesses were making the needed alterations when change was needed. These questions were constructed with the aim of investigating the use of planning tools in the inventory management of small businesses.

Question 15, which required a 'Yes' or 'No' response, asked whether the business conducted a stocktaking. The aim was to determine whether the small business knew about the good inventory-management practice and took account of how much stock was at hand in the business. Question 16 followed, asking the respondents to provide the frequency of stocktakes, if done. The response to this question was aimed at once again establishing the use of good inventory-management practices in small businesses. This would also ascertain how accurate the inventory records were most likely to be.

Question 17 was a ‘Yes’ or ‘No’ question probing whether the movement of inventory ordered was ever tracked. The aim of this question was to help establish if there was a sense of accountability on both the supplier and business side. It would also help establish if the business has some form of control on the delivery process, thereby reducing lead time. Question 18 was a ‘Yes’ or ‘No’ question enquiring whether the business had a dedicated staff managing the warehouse. The aim of this question was to verify how much control had been built around the inventory system when it came to the safety of the stock in the warehouse.

Question 19 was an eleven-part question which used a Likert scale rating covering the use or lack thereof of warehouse-inventory controls. In the first part, respondents were requested to rate the extent to which they agreed or disagreed with the statement of whether or not their warehouse staffs verify the delivery, receipt and storage of stock. The aim of this question was to establish whether there was a known control and communicated business policy on the delivery of stock to the business, so as to avoid theft. In the second part, respondents were requested to rate the extent to which they agreed or disagreed with the statement ‘Our warehouse staff have access to our accounting records’. The aim was to establish whether there was a clear distinction in the two duties as a lack thereof would compromise the safety of the business’s inventory.

In the third part, respondents were requested to rate the extent to which they agreed or disagreed with the statement ‘We have clear procedures followed by staff when receiving and issuing stock from our warehouse’. The aim of this question was to establish whether there was a clear distinction in the two duties since a lack of separation of duties would compromise the safety of the business’s inventory. In the fourth part, respondents were requested to rate the extent to which they agreed or disagreed with the statement ‘Access to our warehouse is restricted to authorised staff only’. The aim was to determine the risk at which the inventory was exposed to from outside theft and tempering.

In the fifth part, respondents were requested to rate the extent to which they agreed or disagreed with the statement ‘Our staff use computers to record inventory received.’ The aim was to find out whether the business was technologically advanced and was making use of computers in their inventory-management practices. In the sixth part, respondents were requested to rate the extent to which they agreed or disagreed with the statement ‘Our staff use computers to record inventory issued’. The aim was to establish whether inventory leaving the company was cleared out of the computer system. This question would also help identify if the business had a computer-based inventory system in place.

In the seventh part, respondents were requested to rate the extent to which they agreed or disagreed with the statement ‘Our staff can determine inventory balances at any time.’ The aim was to identify whether there was a good record-keeping practice in place permitting quick and prompt access to inventory balances at any time. In the eighth part, respondents were requested to rate the extent to which they agreed or disagreed with the statement ‘Our staff use a barcoding system to monitor movement of inventory in the warehouse’. The aim was to ascertain if the inventory system was automated and making use of barcoding.

In the ninth part, respondents were requested to rate the extent to which they agreed or disagreed with the statement ‘Disposal of inventory must be authorised by senior staff’. The aim was to understand if there was some form of accountability system in the inventory management of the business, which required more than one party to authorize the disposal of inventory. This would then help in understanding the level of security on the inventory of the business. In the tenth part, respondents were requested to rate the extent to which they agreed or disagreed with the statement ‘purchase order copies are sent to the storekeeper to verify delivery made’. The aim was to establish whether there was a control in place to safeguard the embezzlement of inventory in the business.

In the eleventh part, respondents were requested to rate the extent to which they agreed or disagreed with the statement ‘anomaly in inventory delivered is reported to senior personnel’. The aim was to ascertain if there was any accountability with information on any inventory discrepancies since accountability is another good measure of a good inventory-management system.

Question 20 followed, comprising six parts which provided a Likert scale so as to rate the extent to which the respondent agreed or disagreed with the statements provided. The following questions probed the reason why the business needed or did not need a warehouse. In the first part, respondents were requested to rate the extent to which they agreed or disagreed with the statement ‘We do not need a warehouse because we buy from suppliers and deliver straight to customers’. Particularly, this question was constructed with the aim to ascertain if there was a ‘Just-in-Time’ component in the inventory-management practices. In the second part, respondents were requested to rate the extent to which they agreed or disagreed with the statement ‘We do not need a warehouse because we only order an item when a customer orders from us’. The aim of this question would be to also extract any ‘Just-in-Time’ characteristics of the inventory-management practices in use. It would also help ascertain the reason for a lack of warehouses.

In the third part, respondents were requested to rate the extent to which they agreed or disagreed with the statement 'Our business is very small, so we store all our inventory within the premises'. The aim was to find out the reason for not using a warehouse, and whether it was influenced by size. In the fourth part, respondents were requested to rate the extent to which they agreed or disagreed with the statement 'We do not pile up slow-moving stock which requires a warehouse'. The aim of this question was to determine whether the small business dealt largely in fast-moving consumer goods.

In the fifth part, respondents were requested to rate the extent to which they agreed or disagreed with the statement 'We deal with perishable goods that cannot be stored in a warehouse'. The aim was to ascertain the reasons why a business used or did not use a warehousing facility. This answer would help establish whether the lack of use was a result of the 'nature of the product' sold. In the sixth part, respondents were requested to rate the extent to which they agreed or disagreed with the statement 'We need a warehouse but cannot afford one'. The aim was to ascertain whether the lack of use was due to financial constraints or preference.

Section C: Challenges faced when managing stock

This section was designed to answer the question 'What challenges are faced when managing stock by SMMEs in the Cape Metropole?' Section C comprised one question which consisted of 13 parts, all requesting the respondent to rate through a Likert scale ranging from 'Never' to 'Almost Always' the frequency in which small businesses experienced the different stock-related challenges. The question was designed after compiling a list of the most common inventory-related challenges gathered from prior studies.

In part one, respondents were requested to rate, through a Likert scale, the frequency with which they experienced running out of stock. This question aimed at establishing the frequency at which the challenge was being experienced, and thereby try to establish if good inventory-management practices were in place. In part two, respondents were requested to rate the frequency with which they experienced loss of sales resulting from a shortage of inventory. In the third part, respondents were requested to rate the frequency with which they experienced selling inventory below cost price just to dispose of it. The aim was to identify if good inventory practices were being adhered to. In the fourth part, respondents were requested to rate the frequency with which they experienced theft of inventory in the business. This would help ascertain if there was generally good inventory control to prevent theft or not.

In the fifth part, respondents were requested to rate the frequency with which they experienced physical inventory not matching up to records. The aim was to help determine if there was good record-keeping in SMMEs, which is a characteristic of good IM. In the sixth part, respondents were requested to rate the frequency with which they experienced the piling up of inventory that is not moving. This would help ascertain if there is good inventory turnover in SMMEs and therefore help establish if forecasting is being put to use. In the seventh part, respondents were requested to rate the frequency with which they experienced the inability of suppliers meeting orders made. This would help in establishing if suppliers were reliable, which is a characteristic closely related with the JIT technique. It would also help ascertain if there was good planning for ordering inventory. In the eighth part, respondents were requested to rate the frequency with which they experienced the inability to keep up with the demands of the customers. This would help examine their ordering and planning techniques, both factors which are components of a good IM system.

In the ninth part, respondents were requested to rate the frequency with which they experienced an increased number of damaged inventory. This would help establish if inventory was generally being well taken care of in the company. In the tenth part, respondents were requested to rate the frequency with which they experienced an increased number of inventory with a past expiry date. This would help ascertain how effective stocktakes were and also help zero in on the planning of inventory in SMMEs. In the eleventh part, respondents were requested to rate the frequency with which they experienced misplaced items in store that could not be traced. The aim was to ultimately establish if the IM practice in use was in fact effective. In the twelfth part, respondents were requested to rate the frequency with which they experienced errors due to incompetent staff. The aim was to help ascertain if employees were largely the cause of poor IM. In the thirteenth, respondents were requested to rate the frequency with which they experienced a rising of storage costs. This would indirectly help establish if there was an awareness of the relationship between keeping stock and holding costs.

The response to these questions would allow the researcher to ascertain which were the most prevalent challenges faced in SMMEs in the Cape Metropole, and try to ascertain if there was a link between the challenges faced and the use or lack thereof of inventory-management practices in SMMEs.

3.6 PILOT TESTING

Prior to the data collection, a pilot test was carried out on the survey instrument. The first draft of the questionnaire was handed over to a group of five individuals with experience in

research and survey-instrument design. Feedback was given on the design and particularly on issues such as sentence construction and the clarity of the questions for the target population intended. The researcher was then advised to remove certain questions which did not align with the main aim of the research, and to align sections in the questionnaire to the research objectives. On the company profile, a few more industries were added and an 'others' tab added to create more room for other industries in the FMCG industry; this was on a suggestion from the team.

Upon receiving feedback the researcher reworked and re-invented the sentence construction, clarity and relevance of the questions on the questionnaire, ultimately removing a considerable amount of questions initially added, and replacing them with relevant ones. After receiving clearance to use the final edited version, the questionnaire was tested on ten small businesses from Cape Town suburbs and it proved useful and understandable to the respondents, thereby giving clearance for the main data collection to start.

3.7 DATA COLLECTION PROCESS

The data-collection process was initiated by creating a list of all the suburbs situated in the Cape Metropole. This was done to ensure that the survey had a wide coverage of all suburbs situated in the Cape Metropole. A plan was then made to visit the suburbs with a daily target of ten completed questionnaires.

A door-to-door visit to conveniently placed SMMEs in the suburbs was conducted. Preference was given to small businesses on the main roads or in the central business district (CBD), which were easily accessible and convenient to reach. The researcher used the first five minutes of the conversation to request permission to use the business for a school research, to communicate the purpose of the research, and mention was made of the fact that the information would be used solely used for research purposes.

Respondents were encouraged to participate voluntarily. Respondents were also reminded that no compensation would be given for participation and assurance was given that there were no risks involved in participating in the survey. When potential respondents showed interest in being a part of the survey, they would be handed the consent letter for signing. Unwilling participants were thanked for their time and the next business approached.

For those who participated, the questionnaire took on average ten to fifteen minutes and in most cases where foreign nationals were the owners of the businesses, the researcher had

to read, explain and clarify the questions for them, given the language barrier. In such cases, answering the questionnaire took slightly longer than the average time indicated above.

After completing the questionnaires, respondents were thanked for their help and asked if they had any questions they would like to ask concerning the research. No questionnaires were administered via e-mail and only 9% were left for respondents to answer at their convenience. The questionnaire was administered to owner-managers, managers or designated personnel responsible for inventory. No questionnaires were e-mailed to respondents.

3.8 DATA ANALYSIS

With the data collected being numerical scores, which can be analysed, interpreted and summarised using standard statistical procedures; descriptive and inferential statistics were employed to organize, analyse, interpret and summarise the data collected. To carry this task out, the Statistical Package for Social Sciences (SPSS) version 22.0 was employed. This software is useful in the handling of complex data manipulations and analyses. It is fairly fast and easy to use. It allows the use of percentages, graphs, charts, means and a score of other useful interpretations from a simple pull-down menu. It was then decided that it would be the best to use in this survey.

The appearance of the study's research data had been anticipated and the descriptive statistics that would allow an understandable presentation of results had been planned beforehand. Descriptive statistics were therefore employed on all variables, displaying standard deviations, percentages, frequencies and means. Simple graph analysis was also employed to help show the descriptive statistics in a way which would help provide summaries on observations made in the sample. These descriptive statistics are discussed in the following chapter.

From observing and analysing the study sample, inferential statistics were also used to determine how variables relate to each other, thereby allowing a generalization to be made about the population. The Chi-square test was employed to assess the suitability of fit between the set of observed values and those expected theoretically. According to Malhotra and Birks (2011), a chi-square test is used to test the statistical significance of the observed association between the research variables. Motivation for use is due to the fact that the sampling method in use is convenient sampling and the variable under study are categorical. Cronbach Alpha test was employed to test the consistency of the statements.

3.9 RELIABILITY AND VALIDITY OF THE RESEARCH INSTRUMENT

3.9.1 Reliability of Research Instrument

Joppe (2000) defines reliability as:

"The extent to which results are consistent over time and an accurate representation of the total population under study is referred to as reliability and if the results of a study can be reproduced under a similar methodology, then the research instrument is considered to be reliable."

This extract speaks on the concept of replicability and repeatability of the observations and findings. To establish the reliability of the research instrument used, a pilot test was conducted in which the questionnaire was piloted by approaching ten SMMEs. The aim was to identify and resolve any possible ambiguity, and make sure the questionnaire was understandable and user-friendly. Possible ambiguities found were corrected and necessary alterations done to the questionnaire as a whole. In creating a valid survey instrument, the questions also drew their inspiration from extant studies as well as the study's research questions.

Primary instrument validity was gained through a pilot test of five experienced academics, all of whom were researchers with vast experience in questionnaire design. After much scrutiny, this instrument was then approved. To make sure that findings would maintain the same consistency, all respondents in the pilot study were given the same instrument to respond to without amendments, and all interviews were conducted in the same manner. The researcher's presence during the data collection also guaranteed that respondents got assistance through clarification on any questions, if any was needed.

3.9.2 Validity of the Research Instrument

Joppe (2000) provides the following explanation of what validity is in quantitative research:

"Validity determines whether the research truly measures that which it was intended to measure or how truthful the research results are. In other words, does the research instrument allow you to hit 'the bull's eye' of your research object?"

Two types of validity were taken into account in this study, namely internal validity and external validity.

3.9.2.1 Internal Validity

A number of classifications fall under this type of validity, but this study focused only on two, which are content and construct validity.

Content Validity

Content validity is concerned with a test's ability to include or represent all of the content of a particular construct. It is the degree to which all aspects of a given construct are covered by a research instruments (Leedy & Ormrod, 2005). To achieve content validity in this study, a group of highly qualified academics were approached and they provided input on the survey instrument before it was used. Feedback was given and modifications made accordingly to finally come up with the questionnaire that was consequently used in the survey.

Construct Validity

Construct validity is the term given to a test that measures a construct accurately. The construct is the initial concept, notion, question or hypothesis that determines which data is to be gathered and how it is to be gathered (Golafshani, 2003). Ultimately, construct validity answers the following questions: is the research instrument measuring what it should be measuring? Are the questions included in the questionnaire relevant for the purpose of the questionnaire (Lawrence, 2006:242).

In conjunction with the team of five academics who scrutinised the survey instrument and gave their input into what should be removed and what should be added to it; care was taken to make sure that the questions on the questionnaire were directly answering the research questions formulated at the beginning. All the questions in the survey instrument can be directly attributed to achieving one of the three objectives set at the beginning of the study.

3.9.2.2 External Validity

External validity refers to the degree to which research findings based on a sample can be generalised to the population from which the sample is taken or to other similar populations in terms of contexts, individuals, times, and settings (De Vaus, 1993:54; Leedy & Ormrod, 2005:105).

The sample size used in this study was of 127 SMMEs from different industries which included the clothing, food and beverage, cosmetics, household appliance, electrical and pharmaceutical industries. Care was also taken to get samples from the different suburbs constituting the Cape Metropole. This was done to allow for the findings to be fairly representative of the SMME industry as a whole and to permit generalisation. It is deemed, therefore, that external validity was achieved in this survey.

3.9.2.3 Cronbach's Alpha

Cronbach's Alpha is an important concept in the evaluation of assessments and questionnaires. Cronbach's Alpha is a test reliability technique that requires only a single test administration to provide a unique estimate of the reliability for a given test. It is the average value of the reliability coefficients one would obtain for all possible combinations of items when split into two half-tests (Gliem, 2013). Cronbach's Alpha reliability coefficient normally ranges between 0 and 1. George and Mallery (2003) provide the following rules of thumb:
"_ > .9 – Excellent, _ > .8 – Good, _ > .7 – Acceptable, _ > .6 – Questionable, _ > .5 – Poor, and_ < .5 – Unacceptable". Nunnaly (1978) indicated 0.7 to be an acceptable reliability coefficient. If the Alpha co-efficient is however found to be between 0.7 and 0.9, then the research instrument will be deemed to be reliable.

To enhance reliability, the researcher computed Cronbach's Alpha coefficient to determine the internal consistency of the items in the questionnaire (Cronbach, 1951). Cronbach's Alpha coefficient for Question 19 in the questionnaire was 0.871. Accordingly, the questionnaires were reliable and consistent as a Cronbach's Alpha coefficient of above 0.70 is considered a good estimate of consistency and repeatability (Bruwer, 2010:40). (See Appendix C.)

3.10 LIMITATIONS OF QUESTIONNAIRE SURVEY

Previously, in the first chapter, mention had been given to non-response as one of the limitations of the survey instrument used. Simply put, non-response is defined as a failure to collect data from a sample unit in the target population which transpires when anticipated respondents do not participate in the survey or decline (De Vos et al., 2011). Two reasons may give rise to this type of non-response. It may occur because of refusal by some units in the sample to return the completed questionnaire or when a unit provides information to some but not all of the questions in the questionnaire. This is called 'item non-response'. Item non-response may be as a result of irrelevant or sensitive questions in the

questionnaire: a question not understood or through fatigue or lack of knowledge. The size of non-response then becomes an indication of how reliable the survey data is (Okafor, 2013).

In an effort to diminish the effect of a non-response bias, care was taken to make sure that different respondents ranging from managers and owner-managers to supervisors and shop workers were approached to respond to the questionnaire from their own work angle. Respondents who were shop workers were only permitted to participate if the owner/managers provided them with permission and this was usually when owner/managers were either busy or uninterested in participating in the survey themselves. In many cases, shop workers were afraid to give any information at all unless the owner was around to give them permission. In an effort to mitigate this, the researcher would explain the aim of the study in the most simple of ways, using basic English terms to put the shop workers at ease, and therefore encourage the respondents to freely answer the questions without fear as all the information gathered was for schooling purposes, and confidentiality would be maintained.

No incentives, either material or financial, were used in the study. It was therefore fairly difficult to convince potential respondents to participate with the full knowledge that they had nothing to gain. To alleviate a huge non-response rate, careful explanation that the research was for school purposes was always given, allowing many of the respondents who were parents themselves to willingly help without incentive.

Another limitation identified in this study was a low response rate. A particular brick wall in this study was due to the political atmosphere surrounding the time when the data collection was carried out. Questionnaires were handed to respondents a few weeks after Operation Fiela was launched. Operation Fiela, which means ‘sweep clean’, was launched by the inter-ministerial committee on migration after violence against foreigners broke out in April 2016. It was meant to rid the country of "illegal weapons, drug dens and prostitution rings". However, many foreigners were deported for lack of proper travelling documents and lack of business permits during this time (Times Live, 2015: Online).

Because the tension was still in the air, there was a low response rate as many potential respondents refused to participate in anything that required giving out any form of information to unknown enquirers. Some small businesses approached refused to participate in the survey, sceptical of how the information would be used. This means that all in all, 180 businesses were approached. To mitigate non-response, the researcher made sure that face-to-face enquiries were made. This allowed a personal touch which would allow room for clear explanation and ultimately encourage participation from potential respondents.

One of the limitations was also the survey instrument, which constituted of 21 close-ended questions. A few of these questions had ten sub-questions. The survey instrument was fairly long and in many instances, when the respondents saw that it was seven pages, they would refuse to participate. To mitigate this, the researcher would explain that the questionnaire constituted mostly 'Yes', 'No' and Likert scale questions, which did not require much work. It also helped immensely when care was given to point out that the respondents were free to not answer any question they did not feel comfortable with.

Factors such as dressing were considered when going to meet potential respondents. Many of the respondents were foreign nationals, Muslim in faith, and were very conservative dressing-wise. Care was therefore taken to dress accordingly so as to reduce the rate of non-response. In addition, if a shop was busy, the researcher would proceed to other less busy shops and then return later. In instances when a request for participation was given during a busy time of the day, the potential respondents would use the 'busy day' as an excuse.

Finally, accidental sampling was used in selecting the 127 companies involved in this study. Knowing that there are thousands of small businesses in the Cape Metropole, the above sample size might not be representative of the entire population. To alleviate this problem, care was taken to approach businesses from different industries, including clothing, food and drink, household appliances, cosmetics and electrical. These were from different-sized firms, which allowed variety. An option to include other industries not mentioned was also included to give room for those businesses that did not fall into the above category.

3.11 ETHICAL CONSIDERATION

In preparation for the actual commencement of the survey, permission was sought through application for approval of the research project. The application was addressed to the Cape Peninsula University of Technology Ethical committee. Permission was consequently granted and a cover letter was formulated (which also acted as the consent letter). This cover letter would then be used as a medium to start rapport when approaching potential respondents. In the cover letter an invitation was extended to the respondent and the purpose of the study briefly explained. The name of the researcher and the institution where they are studying was also included, so that they could verify with the student card during the survey.

The respondents were also informed that the study was voluntary and that they were free to withdraw from the study at any time. An estimation of the time it would take to fill in the

questionnaire was given in the consent letter. Mention was also made that the study had been approved by the Ethics Committee of CPUT and that there was no risk involved in participating in the study. Respondents were also assured that the information provided would be treated with confidentiality and their help would benefit the SMME sector of South Africa immensely. Care was also taken to make sure respondents understood that they would receive no compensation for participating in the study.

3.12 CHAPTER SUMMARY AND CONCLUSION

In this chapter, the survey design and methodology employed in meeting the research objectives set was discussed in detail. After an introduction describing the main objectives of the research and what to expect in the chapter, the research paradigm chosen for this research was then discussed. A case for the justification of the use of the questionnaire as a survey tool was immediately given afterwards. The research population and sampling technique were then discussed. An in-depth description of the sections of the questionnaires, what they contained and why the questions were asked, was then given. The process of pilot testing then immediately followed. The data-collection process and the data analysis then followed each other. The reliability and validity of the research instrument was then discussed and limitations of the questionnaire survey chosen also explored. The ethical consideration that was taken into account was clearly and finally explained.

From the abovementioned, a conclusion can be made that the methodology outlined was appropriate for addressing the objectives of the research. The following chapter (Chapter Four) presents the analysis and discussion of the results of this research.

CHAPTER 4

DATA ANALYSIS AND DISCUSSION OF RESULTS

4.1 INTRODUCTION

The main aim of this chapter is to discuss and analyse the results obtained from the questionnaire survey conducted to investigate the inventory-management practices of SMMEs in the Cape Metropole. The chapter commences with the restatement of the research objectives in Section 4.2. Section 4.3 then follows with a discussion of the response rate. The business profiles of respondents' businesses as well as their personal profiles are then presented in Section 4.4. Section 4.5 follows with an analysis and discussion of the results on the inventory-management practices of SMMEs in the Cape Metropole. Section 4.6 analyses and a discusses the results on the effectiveness of inventory-management practices of the SMMEs, while Section 4.7 analyses and discusses the results on challenges faced by SMMEs when managing their inventory. Finally, Section 4.8 provides the summary and conclusion of the chapter.

4.2 RESTATEMENT OF RESEARCH OBJECTIVES

The main objective of this study was to determine the inventory-management practices of SMMEs in the Cape Metropole. To achieve this objective, the following sub-objectives were pursued:

- to determine the inventory-management practices of SMMEs in the Cape Metropole;
- to evaluate the effectiveness of the inventory-management practices used by SMMEs in the Cape Metropole; and
- to determine the challenges, if any, that are experienced by SMMEs from the inventory-management practice currently used.

4.3 RESPONSE RATE

The targeted population of this study comprised SMMEs from the FMCG sector operating in the Cape Metropole. Due to the fact that there is no comprehensive list of MMEs in the Cape Metropole, a target sample of 127 SMMEs was set. To achieve this target, 180 questionnaires were hand-distributed to SMMEs located in different suburbs of the Cape Metropole.

Of the questionnaires distributed, 127 usable questionnaires were returned as 53 targeted respondents declined to participate in the study. This yielded a response rate of 71%, as summarised in Table 4.1

Table 4.1: Response Rate (Source: Own source)

	Number of Respondents	Percentage (%)
Questionnaires distributed	180	100%
Questionnaires not returned	53	29%
Unusable questionnaires returned	0	0%
Usable questionnaires returned	127	71%

The response of this study was thus higher than that of a comparable study (Ngubane et al., 2015) whose response rate was 42%. It also follows Fowler's (1988) recommendation that a response rate should be above 20% to provide credible statistics about a population.

4.4 RESPONDENTS' PERSONAL PROFILE AND THEIR BUSINESS PROFILE

Section A of the questionnaire asked respondents to provide their business's profile as well as their personal profile. With regard to their business's profile, the respondents were asked to indicate the industry in which the business belonged, the number of years that the business has been in operation as well as the number of employees. The above questions were deemed appropriate to ascertain whether the business in question was an SMME operating in the FMCG sector, to qualify for inclusion in the study. As far as their personal profile is concerned, the respondents were asked to provide information on the position held in the sampled business, their highest level of qualification, and if the qualification was accounting-related. These questions were deemed necessary to ensure that only the intended respondents, namely owners and managers of SMMEs, participated in the study and that those participating were knowledgeable about the inventory-management practices of their entities.

4.4.1 Respondents' position in the business

Concerning the respondent's position in the business, the analysis of the results indicated that 71.25% of the respondents were managers, while 28.75% were the owners of the businesses (see Figure 4.1). Considering that all of the respondents were either owners or managers, it can be concluded that the appropriate respondents were selected to participate in the study as these were the key respondents that the study had targeted.

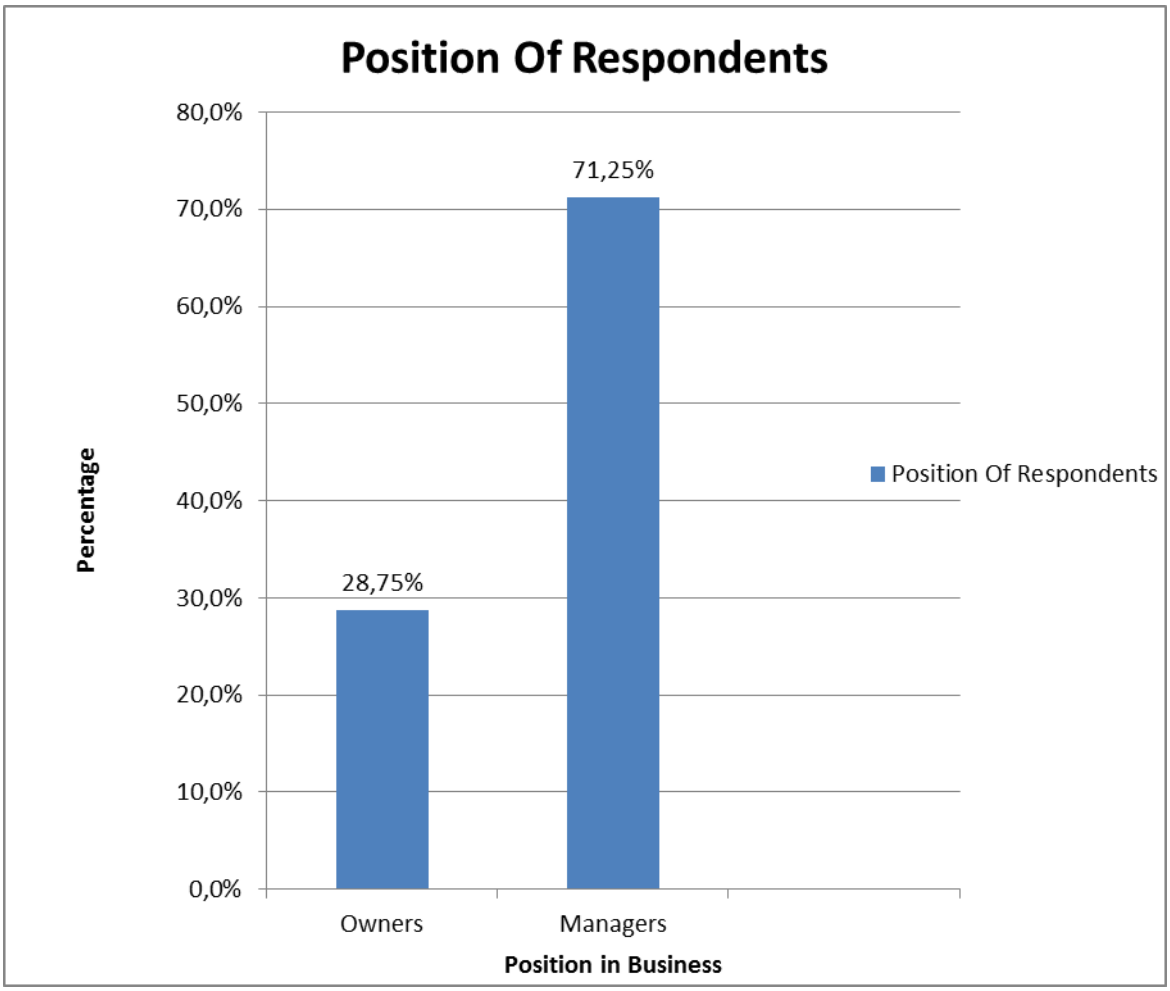

Figure 4.1: Respondents' position in the business (Source: Own source)

4.4.2 Respondents' years of experience

Regarding the number of years that the respondents had held their above-mentioned positions in their respective businesses, the analysis of the results indicated that 22.22% had held their positions for less than one year, while 49.21% indicated they had been in their positions for between one and five years (see Figure 4.2). Of the respondents, 15.08% had six to ten years' experience and only 13.49% had been in their positions for more than ten years. Therefore, 77.78% of the respondents had held their positions as either owners or managers for more than one year, and thus should be knowledgeable about the inventory-management practices of their SMME.

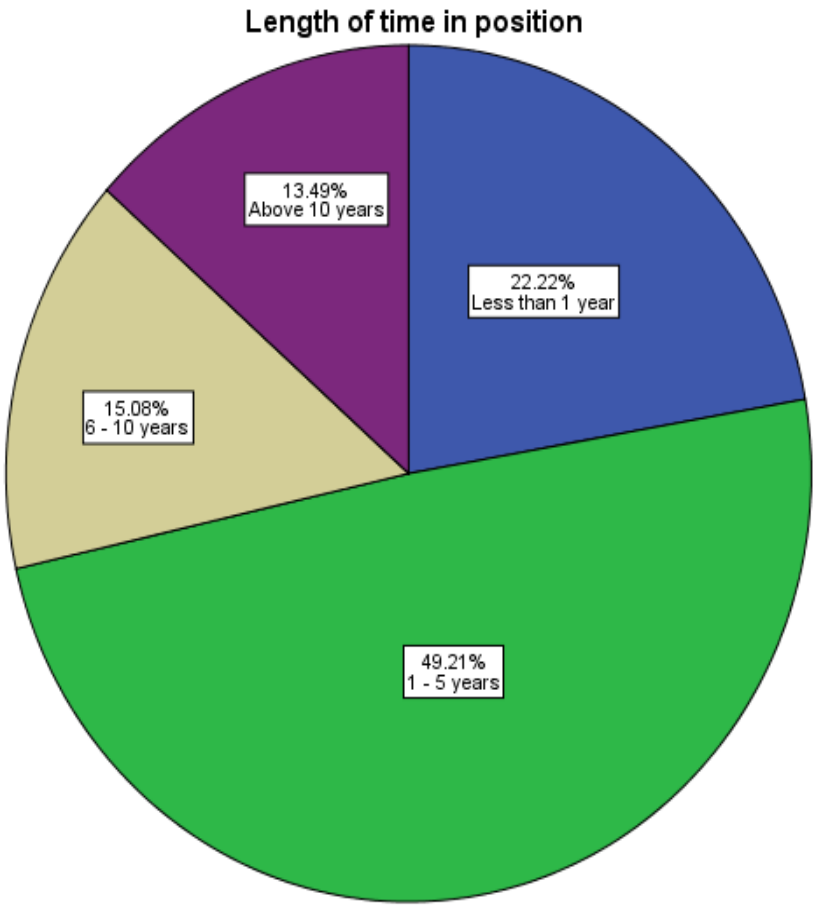

Figure 4.2: Respondents' years of experience (Source: Own source)

4.4.3 Respondents' highest level of education

As far as the respondents' highest level of qualification is concerned, the analysis of the results indicated that 44.07% of the respondents had no formal qualification but had received on-the-job-training; 36.44% had a matric certificate, while 6.78% had a diploma certificate. In addition, 5.93% had received their education from short courses; 5.08% were in possession of a Bachelor's Degree qualification, while only 1.69% had a Master's Degree (see Figure 4.3). Therefore most of the respondents (55.93%) had some form of formal education and thus should have been able to answer the questions asked competently.

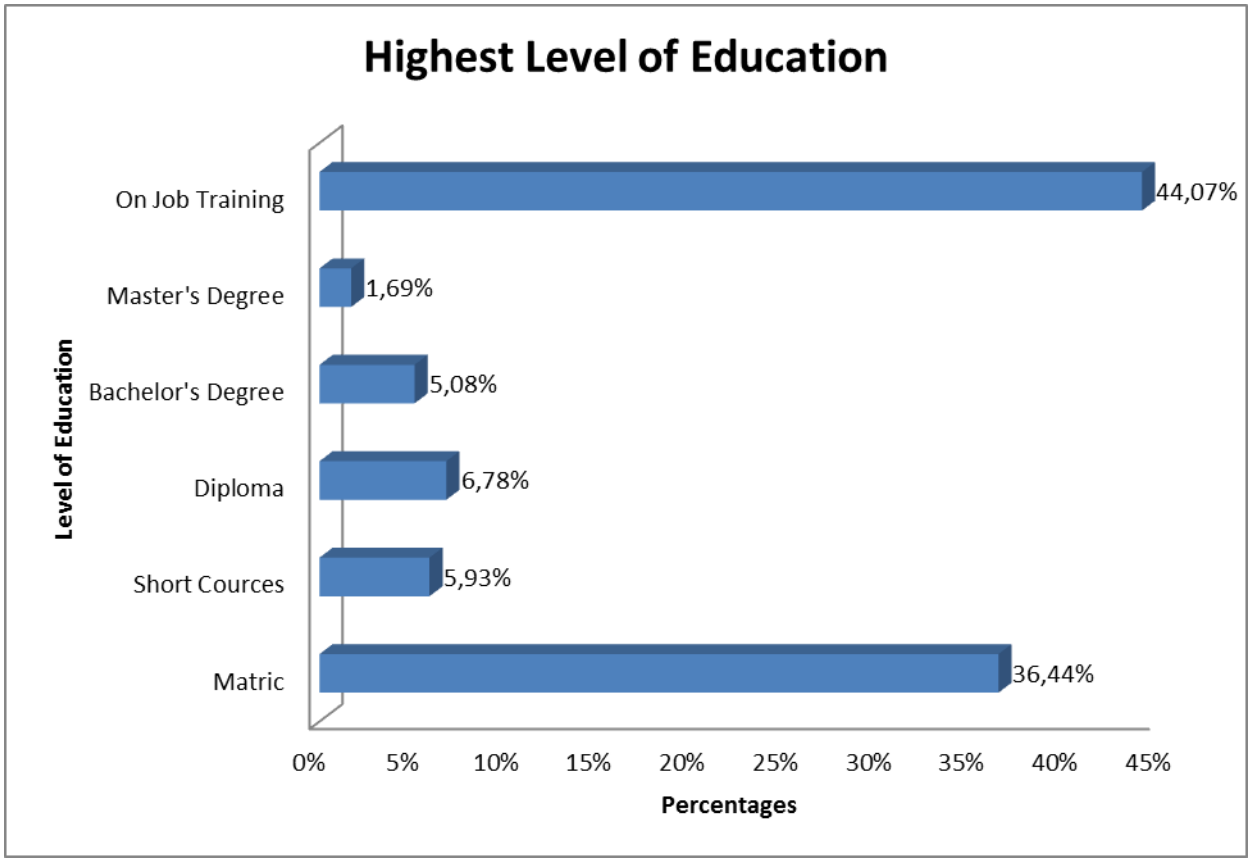

Figure 4.3: Respondents' highest level of education (Source: Own source)

4.4.4 Whether respondents' highest level of education was finance/ accounting-related

With respect to the question of whether the qualification the respondents possessed was accounting-related, 78.40% indicated that their qualification was not finance/ accounting-related, while 21.60% indicated that their qualification was in fact finance/ accounting-related (see Figure 4.4). Even though most of the respondents had not been exposed to accounting formally, it is very likely that they were using some form of accounting system to have survived in business. Besides, it is common for SMMEs to use accounting tools without knowing their technical names as they do so through on-the-job training.

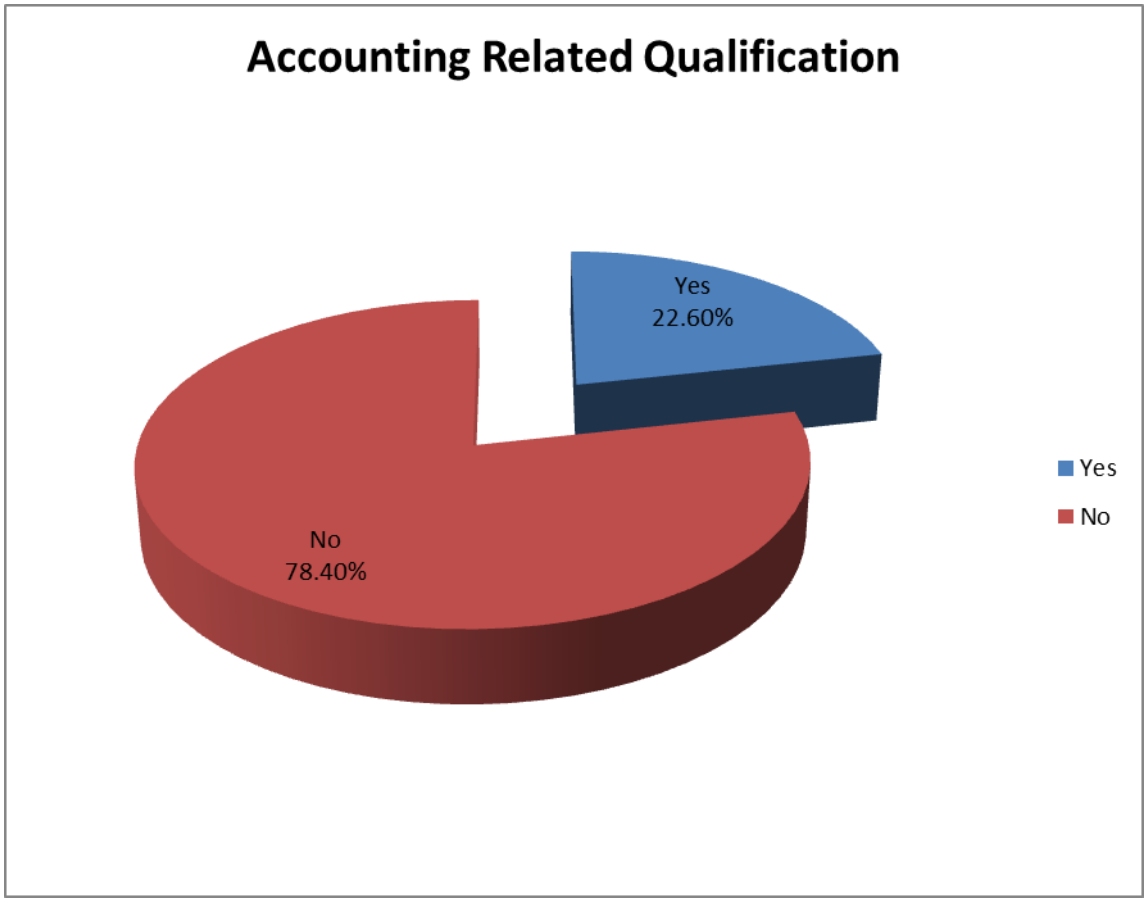

Figure 4.4: Respondents' accounting-related qualifications (Source: Own source)

4.4.5 Respondent's business length of time in operation

With regard to the length of time that the businesses had been in operation, 31.75% of respondents indicated that their businesses had been in operation for between one to five years, while 30.95% indicated that their businesses had been in operation for over ten years. Of the respondents, 27.78% indicated that their businesses had been in operation for between six to ten years, whereas only 9.52% of the respondents indicated that their businesses had been in operation for less than a year (see Figure 4.5). Given that 70% to 80% of SMMEs in South Africa fail within five years of operation (Viviers & Venter, 2003:13), and considering that 58.73% of the respondents' businesses in the current study had been in operation for more than five years, it is highly probable that these entities must have had some form of inventory-management system.

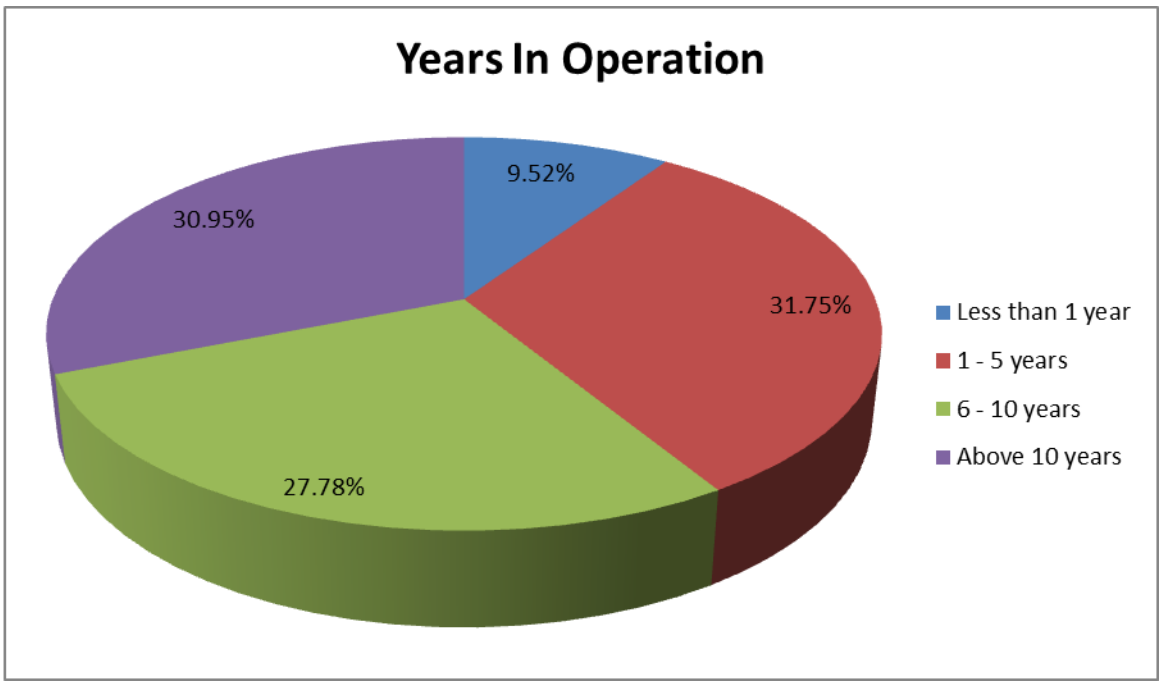

Figure 4.5: Respondents' length of time in operation (Source: Own source)

4.4.6 Respondents' business number of employees

Concerning the number of employees of the respondent's business, 73.02% of the businesses had between one to five employees (see Figure 4.6), 17.46% of the businesses had between 6 to 10 employees, while 6.35% employed between 11 to 20 employees. Businesses that employed over 20 employees were only 3.17%. Therefore all respondents were from small and micro enterprises.

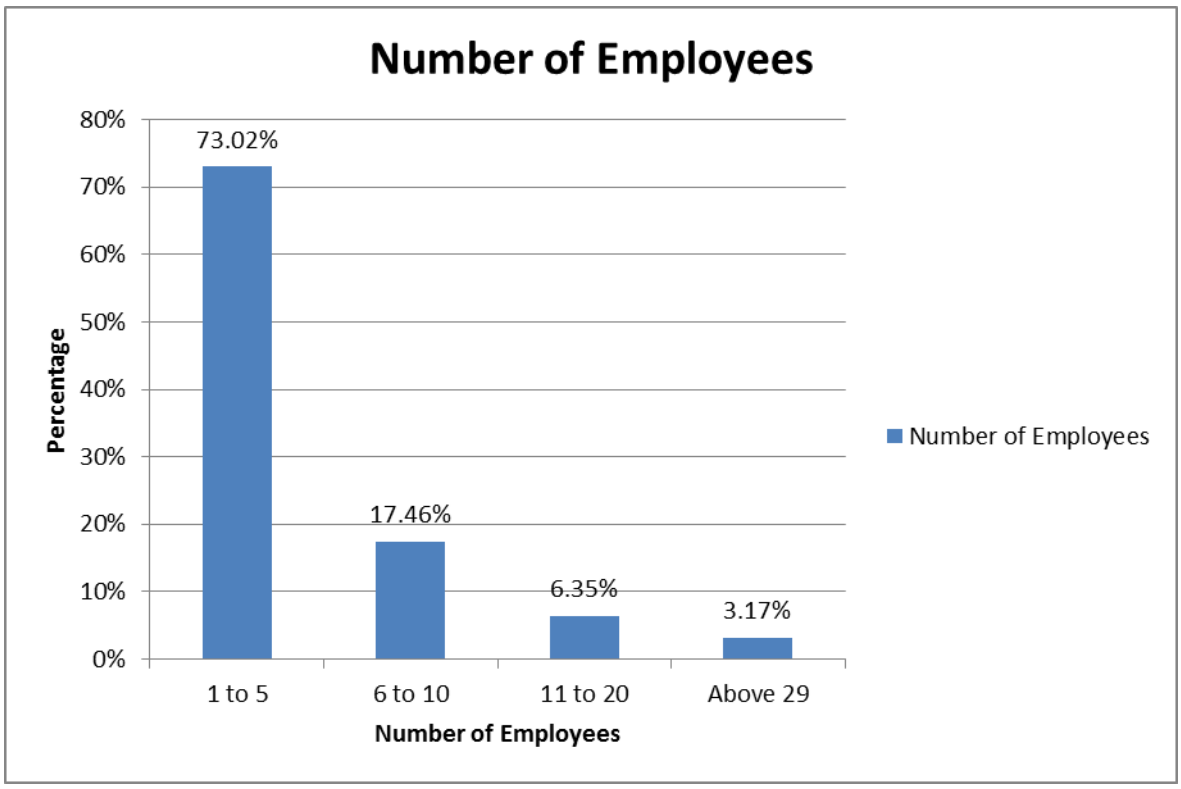

Figure 4.6: Respondents' number of employees (Source: Own source)

4.4.7 Respondents' business industry

In relation to the business industry which the respondents' businesses belonged to, the results indicated that 68.06% were from the food and beverage industry, while 19.44% were from the household and appliances industry. Of the sampled businesses, 11.11% were from the cosmetics industry while 1.39% respondents were from the pharmaceuticals industry (see Figure 4.7). All of the businesses sampled were from the FMCG sector, thus were appropriate as this is the sector that was targeted by this study.

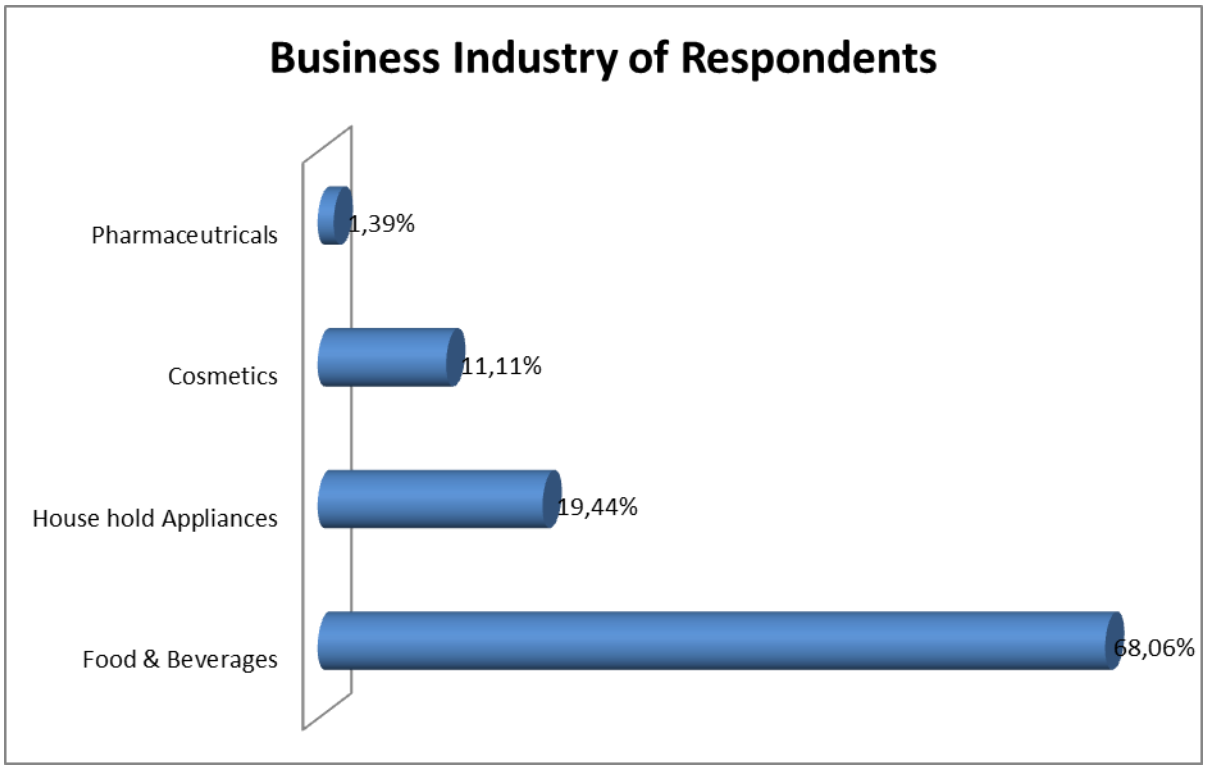

Figure 4.7: Respondents' business industry (Source: Own source)

4.4.8 Non-Response Bias

From the foregoing, a heterogeneous group of respondents that comprised owners and managers who are the knowledgeable decision-makers of SMMEs, of different education backgrounds, and from small to micro enterprises, had participated as respondents to this study. The above indicates that respondents of different persuasions had answered the questionnaire. This is alongside the high response rate of 71%, and non-rejection of any returned questionnaire reduced the possibility of the non-response bias that is typically associated with questionnaire surveys.

4.5 TYPES OF INVENTORY- MANAGEMENT PRACTICES USED BY SMMES

Section B of the questionnaire was aimed at investigating the types of inventory-management practices of SMMEs operating in the Cape Metropole. This section comprised 13 questions, specifically Question 8 to Question 20 which were in the form of Likert scale questions and 'Yes' or 'No' questions (see Appendix B).

4.5.1 Ordering of stock by SMMEs

Question 8 of Section B asked respondents to indicate the extent to which they agreed with ten statements on how their businesses ordered inventory. A five-point Likert scale was used, with weightings of one for strongly disagree, two for disagree, three for neither agree

nor disagree, four for agree and five for strongly agree. For the sake of clarity, the percentages of those who strongly agreed or agreed with a particular statement were added together and reported as the "percentage that agreed with the statement" (see Table 4.2). Therefore, those who were 'neutral' (neither agreed nor disagreed) on a particular statement were reported as having disagreed with the statement, as the words neither agree nor disagree suggest a reservation in agreeing with a statement. This approach is justified since it ensures that only those who agreed with a particular statement on how their business ordered inventory are reported as such. It has also been previously used in other studies (see Ahmad, 2012).

Table 4.2: How businesses order inventory

Number	**Statements on how the business orders inventory (stock)**	**Percentage that agreed with the statement**	**Respondents N=127**	**Standard Deviation**
			Mean	
1	We rely on common sense to determine the quantity of inventory to order	81.88%	3.65	0.801
2	We use an equation to calculate the quantity of inventory to order	14.18%	2.28	0.744
3	We order a fixed quantity of inventory periodically	11.02%	2.24	0.707
4	We order inventory in bulk to take advantage of trade discounts	80.16%	3.66	0.821
5	We order inventory when we receive an enquiry from our customer	73.22%	3.43	0.922
6	We receive our inventory automatically from our suppliers without even placing an order	17.32%	2.34	0.838
7	We order only when we run out of stock	12.6%	2.24	0.742
8	When our inventory reaches a certain level, we automatically place an order	40.16%	2.87	1.023
9	When we place an order we receive our inventory without	43.27%	2.91	1.008

	delay			
10	We order inventory from suppliers only within Cape Town	50.39%	3.00	1.084

Scale: 1 = strongly disagree; 5=strongly agree (Source: Field work)

As summarised in Table 4.2, most respondents (81.88%) indicated that their businesses rely on common sense to determine the quantity of inventory to order, while 80.16% indicated that businesses order bulk inventory to take advantage of trade discounts. Of the respondents, 73.22% indicated that their businesses ordered inventory when they received an enquiry from their customers, while 50.59% indicated that their business ordered inventory from suppliers only in Cape Town. Only 43.27% of the respondents indicated that their businesses received the inventory ordered without delay. Likewise, 40.16% of the respondents indicated that their businesses placed automatic orders when inventory reached a certain level. Among the least-frequently used practices were receiving inventory automatically from suppliers without placing an order (17.32%), use of an equation to calculate the quantity of inventory to order (14,18%), ordering only when stock runs out (12.60%) and placing fixed-order quantities periodically (11.02%).

The standard deviation of less than one for more than half of the twelve statements indicated agreement among the respondents on the above-mentioned statements on ordering. From the results above, it is likely that the a simplistic approach known as the Mini/Max inventory approach is in use, as there seems to be a dynamic adjustment of ordering levels to offer better performance. The Min/Max approach sets a minimum inventory quantity for an item and a minimum inventory quantity for that item. When the inventory level reaches the minimum quantity, a new order is placed to bring the inventory back to the maximum quantity.

The above results are consistent with those of Wallin et al. (2006), who found that owners relied on experience and intuition to make most decisions. The results of this study are also in tandem with those of Ranganatham (2011) who observed that only 27.37% of Indian SMMEs ordered a fixed quantity of inventory periodically. The frequent use of 'speculation' could be attributed to only a few owner/managers possessing a formal education on inventory management. The above results are further consistent with those of Mensah-Aygei (2012), who found that 83% of SMMEs owner/managers were ignorant of EOQ and that in general owners' experience and intuition was found to be more important for decision-making in SMMEs than the application of inventory-management information.

4.5.2 Whether businesses use warehousing space

In Question 9, respondents were asked to indicate whether or not their business used a warehouse. This question was meant to indicate the type of inventory system used by the respondent's business as those without a warehouse could be perceived to be using some form of a just-in-time system and thus saving on storage costs.

Table 4.3: Use of warehousing space

	Yes	No	P-Value
1. Use of warehousing space	55.91%	44.09%	0.05

*statistically significant differences ($p<0.05$) at 95% confidence level (Source: Field work)

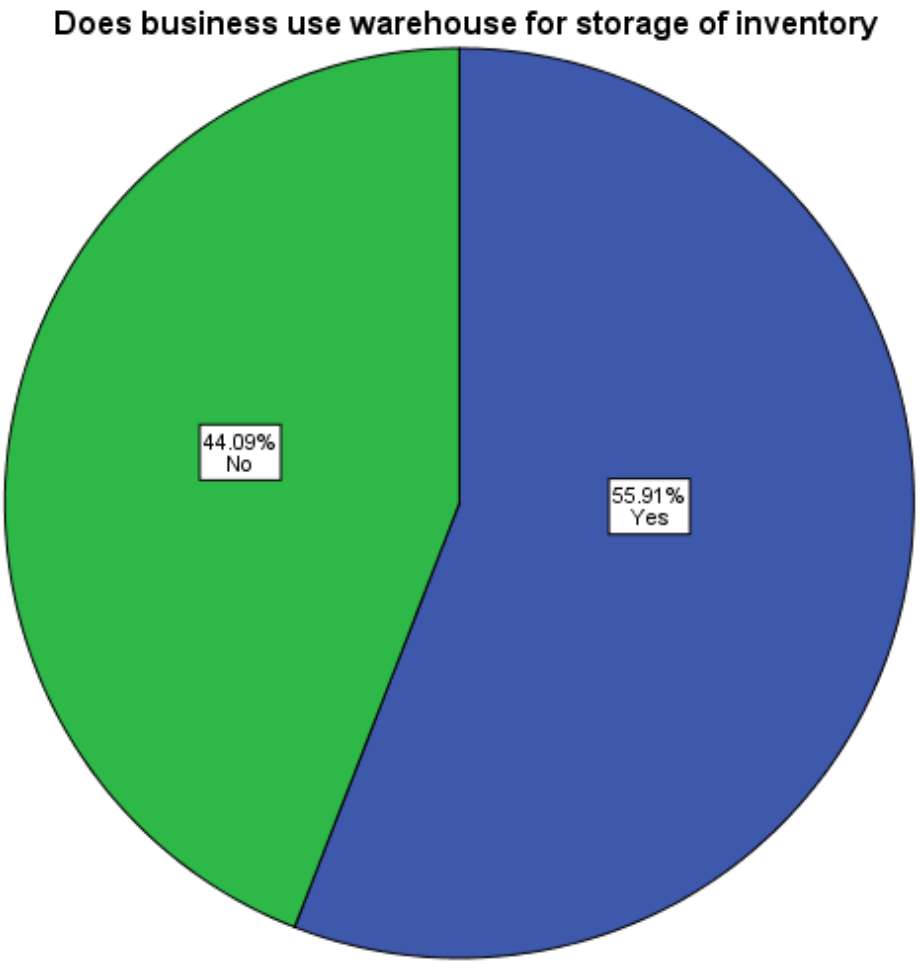

Figure 4.8: Respondents' usage of warehouse space for inventory storage (Source: Own source)

As shown in Fig 4.8, the results indicate that 55.91% of the respondents' businesses use warehouses while the remaining 44.09% do not use warehouses. A Binominal Test (2-tailed) was conducted to determine whether there was a significant difference between the

percentage of respondents who indicated that their businesses use warehouses and those that indicated that their businesses did not do the same. As shown in Table 4.3, a significant difference ($p<0.05$) was found between the proportion of the respondents whose businesses use warehouses (55.91%) and those whose businesses do not do the same (44.09%). The results (see Appendix D) are consistent with the findings of Luiz (2002) who asserts that because of their size, SMMEs generally do not use warehouses.

4.5.3 Whether businesses owned a warehouse and insured the inventory in the warehouse

Table 4.4: Safety of inventory in warehouse

Number	Statements	Percentage that agreed with the statement	Users N=125	Standard Deviation
			Mean	
1	We insure our inventory (stock) in the warehouse.	56%	3.15	1.008
2	We own our warehouse	36%	2.71	0.974

Scale: 1 = strongly disagree; 5=strongly agree (Source: Field work)

In Question 10, two follow-up statements were used to probe further on the warehousing facilities used by SMMEs. The aim was to investigate whether the inventory held in the warehouse by SMMEs was insured and whether the SMMEs owned the warehouses used for storage. As summarised in Table 4.4 above, 56% of the respondents indicated that their businesses insured the inventory in the warehouse. A standard deviation of more than one indicates disagreement on this statement among the respondents. Only 36% of the respondents indicated that their businesses actually owned the warehouse used. A standard deviation of less than one indicates agreement among the respondents on this statement.

The immediately above results, however, contrast those of Frazelle (2002), who found that warehouses are important to SMMEs as they help maintain good customer service by ensuring that products are always available. The difference between the current results and those of the prior studies above could be attributed to the timing difference between the current study and the prior studies. Simply put, the prior studies above were conducted more than 14 years ago before new concepts, such as the JIT approach which aims to eliminate storage costs, had been embraced by businesses.

4.5.4 Whether businesses plan in advance before ordering inventory

Table 4.5: Inventory budgeting, warehousing & stocktaking

	Yes	No	P-Value
1. Plan in advance before ordering inventory (stock) for the warehouse in your business.	90.3%	9.7%	0.000*
2. Prepare inventory (stock) budget in your business.	55.6%	44.4%	0.243
3. Compare inventory (stock) ordered to the budgets regularly in your business.	48.4%	51.6%	0.788
4. Update the inventory (stock) budgets regularly in your business.	43.9%	56.1%	0.207
5. Conduct stocktaking in your business	82.9%	17.1%	0.000*
6. Track the movement of inventory (stock) for the time an order is placed to the time the stock is received.	50.0%	50.0%	1.000
7. Have dedicated staff managing the warehouse.	46.7%	53.3%	0.523

*statistically significant differences ($p<0.05$) at 95% confidence level (Source: field work)

Question 11 of the questionnaire asked respondents to indicate using a yes/no question whether their business planned in advance before ordering inventory. As shown in Table 4.5, 90.3% of the respondents indicated that their businesses planned in advance before an order, while 9.7% indicated that their businesses did not do the same. To investigate if there is a significant difference between the proportion of respondents who plan before ordering inventory and those who did not plan, a Binominal Test was conducted. The results reveal a significant difference between the percentage that planned (90.3%) and the percentage that did not (9.7%) ($p<0.05$). These results are consistent with those of Bekker and Staude (1996) who stated that small business owners and managers fail to plan because of their ignorance and lack of vision which precipitates into a lack of specific objectives and ideals, a lack of information based on which to make assumptions about the future as well as a lack of discipline.

4.5.5 Whether businesses prepare inventory budgets

Question 12 asked respondents to indicate by way of a yes/no question whether or not their businesses prepared inventory budgets. As summarised in Table 4.5, results indicated that

55.6% of the respondents prepared inventory budgets while the remaining 44.4% did not prepare inventory budgets. A Binominal Test (2-tailed) was conducted and no significant difference was found between the proportion of the respondents who prepared inventory budgets (55.65%) and those who did not (44.35%) ($p<0.05$). The results of the current study are consistent with the findings of Maduekwe and Kamala (2016) who found that 67% of SMEs in the Cape Metropole used inventory budgets.

4.5.6 Whether businesses compare inventory ordered to the budgets regularly

In Question 13, respondents were asked to indicate whether or not their businesses compared inventory ordered to the budgets regularly. As shown in Table 4.5, results indicated that 48.4% of the respondents compared inventory ordered to the budgets regularly while the remaining 51.6% did not do the same. The Binominal Test (2-tailed) conducted revealed no significant difference between the proportion of the respondents who compared the inventory ordered to the budgets regularly (48.4%) and those who did not (51.6%) ($p<0.05$). The above results are to some extent consistent with Abogun and Fagbemi (2012) who asserted that for budgets to serve as effective control tools, performance measure was one of the prerequisites which were essential. Mbonyane (2006) found that ignorance was the main inhibiting factor to the preparation and correct use of budgets, which could be a possible cause for a lack of comparison of the two components.

4.5.7 Whether businesses update their inventory budgets regularly

Question 14 asked respondents to indicate, using a yes/no question, whether or not their businesses updated their inventory budgets regularly. As shown in Table 4.5, results indicated that 43.9% of the respondents indicated that their businesses updated inventory-budgets regularly, while the remaining 56.1% indicated that their businesses did not do the same regularly. A Binominal Test (2-tailed) was conducted to determine whether there was a significant difference between the percentage of respondents who indicated that their businesses updated their inventory budgets regularly, and those that indicated that their businesses did not. No significant difference was found between the proportion of the respondents who updated their inventory budgets regularly (43.90%) and those who did not update their inventory budgets regularly (56.10%) ($p<0.05$). These results are consistent with the findings of Mbonyane (2006) who found that most start-ups, especially those without experience, have no historical background based on which they could make financial projections.

4.5.8 Whether businesses conduct stocktaking

Question 15 asked respondents to indicate whether or not their businesses conduct stocktaking. As disclosed in Table 4.5, the results indicate that 82.9% of the respondents' businesses conduct stocktaking while the remaining 17.1% do not conduct stocktaking. The Binominal Test (2-tailed) conducted revealed a significant difference between the proportion of the respondents that indicated that their businesses conduct stocktaking (82.9%) and those who indicated that their businesses do not do the same (17.1%) ($p<0.05$). The preceding results concur with the findings of Fatoki (2012) which revealed that most (57.14%) of SMMEs in South Africa conducted stocktaking.

4.5.9 Frequency of stocktaking

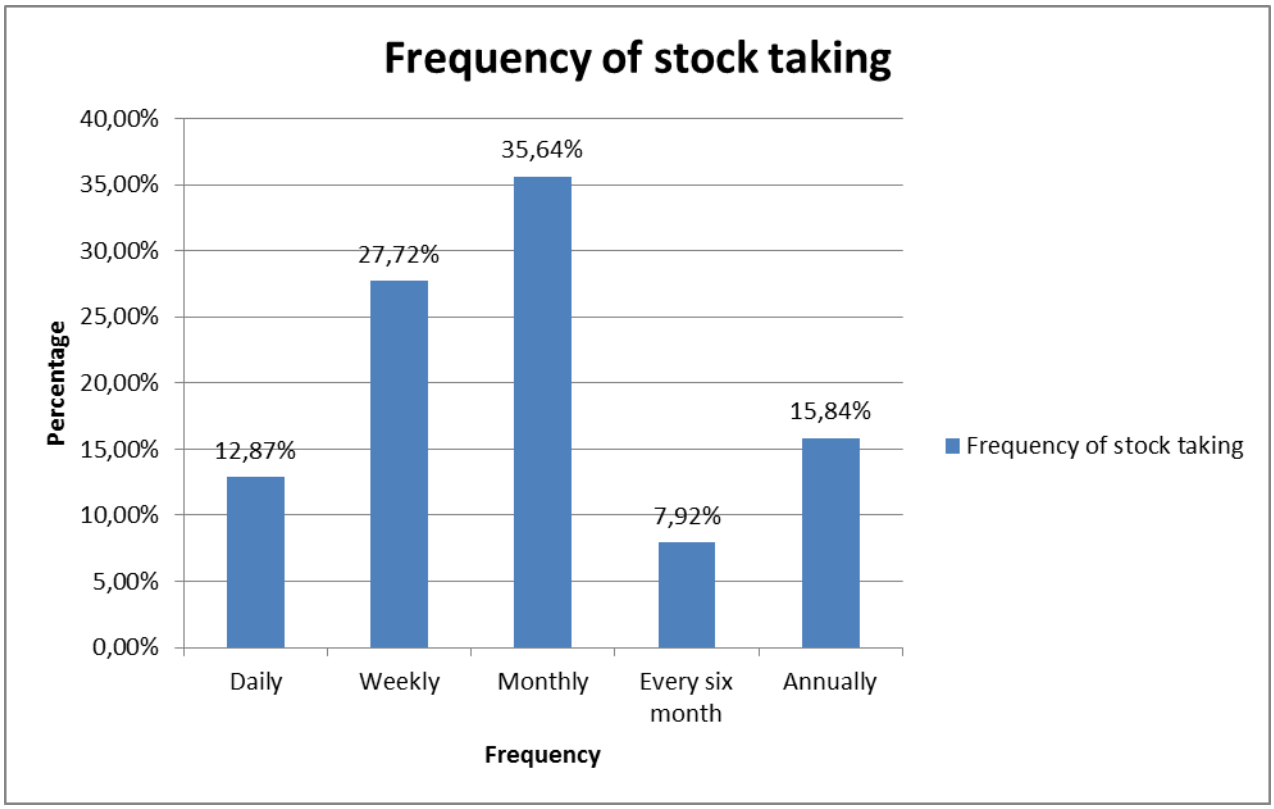

Figure 4.9: Respondents' frequency of stocktaking (Source: Own source)

Question 16 asked respondents who had indicated that their businesses conduct stocktaking to specify how often the stocktaking was conducted. The respondents were provided with six options to choose from, namely; daily, weekly, monthly, every six months, annually and other.

As illustrated in Figure 4.9, results indicate that 35.64% of the respondents' businesses conduct their stocktaking monthly; 27.72% conduct their stocktaking weekly, while 15.84% conduct stocktaking once a year. Only 12.87% of the respondents indicated that their businesses conduct stocktaking daily, while 7.92% indicated that their businesses carried out stocktaking every six months. These results are in contrast to the findings of Enow (2016) as most small businesses conduct weekly stock taking instead of monthly.

4.5.10 Whether businesses track the movement of inventory from time of order till inventory is delivered

In Question 17, respondents were asked to indicate whether or not their businesses tracked the movement of inventory from the time of ordering till the inventory is delivered. Results disclosed in Table 4.5 reveal that 50% of the respondents indicated that their businesses track the movement of their inventory while 50% indicated that their businesses do not do the same. The Binominal Test (2-tailed) conducted revealed no significant difference between the proportion of the respondents who tracked the movement of their inventory (50%) and those whose businesses do not track their inventory (50%) ($p<0.05$). The immediately preceding results are in tandem with the findings of

4.5.11 Whether businesses have dedicated staff that manage the warehouse

Question 18 requested respondents whose businesses use warehouses to indicate whether or not their businesses have dedicated staff for managing the warehouse. As summarised in Table 4.5, 46.7% of the respondents indicated that their businesses have dedicated staff that manage the warehouse, while the remaining 53.3% indicated that their businesses did not have the same. The Binominal Test (2-tailed) conducted revealed no significant difference between the proportion of the respondents whose businesses have dedicated staff for managing their inventory (46.7%) and those whose businesses do not (53.3%) ($p<0.05$). The preceding results are consistent with those of Cheruiyot (2014) who found that only 42% of Kenyan small businesses employed dedicated employees for handling issues of storage and issuance. However, the results of the current study are in contrast with those of Snyder et al. (1989) who asserted that the implementation of appropriate internal control procedures is a fundamental and important step in reducing employee theft and that small businesses therefore cannot afford to ignore this problem. Likewise, the results of the current study contrast the sentiments of Fagbulo (2009) who also stated that segregating employee duties is an important internal control-system feature for inventory management, since dividing specific duties between employees helps minimise risk and fraud by maximising inventory and supplying protection.

4.5.12 Inventory control by staff in the warehouse

Question 19 comprised 11 statements aimed at identifying the inventory controls employed by the businesses which had designated warehouse staff. The respondents were requested to indicate the extent to which they agreed with the 11 statements on a five-point Likert scale which had weightings of one for strongly disagree, two for disagree, three for neither agree nor disagree, four for agree and five for strongly agree.

For the sake of clarity, those who indicated that they strongly agreed or agreed with the statement were added together and reported as "the percentage that agreed with the statement" (see Table 4.6). Those that indicated 'neutral' (neither agreed nor disagreed) were thus conservatively reported as having disagreed with the statement. This approach is justified since it ensures that only those who agreed with a certain statement on inventory control by staff in the warehouse are reported as such. The approach has also been previously used in other similar studies (see Ahmad, 2012).

Table 4.6: Inventory control by staff in the warehouse

Number	Statements on how the business budgets, takes stock and uses warehousing facilities	Percentage that agreed with the statement	Respondent N=127	Standard Deviation
			Mean	
1	Our warehouse staff verify delivery, receipt and storage of stock	49.2%	2.99	1.016
2	Our warehouse staff have access to our accounting records	4.9%	2.11	0.486
3	We have clear procedures followed by staff when receiving and issuing stock from our warehouse	45.9%	2.93	1.026
4	Access to our warehouse is restricted to authorized staff only	50%	3.03	1.036
5	Our staff use computers to record inventory (stock) received	32%	2.64	0.937
6	Our staff use computers to record inventory (stock) issued	32%	2.64	0.937
7	Our staff can determine inventory	40.2%	2.81	0.982

	(stock) balance at any time			
8	Our staff use a barcoding system to monitor movement of inventory (stock) in the warehouse	13.1%	2.26	0.678
9	Disposal of inventory (stock) must be authorized by senior staff	86.8%	3.76	0.681
10	Purchase order copies are sent to the storekeeper to verify delivery made	15.5%	2.33	0.776
11	Anomaly in inventory (stock) delivered is reported to senior personnel	88.5%	3.79	0.658

Scale: 1 = strongly disagree; 5=strongly agree (Source: Field work)

As summarised in Table 4.6 above, 88.5% reported that any anomaly in inventory delivered is reported to senior personnel, while 86.8% indicated that disposal of inventory needs to be authorised by senior staff. Of the respondents, 50% indicated that access to the warehouse is restricted to authorised staff only. Only a minority (49.2%) of the respondents indicated that their warehouse staff verifies delivery, receipt and storage of stock. Likewise, only a minority (45.9%) indicated that their businesses have clear procedures followed by staff when receiving and issuing stock from our warehouse. Of the respondents, only 40.2% indicated that their warehouse staff can determine inventory (stock) balance at any time, while 32% indicated they used computers to record inventory (stock) received. Similarly, 32% indicated that their staff use computers to record inventory (stock) issued. Only 15.5% of the respondents indicated that in their businesses, purchase orders are sent to the storekeeper to verify the delivery made; while 13.1% indicated that they use a barcoding system to monitor movement of inventory in the warehouse. Only 4.9% of the respondents indicated that their warehouse staff has access to accounting records.

The results in the preceding paragraph concur with those of Rajeev (2008) who noted that the use of a formal inventory-ordering policy such as a fixed-quantity ordering or fixed-period ordering policy were not observed by Indian SMMEs. Instead, a random policy was followed by the SMMEs for material procurement. Likewise, the above results agree with those of Ranganatham (2011) who found relatively low usage of ‘codification’ (53.68%) among Indian SMMEs. The above results also mirror those of Rajeev (2003) who found that only 40% of Indian SMMEs sampled in his study employed computers in managing inventory. Likewise, Yiadom and Agyei (2011), found that 57% of Ghanaian SMEs used manual notebooks for recording transactions, and that less than 1% used computer software to track inventory.

4.5.13 Whether businesses need a warehouse

In Question 20, respondents were asked to indicate the extent to which they agree with six statements related to their businesses' need for a warehouse. A five-point Likert scale was used with weightings of one for strongly disagree, two for disagree, three for neither agree nor disagree, four for agree and five for strongly agree. For the sake of brevity, only those who indicated that they strongly agreed or agreed with the statement were added together and reported as "the percentage that agreed with the statement" (see Table 4.7). Those that indicated 'neutral' (neither agreed nor disagreed) were thus conservatively reported as having disagreed with the statement. This approach is justified since it ensures that only those who agreed with a certain statement on their business's need for a warehouse are reported as such. The approach has also been previously used in other similar studies (see Ahmad, 2012)

Table 4.7: Whether businesses need a warehouse

Number	Statements on whether businesses need a warehouse	Percentage that agreed with the statement	Respondent N=127	Standard Deviation
			Mean	
1	We do not need a warehouse because we buy from suppliers and deliver straight to customers	11.9%	2.22	0.714
2	We do not need a warehouse because we only order an item when a customer orders from us	2.4%	2.05	0.378
3	Our business is very small, so we store all our inventory (stock) within our premises	60%	3.22	1.036
4	We do not pile up slow-moving stock which requires a warehouse	15.2%	2.34	0.823
5	We deal in perishable goods that cannot be stored in warehouses	9.6%	2.19	0.668
6	We need a warehouse but cannot afford one	12.8%	2.26	0.739

Scale: 1 = strongly disagree; 5=strongly agree (Source: Field work)

As summarised in Table 4.7 above, 60% of respondents indicated that their businesses do not need a warehouse because the businesses are very small and therefore they store all their goods within their premises, while 15.2% of the respondents reported that their businesses did not need a warehouse because they do not pile up slow-moving stock which required a warehouse. Of the respondents, 12.8% stated that their businesses do not need a warehouse because they cannot afford one; 11.9% indicated that their businesses do not need a warehouse because they buy inventory from suppliers and deliver straight to customers. Likewise, only 9.6% specified that their businesses do not need a warehouse because they do not deal in perishable goods that could be stored in warehouses, while 2.4% indicated that their businesses do not need a warehouse because they only order an item when a customer orders from them.

The above results are consistent with the views of Luiz (2002) who asserts that because of their size, SMMEs do not have warehouses; thus instead of making large and infrequent orders, they prefer making smaller frequent orders. The results, however, contrast with the sentiments of Kallay and Imreh (2004) who assert that the level of outsourced services is low among the SMMEs because of the excessive transaction costs that arise from the resulting diseconomies of scale. Similarly, the above results of the current study also contrast those of Ngubane et al. (2015) who found that 95% of the SMMEs sampled in their study cited 'limited resources on hand' as a key factor that influences the inventory-management strategy adopted by the business.

4.6 CHALLENGES FACED WHEN MANAGING STOCK BY SMMES

Frequency of inventory-related challenges experienced by SMMEs

Question 21 asked respondents to indicate how often their businesses experienced 13 inventory-related challenges. A five-point Likert scale was employed with weightings of one for never, two for rarely, three for sometimes, four for often, and five for almost always. For the sake of clarity and conciseness, percentages of respondents who indicated that their business experienced challenges either 'often' or 'almost always' were added up together and reported as "percentage that faced challenges often" in the third column of Table 4.8. Hence, those who indicated that their business faced certain challenges sometimes or rarely were conservatively reported as never having faced the challenges as the words "sometimes" and "rarely" suggest infrequent to almost no encounter of the challenge.

Table 4.8: How often various inventory-related challenges are experienced

Number	Challenges	Percentage that experienced the challenges often	Respondents n=127	Standard Deviation
			Mean	
1.	Running out of inventory stock	4.7%	2.67	0.702
2.	Loss of sales due to shortage of inventory	8.7%	2.80	0.658
3	Selling inventory below cost price	7.1%	2.55	0.873
4	Theft	24.4%	2.63	1.107
5	Physical inventory does not match records	7.9%	2.63	0.796
6	Pilling up of slow-moving inventory	5.5%	2.64	0.675
7	Suppliers fail to meet order	2.4%	2.23	0.582
8	Unable to keep up with the demand from customers	7.9%	2.48	0.756
9	Increase in number of damaged inventory	6.3%	2.34	0.695
10	Increased number of inventory with a passed expiry	0%	1.40	0.582
11	Misplaced items in store that cannot be traced	3.9%	2.23	0.863
12	Errors due to incompetent staff	8.7%	2.21	1.001
13	Rising storage costs	1.6%	1.50	0.842

Scale: 1=never; 5=very frequently (Source: Field work)

As summarised in Table 4.8 above, theft was the most frequently encountered challenge (24.4%), followed by loss of sales due to shortage of inventory (8.7%), then errors due to incompetent staff (8.7%). The fourth most frequent challenge encountered by SMMEs was physical inventory not matching up with records (7.9%), followed by the inability of the

business to keep up with demand from the customers (7.9%), then the challenge of selling inventory below cost price (7.1%). The seventh most frequent challenge was an increase in damaged inventory (6.3%). The least frequent challenges encountered by SMMEs were piling up of slow-moving inventory (5.5%), running out of inventory (4.7%), misplaced items in the store that cannot be traced (3.9%), supplier failure to meet orders (2.4%) and rising storage costs (1.6%). Interestingly, none of the respondents indicated that their business faced an increased inventory with an expiry date (0%). This is probably due to the fact that small businesses generally do not have the finances to stock in bulk and are therefore likely to match their demand, thus avoiding keeping inventory beyond the expiry date.

The preceding results contrast with those of Kiprotich (2013) who noted that among the challenges faced by Kenyan SMEs were long holding periods, stock-out tendencies, surplus inventory, emergency ordering and supply stoppages. The above results also contrast those of Ramaswamy (2002) who observed that some of the challenges faced by SMMEs in India were a low inventory-turnover ratio resulting in a pile-up of inventory between stations. Likewise, the above results also contrast with those of Singhal (2005) who found that some of the challenges faced by Indian SMMEs were high inventory write-offs to deal with excess inventory as well as price mark-downs to dispose of excess inventory.

The above results of the current study further differ from those of Yiadom and Agyei (2011) who found that 61% of Ghanaian SMEs experienced theft as a main problem alongside unaccounted-for drawings of inventory by family members of owners of these entities.

It is also interesting to note that results of the current study reveal that the SMMEs in the sample generally experienced inventory challenges at a very low level, with theft being the most outstanding one, perhaps given the high rate of crime in South Africa.

4.7 SUMMARY AND CONCLUSION

The main aim of this chapter was to analyse and discuss the results of the questionnaire survey conducted to investigate the inventory-management practices of SMMEs in the Cape Metropole, South Africa. The chapter presented the results on the inventory-management practices of SMMEs in the Cape Metropole, the effectiveness of the inventory-management practices used by SMMEs in the Cape Metropole, and the challenges by SMMEs from the inventory-management practices currently used.

In relation to the inventory-management practices of SMMEs in the Cape Metropole, the results revealed that the most frequently used practice was common sense, which in this

case is the ‘Rule of Thumb’ method. Results showed that 81.88% of the SMMEs relied on common sense to determine the quantity of inventory to order. Ordering stock in bulk also ranked high (80.16%) among the most-used inventory-management practices, while ordering inventory when customers enquire also ranked high with 73.33% using this criteria. Of the SMMEs, 50.39% bought from suppliers located in Cape Town, a characteristic that is consistent with the JIT practice, while 43.27% received inventory without delay. Similarly, 40.16% automatically placed an order when inventory reached a certain level. This is a sign that the SMMEs are either computerised or have very good manual record-keeping systems and have good stocktaking practices.

Amongst some of the less frequently used inventory practices was the receipt of inventory automatically from suppliers without placing an order (17.32%). This is an indication of the limited use of automated ERP inventory systems in SMMEs. Another less frequently used practice was the use of an equation to calculate the quantity of inventory to order (14.18%), which is a characteristic attributed to the EOQ technique. Similarly, ordering when the business runs out of stock was also not among the frequently used practices (12.6%). Ordering when stock runs out is a characteristic attributed to the JIT technique. The least frequently used practice was ordering a fixed quantity of inventory periodically (11.02%).

With regard to the use of warehouses for storage, results revealed that 55.91% of the SMMEs used warehouses while 44.09% did not use warehouses. Regarding insuring the stock in the warehouse, 56% of the respondents agreed that they insure their inventory and only 36% owned their warehousing facilities. Of the SMMEs, 90.3% planned in advance before ordering inventory for the warehouse, while 55.6% prepared inventory budgets as a form of planning. Only 48.4% of SMMEs compared inventory ordered to the budgets regularly, while 43.9% updated the inventory budgets regularly.

Of the SMMEs, 82.9% conducted stocktaking albeit less frequently as 12.87% did so daily, 27.72% weekly, 35.64% monthly, 7.92% every six months while 15.84% did the same annually. Exactly 50% of the SMMEs tracked the movement of inventory from the time an order was placed to the time the stock was received, while 46.7% had dedicated staff managing their warehouses.

As far as the inventory control put in place by the staff in the warehouse, 88.5% or respondents agreed to requiring any anomaly in inventory delivered reported to senior personnel; 86.8% of the respondents agreed to requiring authorisation from senior staff to dispose of any inventory, while 50% of the respondents agreed to having access to their warehouse only restricted to authorised staff. Furthermore, 49.2% of the respondents agreed

to their warehousing staff verifying delivery; 45.9% of the respondents had clear procedures followed by staff when issuing stock from their warehouse, whereas 40.2% of the respondents could have their staff determine the inventory balance at any time. Notwithstanding the importance of having a computerised inventory system, only 32% of the respondents used computers to record inventory received, while 32% of the respondents also agreed to their staff using computers to record inventory issued. In addition, only 15.5% of the respondents agreed to sending purchase-order copies to the storekeeper to verify delivery made despite the dangers of failing to separate the two duties, while 13.1% of the respondents used a barcoding system to monitor movement of inventory in their warehouse. Finally, 4.9% of the respondents still confirmed that their warehouse staff also had access to accounting records, even though this was a breach of security.

With regard to the need for a warehouse, 60% of the SMMEs stored their inventory within their premises, given the small size of their businesses (and consequently stock). In addition, only 15.2% did not pile up slow-moving stock and thus did not require a warehouse. By contrast, 12.8% of the SMMEs required a warehouse but could not afford one, while 11.9% of the SMMEs did not need a warehouse as they bought from suppliers and delivered straight to customers, a characteristic prevalent in the JIT technique. Of the sampled SMMEs, 9.6% did not deal with perishables and as such did not find it necessary to have a warehouse. Only 2.4% of the SMMEs ordered items when a customer placed an order and thus did not need a warehouse.

Regarding the challenges faced by businesses when managing stock, 24.4% of SMMEs identified theft as a challenge, while 8.7% perceived experiencing loss of sales due to shortage of inventory as a challenge. Likewise, 8.7% perceived incurring errors due to incompetent staff as a challenge. Among the other challenges experienced by a smaller percentage of SMMEs were physical inventory not matching up with records (7.9%), inability of the business to keep up with the demand of the customers (7,9%), selling inventory below cost price (7.1%), increase in damaged inventory (6.3%), piling up of inventory not moving (5.5%), running out of inventory (4.7%), misplaced items in the store that could not be traced (3.9%), incurred supplier's failure to meet orders (2.4%) and rising storage costs (1.6%). None of the SMMEs (0%) incurred an increased number of inventories with an expiry date.

From the above results, it can be concluded that sampled SMMEs in the FMCG sector of the Cape Metropole appear to be using 'Rule of Thumb' and the Just-in-Time technique as their main inventory management techniques. Additionally, SMMEs practising any inventory-management practice are doing so effectively, as the rate at which they are facing

challenges is generally low. Theft was the most incurred challenge and it was only incurred by 24% of the SMMEs. Furthermore, more than 50% of respondents agreed to practising planning, budgeting, stocktaking, segregation of duties, and accountability.

The next chapter (Chapter Five) presents the summary and conclusion of this study.

CHAPTER FIVE

SUMMARY AND CONCLUSIONS

5.1 INTRODUCTION

The main aim of this study was to determine the inventory-management practices of SMMEs in the Cape Metropole. This study was motivated by the dearth of research on inventory-management practices of SMMEs in the South African context. To achieve the afore-mentioned aim, a questionnaire survey was conducted.

This chapter summarises the key findings of the survey and draws conclusions on the inventory-management practices of SMMEs operating in the Cape Metropole, the effectiveness of their inventory-management practices as well as the challenges encountered by these entities when using the practices. In addition, this chapter provides the contributions of this study, discusses its limitations and provides suggestions for further research.

This chapter commences with a restatement of the research problem and research objectives presented in Chapter One, in Section 5.2. This is followed by a summary and conclusion of the literature review on the inventory-management practices presented in Chapter Two, in Section 5.3. Section 5.4 then provides a summary and conclusion of the research design and methodology used in the study, presented in Chapter Three. This is then followed by Section 5.5 which provides a summary and conclusion of the analysis and discussion of results of the study, presented in Chapter Four. Section 5.6 provides the contribution and significance of this study. The limitations of the study are then covered in Section 5.7 while suggestions for further studies are provided in Section 5.8.

5.2 CHAPTER 1 - RESEARCH PROBLEM, QUESTION AND SUB-QUESTIONS

5.2.1 Problem Statement

The research problem addressed by this thesis is that SMMEs in South Africa are perceived to be failing partly due to a lack of effective inventory-management practices.

5.2.2 Purpose Statement

The main purpose of this study was to determine the inventory-management practices of SMMEs in the Cape Metropole.

5.2.3 Main research question

The main research question addressed in this study is: “What inventory-management practices are used by SMMEs in the Cape Metropole to manage their inventory?”

5.2.4 Research sub-questions

1. What inventory-management practices are used by SMMEs in the Cape Metropole?
2. How effective are the inventory-management practices used by SMMEs in the Cape Metropole?
3. What challenges, if any, are experienced by SMMEs from the inventory-management practice currently used?

5.3 CHAPTER 2 – SUMMARY AND CONCLUSION OF PRIOR LITERATURE ON INVENTORY-MANAGEMENT PRACTICES

The central aim of Chapter Two was to review and summarise the prior literature on inventory-management practices of SMMEs. The chapter commenced with a definition of SMMEs, their classification and importance to the South African economy. In addition, inventory management was defined and the importance of effective inventory-management practices to SMMEs discussed. Various models/systems employed to manage inventory were also discussed. The chapter then reviewed prior studies on the inventory-management practices, their effectiveness and challenges faced by SMMEs when managing their inventory.

Concerning inventory-management practices, the review of the prior studies revealed that the most commonly used method was the Rule of Thumb which involved ‘speculation’. The studies also concurred that many owners/managers of SMMEs based their inventory-related decisions on their experience rather than formal methods, an aspect attributed largely to a lack of knowledge on effective inventory-management practices as well as their ignorance on the importance of effective inventory-management practices. The review further revealed that there was generally a low usage of formal inventory-management practices among small businesses due to financial constraints.

With regard to the effectiveness of inventory-management practices employed, the review of the prior studies revealed that there was still a certain level of passivity when it came to consistency in carrying out inventory-management practices. Some of the prior studies also revealed some SMMEs still relying on manual methods of stock control, and that a majority of SMMEs did not use stock optimisation techniques. Besides, the studies revealed a

disconnection between knowledge of SMMEs owners on inventory management and the effective practical application thereof.

Relating to the challenges faced by SMMEs when using inventory-management practices, prior studies revealed a number of challenges among which included: high set-up costs, a lack of computer skills and an inability by owners/managers to acknowledge or appreciate the importance of effective inventory-management practices. Some studies indicated a lack of proper forecasting and a lack of financial skills as a challenge faced by SMMEs when managing inventory, given the limited formal education of owners/managers. Finally, the above review of prior studies identified knowledge gaps, which were then used to formulate the research questions investigated in this study.

5.4 CHAPTER 3 – SUMMARY AND CONCLUSION OF RESEARCH DESIGN AND METHODOLOGY

Chapter Three described the research design and methodology used in the collection of data required to address the research questions posed above. Commencing the chapter was a discussion on the main objectives of the research followed by a brief discussion of the research paradigm chosen for this study. The chapter then justified the questionnaire survey methodology used to gather data and discussed the research population as well as the sampling technique employed. This was followed by an in-depth description of the sections of the questionnaire as well as a discussion of the pilot test that was conducted. The data collection process was then discussed followed by the data collection methods used. Thereafter, was a discussion of how the reliability and validity of the research instrument was tested as well as the limitations of the questionnaire survey. The chapter then discussed the ethnical consideration and finally presented a summary and conclusion which affirmed that the research methodology adopted in the current study was appropriate for addressing the research questions posed in the study.

5.5 CHAPTER 4 – SUMMARY OF ANALYSIS AND DISCUSSION OF RESULTS

Chapter Four analysed and discussed the results of the questionnaire survey which addressed the research question and sub-questions of the study. The chapter commenced with a restatement of research objectives as well as a discussion of the response rate. The business profiles of respondents' businesses as well as their personal profiles were then discussed. This was followed by an analysis and discussion of the results on the inventory-management practices of SMMEs in the Cape Metropole. Thereafter, an analysis and discussion of the results on the effectiveness of inventory-management practices of the

SMMEs were presented. This was followed by an analysis and discussion on the challenges faced by SMMEs when managing their inventory. The summary and conclusion of the chapter were then presented.

5.5.1 Population, response rate, respondents' and business profiles

The population of this study comprised FMCG SMMEs operating in the Cape Metropole. Given the lack of a comprehensive database of all FMCG SMMEs operating in the Cape Metropole, a target sample size of 127 SMMEs was set. To meet this target, 180 questionnaires were distributed using the convenient sampling technique. Accordingly, 127 usable questionnaires were returned, resulting in a response rate of 70.6%, which is a higher rate than that achieved in a comparable similar study by Ngubane et al. (2015).

With regard to respondents, the analysis of the results indicated that 71.25% of the respondents were managers, while 28.75% were the owners of the business. Concerning the years the respondent has been working in the business, over 75% of the respondents had more than a year's experience in the business and were therefore expected to be familiar with the inventory-management practices of their SMMEs. As far as the highest level of education of respondents is concerned, about 44.07% had on the job training, 36.44% possessed a matric certificate as their highest level of education, while 6.78% had a diploma certificate. In addition, 5.93% had received their education from short courses, 5.08% were in possession of a Bachelor's Degree qualification and only 1.69% had a Master's Degree.

In relation to whether the qualification was accounting related, 21.60% indicated that their qualification was accounting related while 78.40% did not possess an accounting related qualification. The respondents were thus expected to have knowledge on inventory management and therefore be in a position to answer the questionnaire effectively. Regarding the length the business had been in operation, 31.75% had been in operation for between one to five years, 30.95% had been in operation for over ten years, 27.78% had carried out business for between six to ten years, while 9.52% had been in operation for less than a year.

Concerning the number of employees in the respondent's business, 73.02% indicated their businesses had between one to five employees, while 17.46% of the businesses had between six to ten employees. 6.35% indicated that they had employed between eleven to twenty employees whereas 3.17% of respondents employed over 20 employees. With reference to the industry of the respondent's businesses, results indicated that 68.06% were in the food and beverage industry, 19.44% of the businesses were in the household and

appliances industry, while businesses in the cosmetics industry were 11.11%. Of the respondents, 1.39% indicated they were in pharmaceuticals. The abovementioned confirmed that the sample was derived from the FMCG sector and constituted of businesses in the micro and small enterprises therefore respondents would be appropriate participants for this survey.

5.5.2 Inventory-management practices used by SMMEs

Relating to the inventory-management practices of SMMEs in the Cape Metropole, the results revealed that 81.88% of the respondents relied on common sense to determine the quantity of inventory to order. Those who ordered stock in bulk were 80.16%, while those that ordered inventory when customers enquire were 73.33%. Of the respondents, 50.39% indicated that their suppliers were in Cape Town, 43.27% of the respondents agreed to receiving inventory without delay, while 40.16% of the respondents agreed to automatically place an order when inventory reached a certain level.

Amongst some of the less frequently used inventory practices was the receipt of inventory automatically from suppliers without placing an order (17.32%), the use of an equation to calculate the quantity of inventory to order (14.18%), while ordering when the business ran out of stock was also among the less frequently used practices (12.6%). The least frequently used practice was ordering a fixed quantity of inventory periodically (11.02%).

5.5.3 Use of warehousing

With regard to the use of warehouses for storage, results revealed that 55.91% used warehouses while 44.09% did not use warehouses. With respect to insuring the stock in the warehouse, 56% of the respondents whose businesses used a warehouse agreed that they insure their inventory, while only 36% owned their warehousing facilities. Of the respondents whose businesses used a warehouse, 90.3% planned in advance before ordering inventory for the warehouse, while 55.6% of respondents prepared inventory budgets as a form of planning. Only 48.4% of respondents, whose businesses used a warehouse, compared inventory ordered to the budgets regularly, while 43.9% updated the inventory budgets regularly.

5.5.4 Stocktaking

As far as stocktaking is concerned, 82.9% of respondents agreed to conducting stocktaking and when asked how frequently, 12.87% said daily, 27.72% weekly, 35.64% monthly, 7.92%

every six months while 15.84% responded with annually. Of the respondents, 50% tracked the movement of inventory from the time an order was placed to the time the stock was received, while 46.7% employed dedicated staff for managing their warehouses.

5.5.5 Warehousing Controls

Concerning the inventory control measures put in place by small businesses in their warehouses, 86.8% of those using a warehouse indicated that disposal of inventory needed to be authorised by senior staff, 88.5% agreed that they required any anomaly in inventory delivered reported to senior personnel, while 50% indicated that access to the warehouse is restricted to authorised staff only. In addition, only 49.2% of the respondents using warehouse indicated that their warehouse staff verify delivery, receipt and storage of stock; 45.9% indicated that their businesses have clear procedures followed by staff when receiving and issuing stock from our warehouse, while 40.2% indicated that their warehouse staff can determine inventory (stock) balance at any time. Also notwithstanding the importance of having a computerised inventory system, only 32% of the respondents used computers to record inventory received, while 32% of the respondents also agreed to their staff using computers to record inventory issued. Additionally, only 15.5% of the respondents indicated that in their businesses, purchase orders are sent to the storekeeper to verify the delivery made, 13.1% indicated that they use a barcoding system to monitor movement of inventory in the warehouse, while 4.9% of the respondents indicated that their warehouse staff have access to accounting records.

5.5.6 Reasons for lack of warehousing facilities

With regard to businesses that did not have a need for a warehouse, the results revealed that the size of business (60%), not piling up enough stock that needs a warehouse (15.2%) and an inability to afford the cost (12.8%), were some of the reasons their businesses did not own a warehouse. In addition, the results also showed that buying straight from the supplier and delivering straight to customers (11.9%), not dealing in perishables (9.6%) and ordering items when customers placed an order (2.4%) were some of the other reasons small businesses did not own a warehouse.

5.5.7 Challenges faced in the usage of Inventory-management practices

With respect to challenges faced by businesses when managing stock, results revealed that theft (24.4%), shortage of inventory (8.7%), errors due to incompetent staff (8.7%), physical inventory not matching up with records (7.9%) and an inability to keep up with the demand of

the customers (7.9%) were some of the challenges faced. In addition, challenges such as selling inventory below cost price (7.1%) and an increase in damaged inventory (6.3%) were identified. However, only a minority of SMMEs experienced piling up of inventory not moving (5.5%), running out of inventory (4.7%), misplaced items in the store that could not be traced (3.9%), supplier's failure to meet orders (2.4%) and rising storage costs (1.6%) as challenges. Finally, the findings revealed that 0% of the respondents incurred an increased number of inventories with an expiry date which means that the forecasting techniques SMMEs were using were effective, though they were generally informal techniques.

5.6 CONTRIBUTIONS, SIGNIFICANCE AND RECOMMENDATIONS OF THE STUDY

5.6.1 Contribution of this study

This study makes several contributions to inventory-management practices literature. It is the first study to investigate the usage of inventory-management practices in SMMEs in the Cape Metropole FMCG sector. Consequently, it fills the gap in knowledge through the investigation of the inventory-management practices primarily used by SMMEs. SMMEs are generally neglected in research as they lack financial resources required to finance their own research at the level that larger entities do.

Secondly, unlike the prior studies which covered inventory management as an implied 'technique' under the broader topic of 'working capital management', this study focused on inventory-management practices of SMMEs thus provided a more in-depth account of the practices of these entities, their effectiveness and challenges when managing inventory.

Thirdly, most prior studies covered larger entities and very few focused on SMMEs. This study therefore adds to the body of knowledge insights on inventory-management practices of small businesses, which are the lifeblood of the South African economy.

Fourthly, this study is also significant to academics who can adopt and adapt the research methodology and questionnaires employed in this study to explore other inventory-management practices not encompassed in this study. It can also be significant to academics who may replicate the survey in other sectors and areas and even among micro entities in order to confirm the validity of the findings of this study.

Fifthly, this study investigated four key inventory-management practices while other prior studies examined the use of one singular IM practice. The results of this study thus provide a

rich and broad spectrum of knowledge which will greatly add to the already existing body of knowledge.

Finally, the findings can also be used in curriculum creation by using the direction the results of this study have provided to give structure on short courses that can be offered in training institutions. These courses can then be offered specifically to small businesses and used to improve the usage of best inventory-management practices among SMMEs.

5.6.2 Significance of the study

Findings from this study should be significant to SMMEs decision-makers such as business owners, warehousing facility owners, supply-chain managers, just to mention a few. Decision-makers will acquire a better appreciation of inventory budgets, bulk buying, ordering techniques, stocktaking, inventory forecasting, use of warehousing facilities, barcoding and inventory-related challenges which they can then implement and manage for better profitability.

The Department of Small Business Development tasked with promoting SMMEs can also benefit from this study as inventory management challenges continue to prove to be one of the factors affecting SMMEs' survival or failure. This is particularly important as most SMME owners lacked accounting background and only had a matric certificate. The department can therefore facilitate trainings and workshops on this topic to small business owners. Findings from this study can also provide direction on the important topics to cover.

This study can also assist the Government in establishing interventions for SMMEs and bettering the already existing ones, thereby enhancing the survival of these entities. Findings in this study can provide the effectiveness of inventory-management practices currently used by SMMEs and thereby aid in channelling the Government's focus on resource allocation, training, guideline, and regulation to inventory-management-related policies.

5.7 LIMITATIONS OF THE STUDY

Granted that the study carries invaluable insights to the body of knowledge, it however also has its own limitations which are provided below:

- The study was only limited to small and medium enterprises in the Cape Metropole FMCG sector.

- The other limitation of the study was that some respondents were reluctant to give information that they considered sensitive and confidential to their organisation. Data collection was just after the 'Operation Fiela' aftermath. Operation Fiela (which means 'sweep' in Sesotho) is an ongoing joint operation by SAPS aimed at eliminating criminality and general lawlessness from South African communities and part of its focus was combating crime by searching business premises for illegal activities and compliance with by-laws. Respondents were therefore generally protective of any information concerning their businesses. However, as a mitigation strategy, the researcher assured respondents of data confidentiality by not obliging them to provide their identity on the data-collection instrument.

- The respondents for this study were largely owner/managers and a few shop floor assistants. There was a possibility that their views could be more inclined to portraying themselves and their entities as financially and technically sound. In other businesses, the respondents may not have been the only decision-makers.

- The use of self-administered questionnaire surveys is a limitation in that this type of instrument has several well-known pitfalls such as the respondent controls the survey, lack of monitoring, low-response rate and unintended respondents completing the questionnaire.

- Although inferential statistics would have added more value to this study, the researcher elected to only use descriptive statistics.

- Only Economic Order Quantity (EOQ), Just-in-Time (JIT), ABC Analysis and Rule of Thumb were used in this study, and the study implied that they were the most frequently used practices among the SMMEs.

In spite of the aforementioned limitations, the findings in this study are of significance to the body of knowledge-inventory management. Consequently the contribution of the study outweighs its limitations.

5.8 SUGGESTIONS FOR FURTHER RESEARCH

Suggestions for future research are made based on the inherent limitations of this study.

Firstly, a follow-up study can also be carried out on the same topic in the Cape Metropole to monitor and evaluate improvements in the usage of inventory-management practices.

Secondly, future researchers can also consider conducting a comparative study which will compare the usage of inventory-management practices in the Cape Metropole to the usage of the same in another province or another Metropole. Further studies could also be undertaken to compare the usage of inventory-management practices by the SMMEs of South Africa to the usage of the same in other countries.

Thirdly, future researchers should consider investigating the usage of other types of Inventory-management practices such as ERP as the world is fast warming up to inventory-management software packages, which are increasingly becoming popular.

Fourthly, future studies could also consider using bigger sample sizes to fully understand the inventory-management practices of SMMEs. Lastly, most of the questions used in this study to determine inventory management were Likert scale questions. In future, further research can also create a balance between Likert scale questions and open-ended interviews. This will help in establishing an in-depth analysis on inventory-management practices under investigation.

BIBLIOGRAPHY

Abogun S. and Fagbemi, T.O. 2012. The efficacy of budgeting as a control measure on developing economies: A Study from Nigeria. Asian Journal of Social Science. 8(1).

Achanga, P., Shehab, E., Roy, R. and Nelder, G. 2006. Critical success factors for lean implementation within SMEs. *Journal of Manufacturing Technology Management*, *17*(4), pp.460-471.

Agyei, S.K. and Marfo-Yiadom, E. 2011. Dividend policy and bank performance in Ghana. *International Journal of Economics and Finance*, *3*(4), p.202.

Ahmad, K. 2012. The use of management accounting practices in Malaysian SMEs.

Amra, R., Hlatshwayo, A. and McMillan, L. 2013, September. SMME employment in South Africa. In *biennial Conference of the Economic Society of South Africa, Bloemfontein*.

Antonites, A.J. 2003. An Action Learning Approach to Entrepreneurial activity, innovation and opportunity finding. PhD. University of Pretoria. [Online]. Available: http://74.125.77.132/search/q=cache.DIZnExwD91tmw.j.ftp/ftp.zew.de/pub [Accessed: 05 July 2016].

Arslan, M. and Turkay, M. 2013. EOQ revisited with sustainability considerations. *Foundations of Computing and Decision Sciences*, *38*(4), pp.223-249.

Asiamahyeboah. 2012. Assessing working-capital management of SMEs in Ghana using Inventory and trade credit. International Journal of Business and Management Cases. 1(2):1-11.

Atrill, P. 2006. Financial management for decision makers, (4th Ed), Prentice Hall.

Bekker, F. and Staude, G.E. 1988. *Starting and managing a small business*. Juta & Company.

Berry, A., von Blottnitz, M., Cassim, R., Kesper, A., Rajaratnam, B. and van Seventer, D.E. 2002. The economics of SMMES in South Africa. *Trade and Industrial Policy Strategies, Johannesburg, South Africa*.

Blanche, M.T., Durrheim, K. and Painter, D. 2006. *Research in practice: Applied methods for the social sciences*. Juta and Company Ltd.

Bruwer, J.P. 2010. *Sustainability of South African FMCG SMME retail businesses in the Cape Peninsula* (Doctoral dissertation, Cape Peninsula University of Technology).

Burns, N and Grove, SK. 2005. The practice of nursing research: conduct, critique and utilisation. St Louis: Elsevier Saunders.

Burns, R.P. and Burns, R. 2008. *Business research methods and statistics using SPSS*. Sage.

Carter, E. and Jones-Evans, D. 2009. 'Enterprise and small business: Principles, Practice and Policy (2nd ed.)',*Strategic Direction*, 25(5). doi: 10.1108/sd.2009.05625eae.001.

Cavitt, M.D. 2010. Evaluating Obselete Inventory Policies in a Hospital's Supply Chain.

Chakraborty, A. 2012, H.O.D., Debnath, K. and Saha, P.K., JIT in Small Manufacturing Enterprise.

Cheruiyot, S.K. 2014. *Effectiveness of Internal Control Systems In Safeguarding Inventory* (Doctoral dissertation, Kabarak University).

Chikán, A. and Whybark, D.C. 1990. Cross-national comparison of production – Inventory-management practices. *Engineering Costs and Production Economics*, *19*(1-3), pp.149-156.

Chimucheka, T. 2013. Overview and performance of the SMMEs sector in South Africa. *Mediterranean Journal of Social Sciences*, *4*(14), p.783.

Cressy, R. 1996. Are business startups debt-rationed? *The Economic Journal*, pp.1253-1270.

Cronbach, L.J. 1951. Coefficient alpha and the internal structure of tests.*psychometrika*, *16*(3), pp.297-334.

De Vaus, D. 1993. Research design in social research.

De Vos, A.S., Strydom, H., Fouche, C.B. and Delport C.S.L. 2011. Research at Grass Roots: for the social science and human service professions (4th Ed.), Pretoria: Van Schaik

De Vries, J. 2007. Diagnosing inventory management systems: An empirical evaluation of a conceptual approach. *International Journal of Production Economics*, *108*(1), pp.63-73.

DeHoratius, N. and Raman, A. 2008. Inventory record inaccuracy: an empirical analysis. *Management Science*, *54*(4), pp.627-641.

Department of Trade and Industry (2004): https://www.thedti.gov.za/sme_development/docs/smme_report.pdf

Dörnyei, Z. 2007. *Research methods in applied linguistics: Quantitative, qualitative, and mixed methodologies*. Oxford University Press.

Drury, C. 2004. Management and Cost accounting. London: Prentice Hall

Easterby-Smith, M., Thorpe, R. and Lowe, A. 2002. Management Research: An Introduction. Sage Publications: London, Journal of Entrepreneurial Behaviour & Research, Vol. 6 No.4,pp.239-59

Enow, S.T. and Isaacs, E., 2016. The Inventory Management Practices Amongst Manufacturing SMEs in the Cape Metropole, province of the Western Cape, South Africa. *The Journal of Accounting and Management*, *6*(2).

Fagbulo, S. 2009. The Impact of Effective Stock Control in Hospitality Establishments. Evan Enwerem University.

Fatoki, O. 2014. Working capital management practices of immigrant entrepreneurs in South Africa. *Mediterranean Journal of Social Sciences*,*5*(10), p.52.

Ferenčíková, D. 2014. Inventory Management in Small and Medium-Sized Manufacturing Companies and Its Main Dilemmas. In *Conference on Industrial Engineering and Operations Management Bali, Indonesia, January* (Vol. 7, No. 9, p. 201).

Fjose, S., Grünfeld, L.A. and Green, C. 2010. SMEs and Growth in Sub-Saharan Africa: Identifying SME roles and obstacles to SME growth. *MENON Business Economics, MENON Publication*, (14).

Fowler, F.J. 1988. Survey Research Methods. Beverly Hills, CA: Sage

Frazelle, E. and Frazelle, E. 2002. *World-class warehousing and material handling* (Vol. 1). New York: McGraw-Hill.

Frazelle, E. 2002. *Supply chain strategy: the logistics of supply chain management*. McGraw Hill.

Gliem, J.A. and Gliem, R.R. 2013. Midwest Research to Practice Confidence in Adult, Continuing, and Community Education: Calculating Interpreting and Reporting Cronbach's Alpha Reliability Coefficient for Likert Type Scale. [Accessed 24 October 2013].

Golafshani, N. 2003. Understanding reliability and validity in qualitative research. *The qualitative report*, *8*(4), pp.597-606.

Government Gazette of South Africa, 2003: http://www.saflii.org/za/legis/num_act/nsbaa2003331.pdf [Accessed 4 April 2015]

Gunasekaran, A. and Lyu, J. 1997. Implementation of just-in-time in a small company: a case study. *Production planning & control*, *8*(4), pp.406-412.

Gupta, A.K. 2012. Just in time revisited: literature review and agenda for future research. *International Journal of Research in Mechanical Engineering & Technology*, *2*(1), pp.969-971.

Heizer, J. and Render, B. 2008. *Operations Management*, 9th ed., Vol. 9, Prentice-Hall, Upper Saddle River, NJ.

Houston Chronicle. 2015. http://smallbusiness.chron.com/advantages-disadvantages-economic-order-quantity-eoq-35025.html [Accessed 11 April 2015]

Howorth, C. and Westhead, P. 2003. The focus of working capital management in UK small firms. *Management Accounting Research*, *14*(2), pp.94-111.

Joppe, M. 2000. The Research Process. [Accessed 16 June 2016], from http://www.ryerson.ca/~mjoppe/rp.htm

Kállay, L. and Imreh, S.Z. 2004. Economy of the small-and medium-sized enterprises development. Publisher AULA

Kiprotich, K.G. 2013. *Working Capital Management practices and financial performance of sugar cane outgrower companies in Kenya* (Doctoral dissertation, University of Nairobi).

Kruger, G.A. 2005. A statistician looks at inventory management. *Quality progress*, *38*(2), p.36.

Kwame, K. 2007. Working capital management practices of small firms in the Ashanti region of Ghana. Retrieved from http://www. ssrn.com

Ladzani, W.M. and Van Vuuren, J.J. 2002. Entrepreneurship training for emerging SMEs in South Africa. *Journal of Small Business Management*,*40*(2), p.154.

Lavely, R. 1996. "*Can you profit from improved inventory control?*", *Auto Inc Magazine*, Vol. XLIV No. 3.

Lawrence, S.R., Collins, E., Pavlovich, K. and Arunachalam, M. 2006. Sustainability practices of SMEs: the case of NZ. *Business strategy and the environment*, *15*(4), pp.242-257.

Lee et al., 2013, The role of lean thinking in increasing resource efficiency in the UK food and drink supply chain, pp.21

Le Roux, G.S. and Lötter, W.A. 2003. *Basic principles of cost and management accounting*. Juta and Company Ltd.

Leedy, P.D. and Ormond, J.E. 2001. Practical research. New Jersey: Merrill Prentice Hall.

Leedy, P.D. and Ormond, J.E. 2005. Practical research. New Jersey: Merrill Prentice Hall.

Luiz, J. 2002. Small business development, entrepreneurship and expanding the business sector in a developing economy: The case of South Africa. *Journal of Applied Business Research*, *18*(2), pp.53-68.

Mantho, V. 1994. "*Concepts and applications of inventory management in Northern Greece.*" *International Journal of Production Economics*, Vol. 35, pp. 149-52.

Marfo-Yiadom, E. and Agyei, S.K. 2010. Working Capital Management practices of Small Scale enterprises in the Central Region of Ghana. *Asian Journal of Business and Management Sciences*, *1*(4), pp.29-47.

Mazanai, M. 2012. Impact of just-in-time (JIT) inventory system on efficiency, quality and flexibility among manufacturing sector, small and medium enterprise (SMEs) in South Africa. *African Journal of Business Management*, *6*(17), p.5786.

Mbonyane, B. and Ladzani, W. 2011. Factors that hinder the growth of small businesses in South African townships. *European Business Review*, *23*(6), pp.550-560.

Mbonyane, B.L. 2009. An exploration of factors that lead to failure of small businesses in the Kagiso Township.

Mbogo, M.2011. Influence of Managerial accounting skills on SMEs on the success and growth of Small and Medium Enterprise in Kenya. *Journal of language, Technology and Entrepreneurship in Africa*, 3 (1):109-132.

Maduekwe, C.C. and Kamala, P. 2016. The use of budgets by small and medium enterprises in the Cape Metropole, South Africa.

McBurney, D. H. 2001. *Research Methods*, Belmont: Wadsworth Thomas Learning Incorporation.

McGinnis, M.A. and Kohn J.W. 1988. Warehousing competitive advantage and competitive strategy Journal of Business Logistics, 9 (2) (1988), pp. 32–54

Mensah-Agyei, B.K. 2012. Working Capital Management practices of small firms in the Ashanti region of Ghana, International journal of academic research in business and social science, 2 (1), pp. 3781-3789.

Meyer, H., 1991. An eight-step approach to inventory accuracy: a case study at Leviton Manufacturing Company. *Production and Inventory Management Journal*, *32*(2), pp.40-2.

Michaelas, N., Chittenden, F. and Poutziouris, P. 1999. Financial policy and capital structure choice in UK SMEs: Empirical evidence from company panel data. *Small business economics*, *12*(2), pp.113-130.

Mohanty, R.P. 1985. Inventory problems under multiple constraints: some studies. *Engineering Costs and Production Economics*, *9*(4), pp.355-367.

Monden, Y. 1983. *Toyota production system: practical approach to production management*. Engineering & Management Press.

Monden, Y. 2011. *Toyota production system: An integrated approach to Just In Time.* CRC Press.

Muhammad, A.S. and Alsawafy, O. 2011. Economic order quantity for items with Two types of imperfect quality. *An International Journal of Optimization and Control: Theories & Applications (IJOCTA)*, *2*(1), pp.73-82.

Municipality, T.I.K. 2013. Interdisciplinary journal of contemporary research in business.

Munyao, R.M., Omulo, V.O., Mwithiga, M.W. and Chepkulei, B. 'Role of inventory-management practices on performance of production department: A case of manufacturing firms'.

Musara, M. and Fatoki, O.O. 2011. The Effectiveness of Business Development Services Providers (BDS) in Improving Access to Debt Finance by Start-Up SMEs in South Africa. Inter. J.Econ. Finance, 3(4): 208-219.

Myer, D.M. 2009. Quantitative Research in Business and Management. New Delhi: SAGE publications Inc.

Ng, S., Partington, E. and Sculli, D. 1993. "*A computer system for inventory management of lighting products: a case study*", *Computers in Industry*, Vol. 22, pp. 71-9

Ngubane, N., Mayekiso, S., Sikota, S., Fitshane, S., Matsoso, M. and Juan-Pierré, B. 2015. Inventory Management Systems used by Manufacturing Small Medium and Micro Enterprises in Cape Town. *Mediterranean Journal of Social Sciences*, *6*(1), p.382.

Nieman, G. and Bennett, A. 2002. Business management: A value chain approach. Pretoria: Van Schaik.

Nieman, G. and Nieuwenhuizen, C. 2009. *Entrepreneurship: A South African Perspective*. Van Schaik.

Nunnally, J. C. 1978. Psychometric theory (2nd ed.). New York: McGraw-Hill.

Nyabwanga, R.N. and Ojera, P. 2012. Inventory-management practices and business performance for small-scale enterprises in Kenya. *KCA Journal of Business Management*, *4*(1), pp.11-28.

Nyang'au, S. P. 1998. Factors that affect the growth of small enterprises. A case study of restaurants in Thika Town. Unpublished M.Sc. thesis; Jomo Kenyatta University of Agriculture and Technology, Juja.

Ohno, T. 1988. *Toyota production system: beyond large-scale production*. crc Press.

Okafor, F.C. 2013. Addressing the problem of Non-Response and Response Bias, pp. 92

Onkundi, K.E.H. and Bichanga, W.O. 2016. Factors influencing Inventory Management Performance in Public Health Sector: A Case Study of Public Health Sector in Kisii County, pp. 159

Oroka, O.V. 2013. Working Capital Practices Required by Small and Medium Scale Enterprises for Effective Operations in Delta State, Nigeria.

Osoro, K.M. 2013. The Effects of Financial Institutions Intervention on the Growth of Small Enterprises in Kenya: A survey of Public Service Transporters in Kisii Municipality

Pagh, J.D. and Cooper, M.C. 1998. Supply chain postponement and speculation strategies: how to choose the right strategy. *Journal of business logistics*, *19*(2), p.13.

Peel, M.J., Wilson, N. and Howorth, C. 2000. Late payment and credit management in the small firm sector: some empirical evidence. *International Small Business Journal*, *18*(2), pp.17-37.

Phenya, A. 2011. *An assessment of the financial management skills of small retail business owners/managers in Dr JS Moroka Municipality* (Doctoral dissertation).

Pieterson A. Working capital management practices of small and medium enterprises in the western region: A survey of selected SMEs in the Sekondi-Takoradi metropolis. Retrieved on July 8, 2016 from http://dspace.knust.edu.gh:8080

Rajam Ramaswamy, N., Selladurai, V. and Gunasekaran, A. 2002. Just-in-time implementation in small and medium enterprises. *Work Study*, *51*(2), pp.85-90.

Rajeev, N. 2008. Inventory management in small and medium enterprises: A study of machine tool enterprises in Bangalore. *Management Research News*, *31*(9), pp.659-669.

Ranganatham, G. 2011. Inventory Management (IM) Practices in Small Scale Enterprises. *Global Management Review*, *5*(2).

Ravinder, H. and Misra, R.B. 2014. ABC Analysis for Inventory Management: Bridging the Gap Between Research and Classroom. *American Journal of Business Education (Online)*, *7*(3), p.257.

Rogerson, C.M. 2009. Mega-events and small enterprise development: the 2010 FIFA World Cup opportunities and challenges. *Development Southern Africa*, *26*(3), pp.337-352.

Romano, P. L. 2011. Techniques in inventory management and control. Management Accounting [USA] 68.8 (1987): 46. Expanded Academic ASAP. Web. 6 July 2011.

Rowley, J. 2002. Using case studies in research. Management Research News. 25(1):16-27. Sara Carter, Dylan Jones-Evans (2000) Enterprise and Small Business: Principles, Practice and Policy. Financial Times Prent.Int

Saunders, M., Lewis, P. and Thornhil, A. 2000. Research Methods for Business Students, Third Edition, Prentice Hall.

SBP Alert. 2013. Developing a new path for SMEs in South Africa: Reassessing for growth. Issue Paper 1 (2013). An SBP occasional paper http/www.sbp.org.za [Accessed 16 July 2013]

Schonberger, R. 1982. *Japanese manufacturing techniques: Nine hidden lessons in simplicity*. Simon and Schuster.

Silver, E.A. 2008. Inventory management: An overview. Canadian publications, practical applications and suggestions for future research.*INFOR: Information Systems and Operational Research*, *46*(1), pp.15-28.

Singhal, V.R. 2005. Excess inventory and long-term stock price performance. *College of Management, Georgia Institute of Technology*.

Snyder, N.H. and Whit, O. 1989. Using internal controls to reduce employee theft in small businesses.

South Africa. 1996. Small Business Act No 102 of 1996, Pretoria Government Printer.

Sprague, L.G. and Wacker, J.G. 1996. Macroeconomic analyses of inventories: learning from practice. *International journal of production economics*, *45*(1), pp.231-237.

Times Live. 2015 http://www.timeslive.co.za/local/2015/07/22/Operation-Fiela-demoralises-and-dehumanises-migrants [Accessed 18 February 2016]

Van Eeden, S., Viviers, S. and Venter, D. 2003. A comparative study of selected problems encountered by small businesses in the Nelson Mandela, Cape Town and Egoli metropoles. *Management Dynamics: Journal of the Southern African Institute for Management Scientists*, *12*(3), pp.p-13.

Vergin, R.C. 1998. "*An evaluation of inventory turnover in the fortune 500 industrial companies*",*Production and Inventory Management Journal*, Vol. 39 No. 1, pp. 51-6.

Wallin, C., Johnny Rungtusanatham, M. and Rabinovich, E. 2006. What is the "right" inventory management approach for a purchased item? *International Journal of Operations & Production Management*, *26*(1), pp.50-68.\

Wang, Y.L. 2014. The application of CRM and SCM principles in Volkswagen.

Watkins, J.A. 2008. Theses / Dissertations / Research Reports: A practical guide for students to the preparation of written presentations of academic research. Cape Town: Content Solutions.

Wayman, W.A. 1995. Inventory accuracy through warehouse control. *Production and Inventory Management Journal*, *36*(2), p.17.

Wilson, J. 2010. Essentials of doing a business research: a guide to doing your research project.1st edition. London: SAGE publications.

Yanta, T. 2001. Development Monitor–Local Government Supporting or Stunting SMME Growth? *Indicator SA*, *18*(2), pp.p44-48.

Yeboah, M. A. 2014. Analysis of entrepreneurship: How does culture influence risk-taking in SMEs in the Sekondi-Takoradi Metropolis, Ghana? American International Journal of Contemporary Research, 4, 131-140. Retrieved from http://www.aijcrnet.com/

Yu, M.C. 2011. Multi-criteria ABC analysis using artificial-intelligence-based classification techniques. *Expert Systems with Applications*, *38*(4), pp.3416-3421.

Yu, M.C. 2011. Multi-criteria ABC analysis using artificial-intelligence-based classification techniques. *Expert Systems with Applications*, *38*(4), pp.3416-3421.

Zeng, A.Z. and Hayya, J.C. 1999. The performance of two popular service measures on management effectiveness in inventory control. *International Journal of Production Economics*, *58*(2), pp.147-158.

Zinn, W.and Bowersox, D.J., “Planning Physical Distribution with the Principle of Postponement”, Journal of Business Logistics, Vol.9, 1988, pp.117-136

Appendix A: Consent Letter

Inventory (Stock) Management Practices of Small, Medium and Micro Enterprises

Dear participant

You are invited to participate in a research study titled “Inventory-management practices of Small, Medium and Micro Enterprises (SMME) in the Cape Metropole”. The purpose of the study is to determine the inventory-management practices of SMMEs in the Cape Metropole. This study is important as it will uncover the best inventory-management practices that could benefit SMMEs, if adopted. The principal researcher is Miss Melody Rutendo Kanguru, a Master’s student at the Cape Peninsula University of Technology (CPUT).

Because you are a decision-maker of an SMME in the Cape Metropole, your opinions are very valuable for this study. Your participation in the study is voluntary as you are free to withdraw from the study at any time without obligation. The survey should take about 15 minutes to complete and has been approved by the Research Ethics Committee of the Faculty of Business at Cape Peninsula University of Technology. There are no risks associated with participating in this survey as the data collected will contain no identifying information of any respondent, thus all responses will be recorded anonymously. While you will not receive any compensation for participating in this survey, the information collected in this survey may benefit the SMME sector of South Africa by providing a better understanding of inventory-management practices and the best practice.

By completing this questionnaire, you are indicating your consent to participate in the survey. Your participation is appreciated. Thank you for taking time to assist me in my educational endeavours.

For further enquiries, please contact the following:

Student- Melody Kanguru- E-mail address: rutendokanguru@yahoo.com

Supervisor- Peter Kamala - E-mail address:kamalap@cput.ac.za: Tel 0214603484

Appendix B: Questionnaire

QUESTIONNAIRE	
SECTION A - RESPONDENT AND BUSINESS PROFILE (Please mark "X" in the appropriate box)	
1. Which industry does your business operate in?	
a. Food and drinks	
b. Pharmaceutical	
c. Cosmetics	
d. Household appliances	
e. Other (please specify) _____	
2. What is your position in the business?	
a. Owner [ ] b. Manager [ ]	
b. Accountant [ ] d. Other (please specify) [ ], _____	
3. For how long have you been in the above-mentioned position?	
Less than 1year [ ] 1-5years [ ] 6-10years [ ] Above 10 years [ ]	
4. How long has your business been in operation?	
0 – 1years [ ] 1 – 5years [ ] 5 – 10years [ ] Above 10 years [ ]	
5. What is your highest level of education?	
Matric [ ] Seminars [ ] short course [ ] diploma [ ] Bachelor Degree [ ] Master's Degree [ ] Doctorate [ ] Other (please specify)……	
6. Was the above-mentioned education finance/ accounting related?	
Yes [ ] No [ ]	
7. What is the number of employees in your business?	
1 – 5 [ ] 5 – 10 [ ] 10 – 20 [ ] Above 20 [ ]	
SECTION B – INVENTORY (STOCK) MANAGEMENT PRACTICES OF SMMEs (Please mark "X" in the appropriate box)	

Please use the following scale to answer Question 8

SD= Strongly Disagree, D = Disagree, N= Neither agree nor disagree, A= Agree, SA= Strongly Agree

8. To what extent do you agree with the following statements about how your business orders inventory (stock)?

		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
i.	We rely on common sense to determine the quantity of inventory (stock) to order	SD	D	N	A	SA
ii.	We use an equation to calculate the quantity of inventory (stock) to order	SD	D	N	A	SA
iii.	We order a fixed quantity of inventory (stock) periodically	SD	D	N	A	SA
iv.	We order inventory (stock) in bulk to take advantage of trade discounts	SD	D	N	A	SA
v.	We order inventory (stock) when we receive an enquiry from our customer	SD	D	N	A	SA
vi.	We receive our inventory (stock) automatically from our suppliers without even placing an order	SD	D	N	A	SA
vii.	We order only when we run out of stock	SD	D	N	A	SA
viii.	When our inventory (stock) reaches a certain level, we automatically place an order	SD	D	N	A	SA
ix.	When we place an order we receive our inventory (stock) without delay	SD	D	N	A	SA
x.	We order inventory (stock) from suppliers only within Cape Town	SD	D	N	A	SA

9. Does your business use a warehouse for storage of inventory (stock)?

Yes [ ] No [ ]

If Yes proceed to Questions 10 and 11, if No proceed to Question 20

Please use the following scale to answer Question 10

SD= Strongly Disagree, D = Disagree, N= Neither Agree nor Disagree, A= Agree, SA= Strongly Agree

10. To what extent do you agree with the following statements about storage of stock in your business?

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
i. We insure all our inventory (stock) in the warehouse	SD	D	N	A	SA
ii. We own our warehouse	SD	D	N	A	SA

11. Do you plan in advance before ordering inventory (stock) for the warehouse in your business?

Yes [ ] No [ ]

If yes proceed to question 12, if no proceed to question 15

12. Do you prepare inventory (stock) budgets in your business?

Yes [ ] No [ ]

13. Do you compare inventory (stock) ordered to the budgets regularly in your business?

Yes [ ] No [ ]

14. Do you update the inventory (stock) budgets regularly in your business?

Yes [ ] No [ ]

15. Do you conduct stocktaking in your business?

Yes [ ] No [ ]

16. If yes, to question 16, how often does your business conduct stocktaking

Daily [ ] Weekly [ ]

Monthly [ ] Every six months [ ]

Annually [ ] Other [ ], please specify_____

17. Do you track the movement of inventory (stock) from the time an order is placed to the time the stock is received?

Yes [ ] No [ ]

18. Does your business have dedicated staff that manage the warehouse?

Yes [ ] No [ ]

If Yes proceed to question 19, if No proceed to question 20

Please use the following scale to answer question 17

SD= Strongly Disagree, D = Disagree, N= Neither agree nor disagree, A= Agree, SA= Strongly Agree

19. To what extent do you agree with the following statements about inventory (stock) control by your staff in the warehouse?

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
i. Our warehouse staff verify delivery, receipt and storage of stock	SD	D	N	A	SA
ii. Our warehouse staff have access to our accounting records	SD	D	N	A	SA
iii. We have clear procedures followed by staff when receiving and issuing stock from our warehouse	SD	D	N	A	SA
iv. Access to our warehouse is restricted to authorized staff only	SD	D	N	A	SA
v. Our staff use computers to record inventory (stock) received	SD	D	N	A	SA
vi. Our staff use computers to record inventory (stock) issued					
vii. Our staff can determine inventory (stock) balance at any time	SD	D	N	A	SA
viii. Our staff use a barcoding system to monitor movement of	SD	D	N	A	SA

Please use the following scale to answer question 17

SD= Strongly Disagree, D = Disagree, N= Neither agree nor disagree, A= Agree, SA= Strongly Agree

19. To what extent do you agree with the following statements about inventory (stock) control by your staff in the warehouse?

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
inventory (stock) in the warehouse					
ix. Disposal of inventory (stock) must be authorized by senior staff	SD	D	N	A	SA
x. Purchase order copies are sent to the storekeeper to verify delivery made	SD	D	N	A	SA
xi. Anomaly in inventory (stock) delivered is reported to senior personnel	SD	D	N	A	SA

Please use the following scale to answer question 20

SD= Strongly Disagree, D = Disagree, N= Neither agree nor disagree, A= Agree, SA= Strongly Agree

20. To what extent do you agree with the following statements about the need for a warehouse in your business?

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
i. We do not need a warehouse because we buy from suppliers and deliver straight to customers	SD	D	N	A	SA
ii. We do not need a warehouse because we only order an item when a customer orders from us	SD	D	N	A	SA
iii. Our business is very small, so we store all our inventory (stock) within our premises	SD	D	N	A	SA
iv. We do not pile up slow moving stock which requires a warehouse	SD	D	N	A	SA
v. We deal in perishable goods that cannot be stored in warehouse	SD	D	N	A	SA

Please use the following scale to answer question 20

SD= Strongly Disagree, D = Disagree, N= Neither agree nor disagree, A= Agree, SA= Strongly Agree

20. To what extent do you agree with the following statements about the need for a warehouse in your business?

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
vi. We need a warehouse but cannot afford one	SD	D	N	A	SA

SECTION C SECTION C: CHALLENGES FACED WHEN MANAGING STOCK (Please mark "X" in the appropriate box)

Please use the following scale to answer question 21

N= Never, R = Rarely, S= Sometimes, O= Often, AA= Almost always

21. How often do you experience the following challenges in your business?

	Never	Rarely	Some times	Often	Almost always
i. Running out of inventory (stock)	N	R	S	O	AA
ii. Loss of sales resulting from shortage of inventory (stock)	N	R	S	O	AA
iii. Selling inventory (stock) below cost price just to dispose of it	N	R	S	O	AA
iv. Theft of inventory (stock)	N	R	S	O	AA
v. Physical inventory (stock) that does not match the records	N	R	S	O	AA
vi. Pilling up of inventory (stock) that is not moving	N	R	S	O	AA
vii. Inability of suppliers to meet the orders made	N	R	S	O	AA
viii. Unable to keep up with the demand from customers	N	R	S	O	AA
ix. Increasing number of damaged inventory (stock)	N	R	S	O	AA

Please use the following scale to answer question 21

N= Never, R = Rarely, S= Sometimes, O= Often, AA= Almost always

21. How often do you experience the following challenges in your business?

	Never	Rarely	Some times	Often	Almost always
x. Increasing number of inventory (stock) with a passed expiry date	N	R	S	O	AA
xi. Misplaced items in store that cannot be traced	N	R	S	O	AA
xii. Errors due to incompetent staff	N	R	S	O	AA
xiii. Rising storage costs	N	R	S	O	AA

Thank you for completing the questionnaire, to request feedback on the findings of this study upon completion, please use the e-mail address provided below:

rutendokanguru@yahoo.com

APPENDIX C: Cronbach Alpha

Reliability Statistics

Cronbach's Alpha	N of Items
.871	5

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Our staff use computers to record inventory received	10.04	7.197	.878	.795
Our staff use computers to record inventory issued	10.04	7.197	.878	.795
Our staff can determine inventory balance at any time	9.87	7.735	.693	.848
Our staff use a barcoding system to monitor movement of inventory in the warehouse	10.42	9.634	.568	.874
Purchase order copies are sent to the storekeeper to verify delivery made	10.35	9.470	.505	.886

APPENDIX D: Descriptives

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The categories defined by Does business use warehouse for storage of inventory = Yes and No occur with probabilities 0.5 and 0.5.	One-Sample Binomial Test	.214	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The categories defined by Do you track the movement of inventory from the time an order is placed to the time the stock is received = Yes and No occur with probabilities 0.5 and 0.5.	One-Sample Binomial Test	1.000	Retain the null hypothesis.
2	The categories defined by Does your business have dedicated staff that manage the warehouse = Yes and No occur with probabilities 0.5 and 0.5.	One-Sample Binomial Test	.523	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The categories defined by Do you plan in advance before ordering inventory for the warehouse in your business = Yes and No occur with probabilities 0.5 and 0.5.	One-Sample Binomial Test	.000	Reject the null hypothesis.
2	The categories defined by Do you prepare inventory budgets in your business = No and Yes occur with probabilities 0.5 and 0.5.	One-Sample Binomial Test	.243	Retain the null hypothesis.
3	The categories defined by Do you compare inventory ordered to the budgets regularly in your business = No and Yes occur with probabilities 0.5 and 0.5.	One-Sample Binomial Test	.788	Retain the null hypothesis.
4	The categories defined by Do you update the inventory bdgets regularly in your business = No and Yes occur with probabilities 0.5 and 0.5.	One-Sample Binomial Test	.207	Retain the null hypothesis.
5	The categories defined by Do you conduct stock taking in your business = Yes and No occur with probabilities 0.5 and 0.5.	One-Sample Binomial Test	.000	Reject the null hypothesis.
6	The categories of If yes, to question 16, how often does your business conduct stock taking occur with equal probabilities.	One-Sample Chi-Square Test	.000	Reject the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Our warehouse staff verify delivery, receipt and storage of stock	122	2	5	2.99	1.016
Our warehouse staff have access to our accounting records	122	2	5	2.11	.484
We have procedures followed by staff when receiving and issuing stock from our warehouse	122	2	5	2.93	1.026
Access to our warehouse is restricted to authorized staff only	122	2	5	3.03	1.036
Our staff use computers to record inventory received	122	2	4	2.64	.937
Our staff use computers to record inventory issued	122	2	4	2.64	.937
Our staff can determine inventory balance at any time	122	2	4	2.81	.982

Our staff use a barcoding system to monitor movement of inventory in the warehouse	122	2	4	2.26	. 8
Disposal of inventory must be authorised by senior staff	122	2	5	3.76	.681
Purchase order copies are sent to the storekeeper to verify delivery made	122	2	5	2.33	.776
Anomaly in inventory delivered is reported to the senior personnel	122	2	5	3.79	.658
We do not need a warehouse because we buy from suppliers and deliver straight to customers	126	1	5	2.22	.714
We do not need a warehouse because we only order an item when a customer orders from us	125	1	4	2.05	.378
Our business is very small, so we store all our inventory within our premises	125	1	5	3.22	1.036
We do not pile up slow moving stock which requires a warehouse	125	1	5	2.34	.823
We deal in perishable goods that cannot be stored in warehouse	125	1	5	2.19	.668
We need a warehouse but cannot afford one	125	1	5	2.26	.739
Running out of inventory	126	1	4	2.67	.702
Loss of sales resulting from shortage of inventory	126	1	4	2.80	.658
Selling inventory below cost price just to dispose of it	126	1	4	2.55	.873
Theft of inventory	126	1	5	2.63	1.107
Physical inventory that does not match the records	126	1	5	2.63	.796
Pilling up of inventory that is not moving	126	1	4	2.64	.675
Inability of suppliers to meet the orders made	126	1	4	2.23	.582
Unable to keep up with the demand from customers	126	1	5	2.48	.756
Increasing number of damaged inventory	126	1	5	2.34	.695
Increasing number of inventory with an passed expiry date	126	1	3	1.40	.582
Misplaced items in store that cannot be traced	125	1	5	2.23	.863
Errors due to incompetent staff	126	1	5	2.21	1.001
Rising storage costs	126	1	4	1.50	.642
Valid N (listwise)	120				