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# INVENTORY CONTROL SYSTEMS AND CORPORATE EFFECTIVENESS OF TELECOMMUNICATION FIRMS IN PORT HARCOURT

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## ABSTRACT

*Operators of telecommunication firms are faced with the challenge of optimally managing the mixed inventory profile (Tangible and Intangibles) of the industry. In the face of economic uncertainties associated with the Nigerian business climate, telecommunication firms as drivers of innovativeness have tactically rationalized away from the traditional inventory models of First-In First-Out, Last-In First-Out or the Awaited Average into new paradigms of the Just in Time (JIT) and/or the Just in Case (JIC) Systems of Inventory Control. The effectiveness of these inventory control mechanism on the corporation was explored in this work from the non-financial perspective with indicators such as Internal Business Processes, Customer Satisfaction as well as Innovations drawn from the learning curve as expounded by notable management scholars. The work covered a population of seventeen (17) internet providing firms listed under the individual license category by the Nigeria Communication Commission. The entire sixty-one (61) managers and supervisors from the 17 internet providing firms were studied hence no sample, sample size as well as method were employed. Data was collected by means of questionnaires and formulated hypothesis were tested using the Spearman's Rank Order Correlation Coefficient. The study summarily found that there is a significant relationship between the dimensions of inventory control system and the measures of corporate effectiveness studied and therefore concluded that telecommunication firms must decide the combination of the control systems (the ratio of the inventory control mix) that would support the scale of their operations as against the traditional one-size-fit all approach.*

**KEYWORDS:** *Inventory, control, system, effectiveness, telecommunication, satisfaction*

## INTRODUCTION

Every business entity offers a product or a service to the consuming public. These products or services as the case may be represent outputs from a process that consumed inputs. Inputs are generally regarded as inventory in the business parlance. Most times, what constitute inventory to an organization may not ordinarily be at its disposal and thus must be resourced from elsewhere and held until consumed or resold, and because most profit oriented businesses operate in perpetually, inventory becomes a perpetual-constance in the operations of most businesses. Furthermore, other resources in the form of manpower, storehouse, documentations and finance committed in searching for, locating, arranging for, acquiring and keeping this resource could be substantial. According to Anene (2014), inventory and its control/management

typically represents about 45% to 90% of all business expenses. This therefore suggests that the organization must through any available gaits control inventory for the purpose of market competitiveness as the final price paid by the customer includes the cost of controlling inventory (Rosenblatt, 1977).

The Telecommunications industry encompasses infrastructure for wired / wireless voice and data services with a huge inventory profile ranging from routers, switches, voice and data lines, fixed-handheld & mobile devices and accessories, computers, laptops, bandwidths, service agreements, leases, software licenses, Internet Protocol(IP) and Media Access Control (MAC) addresses, among others. The nature of the telecommunication inventory profile poses a great challenge to industry operators. In a recent study by Cass Information Systems

Incorporated, over 40% of industry operators believe that telecommunications inventory asset management is an area that needs real improvement. This means that operators must appropriately resource their choices of the control systems to deploy in bringing about corporate effectiveness. Telecommunication service providers the world over obviously still grapple with the problem of optimal inventory controlling systems due to the nature of the respective inventories associated with the business coupled with the frequencies of integrations from mergers and acquisitions as well as the unending technology summersault.

### **THEORETICAL FRAMEWORK**

This study is anchored on control theory: this theory describes a simple reference architecture which manipulates a target system to achieve a desired objective. The component that manipulates the target system is the controller while the target system being manipulated or controlled is the resource. In the instant research work, the envisaged control system or systems as the case maybe manipulates inventory within the work place. The computer science discipline has immensely benefited from the knowledge of control theory as well as disciplines such as mechanical, electrical, and aeronautical engineering have also rely on control theory to design their feedback systems. The theory had further been adapted in the humanities as **Management Control Theory** and is described as 'all of the processes used by managers, to ensure that organizational goals are achieved and procedures adhered to, and that the organization responds appropriately to changes in its environment'. The following three concepts underline the proper understanding of the theory:

- i) **The Control Environment:** This defines the overall attitude, awareness and actions of directors and management regarding internal controls and their importance to the entity. It encompasses the management style, and corporate culture and values shared by all employees. It provides the background against which the various other controls are operated.
- ii) **Control Procedures:** These are those policies and procedures in addition to the control environment which are established to achieve the entity's specific objectives
- iii) **Controllability principle:** individuals should only be held accountable for the results they can control.

The theory is operationalized at three basic levels of control. The strategic control level exerted by the board and chief executive, the management control exerted by middle level managers and the operational control exerted at the supervisory level.

### **INVENTORY CONTROL SYSTEM**

The word inventory resonate different things to different people. To some a pile of raw materials constitute inventory, to other it is a collection of whatever is found in the storehouse; another may see inventory as everything brought in as supplies. However, the various shades of meaning held by different people is traceable to the different definitions from contributing scholars in the field of inventory management. In the opinion of Ballou (2004), 'Inventories are the stockpiles of raw materials, supplies, components, work in progress and finished goods that appear at numerous points throughout a firm's production and logistics channels'. While Pycraft, Singh & Phihlela(2000), sees inventory or stock as 'the stored accumulation of material resources in a transformational system. To Chase, Jacobs & Aquilano (2004), inventory is the stock of any item or resource used in an organization. The Accounting discipline views inventory or stocks as the commodity of trade of a business organization held as at a point in time. It is further described as any stored resource used to satisfy a current or future business need (Gopalakrishnan & Abid, 2015). From the array of perspectives above, inventory and stock can be used interchangeably. However in the context of this work, inventory would be seen as all items geared towards a sale as well as those items geared towards operational consumption by an organization.

Whatever that is not controlled is left to fate, chance and trial and error. This is alien to corporate organizations as being in business connotes taking risk which must be reduced to the barest minimum by means of controls. Control in management and administrative term refers to an authoritative power to direct, order and supervise (Kalyan City Life, 2015). In other words, organizations must control those resources that impacts seriously on its survival and profitability. The centrality of inventory to the existence of organizations makes it paramount for organizations to evolve thematic models for controlling its acquisition, storage, releases to user units and its replenishment. The control system may be manual or automated depending on the nature of business and the type, volume and size of the inventory.

A Manual Inventory Control System denotes a model that is dominated by practical human involvement at every stage of the inventory management and control procedures. It describes a scheme where the entire inventory cycle is physically processed by individuals. The Automated Inventory Control System on the other hand refers to the adoption of improved technology in administering and controlling inventory. Information and Communication Technology aids are employed in deploying a scheme that is supported by different software(s) and

hardware(s) at various stages of the entire inventory control cycle.

**CORPORATE EFFECTIVENESS**

The first word of the phrase corporate effectiveness represents a creation incorporated by a group of shareholders who have ownership of the entity so created, represented by their holding of its common stock. It is a legal entity that is separate and distinct from its owners. Corporations enjoy most of the rights and responsibilities that an individual possesses; that is, they have the right to enter into contracts, loan and borrow money, sue and be sued, hire employees, own assets and pay taxes (Investopedia, 2015). Furthermore, a corporation is an organization established following an idea conceived by an individual or a group of individuals. The concept so conceived is thereafter legalized through a registration process with the Corporate Affairs Commission or the backing of an appropriate law. This documented form takes an institutional character when personnel are recruited to actualize the goals of the organization so formed. In most cases, management of these organizations are usually separated from their owners with the recruitment of key personnel (Eliom, 2014). The import of the above explanations reveals that a corporation is a goal driven business entity.

Meanwhile, the second half of the phrase has effectiveness as the key word. According to the

**DATA ANALYSES AND FINDINGS**

**Table 1: Result of Hypothesis Test, Decision & Relationship**

| S/NO | HYPOTHESIS  | OUTCOME                       | DECISION | EXTEND OF RELATIONSHIP |
|------|---|-------------------------------|----------|------------------------|
| 1    | There is no significant relationship between Just in Time System of Inventory Control and Internal Business Processes | $\rho = 657, P = .000 < 0.05$ | Reject   | Significant            |
| 2    | There is no significant relationship between Just in Time System of Inventory Control and Innovation                  | $\rho = 332, P = .000 < 0.05$ | Reject   | Significant            |
| 3    | There is no significant relationship between Just in Time System of Inventory Control and Customer Satisfaction       | $\rho = 311, P = .000 < 0.05$ | Reject   | Significant            |
| 4    | There is no significant relationship between Just in Case System of Inventory Control and Internal Business Processes | $\rho = 301, P = .000 < 0.05$ | Reject   | Significant            |
| 5    | There is no significant relationship between Just in Case System of Inventory Control and Innovation                  | $\rho = 430, P = .000 < 0.05$ | Reject   | Significant            |
| 6    | There is no significant relationship between Just in Case System of Inventory Control and Customer Satisfaction       | $\rho = 435, P = .000 < 0.05$ | Reject   | Significant            |

**CONCLUSION**

These findings were observed to reiterate the argument of Didia and Gladson’s (2015) in which the adoption and utilization of inventory control systems

Australian Government Productivity Commission (2013) effectiveness is generally the extent to which stated objectives are met. In the same vain, Quality Research International (2015) sees effectiveness as the extent to which an activity fulfils its intended purpose or function. In the light of the foregoing, effectiveness is a measure of performance as to the degree, volume, magnitude, level, range, size and scope to which an objective is achieved.

Following from the discussions, corporate effectiveness therefore refers to ascertaining the extent to which a business entity meets set objectives. In other words, it has to do with determining the degree of performance of a corporation in the pursuit of its objectives. However, determining effectiveness involves measuring performance. This is most times done by either using financial or non-financial tools as the case may be. Some notable financial tools in use include Ratios Analysis – (such as Profitability, Liquidity, Efficiency, Gearing and Shareholder’s Ratios) and the Capital Asset Pricing Model (CAPM) while the non-financial tools covers Performance Management models and other matrixes contextually designed to measure specific items of interest common of which includes internal business processes, customer satisfaction and innovation drawn usually from the learning curve attained by the organization among others (Kaplan and Norton, 1996).

were considered as being a necessity for the enhancement and achievement of corporate effectiveness. This is as the application of both Just in case and just in Time systems of inventory control

provide a platform for organizational processes efficiency and effectiveness and therefore enhances outcomes related to the organizations innovativeness and also its ability to effectively satisfy its customer or client base. The study showed that functionalities which reflect just in Time system of inventory control can be considered as being imperative to the performance of the organization as regards its improved internal business processes, innovations and customer satisfaction, similarly, Just in Case inventory control systems is revealed to be significantly associated with the measures of corporate effectiveness which supports Olutayo and Olufemi's (2015) argument that inventory systems provide the basis for operational efficiency and for the consistent monitoring of feedback on processes which allows for enhanced systems functionality and organizational outcomes.

The implications of this findings are that the effectiveness of the examined corporate bodies can be evaluated based on the ongoing assessment and utilization of inventory control systems and the extent to which these systems are well utilized and adapted to suit the needs of the organization. The position of this study on the usefulness of inventory control systems draws into view the imperatives for well-structured and designed management control systems in the harnessing and monitoring of the operations and activities of an organization especially as regards the management and control of its resources (human and materials) and the control of its knowledge base (Farshid & Amir, 2012; Ingrid, 2004).

### RECOMMENDATIONS

On the basis of the conclusions derived from this study, the following recommendations are made:

- i. Organizations should exhibit deliberate and concerted effort towards adopting and deploying industry best-fit inventory control systems adequate for operational ease, functionality and efficiency which is geared towards organizational success.
- ii. Organizations should be conscious of technological advancement with the aim of aligning their inventory control system with modern innovations and expectation both locally and globally, this will allow for enhanced quality service delivery, internal business processes, innovations as well as customer satisfaction.
- iii. Organizations should institute policies which will enhance and effectively control behaviours, this will allow for a synergetic management of both man and material resources for the overall interest of the organization.
- iv. Organizations should consider integrating and aligning units, departments and locations for a

seamless and holistic view of the entire inventory infrastructure and achieve organizational goal congruence.

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