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Article

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The Inventory Management Practices Amongst Manufacturing SMEs in the Cape Metropole, province of the Western Cape, South Africa

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Abstract: Financial management is one of the seven important managerial functions and is responsible for ensuring that institutions have adequate or access to financial resources to meet short-term and long-term resources to meet long-term obligations. Long-term resources are capital provided by the owner (s) and long-term loans, whilst short-term resources include cash on hand or in the bank, accounts receivable and inventory or commonly referred to as current assets. The investment in inventory is often 50% of the value of current assets and in many cases overlooked as a source of short-term funds. Considering the importance of inventory in any business, this study focused on inventory management practices in SMEs. Using a sample of 100 businesses, our research revealed that only (i) 19% always prepare inventory budgets; (ii) 21% always review inventory levels; (iii) 25% review the shelf-space allocated for the products; and (iv) 19% use computers in inventory management.

Keywords: Inventory management, SMEs, current assets, acid test, current ratio

1　　Introduction

South Africa, a country considered as Africa's leading economy and characterise with vast mineral resources and fertile farmland but faces numerous challenges since its resurgence into the global arena(Berry, Blottnitz, Cassiem, Kesper, Rajaratnam, & Seventer, 2002, p. 6). Some of these challenges include; the perceived high crime, unemployment and poverty rates,　discrimation and Zenophobia which intensifies during economic changes. These issues in particular affect resource-constrained SMEs more than larger and financially sound businesses.

The South African government introduced numerous initiatives in response to the above mentioned challenges. According to Ndabeni (Ndabeni, 2005, p. 4), one of the initiatives was the focus on small, medium and micro enterprises (SMMEs). This is due to the fact that SMMEs are able to employ people with limited skills and provide them with on the job-trainingand with their improved skills levels could　improve their quality of life　and　could become involved in enterprise development and entrepreneurship(Department of Trade and Industry., 2003). This notion was not surprising as SMMEs account for about 51% to 57% of the GDP in South Africa, a percentage that has grown with the passage of time(Elliott & Boshoff, 2007, p. 15). To ensue that the SMME focus is not only rethoric,　the South African Government has also established support institutions and developed and implemented various programs to enable SMMEs to flourish and prosper. Some of these support institutions include, Ntsika, Khula and the　National Small Business Council(Department of Trade and Industry., 2003). Ntsika's mandate is to provide non-financial assistance to SMMEs on aspects such as business development whereas Khulais to provide access to finance for business

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development(Phenya, 2011, p. 3).More importantly, the South African government introduced the National Small Business Council to fostercommunication between Khula and Ntsika (Mago and Toro, 2013:19). Albeit the efforts of the South African Government and the importance of SMMEs to the economy. On the contrary,SMMEs are known for their high failure rates(Bruwer, 2010). Fatoki (2012) points that more than 75% of these entities never become established. In fact 100000 of these entities closeeach year(Dlamini, 2012).

Prior studies by various authors (Grablowksy & Rowell, 1980; Nguyen, 2001; Peel & Wilson, 1996)have, for example, attributed ineffective inventory management practices to the high failure rate of SMMEs. In particular, prior studies have indicated that SMMEs order materials randomly, uses a rule of thumb to manage inventory and have inadequate management inventory information systems. In addition, prior studies have also indicated that SMMEs lack skills to management inventory in an appropriate manner(Phenya, 2011).

Ineffective inventory management may result in unwanted items, loss in business productivity and unstable customer commitments(Rajeeva, 2010). Given the importance of SMMEs in the South African economy and also considering the importance of inventory management in SMMEs, it becomes imperative that their inventory management practices be investigated.

Effective management of inventory is essential in any business particularly for SMMEswho have limited financial, informational and human resources. Furthermore, inventory forms a substantial part of SMMEs current assets and often provide good quality products at lowerprices. Current assets are important in meeting current liabilities and according to financial experts, a business should have at least twice the amount of current assets in relation to its current liabilities, hence a ratio of 2:1. Inventory is often 50% of the current liabilities, hence the acid test of 1: 1(Erasmus, Strydom, & Rudansky-Kloppers, 2013). This should indicate the importance of inventory. Sound inventory management practices could minimise the loss of business opportunities due to scarcity of or out-of-stock products and help improveoverall organizational performance(Palmer & Dean, 2000).

2   Purpose of the study

The purpose of this study therefore is to ascertain the inventory management practices of SMMEs in the Cape Metropole, Province of the Western Cape, South Africa..

3   Research questions

Given the purpose of the study, the questions that would be addressed are:

-       What are the current inventory management practices of SMEs?

-       What are the factors that inhibit SMEs from using effective inventory management practices?

4   Literature review

According to Lwiki, Ojera, Mugenda and Wachira (2013, p. 76), inventory connotes the quantity of finished stock or other items held by an entity for sale in the ordinary course of the business. Pitamber and Dhurup (2014) defines inventory as the amount of raw material, work in process or finished goods that constitutes an entity's assets or the quantity of stock held by an entity for sale.Inventory management on the other hand can be defined as all the activities involved in managing stock levels to ensure that supplies are kept at the lowest possible cost (Kotler, 2000). Inventory management plays a vital role in any business. Some of these important issues include;

- Informing managers promptly on when to order stocks, which quantity to order to minimise out-of-stock situations and how frequent the order should be placed (Yusuf, 2003, p.21)
- Prevent out-of-stock situations that might arise due to increase in demand thereby improving customer service levels(Magad & Amos, 1989);
- Sound inventory management helps improves an entities cash flow thereby improving managerial efficiency(Likwi et al., 2013, p. 20);and
- Effective inventory management ensures appropriate investments in inventory which increases profitability(Magad & Amos, 1989).

According to Nguyen (2001) effective inventory management entails, monthly review of inventory level, monthly review of inventory turnover, monthly preparation of inventory budgets, using economic order quantity to manage inventory and utilising computers to manage inventory. Albeit the above-mentioned importance of inventory management, prior research has indicated that SMMEs do not manage their inventory in an appropriate manner.

Grablowsky and Rowell (1980)investigated the inventory management practices of 66 small enterprises in the USA. The study revealed that only 6% of the enterprises used economic order quantity to determine their inventory level. Fifty four percent (54%) of these enterprises had computers but were unable to use it to determine the monthly inventory turnover. In addition, these entities did not forecast their monthly inventory turnover nor prepared inventory budgets.

Unlike Grablowsky and Rowell (1980), Peel and Wilson (1996) also investigated the inventory management practices of 84 small businesses in England. The researchers found that, only 20% of these entities reviewed their inventory turnover frequently. In addition, 73.8% of small businesses in England never used the economic order quantity to determine the inventory level while only 14.1% of these entities reviewed their inventory level frequently.

In another related study in Asia,Nguyen (2001)evaluated the inventory management practices of 150 small and medium sized enterprises in Vietnam. The study revealed that only 2% of these entities used inventory management theories to manage their inventories while 98% of these entities indicated that they used owner/manager experience to manage their inventory. In addition, although a greater percentage of these enterprises indicated that they prepared inventory budgets frequently, they acknowledged that they lacked the ability to monitor their inventory on a more constant basis. However, the above studies were done in the USA in 1996, England in 1980 and Vietnam in 2001, implying that their findings are out-dated and may not be relevant to the African and South African contexts.

In an African study, Pietersen (2012) evaluated the inventory management practices of 199 small and medium scale enterprises in Ghana. The researcher found that 56.3% of respondents prepared their inventory level on a monthly basis, while 39.7% of the respondents never kept record of their inventory levels. Furthermore, only 17% of respondents bought their raw material from foreign companies.

In Uganda, another African country, Abanis, Sunday, Burani, Eliabu (2012)investigated the inventory management practices of 386 SMEs.The authors found that the majority of respondents did not review their inventory levels on a monthly basis. The results also indicted that most of these enterprises did not review their inventory budgets and inventory turnoverregularly. In addition, there was no proper authorisation of inventory purchase amongst these entities. However, above the studies were conducted in Ghana and Uganda (two less developed countries) and their findings may not be relevant to the South African context.

In a South African study, Pitamber and Dhurup (2014)examined the inventory control and valuation procedures amongst 173 small and medium sized enterprises. The researchers found that 53.5% of the respondents used economic order quantity whereas a smaller percentage (36.4%) of respondents used theories of inventory management. In addition, 58.4% of the respondent'sindicated that they review that inventory level. Although informative, the study did not address how often owner/managers review their inventory levels neither did the study highlighted whether owner/managers review their inventory turnover monthly.

From the above literature, it can be concluded that research on inventory management practices received scant attention, even the findings from the South African study cannot be generalised. Considering the abovelimitations and the broadness of the concept, more studies are needed to address inventory management practices. Therefore, it is opiniated that this study will provide further evidence on the inventory management practices followed by SMEs and in particular those located within the Province of the Western Cape (Cape Metropole), Republic of South Africa.

In the following sections, the research methodology, empirical analysis, discussion and concluding remarks will be highlighted.

5   Research methodology

Considering that the study seeks to unveil the inventory management practices of SMMEs in the Cape Metrople, the study adopted a positivist paradigm which renders the study to be quantitative in nature. Given that the study is quantitative in nature, a questionnaire survey was designed tocollect data from SMMEs in the Cape Metropole. This metropole was selected as the researchers are based in this province. The main advantage of a questionnaire survey is that it is considered an effective method of achieving a higher response rate (Saunders and Lewis, 2000, p.380). In addition, questionnaire surveys provide an option for the researcher to clarify any ambiguous questions and add relevant information where responses are incomplete (Al-Mubarak, 1997).

5.1 Reliability and validity of questionnaire

To test for reliability, Cronbach's alpha was used to test for the internal consistency. A research questionnaire is considered reliable if Cronbach's alpha is greater than 0.7 (Saunders and Lewis, 2000, p.380). In this study, the Cronbach's alpha for all raw variables is 0.724 thereby achieving reliability. To ensure validity, a pilot test was carried out by a panel of 3 academics with sound background in questionnaire design. Based on their responses the questionnaire was amended to reflect their suggestions hence, achieving validity.

5.1 Sampling and data collection

Purposive sampling technique was used to collect data from 100 SMMEs using a close-ended questionnaire.A questionnaire survey design was appropriate because there were no secondary data on inventory management practices of SMMEs in South Africa. In addition, Nguyen (2001)asserts that it is an inexpensive way of collecting large amount of data at a relatively shorter time period. Cronbach's Alpha was used to test the reliability of the questionnaire. The results indicated a coefficient of 0.78 hence, achieving reliability.

These results are detailed in the following section.

6   Empirical analysis

6.1 Profile of the respondents

The first section of the questionnaire was intended to collect information about the respondent's background. From the data collected, 68% of the respondents were owners of the businesses, 26% were managers,one was the chief-accountant while 5% were employees. In addition, 35% of the respondents attended short courses, 14% had no formal qualifications, 28% have a 3-year diploma/degree, while 19% have a secondary school qualification. In addition,44% of the respondents indicated that they never or rarely attendeda financialmanagement trainingcourse. A summary of the above is presented in table 1 below.

Table 1: Personal bibliographical information

Component	percentage	Total
- **Position in the businesses**		
o Owner	68%	
o Manager	26%	
o Chief-accountant	1%	
o Other	5%	**100**
- **Educational qualifications**		
o Secondary school	19%	
o 3-year degree and diploma	28%	
o Short courses	35%	
o Post graduate	4%	
o No qualification	14%	**100**

- Financial Management training		
o Never	13%	
o Rarely	31%	
o Sometimes	39%	
o Often	14%	
o Always	3%	**100**

The inventory management practices is discussed in the following section.

6.1 Inventory management Practices

Respondents were required to indicate in section B various aspects of inventory management. Using frequencies and percentages, the results are shown from table 2 to 6.

It is clear from table 2, that the majority of respondents (53%) never, rarely or sometimes prepare inventory budgets whereas only 48% often or always review inventory levels. In addition, only 52% often or always review shelf space while 74% do not use computers to prepare budgets, review inventory and shelf space. This finding is consistent with the findings of Abanis et al., (2012). This finding suggests that most SMMEs do not have proper inventory mechanisms in place.

Table 2: Preparing and reviewing budgets, levels, shelf space

	Never	Rarely	Sometimes	Often	Always	Total
Prepare Inventory Budgets	19%	11%	23%	28%	19%	100
Review Inventory Levels	16%	12%	24%	27%	21%	100
Review of shelf-space allocation	15%	10%	23%	27%	25%	100
Use of computers in inventory management	52%	13%	9%	7%	19%	100

The findings from table 3 indicates that 24% of the respondents monitor their stock daily, 44% weekly, 25% monthly and 7% quarterly. In addition, 15% of the respondents indicated that they order stock daily, 50% weekly, 30% monthly and 5% quarterly. Finally, only 13% of the respondents review their inventory turnover daily while 34%, 39%, 14% monitor their turnover on either a weekly, monthly or quarterly basis. Considering that most SMMEs do not have mechanisms in place to manage their inventory, and also considering that most SMMEs monitor their stock weekly rather than daily, it is possible that these businesses are either over stocking or understocking. This finding is contrary to the findings of that of Nguyen (2001) and Pietersen (2012).

Table 3: Stock monitoring, order frequency and inventory turnover

	Daily	Weekly	Monthly	Quarterly	Total
Stock monitoring	24%	44%	25%	7%	100
Order frequency	15%	50%	30%	5%	100
Review Inventory turnover	13%	34%	39%	14%	100

It is evident from table 4 that 50% of respondents use of computers to manage their inventory. Three percent (3%) of the respondents indicated that they do use computers to review the inventory turnover, 24% use computers for stock monitoring, 9% use computers to review shelf allocation, 9% and 5% use computers to review inventory levels and prepare inventory budgets respectively.

Table 4: Computer usage for inventory management

	frequency	percentage
Prepare Inventory Budgets	5	5%
Review Inventory Levels	9	9%
Review of shelf-space allocation	9	9%
Stock monitoring	24	24%
Review Inventory turnover	3	3%
Do not use computer	50	50%

These findings suggest most SMMEs do not make use of computerised systems to manage their inventories. One possible reason for this may be that decision-makers in SMMEs lack adequate computer knowledge and have also not realized the importance of computers in data management and analysis.

It should be clear from table 5 that inventory levels are determine mostly (28%) by the owner/managers judgment. Furthermore, 22% of the respondents indicated that they do not use any method whilst 9% and 18% use inventory management theories (EOQ and inventory turnover ratio) respectively. These findings are consistent with the findings of Nguyen (2001) but contrary to the findings of Nyamao, Patrick, Odondo and Simeyo (2012) who ascertained thatmajority of SMMEs (70.9%) in Kenya use owner/manager's experience to review inventory budget and inventory level.

Table 5: Methods for determining Inventory Levels

	frequency	percentage
Economic order quantity(EOQ)	9	9%
Inventory turnover ratio	18	18%
Owner/manager judgement	28	28%
Sales projections	12	12%
Past experience	11	11%
No method	22	22%

It is evident from table 6 that 53%, 59% and 64% of owner respondents are involved in determining inventory levels, inventory budgets and inventory turnover

respectively. The percentages for managers, accountants and employees are lower than that for owners.

Table 6: Review and preparing inventory practices

	Owner	Manager	Accountant	Employee	Total
Responsible for Inventory levels	53%	23%	10%	14%	100%
Responsible for Inventory budgets	59%	20%	17%	4%	100%
Responsible for stock monitoring	45%	20%	7%	28%	100%
Responsible for inventory turnover	64%	13%	14%	9%	100%

Given that the majority of owners are responsible inventory management, but are not properly educationaly equipped, could result in wasted financial resources.

7   Discussion

From a marketing perspective inventory ensures that products and services are available to customers, but from a financial perspective it is resources tied-up without earning any income. Inventory only contributes to the cash and current resources once it is sold. It is therefore clear that out-of-stock or over-stocking are both poor management practices. It is thus imperative that inventory should be carefully and properly managed.

Inventory planning issues such as (i) preparing inventory budgets, (ii) reviewing inventory levels, (iii) reviewing shelf-space and (iv) using computers in inventory management are important practices. Our empirical results shows that all these issues are poorly managed, as only (i) 19% always prepare inventory budgets, (ii) 21% always review inventory levels, (iii) 25% always review shelf-space and 19% always use computers in inventory management.

Inventory controlling issues such as stock monitoring, order frequency and reviewing inventory turnover are also important inventory management practices. These practices are better executed. With a small percentage of the people responsible doing it on a quarterly basis, namely 7%, 5%, and 14% respectively for the three tasks. A larger percentage of the respondents are either performing the tasks on a daily, weekly or monthly basis as shown in table 3.

It is clear from table 4 that the use of computers in inventory management is very poor. Fifty percent of the respondents do not use computers, with twenty four cent use it to monitor stock. Only 5% use it to prepare inventory budgets; 9% use it to review inventory levels; 9% use it to review the allocation of shelf-space and another 3% use it to review inventory turnover.

In terms of inventory management tools (table 5) such as economic order quantity, inventory turnover ratio, owner/manager judgment, sales projections, and past experience in determining inventory levels, its use is limited to inventory turnover ratio and owner/manager judgments. Eighteen percent of respondents use the inventory turnover ratio and 28% use the owner/manager judgment, with 22% of the respondents using no method at all.

It is evident from table 6 the owner is primarily responsible for the inventory management practices. Given this situation and the fact that the owner has to spread the available time over all the managerial functions, it is probably not surprising that the inventory management practices are not receiving proper attention. However, given the importance of inventory it is also not surprising that the owner wants to be involved in the managing of the related inventory practices.

8   Concluding remarks and recommendations

There is no doubt that inventory is an important organizational resource and that the practices around it should be managed properly. There is no doubt that the application of the inventory management practices should be improved and maybe owners will have to rethink their direct involvement. It is understandable that they want to be involved given the fact that it constitutes 50% of the current assets.

It is therefore suggested that (i) the use of computers should be increased and (ii) owners should familiarise themselves with the available tools that can be used to determine inventory levels.

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