



Inventory Management and Competitive Advantage of Contemporary Manufacturing Firms in Nigeria

Olatunji Eniola Sule¹, Joseph E. O. Oshi¹

¹Management Department, University of Port Harcourt, Port Harcourt, Nigeria

*Corresponding Author: Olatunji Eniola Sule

Email: olasem2005@yahoo.com



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Abstract

This study examined the impact of inventory management in contemporary manufacturing firms in Nigeria. This was done in relation to how effective and efficient inventory management can be used to achieve a competitive advantage in any sector such manufacturing firm may belong. This study being both exploratory and theoretical, there was critical review of inventory management and competitive advantage. The study concluded that in pursuing cost leadership and differentiation as corporate strategies, inventory management must be effective and efficient. There were recommendations based on the findings, that manufacturing firms should be proactive on issues relating to production, creation of a distinct functional department in charge of inventory management and the consideration of the use of scientific approach to inventory management.

Introduction

In real life experience, there is widely accepted rule or maxim referred to in legal parlance as Nemo Dat rule. The rule is simply saying that you cannot give what you do not have. In a tribe in Nigeria, again, there is a proverbial saying that “if those cooking the food did not cook, what will those that are hungry then eat?” This explains why manufacturing firms in Nigeria must always be producing goods and/or services for their customers to buy. Come to think of it, production/manufacturing has three distinct stages according to Onuoha (2008) which are said to be inputs to transformation and finally to outputs. This, then, make it mandatory for the plants of every manufacturing firm to be running round the clock. This kind of running of plants by manufacturing firms depends so much on the demands for the firms’ products and availability of raw materials to produce with. This necessitated the need for inventory control or management in any manufacturing firm.

It was submitted in Onuoha (2008) that operating system is all encompassing compared with conversion or transformation of inputs to output. Most manufacturing firm fit in to operating system where there will be scheduling of production process, plants and equipment maintenance, inventory management, handling of materials and so on. This study is essentially concerned with one vital parts of any operating system – inventory management. It must be noted that the choice of operating system is usually determined by the demand volume and the products specifications. The continuous flow operating system will be characterized by high volume demand while low volume demand will require intermittent operating flow system. Whichever of the two operating system that is being used by manufacturing firm, there is much need to have efficient and effective inventory management.

Inventory management is paramount in any organisation that is purposeful because significant percentage of organisation’s investment/capital is tied up in inventory (Mac’Odo, 2005). Anichebe and Agu (2013) also agreed that inventories are important for the manufacturing as

well as retailing firms' successful functioning. Stevenson (2010) as quoted in Atnafu & Balda (2018) defined inventory management to be "a framework employed in firms in controlling its interest in inventory". This will encompass recording and stock level observation, future request estimation, and consensus on how and when to place order to replenish the stock. In the same Atnafu & Balda (2018), Deveshwar and Dhawal (2013) asserted that inventory management is a way firms adopt to have adequate materials and/or goods supply, minimizing storage and other related costs at the same time by organizing, storing and replenishing inventory.

There had been several studies on inventory management as it relates to manufacturing firms but there is scanty research on using inventory management as competitive advantage in a particular industry. For instance, a bread maker that purposely prefers not to bake bread during the week than not baking on Sundays because almost all the bakers hardly bake on Sundays. This study will, therefore, try to establish the relationship between inventory management and competitive advantage in manufacturing firms in Nigeria.

Theoretical Framework

The theories that will underpin this study are lean and Resource-Based theories.

Lean Theory

This theory was propounded by Heizer and Render (2006) which explains that inventory management or if you like planning and control of inventory is "the ongoing of standard items with independent demand, where some speculative quantity should always be on hand". It then mean that the theory stand firmly on the Economic Order Quantity (EOQ) for optimization of any ordered item and optimization of storage and other related cost of inventory system.

Resource-Based Theory

This theory suggests that resources that are valuable, rare, difficult to imitate, and non-substitutable place organisation in the best position for long-term success over and above its competitors. A firm's competitive advantage arises from those resources both human and non-human that the organisation possess. Resource-based theory, therefore, gives vital role of helping organisations to achieve higher organisational performance as well as better competitive advantage. The basic contention of resource-based theory is "the possession of strategic resources by organisation to give golden opportunity over and above its competitors/rivals". This resource-based view of competitive advantage differs from the traditional strategy paradigm in that the emphasis of the resource-based view of competitive advantage on the link between strategy and the internal resource of the firm" (Onuoha, 2011).

Resources with which to compete with competitors must be very difficult to duplicate and/or imitate some of which are usually protected by different legal means such as copyrights, patents or trademarks. It must be noted that the common saying that "the whole is greater than the sum of its parts" that is, synergy effect is greater than the addition of two or more performance/output which is the focus of resource-based theory. Resource under resource-based theory can be classified into tangible which include car, home, property, equipment, cash, etc. and intangible like employees' knowledge and skills, an organisation's reputation as well as organisation's culture.

Empirical Review

In Anichebe and Agu et al. (2013), effect of inventory management on organisational effectiveness in selected organisations in Enugu, Nigeria was studied. The study made use of survey method with questionnaire and interview as the instruments. The questionnaire was

presented on Likert's scale format and Pearson Correlation and Linear regression at 0.05 alpha levels were used in testing the hypotheses of the study. It was concluded in the study that there is significant relationship between good inventory management and organisational effectiveness and also, that inventory management has a significant effect on organisational productivity.

The effect of inventory management on the organisational performance of selected manufacturing firms was studied by Agu et al. (2016). In this study, they tried to establish if there is any relationship between inventory controls; ascertain the relationship between demand management and customer satisfaction and establish the implication of Just-in-Time on the growth of selected manufacturing firms. Descriptive survey research design was used with questionnaire and interview as the instruments for getting primary data. It was concluded in the study that inventory management is important for any business operation and finally recommended that personnel of the organisation should be trained on inventory control management to take charge of inventory management task smooth running.

Another research study by Atnafu & Baldu on the impact of inventory management practice on firms' competitiveness and organisational performance with empirical evidence from micro and small enterprises in Ethiopia was conducted in 2018. This study established empirical impact of inventory management on firm's competitiveness and organisational performance with special focus on the manufacturing subsector by micro and small enterprises (MSEs). Model and explanatory factor analysis were used to analyze the primary data collected via quantitative survey approach. The study revealed that higher inventory management practice can attract competitive advantage and improved performance of the organisation. It was recommended in this study that those that are involved in policy making as well as other concerned body should give training and resource for inventory management practice promotion in order to improve the MSEs economic development contribution.

The effect of inventory management on organisational performance among textile manufacturing firms in Kenya was studied by Musau et al (2017). The study investigated the inventory management effect on supply chain management in relation to reliability cost, profitability, responsiveness, efficiency of flexibility and asset management of textile manufacturing firms in Kenya. Convergent parallel mixed methods design, stratified and simple random sampling methods used for choosing the respondents that responded to the research instruments (questionnaire and interview). The findings revealed that inventory management adoption by Kenya manufacturing firms is a factor influencing performance through supply chain. The study concluded that inventory management is an influencing factor for textile firms' performance in Kenya.

Finally, Dedunu & Weerasinghae (2018) conducted a study to reveal the effect of inventory management on company performance reference to listed manufacturing companies in Sri Lanka. The study ascertained the relationship amongst inventory management and company performance. This study considered the modern day inventory tools like Just-in-Time (JIT), Systems Applications on Product (SAP) Enterprise Resource Planning (ERP) systems in controlling effectively and efficiently the organisation inventory system. The study adopted descriptive, correlation and regression analyses using STATA package to establish inventory management effect on the performance of some listed manufacturing firms. The study findings revealed positive relationship between inventory management and gross profit as well a negative relationship amongst inventory management and net profit. It was, therefore, recommended that firms should adopt correct decision making process regarding the

administrative and other related costs of inventory management in order to improve organisation's performance.

Literature Review

Concept of Inventory Management

Manufacturing firms spend much on inventories as such it form major part of the current assets of the organisation. Many manufacturing firms are overwhelmed with the planning and controlling of this vital aspect of production. The motive for the planning and controlling is to achieve optimal level of storage such that there will not be overstocking which will make them to tie fund down and under-stocking that may affect production schedule. Dickson (1995) as quoted in Simon & Njoku (2018) affirmed that "the goal of inventory management is to provide the inventories required to sustain operation at minimum costs".

Planning aspect of inventory management was asserted by Mac'Odo (2005) to be involved in making decisions as to what to store/produce, where do we buy from, what are the best economical form of moving, keeping, inspecting, etc. of what we are buying. Inventories controlling involves decision as to when to place order/produce, what type of inventories control mechanism do we adopt to achieve optimal activities and what quality do we order/produce.

Efficient and effective inventory management will be a panacea to manufacturing firms' productivity, improved customers patronage and invariably, profitability and survival of such firm. Simon & Njoku (2018) opined that inventories should be controlled so that it can leverage on the firm productivity as well as overall performance and that it can as well affect the firm's profitability.

In having proper inventory management, the planning and controlling mechanisms must be thorough and be subjected to constant review even in absence of any problem. Laurego (2002) as cited in Simon & Njoku (2018) revealed that inventory management involved solid systematic control where purchases, storing and using of materials are well regulated to achieve even flow because manufacturing firms recently are faced with challenges of non-performance as a result of poor inventory management. For instance, Simon & Njoku (2018) made reference to Dansa Food Limited as not performing as expected mainly because there is no proper planning and controlling of the inventories.

For efficient and effective inventory management Musau, et al. (2017) recommended systems like Enterprise Resource Planning (ERP), Vendor Managed Inventory (VMI), Marginal analysis, Economic Order Quantity (EOQ), and Radio Frequency Identification (RFI) for inventory optimization and flow of material apart from the common Economic Order Quantity (EOQ) and Just-in-Time (JIT). Dedunu & Weerasinghae (2018) argued that Economic Order Quantity (EOQ) is used to control effectively the cost elements of inventory. Other emerging forms of inventory management like the Material Requirement Planning System (MRPS), Enterprise Resource Planning (ERP) and Just-in-Time are usually applied in developed countries and just because of the inherent nature of the business and social conditions developing countries are still struggling to adapt any of the emerging advanced techniques of controlling inventory.

Concept of Competitive Advantage

Strategy was first noticed in military parlance. The military design strategies to win war and other allied battle. Gradually, entrepreneurs, corporate bodies and even politicians embrace strategy though Onuoha (2016) opined that unfortunately entrepreneurs, politicians,

organisations, administrators and corporate executives in the developing nations does not attach much importance to the application of strategy. Thompson, Jr., Gamble and Strickland III (2004) as cited in Onuoha (2016) affirmed that corporate strategy is the organisation's management game plan that is used in shaking out a market position, attract and satisfy customers, compete with other competitors successfully, conduct all operations and finally, achieve the corporate objectives. This, therefore, suggest that "the sole aim of corporate strategy is to gain competitive advantage" (Onuoha, 2016).

To achieve competitive advantage, Porter (1980) as quoted in Onuoha (2016) deposited that a firm should use at least one of the Porter's generic strategies – cost leadership, differentiation or focus.

Cost Leadership – This is a deliberate attempt at being the lowest cost producer in the industry and to attain cost leadership, the firm must work towards cost efficiency and leadership. Onuoha (2016) listed eight options to pursue if the firm intends to be cost efficient and leader but the bottom-line is that none of the eight options can be easily pursued without efficient and effective inventory management. This includes Stringent cost control and minimization measures (cost-cutting technologies/processes/practices); Preferential access to raw materials (may be , key raw materials); Increased capacity to attain economies of scale; Volume sales techniques; Avoiding wastes and scraps (or avoiding wasteful organisational practices); Riding on the experience curve to attain efficiency (popularized by the Boston Consulting Group – BCG); Proprietary technology (which takes care of proprietary interests or objectives); Marginal contribution analysis to know whether it is cheaper to make or buy, etc.

Differentiation – This is trying to be distinct and different from your competitors by doing something different that may be difficult for them to do in the same way you do such. Such action(s) should be unique and traceable to only your firm. If a manufacturing firm in Nigeria, for instance, commences the use of a unique inventory management such that the competitors cannot easily understand and it is favorable, such can be a basis for competitive advantage. Porter (1988) as quoted in Onuoha (2016) asserted that "differentiation can be based on the product itself, the delivery system by which it is sold, the marketing approach and a brand range of other factors". Among those other factors can be efficient and effective inventory management.

Focus - This is paying special attention by a firm on a distinct part of the market and ensuring that that part of the market is satisfied by the firm. In the same vein, it is creating a niche iin the market and satisfying such niche carved out of the market. Onuoha (2016) said it is a strategy used in a segment of the market and ensuring satisfaction of such market segment maximally. By doing this, the firm customers and consumers will not be able to adjust their loyalty of the firm's brand to that of the firm competitors.

Type 4 and Type 5 are the two alternatives of focus strategy according to Onuoha (2016). Type 4 is a low-cost focus strategy with a market niche for selling to their customers at the lowest price within the market and Type 5 is best-valued focus strategy that target giving the firm's customers the best price valued products in the market. It must, therefore, be noted that all these strategies can be successfully pursued with effective and efficient inventory management.

Conclusion

Without mincing words, this study had revealed that inventory management can be used by manufacturing firms to 'catch a niche' in any industries they may belong. Many manufacturing firms are getting it wrong and finding it difficult to survive simply because there is no efficient and effective inventories management within the firm. If firms intends to pursue cost leadership

and differentiation from the generic strategy, inventory management need to be effective and efficiently managed. Not just managing inventories but using it as a weapon to create a special image like there is no time you will go to the firm and you will not get product. Inventory management, therefore, can be used as a competitive advantage over other competitors in the industry.

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