Inventory Control and Valuation Systems among Retail SMEs in a Developing Country: An Exploratory Study

Mrs. H. U. Haribhai-Pitamber
Lecturer: Cost and Management Accountancy, Faculty of Management Sciences
Vaal University of Technology, Private Bag X021, Vanderbijlpark, 1900
Email: heshma@vut.ac.za

Prof. M. Dhurup
Executive Dean: Faculty of Management Sciences
Vaal University of Technology, Private Bag X021, Vanderbijlpark, 1900
Email: royd@vut.ac.za

Doi:10.5901/mjss.2014.v5n8p81

Abstract

The study seeks to examine inventory control and valuation procedures in retail SMEs. In addition, the study investigates whether the owners and managers adhere to inventory control and valuation systems among retail SMEs. Data was analyzed from 173 questionnaires that were distributed to SME owners and managers. The respondents were selected by using the simple random sampling technique. The questionnaire comprised questions based on inventory control and valuation procedures, with closed-ended questions and Likert scales. The results reveal that retail owners / managers employ inventory control procedures in their enterprise. Data was also analyzed by correlation analysis to determine the relationship between inventory valuation methods and inventory records. The LIFOM was also correlated with LIFOM income tax savings, to determine whether there were any significant correlations. The results confirm that inventory methods have a positive association with inventory methods and inventory records. Retailers also accept that the LIFOM is no longer an acceptable method used in practice. Cost of inventories was also identified and implemented by SME owners / managers. The results of the study will assist owners / managers to better manage their inventory control and valuation systems and to ensure objective reporting of inventory.

Keywords: Costing methods, inventory control, inventory valuation, small retail enterprise,

1. Introduction

Inventory control and valuation is essential in small and medium enterprises (Dubelaar, Chow & Larson, 2000). Issues such as inadequate stock control, wastages resulting from theft of stock, soliciting inappropriate suppliers, incorrect costing methods and buying stocks that are not mandatory, over-capitalisation in unsalable stock may result in improper inventory control and its valuation (Juul, 2002; Garrison & Noreen, 2003). The study therefore sought to determine the owners and managers adherence to inventory control and valuation among SMEs in South Africa.

Descriptions of small and medium businesses vary in its character and definitions. In South Africa, according to the Department of Trade and Industry (2004), small and medium enterprises (SMEs) can be defined as separate and distinct business entities, including co-operative enterprises and non-governmental organisations. They can be owned by more than one owner and can include branches or subsidiaries which are carried out in the sector or sub-sector of the economy. The National Small Business Amendment Bill (RSA: 2003) small business enterprises have a maximum of fifty employees with an annual turnover of nineteen million rand, and medium enterprises have a maximum of two hundred employees with an annual turnover of sixty four million rand.

Inventory emerges in various forms which may include stock of raw materials, sub-assemblies, semi-completed goods (work in progress), finished goods and consumables (Juul, 2002; Waters, 2003; Garrison & Noreen, 2003) depending upon the type of enterprise. Within a retail context however, inventory consists of final goods purchased and held for sale to customers who are end users of the product or service (Williams, Haka & Bettner, 2005).
2. Inventory Control and Valuation Systems

Whilst various inventory were developed, within the retail environment the economic order quantity (EOQ), the just in time (JIT) are the commonly reported methods used in order to improve the efficiency and control of inventory. Inventory methods were developed decades ago and are based on traditional mathematical, statistical and theoretical methods. The economic order quantity (EOQ) is a mathematical model that is used to calculate how much to order from a supplier at the time the order is placed (Association of Chartered Certified Accountants (ACCA) Financial Management, 2010:81). The system aims to minimise the ordering and holding cost of an order quantity of an item of inventory (Bessant, Jones & Lamming, 2005). According to International Financial Reporting Standards (IFRS), (IFRS for SME’S, 2009) the item ‘inventory’ can be defined as assets:

- held for sale in the ordinary course of business;
- used in the process of production for sales; and
- existing in the form of materials or supplies to be consumed in the production process or in the rendering of services

Inventory comprises a substantial part of the assets of a retail entity. It is usually sold within a period of one year and is therefore classified as a current asset (Kollitz, Quinn & McAllister, 2009). Inventory also plays a strategic role in an entity and acts as a buffer between production and sales. It is imperative for management to control inventory as it affects the financial performance of an entity (Waters, 2003).

In an inventory control system there may be uncertainty about the length of lead time and demand during lead time. There are three warning levels to alert an entity, namely when the material item should be reordered (reorder level); the inventory level is too high (maximum inventory level); and the inventory level is getting dangerously low (minimum inventory level). The JIT system was originated in Japan around the mid 1970’s, at the Toyota Motor Plant by Shigeo Shingo and Taichi Ohno (Biggart & Gargeya, 2002). The JIT system can be referred to under various labels, such as: Zero inventory production system (MIPS), Kanban production, Kaizen production, Stockless production, Pull-Through production and Quick response (QR) inventory systems (Biggart & Gargeya, 2002; Schönberger & Schniederjans, 1984). The principle of JIT is to reduce stocks to the minimum and in some cases to zero (Garrison, Noreen & Seal, 2003). According to Biggart and Gargeya (2002); Claycomb, German and Droge, (1999); Waters-Fuller, (1996) the main aim of JIT is to reduce waste in an entity. Waste can be defined as anything that does not particularly add value to the product or service. This can be achieved by JIT production and JIT purchasing. JIT production takes place when items are produced just in time to meet the customers’ orders. The JIT system has many benefits, one of which includes the savings in inventory carrying costs. This leads to reduction in storage, handling and insurance costs, fewer losses due to spoilage, obsolescence, theft and also decreased opportunity costs associated with having money tied up in inventory (Correia, Langfield-Smith, Thorne and Hilton, 2008). Another benefit of the JIT system is that defect rates are reduced which results in less waste and greater customer satisfaction (Garrison, et al., 2003).

However in practice, there may be some problems associated with JIT. A problem may arise when the reliability of suppliers is questioned, as they may not deliver on time. For this reason it is important to establish and maintain a good relationship with a supplier (ACCA Financial Management, 2010). Another problem is that Zero inventories may not be achieved in some entities. For example, “JIT retailers order what they need now, not what they expect to sell” (Hansen & Mowen, 2005). If a customer exceeds the inventory in store, then it may lead to lost sales.

Different methods can be used to value inventory and each of these methods have an influence on the profits. Valuation methods can be applied to complete products of an entity as well as to raw materials that are standing ready for the production process (Sowden-Service, 2011). The three different methods that are used in conformance with the International Financial Reporting Standards (IFRS) are: First-in-First-out method (FIFOM); Weighted average method (WAM); and Specific Identification method (SIM), (IFRS for SME’S, 2009; Deloitte, 2009; Sowden-Service, 2011). The FIFOM method is applied by an entity only when the goods are similar in nature and use (Vorstör, Koomhof, Oberholster, Koppeschaar, Coetzee, Janse van Rensburg, Binnekade, Leith, Hattingh & De Klerk, 2009; Sowden-Service, 2010). The cost for items of inventory is determined on an item-for-item basis in the production process (PWC, 2009). This method entails that the inventories are valued in accordance with the assumption that the entity will sell the items of inventory in the order in which they are purchased: i.e. first the old inventory items and then the new (Vorstör, et al., 2009: Reeve, Waren & Duchac, 2009; Sowden-Service, 2010). Therefore, the cost of inventory sold is measured based on the oldest stock first (Sowden-Service, 2010). A stores ledger record is maintained for each inventory item. This record reflects the volume in units and rand (monetary) value of the receipts and issues that occurred during the period. The remaining balance is reflected after each receipt and issue (Walker, 2009). The FIFOM method is advantageous because it is a logical pricing method whereby inventory is used up first and it is easily understood by managers. However, the FIFOM
The weighted average method is only suitable when all the inventories with characteristics as to their nature and use are similar (Vorster, et al., 2009; Sowden-Service, 2010).

According to CIMA (2010), the WAM method is used to calculate a weighted average price for all units in inventory. Issues are based on an average cost and the balance remaining in inventory would have the same unit valuation. The formula for average price is calculated as follows: average price = total cost / total number of units. This method is easier to use because prices are averaged and this provides useful information for decision-making. However, when issue price is calculated, it can work out to several decimal places, which in reality is not the actual price being paid (CIMA, 2010). It is important to realise that under each inventory valuation method, a different figure for value of closing inventory and cost of material issued is calculated. Hence, different valuation methods produce different cost of sale figures and eventually different gross profits. The LIFOM method assumes that the unit of inventory that was purchased last would be first to be sold (Vorster, et al., 2009; Reeve, et al., 2009). According to CIMA (2010) and Vorster, et al., (2009), inventories are issued at a price which approximates to current market value. The LIFOM method also offers an income tax savings during periods of increasing costs. This is because the LIFOM method reports the lowest amount of gross profit thus lower taxable income (Reeve, et al., 2009; Drury, 2004). According to the South African Revenue Service's (SARS): South Africa tax guide, 2012:13, “the LIFOM method of valuating stock is not permitted in respect of years if assessment commencing on the 1 July 2000”. SARS accepts that the LIFOM will be applied when determining any pre-entry profit (pre-1993) still in existence at the time the company is liquidated, wound up, deregistered or finally terminated (SARS: Comprehensive guide to secondary tax on companies, 2009).

The International Accounting Standard (IAS), states that the LIFOM method of valuation is usually an unacceptable method, since such a valuation bares no relationship to the actual cost at which inventory was purchased and implies that this method is inappropriate for external reporting (Vorster, et al., 2009; Drury, 2004). PWC (2009) acknowledges that an entity uses the same cost formula for all inventories that have a similar nature and use to the entity. A different cost formula may be justified where inventories have a different nature or use. Where inventory is similar in nature or use and held in different geographical locations, different cost formulae may not be applied. Where different metals are used, for example, fused in a production process, the weighted average method is appropriate. However, where inventory is used on an item-for-item basis in the production process, the FIFO formula is more appropriate (Vorster, et al., 2009). The cost formula used is applied in a consistent way from period to period (Vorster, et al., 2009; Sowden-Service, 2010).

### 3. Purpose of the Study

Given the various types of inventory and valuation methods are used within a South African financial framework, the study sought to determine the owners and managers adherence to inventory control and valuation systems among retail SME’s in South Africa.

### 4. Research Design

The study is located with a quantitative research paradigm. This approach was used because this research can be observed and measured objectively, without interference of opinions of individuals (Welman & Kruger, 1999). According to Flick (2011), an advantage of quantitative research is that it allows the study of a large number of cases for certain aspects in a short period of time. The results also have a high degree of generalisability.

#### 4.1 Target population and sample

The target population of this study comprised owners and managers, including both male and female, who are responsible for inventory control and valuation in retail SME’s enterprises. Retail SME’s within the Northern Johannesburg Metropolitan Municipality area that have an operational inventory control and valuation system were included in the sampling frame. Further, the researcher purchased a database from a company called, All Things South Africa (S.A.), which has ensured that the sample is representative of the population. For the purpose of the study, a probability sampling technique was used. According to Greenfield (2002), probability sampling refers to samples that are selected by probability mechanisms and control bias. This study used a sample size of 250 respondents as it was
adequate to show a fair representation of owners and managers in the retail SMME enterprises in the Northern Johannesburg region.

4.2 Data collection, measurement instruments and ethical considerations

A self-conducted survey was used. Zikmund (1999), stated that survey is a quick, inexpensive method and provides an accurate way of accessing information from the population. Questionnaires delivered by hand were used to collect data for the purpose of the study. This method was chosen as response rates are greater because of the personal contact with respondents (De Vos, Strydom, Fouche & Delport, 2006). The researcher made personal contact with each of the respondents. Basic definitions related to inventory control and valuations were explained as the respondents were unclear about the terms. A self-conducted structured questionnaire regarding inventory control and valuation in retail SME’s was administered to the respondents. Hofstee (2006) is of the view that structured questionnaires can be advantageous as they offer a degree of confidentiality to the respondents and are easier to analyse and the results can be interpreted without difficulty. The questionnaire comprised closed-ended questions and Likert scales which were adapted from previous studies (Dumas, 2008; Rajeev, 2007; Howard, Kochhar & Dilworth, 2002; De Leeuw, Holwea & Williams, 2011). These questions were based on a 5-point Likert scale with 5 denoting strongly agree, 3 denoting moderately agree and 1 denoting strongly disagree. The questionnaire was pre-tested with 10 respondents. Feedback from the respondents’ understanding and interpretation of the questionnaire in terms of ambiguity were noted. Changes were made accordingly to the questionnaire with regard to the order, wording, language and sequence of the questions. The researcher assured the respondents about confidentiality and anonymity during and after the survey; and the researcher also informed the respondents that they had the right to withdraw from their participation at any given time.

5. Results and Discussion

5.1 Sample composition

The gender distribution in the sample which indicates that out of 173 respondents, 112 were males (64.7%), and 58 were females (33.6%). Approximately 39.9 percent (n = 69) of the respondents indicated that they have a diploma and a degree, 38.7 percent (n = 67) have matric or grade 12, 16.8 percent (n = 29) have Honours and B-Tech degree, 2.9 percent (n = 5) reported that they have “Other” qualifications and 1.2 percent (n = 2) indicated that they have a masters degree. The majority of respondents in the retail business classification represented “Other” (29.5%, n = 51), followed by the clothing retailers (26%, n = 45), restaurants (13.9%, n = 24), general dealers (5.8%, n = 10), furniture dealers (5.2%, n = 9), supermarkets (5.2%, n = 9), garages (5.2%, n = 9), hairdressers (5.2%, n = 9) and guest houses (3.5%, n = 6). The majority of the respondents indicated that their turnover was between R0.2m to R5.9m (54.3%, n = 94), while 26 percent (n = 45) have a turnover of between R6m to R31m and the remaining 16 percent (n = 28) indicated a turnover of R31m and above. Under “Missing”, 6 persons (3.7%) are represented. These respondents chose not to answer the question.

5.2 Inventory control procedure used by SMEs

Figure 1 outlines the various types of inventory control procedure used by the various entities sampled in the study. Eighty four respondents (48.6%) agreed that they use reorder levels and 19.7 percent (n = 34) moderately agreed. Owners and managers also agreed (54.3%, n = 94) that reorder levels are established for key stock items in their organisation and 15 percent (n = 26) of the respondents strongly agreed. 93 respondents (53.8%) agreed that they use the EOQ principle and 15.6 percent (n = 27) moderately agreed that they apply the EOQ principle in their organisation.
In establishing whether JIT ordering was advantageous in retail SMME’s and whether JIT caused inventory out situations, 36.4 percent (n = 63) of the respondents agreed that the JIT ordering lead to savings in inventory handling and storage costs, while 23.7 percent (n = 41) of them disagreed. Owners and managers agreed (48.6%, n = 84), that JIT may cause inventory-out situations in their organisation and 16.2 percent (n = 28) of the respondents moderately agreed.

In establishing whether or not stock counting had an impact on inventory control procedures, 58.4 percent (n = 101) of the respondents agreed that they perform a stock count, 21.4 percent (n = 37) of them strongly agreed and 15.6 percent (n = 27) of the respondents moderately agreed about having an organised stock count in their organisations.

The respondents were asked to indicate whether or not inventory was maintained at a level to avoid consistent stock out, spoilage and obsolescence in their organisation. 51.4 percent (n = 89) of the respondents agreed to the statement, 26.6 percent (n = 46) moderately agreed and 16.2 percent (n = 28) of them strongly agreed with this statement.

Statistics show that 47.4 percent (n = 82) of the respondents agreed that they maintain safety inventory in their organisation, 29.5 percent (n = 51) of them moderately agreed and 13.3 percent (n = 23) of the respondents strongly agreed with the statement.

5.3 Inventory valuation procedures

Figure 2 illustrates that majority of owners and managers indicated that they have accepted that there are three methods in inventory valuation. In order to evaluate owners and managers perception of savings in income tax in the LIFOM method and acknowledging that the LIFOM is no longer an acceptable method, the following statements were provided. The first statement was “Our organisation adopts the LIFO M for income tax savings”. The majority of the respondents disagreed (43.9%, n = 76) and strongly disagreed (19.1%, n = 33) with this statement. The remaining 37 percent (n = 64) of the respondents were in agreement that they apply the LIFOM method for tax savings. “Our organisation is aware that the LIFOM is no longer an acceptable method used for inventory valuation” was the second statement in this construct. From the results, it is clear that 59.5 percent (n = 103) of owners and managers are not aware that the LIFOM is no longer used in practice and 40.5 percent (n = 70) of the respondents were more inclined to agree with this statement.
In order to assess how owners and managers measure their cost of inventories, they were asked to evaluate two statements. The first statement related to measuring cost of inventories at the standard cost method. In this regard, 67 percent (n = 116) of the respondents were in agreement that they used the standard cost method and 33 percent (n = 57) of owners and managers did not make use of the standard cost method in measuring the cost of inventories. In addition, majority of the respondents measured their cost of inventories using the retail method (63.6%; n = 110) while 36.4 percent (n = 63) did not make use of this method.

5.4 Correlations – inventory method and inventory records and LIFOM tax savings and LIFOM no longer an acceptable method

Correlation analysis was conducted on each of the following variables:
- Inventory methods (C1) were correlated with inventory records (C4); and
- LIFOM - income tax savings (C2) was correlated with LIFOM - no longer an acceptable method (C3).

Table 1: Correlation analysis inventory valuation procedures

<table>
<thead>
<tr>
<th>Section</th>
<th>Inventory methods</th>
<th>LIFOM - income tax savings</th>
<th>LIFOM - no longer an acceptable method</th>
<th>Inventory records</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inventory methods</td>
<td>1</td>
<td>0.141</td>
<td>0.73</td>
<td>0.411**</td>
</tr>
<tr>
<td>LIFOM - income tax savings</td>
<td>0.141</td>
<td>1</td>
<td>0.258**</td>
<td>-0.69</td>
</tr>
<tr>
<td>LIFOM - no longer an acceptable method</td>
<td>0.73</td>
<td>0.258**</td>
<td>1</td>
<td>0.66</td>
</tr>
<tr>
<td>Inventory records</td>
<td>0.411**</td>
<td>-0.69</td>
<td>0.66</td>
<td>1</td>
</tr>
</tbody>
</table>

**Correlations significant at p < 0.01 *Correlations significant at p < 0.05

A significant positive correlation (p = 0.411) was revealed between inventory methods and inventory records (table 1). This showed that the recording of purchases, issues and returns from inventory are recorded in one of the inventory valuation methods. LIFOM - income tax savings and LIFOM - no longer an acceptable method also showed a positive correlation (p = 0.258), refer to table 1.

The results give an indication that owners and managers are not aware that the LIFOM is no longer an acceptable method for inventory valuation and their organisations may adopt the LIFOM method for the purpose of income tax savings. However, it should be noted that SARS does not permit the LIFOM method for valuing stock. The International Accounting Standards Board (IASB) (2006:841) does not permit the use of the LIFOM formula to measure the cost of inventories because it leads to outdated numbers in the statement of financial position (balance sheet) (Williams, et al., 2005:335). However, in practice, small retail enterprises make use of the LIFOM formula for inventory control. Income tax regulations allow a corporation to use LIFOM in its income tax return only if the company also uses LIFOM in its financial statements. Thus, income tax considerations provide the overriding strategic reason for selecting the LIFOM method (Williams, et al., 2005:327; Weetman, 2006:61).

The findings of the study revealed that majority of owners and managers in retail SMME’s have experienced
discrepancies in the physical inventory count and inventory valuation records. Significant differences were also noted with regard to the physical inventory count and inventory control procedures.

6. Limitations and Implications for Further Research

This study focused only on SMEs that are operating in Gauteng province of South Africa and it would be unrealistic to generalise the findings in this study to other areas in the country. Future research could replicate the study in other provinces in order to test the validity and reliability of the scale. Another prospect for future research is to explore ways to help owners and managers to manage inventory control systems effectively. A broader population of retail entities may also be examined. This could include large retailers enterprises. Future studies should also make a comparison amongst other retail business classifications.

7. Conclusion

This study focused on inventory control and valuation procedures in retail SMEs in Northern Johannesburg, South Africa. The finding revealed that owners and managers adhere to most of the inventory control procedures. Valuation methods that are widely used in practice are also accepted by owners and managers. The results of the study may assist retailers for future planning in the implementation of an effective inventory control and valuation system.

References


87


