Inventory Valuation Methods and Financial Performance Consumer Goods Companies in Nigeria

Chimele Tina Elem
&
Imo ThankGod
Department of Accountancy
Rivers State University
elemchimele@gmail.com

Abstract

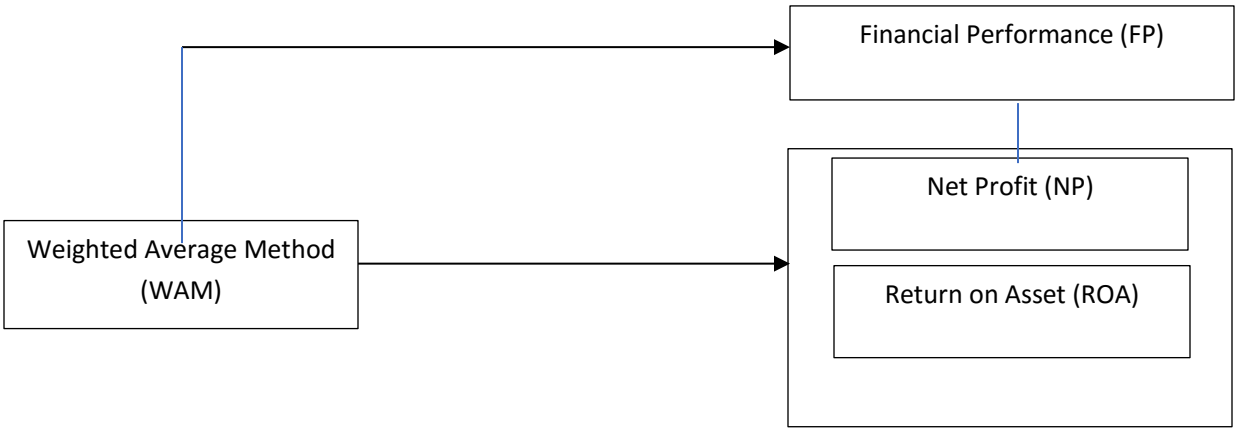
The purpose of this study was to investigate the influence of inventory valuation methods on financial performance of consumer goods companies in Nigeria. The objectives of the study were specifically, to determine the extent to which FIFO and Weighted Average relate with financial performance. The population of the study consists of 9 consumer goods companies listed in the Nigerian Stock Exchange. The sample size was drawn from the study population of one hundred and fifty-two (153) respondents, seventeen (17) from each of the companies. The respondents were top executive managers. However, only one hundred and fifty-one (151) respondents provided data for the study. The primary data was collected through the use of questionnaire while the secondary data was from the company's financial statement within the period of 2013-2018. Data collected were analyzed using descriptive statistics of mean, standard deviation, frequency distribution and percentages. Similarly, bivariate inferential statistics of Pearson Product Moment Correlation (PPMC) was used to determine the relationship between the hypothesized variables. Multiple regression analysis was used to test the combined effect of all the dimensions on each on each of the measures. These analyses were done with the aid of the statistical package for social sciences (SPSS version 22.0). Findings showed that that FIFO and Weighted average valuation methods positively and significantly influenced the two measures of financial performance. The study found a significant and positive relationship between inventory valuation method and financial performance of consumer goods companies in Nigeria. The study recommends that management should at all-times solve replenishment problems associated with importation of goods, while options should be available for locally sourced ones. Again, detailed investigation should be undertaken before approval is given on any adjustment of inventory balance and also audit report should be sent to store on daily basis.

Keywords: Inventory Valuation**,** Weighted Average, Financial Performance, Return on Asset, Net profit

1. Introduction

Inventories represent those items which are either accumulated for sale or they are in the process of manufacturing or in the form of materials, which are yet to be utilized. An inventory system is the set of policies and controls that monitor levels of stocks and determine what levels should be maintained, when stock should be replenished, and how large orders should be.

The basic reason for holding inventories is that it is physically impossible and economically impracticable for each inventory item to arrive exactly where it is needed exactly when it is needed. Inventory is not purchased as investment or to hold or to realize a gain from possession but rather to sell and realize a gain from resale. In fact, each purchase of saleable goods is in anticipation with the very next sale. According to Pandey (2008), firm needs a control system to effectively manage inventory and the system it adopts must be the most efficient and effective. Inventory represents a type of business insurance which assures the company that it will not have to close down due to shortage of saleable goods. Inventory is variable cost insurance that is the cost of this insurance will vary in the same direction as the value of the shares. As the sale increases the company will find it necessary to maintain a larger and larger inventory to meet the expanded sales volume and in turn increases organizational performance. Drury (1996) defined inventory as a stock of goods that is maintained by a business in anticipation of some future demand. Mohammad (2014) assert that a manager should consider ordering costs, carrying costs and stock out costs of inventory in defining the inventory level of a firm.



2. Literature Review

2.1 Concept of Weighted Average Inventory Methods

An alternative to the FIFO and LIFO method is the weighted-average cost method. Under this method, inventory is by and large of one layer (but it can be employed in the inventory with multi-

layer then it need very high level of tracking of individual items), since the cost of any new bought stock are mixed into the cost of any in hand stock to obtain a fresh weighted average cost, which in turn is accustomed yet again as more stock is procures. Inventory stuffs are so amalgamated and intermingled that it becomes impossible to allocate a particular cost to an individual item. Stock items are so commoditized (i.e., replica to each other) no way to allot a cost to an individual piece. For example, bought 120 drums of oil at $1000, 120 drums at $1100, and 120 drums at $1200; your average cost is $1100. Under the weighted average method when vended a drum of oil it is presumed cost was $1100, despite of what actually paid for that specific drum. Khan and Jain (2010) states that the average-cost system is appropriate where the inventory consists of units which are homogenous, interchangeable and does not follow any specific pattern of physical flow. Under this method, the value assigned to inventory is the average cost of all inventory items available for sale during the period (Needles and Powers, 2012). Bhattacharyya (2012) claims that this method smoothens the fluctuations in the cost of inventory items.

2.2 Concept of Financial Performance

Performance forms the core of strategic management and empirically, most strategy studies make use of the construct of business performance in their attempt to examine various strategy content and process issues (Al-Matari, 2014). Richard (2009) defined organizational performance as comprising the actual output or results of an organization as measured against its intended outputs (or goals and objectives). He mentioned that it is the ability of an organization to fulfil its mission through sound management, strong governance and a persistent rededication to achieving results. Don Hee (2011) on the other hand defined organization performance as the analysis of a company's success compared to its profitability. He added that within corporate organizations, there are three primary dimensions analysed: financial performance, market performance and shareholder value performance. The subject of financial performance has received significant attention from scholars in the various areas of business and strategic management. It has also been the primary concern of business practitioners in all types of organizations since financial performance has implications to organization's health and ultimately its survival. High performance reflects management effectiveness and efficiency in making use of company's resources and this in turn contributes to the country's economy at large. (Naser & Mokhtar, 2004). There have been various measures of financial performance, they include return on sale: reveals how much a company earns in relation to its sales, return on assets: determines an organization's ability to make use of its assets and return on equity: reveals what return investors take for their investments. The advantages of financial measures are the easiness of calculation and that definitions are agreed worldwide. Traditionally, the success of a manufacturing system or company has been evaluated by the use of financial measures (Tangen, 2003).

Firm's performance is a multidimensional construct that has production, finance or marketing as indicators (John, Joo & Han, 2007) "or consequences such as growth and profit" (Wolff & Pett, 2006). The performance of a firm depends on management strategic choice and its implementation and in a competitive market environment management must develop strategies to outsmart competitors in order to make capture greater share of existing demand so that they can make profit

and remain in business (Kim & Mauborgne, 2005). A firm's success is as a result of its performance over a certain period of time in a given market operation or as a new market or offers a new product (Ebrahim, 2014).
Moreover, Cheng (2009) posit that performance can be measured through the use of measurement systems that are implemented in production plants and service delivery. It is also measured by the extent to which value is created for the shareholders of the organization (Field & Meile, 2008). In today's competitive environment, organizations must be able to evaluate their objectives such as unit cost, profit, subjective performance and setup appropriate strategies to reach their goals.

2.3 Measures of Financial Performance

Several scholars have various variables for measuring business performance. According to Murugesan (2006), the measures of "business performance are growth performance, profitability performance, customers' satisfaction, market value performance, employee's satisfaction, environmental performance, environmental audit performance, corporate governance and social performance." This study adopted two profitability performances which are net profit and return on asset.

2.3.1 Net Profit

Net profit is widely accepted as the financial and operational performance (Glyn, Cornell, Samuels & Post –Keynesian, 2016). Net profit is a measure of probability that constitutes the sum left to a firm following the deduction of all of costs incurred in production of a good or service. Benninga (2014) describes net profit as a summary measure of the overall effectiveness of management because it reflects the quality of managerial decisions. Carey (11514) put forth findings that are in line with Benninga's (2014) position of the use of the net profit as a performance measure but acknowledges that the nature of a firm's business affects the choice of the metric to be used the use of net as opposed to gross profit is suggested by Haber and Reichel (2005) as a means of increasing the comparative value of analysis because net profits take into consideration the differences in inter-industry tax treatment at least within the national context. In the latter group, net profit was used as the most appropriate measure of enterprise performance especially in developing economies such as Nigeria where the metrics available for describing growth are still nascent (Mathuva, 2010).

The aforementioned studies honed in on performance from a quantitative analysis lens regressing various variables against net profit to make conclusions about the performance of small business earlier studies including Judge (1994) employed net profit to explore the relationship between organization size, board composition and financial performance. The study found that both correlates were related to net profit as a measure of financial performance.

2.3.2. Return on Assets (ROA)

ROA is seen as one of the measures of profitability ratio which is most often highlighted because it tells the company chance to create profit in the past which is projected in the future and evaluates

financial performance of an organization in terms of its investment in total assets or net assets. The fund employed in net assets is known as capital employed. Net assets equal net fixed assets plus current assets minus current liability excluding bank loans. Alternatively, capital employed is equal to net worth plus total debt (Pandey 2010). The total assets have been financed from funds supplied by creditors and owners. In measuring the return on assets, the intention is to judge the effectiveness in using the total funds supplied. The return on assets is a useful measure of the profitability of all financial resources invested in the firm's assets. It evaluates the use of total funds without any regard to the sources of funds (Pandey 1979 as cited by Nwanyanwu 2013). Many analysts consider the return on total assets ratio to be a better measure of management's ability to effectively utilize assets independent of how the assets were financed. Under the return on assets also referred to as return on total investment ratio, investment is the amount of resources provided by both owners and creditors (Libby, Libby & Short, 2001).

Wild, Subramanyam and Halsey (2005), suggested that a higher return on asset indicates a better company's performance as a result of high investment rate. It calculated by company available net profit for common shareholders to total assets (Brigham, Eugene & Houston, 2001). Return on assets (ROA) show the profitability of the company's assets in generating profits. In other words, it indicates the effectiveness of the firm's assets in increasing shareholders economic interest (Haniffa & Hudaib, 2006). It also shows the efficiency of management in using its asset to generate earnings. (Finkelstein & D'Aveni 1994; Weir & Lating 1999); disclosed that return on Assets assesses the effectiveness of capital employed and provides a basis in which investors can measure the earning generated by the firm from its investment in capital assets (EPPS & Cereoal 2008). The return on assets (ROA) is a measure which shows the amount of earnings that have been generated from invested capital. It is an indication of the number of kobo earned on each naira worth of assets. It allows users, stakeholders and monitoring agencies to assess how well a firm's corporate governance mechanism is in securing and motivating efficient management of the firm (Chagbadari, 2011). The return on Assets is also the ratio of annual net income to average total assets of a business during a financial year. ROA is calculated as:

$$\text{ROA} = \frac{Annual\ Net\ Income}{Average\ Total\ Assets}$$

2.4. Weighted Average Inventory Valuation Method and Financial Performance

A study conducted by Nabila (2015) conducted a study on Inventory valuation practices: A developing countries and found a prevailing use of weighted average-cost method across majority of the sample companies. Another study by Chung and Narasimhan (2003) stated a general use of the weighted average method by multinational companies in United States. A similar study was conducted by Jaafar and McLeay (2007) which confirmed the existence of weighted average in Germany. The study of Rashad (1984) suggest that, on average, changes to weighted average did not have significant negative effects on executives' compensations, irrespective of whether compensation was defined. Thus, the following hypotheses were formulated:

H_{A1}: There is a significant relationship between weighted average valuation method and Net profit.

H_{A2}: There is a significant relationship between weighted average valuation method and return on asset.

3. Methodology

This study examined the relationship between weighted average valuation method and financial performance of consumer goods companies in Nigeria. The study adopted the cross-sectional survey research design. The population of the study comprised Nine (9) accessible consumer goods companies in Nigeria. Data was collected from One hundred and fifty-three (153) respondents representing the nine (9) consumer goods companies on a sample frame of seventeen (17) respondents per company, using a structured questionnaire. The validity of the questionnaire was determined through academic scrutiny while its consistency was ascertained via the Cronbach alpha test of reliability, with a threshold of 0.70. table 1 below presents a summary of the result of test of reliability.

Table 1: Reliability Analysis of Items on All Variables

S/N	Variables	Number of Items	Cronbach's Alpha Coefficients
1	Weighted Average	3	0.795
2	Net Profit	3	0.792
3	Return on Asset	3	0.802

Source: SPSS Output (2019).

Table 1 indicates that all the variable have high Cronbach alpha; surpassing the threshold of 0.70. This means that the instrument was reliable. The Pearson Product Moment of Correlation was the statistical stool used for the data analyses, with the help of a Statistical Package for Social Science (SPSS), version 22.0.

4. Results and Discussion of Findings

Table 2: Correlation Result Weighted Average valuation and net profit

		WEIGHTED AVERAGE4	NETPR4
WEIGHTED AVERAGE4	Pearson Correlation	1	.484**
	Sig. (2-tailed)		.002
	N	151	151
NETPR4	Pearson Correlation	.484**	1
	Sig. (2-tailed)	.002	
	N	151	151

**. Correlation is significant at the 0.01 level (2-tailed).

Source: SPSS Output from data analyses (2019).

The result in table 2 shows that Weighted Average valuation correlates with net profit (r = 0.484, p = 0.000<0.001). This represents a moderate correlation indicating a definite relationship. The relationship that exists between Weighted Average valuation and net profit is shown to be significant at 0.01 significant levels.
Since an r value that is less than 0.20 (r < 0.20) is the benchmark for accepting the null hypotheses and an r value that is greater than or equal to 0.20 (r? 0.20) is the benchmark for rejecting the null hypotheses, based on this guideline for accepting or rejecting the null hypothesis formulated for the study, the researcher rejected the null hypothesis and uphold the alternate hypothesis. This was because, the r value obtained from our SPSS computed output is greater than 0.20 i.e. r 0.484 is greater than 0.20. Hence the null hypothesis which states that there is no significant relationship between Weighted Average valuation and net profit was rejected.

Table 3: Correlation Result Weighted Average valuation and return on asset

		WEIGHTED AVERAGE4	RETA4
WEIGHTED AVERAGE4	Pearson Correlation	1	.854**
	Sig. (2-tailed)		.000
	N	151	151
RETA4	Pearson Correlation	.854**	1
	Sig. (2-tailed)	.000	
	N	151	151

**. Correlation is significant at the 0.01 level (2-tailed).
Source: SPSS Output from data analyses (2019).

The result in table 4.15 shows that Weighted Average valuation correlates with return on asset (r = 0.854, p = 0.000<0.001). This represents a high correlation indicating a strong relationship. The relationship that exists between Weighted Average valuation and return on asset is shown to be significant at 0.01 significant levels.
Since an r value that is less than 0.20 (r < 0.20) is the benchmark for accepting the null hypotheses and an r value that is greater than or equal to 0.20 (r? 0.20) is the benchmark for rejecting the null hypotheses, based on this guideline for accepting or rejecting the null hypothesis formulated for the study, the researcher rejected the null hypothesis and uphold the alternate hypothesis. This was because, the r value obtained from our SPSS computed output is greater than 0.20 i.e. r 0.854 is greater than 0.20. Hence the null hypothesis which states that there is no significant relationship between Weighted Average valuation and return on asset was rejected.

5. Conclusion and Recommendations

Inventory valuation methods has a strong, positive and statistically significant relationship with financial performance and also the firm size has a strong relationship in moderating the effect of inventory valuation methods and financial performance consumer goods in Nigeria. This result is in corroboration with the findings of previous studies conducted. On the basis of these findings, the study concludes that inventory valuation method is a creditable factor for achieving a better financial performance; and among the components of inventory valuation, Weighted Average Methods has a significant relationship with financial performance. The study recommends that detailed investigation should be undertaken before approval is given on any adjustment of inventory balance and also audit report should be sent to store on daily basis.

REFERENCES

Ahmet, G. S., & Emin, H. C. (2012). Effects of working capital management on firm's performance. *International Journal of Economics and Financial Issues*, 2(4), 488-495.

Ali, M.J., Ahmed, K.& Henry, D. (2006). Harmonization of accounting measurement practices in South Asia: *Advances in International Accounting*, 19 (1), 25-58.

Al-Homaida, A. E., Dabwan, S. A. & Ahmad, A. (2018). Valuation of inventory methods in the industrial companies in Yemen. *International Journal for Scientific Research & Development*, 6(4), 591-597.

Al-Mwalla, M. (2012). The impact of working capital management policies on firm profitability and value: *The Research Publications*, 2(2), 1-13.

Anthony, R., Hawkins, D. & Merchant, K.A. (2003). *Accounting: Text and Cases*, McGraw-Hill, New York.

Bar-Yosef, S. & Sen, P.K. (1992). Optimal choice of inventory accounting method: *The Accounting Review*, 67(2), 320-336.

Bangkok, T., Cushing, B.E. & LeClere, M.J. (1992). Evidence on the determinants of inventory accounting policy choice. *The Accounting Review*, 67(2), 355-366.

Baveld, M. B. (2012). Impact of working capital management on the profitability of public listed firms in case of Jordan. *International Research journal of finance and economics*, 85, 1-9.

Bhattacharyya, A. K. (2012). Essentials of financial accounting. 3rdedn, PHI Learning Pvt. Ltd, New Delhi.

Chen, H., Frank, M.Z, & Wu, O. Q. (2005). What actually happened to the Inventories of Chicago: Dallas: Cincinnati: New York: Southwestern, 176-177.

Chung, S. & Narasimhan, R. (2003). An empirical analysis of the inventory accounting methods of U.S. multinational companies: Segment and industry effects paper presented at the Seventh *International Conference on Global Business and Economic Development*. *Management Science,* **51**, 1015-1031.

Donald, W. (2003). *Inventory Control and Management*. 2nd edn, London George, Allen and Unwin Dettoratius.

Dopuch, N. and Pincus, M. (1988). Evidence on the choice of inventory accounting methods: weighted average versus FIFO.*Journal of Accounting Research*,26(1), 28 -59.

Drury, C. (1996). *Management and Cost Accounting*. London. International Housan Business Press.

Drury, C. (2004). Management and Cost accounting: Effects of Consumer Concentration and Cost Structure. *Accounting Review*, 71**,** 183-205.

Edori, D. S. &Ohaka, J. (2018). Implication of choice of inventory valuation methods on profit, tax and closing inventory. *Account and Financial Management Journal,* 3(7), 1639-1645.

Eliots, V. (2009). The role of customers in financial profitability. *Journal of Management and Education,* 11(12).

Emery, D.,Finnerty, J. E. & Stowe, J. D. (2008). *Corporate financial management*. London: Pearson.

Falope, O. L.& Ajilore, O. T. (2009). *Working capital management and corporate profitability*: Evidence.

Fama, E. F.& French, K. R. (1993). Common risk factors in the returns on stocks and bonds. *Journal ofAccounting Research*, (27)1, 21 -51.

Filbeck, G. & Krueger, T. M. (2005). An analysis of working capital management. *Mid-American Journal of Finance and Accounts*, 30(3-4), 573-588.

Finney, A. & Herbert, E. M. (1958). *Principles of accounting*: Intermediate Engle wood Cliffs, N. J.: Prentice Hall, Inc.

Gaur, V., M., Fisher, L. A. & Raman, H.(1999). What explains superior retail performance? *Working paper.*

Gupta, K. (2005). Contemporary Auditing, Tata McGraw-Hill Education Pvt. Ltd., New Delhi.

Hakansson, H. & Persson, G. (2004). Supply chain management: The Logic of supply chains and networks. *The International journal of logistic management*, 15(1), 11-26.

Herrmann, D. & Thomas, W. (1995). Harmonisation of accounting measurement practices in the European Community, *Accounting and Business Research.*

Hughes, P.J. & Schwartz, E.S. (1988). "The weighted average/fifochoice: An asymmetric information approach", *Journal of Accounting Research*, (26), 41-58.

Hunt III, H. G. (1985).Potential determinants of corporate inventory decisions.

Huson, M. & Nanda, D.(1995). The Impact of just-in-time manufacturing on firm performance. *Journal of Accounting Research*, (26), 41-58.

Ibarra, V.C. (2008).Choice of inventory costing method of selected companies in the Philippines", *Journal of International Business Research*, (7) (1), 17-31.

Iryna, A. K. & Lyudmyla, I. L. (2015). *Introduction directions of international accounting and management practices into domestic experience of accounting and analysis*, 23(4), 18-28.

Jaafar, A. & McLeay, S. (2007). Country effects and sector effects on the harmonization of accounting policy choice", Abacus, 43(2), 156-189.

Johnson, C.E. (1954). "Inventory valuation –the accountant's Achilles heel", Jordan. *International Journal of Management Finance,* 155-179.

Khan, M.Y. & Jain, P.K. (2010). *Management Accounting: Text, Problems and Cases*, 5th ed., Tata McGraw-Hill Education Pvt. Ltd., New Delhi.

Kotler, P. (2002). *Marketing Management, 2 nd edition. The Millennium edition*. New Delhi: Prentice Hill of India.

Karren, B., Wilbert, L. E. & Harry, S. (1958). Intermediate Accounting listed firms. *Research Journal of Business Management*, 4(1): 1-11.

Mathuva, D. (2010). The influence of working capital management on corporate profitability. A survey of Kenya.

Mills, A. (2008). *Essential Strategies for Financial Services Compliance*.Port Harcourt: John Wiley & sons, ltd.

Morse, D. & Richardson, G. (1983) "The weighted average/fifo decision", *Journal of Accounting Research*, (21) (1). 106-127.

Raman, N. A. & Craig, N. (2013). *The impact of supplier reliability on retailer demand*. Chicago: Harvard Business school.

Nabila, N. (2015). Inventory valuation practices: A developing country perspective, *International Journal of Information Research and Review.* 2(7), 867-874.

Narayanaswamy, R. (2011). Financial Accounting: A Managerial Perspective, 4th ed., PHI Learning Pvt. Ltd., New Delhi.

Needles, B.E. & Powers, M. (2012). *Financial Accounting*, 11th ed., South-Western Cengage Learning, Mason.

Needles, B.E., Powers, M. &Crosson, S.V. (2011). *Financial and Managerial Accounting*, 9th ed., South-Western Cengage Learning, Mason, OH.

Nwanyanwu, L.A &Ogbonnaya, A.N (2018). Budgetary Control and Financial Performance of Small and Medium-Sized Enterprises. *International journal of Economics and financial management* 3(1). 66-73.

Onoja, E. E. & Yahya, U. A. (2015). Inventory Valuation Practice and Reporting in Nigeria textile industry Experience. *Mediterranean journal of Social Science,* 6(4), 74-82.

Pandey, I. M. (2008). Financial Management: 10th Ed. New Delhi: Viker Publishing House.

Performance of Deposit Taking SACCO's in Mount Kenya Region. International Journal of Scientific Prentice Hill. *Production and Inventory Management J.*, First Quarter, 62-67.*Production Research*, **33**, 3053-3068.

Raheman, A. & Nasr, M. (2006). Working Capital Management and Profitability: Case of Pakistan Firms. *International Review of Business Research Papers*, 3(1): 279-300.

Rajagopalan, S. & Malhotra, A. (2001). Have U.S. Manufacturing Inventories Really Decreased.

Rao, P.M. (2011). Financial Statement Analysis and Reporting, PHI Learning Pvt. Ltd., New Delhi. Retail Services. *Management Science*, **5(1)**, 181-194.

Rich, J., Jones, J.P., Mowen, M.M. & Hansen, D.R. (2012). Cornerstones of Financial Accounting, 3rd ed., South-Western Cengage Learning, Mason

Roumiantsev, S. & Netessine, S. (2007). What can be learned from classical inventory models: a cross industry exploratory investigation? M&SOM, forthcoming.

Siyanbola, T. T. (2012). Impact of stock valuation on profitability of manufacturing industries. *International Journal of Advanced Research in Management and Social Sciences,* 1(2), 35-46.

Stickney, C., Weil, R., Schipper, K. & Francis, J. (2010). *Financial Accounting: An Introduction to Concepts, Methods and Uses*, 13th ed., South-Western Cengage Learning, Mason.

Sunder, S. (2016). Optimal choice between fifo and weighted average", *Journal of Accounting Research*, 14 (2), 277-300.

Szabo, P. T. (2012). A roadmap for effective credit policy collective wisdom magazine. Retrieved from http://www.sciencedirect.com 12th November, 2015.

Uganda, W. I., & Copeland, T. F. (2009). Management Finance. *Merit Research Journal of Accounting, Auditing, Economic and Finance,* 10th Ed. New York. The Dryden Press. 1(5) 67-80.

Woon-Oh, J. (2010). "Strategic choice of inventory accounting methods" *ContemporaryAccounting Research*, 19(11), 38-46.