

**AN ASSESSMENT OF EFFECTIVE LOGISTICS SUPPLY CHAIN
MANAGEMENT AND ITS IMPACT ON BRITISH AMERICA TOBACCO
(BAT)**

BY

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**DEPARTMENT OF BUSINESS ADMINISTRATION FACULTY OF
ADMINISTRATION AHMADU BELLO UNIVERSITY**

NOVEMBER, 2006

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**BEING A PROJECT SUBMITTED TO THE POST GRADUATE SCHOOL
OF AHMADU BELLO UNIVERSITY, ZARIA IN PARTIAL FULFILMENT
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MASTER OF BUSINESS ADMINISTRATION (MBA)**

**DEPARTMENT OF BUSINESS ADMINISTRATION FACULTY OF
ADMINISTRATION ADMADU BELLO UNIVERSITY**

NOVEMBER, 2006

DECLARATION

I declare that the work in the project report entitled an Assessment of Logistics Supply Chain Management and its impact on organization: A case Study of British American Tobacco has been performed by me in the Department of Business Administration. The information derived from the literature has been duly acknowledge in the text and a list of references provided. No part of this project report was previously presented for another degree or diploma at any University.

CERTIFICATION

This is to certify that this project titled “An Assessment of logistics supply chain management and its impact on organization: A case study of British America Tobacco (BAT)” writing by Uchendu Kelechi meets the partial regulation governing the award of the degree of master of business Administration (MBA) of Ahmedu Bello University, Zaria and it is therefore approved for its contributions to knowledge and literary presentation.

DEDICATION

I dedicate this project work to God Almighty and my parents for their dedication to my pursuit of knowledge.

ACKNOWLEDGEMENT

To God be the Glory for His divine guidance, mercies, protection and for granting me the ability to reach this stage of my academic pursuit.

I wish to appreciate my parents Mr. and Mrs. Uchendu for their support and guidance. My appreciation also goes to my uncle Mr. Innocent Gbaruko for his encouragement and advice.

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ABSTRACT

The logistics supply chain management involves the flow of goods and services through the economic system and management of the entire value added chain from supplier down to the final customer.

This study is therefore carried out to assess the impact of logistics supply chain management in reducing inventory, increasing transaction speed and on time delivery, cost reduction, value adding and the elimination of waste.

The finds revealed that logistics supply chain management influence and impact on organizational efficiency growth and development but that fleet maintenance from suppliers and delivery failures affects smooth production.

Useful recommendations have been offered for better management of the supply chain and these are in detail within the project work.

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CHAPTER ONE

INTRODUCTION

1.1 Background of the study.

With the increasing number of world – class competitors domestically and abroad, organizations have to rapidly improve their internal processes to stay competitive. They have to become increasingly flexible and responsive to modify existing products, services, and processes or to develop new one to meet ever – changing customers needs. In the 1990s, with the improvement of organizational capabilities, Managers realized that ability to meet customer needs. This led to the increased focus on the supply base and the responsibilities of purchasing. Managers also realized that producing a quality product was not enough. Getting products and services to customers – when, where, how, in the quantity required and in a cost effective manner – constituted an entirely new type of challenge. (Monezka et al 2002) More recently, the era of the “Logistics Renaissance” was also born, spawning a whole set of time reducing information technologies and logistics networks aimed at meeting these challenges.

As a result of these changes, organizations now find that they must be involved in the management of all upstream firms (suppliers) that provide direct and indirect inputs. They must also be concerned with the network of downstream firms responsible for delivery and after market service of the product to the end customer. According to Bailey, et al (1994). Logistics involves the flow of materials from suppliers, through the organization and out to the customers of the organization. The activities include, coordination of receipt of orders from customers, developing a network of warehouses, picking carriers to get products to customers and setting up an invoicing system to receive payments. The smooth operations of these logistics flows are essential for the effective management of supply chain. These functions need to be managed in such a way that they maximize their contribution to the management of the supply chain and that all non – value adding activities are eliminated. The supply chain encompasses all activities associated with the flow and transformation of goods from the raw materials stage, through to end users, as well as the associated information flows (Monezka et al (200)). Materials and information flows both up and down the supply chain. The supply chain includes: systems management, operations and assembly, purchasing, production scheduling, order processing, inventory management, transportation, warehousing and customer service. Supply chains are essentially a series of linked suppliers and customers; every customer is in turn a

supplier to the next down stream organization until a finished product reaches the ultimate end user. Supply chain management is the integration of supply chain activities through improved relationships to achieve a sustainable competitive advantage (Monezka et al 2002). It involves the strategy of the product or service. A big piece of planning is needed in developing a set of metrics to monitor the supply chain so that it is efficient, cost less and delivers high quality and value to customers. The increasing importance of logistics supply chain management is forcing organizations to rethink their distribution, purchasing and sourcing strategies.

1.2 Statement of the Problem

Organizations face several difficulties in their operations. The problem of incomplete and incorrect information on stock which results in production bottlenecks like poor demand planning and inventory deployment, materials and component inventory existing at high levels in the organization which gives rise to increase cost of carrying inventory and materials remaining in a non – value added state longer.

Organizations also face the problem of maintaining quality levels and good prices as a result of low quality raw materials, which give, rise to the production of defective and substandard products. High material and product damage as a result

of excessive transportation and material handling. These problems affect organizations performance and efficiency and so therefore a desperate need for effective logistics supply chain management.

1.3 Objectives of the study

- a. Studying the implications of logistics supply chain management on organization.
- b. Assessing the impact of logistics supply chain management in adding value to quality, the flow of value to customers and low prices on the suppliers.
- c. Examining the basic supportive activities for effective logistics supply chain management.
- d. Coming up with recommendation for better and effective logistics supply chain management.

1.4 Research Questions

This assessment of effective logistics supply chain management on organization will aim at addressing the following questions:

- a. What are the benefits of effective logistics in an organization?
- b. Why do materials remain longer in non- value added state?
- c. Why are information flows incomplete and incorrect?
- d. How can effective transportation eliminate supply chain waste?

- e. What are the factors considered in supplier selection?
- f. How can the organization pursue zero defects throughout the chain?
- g. How can the organization coordinate the movement of inventory?
- h. What are the problems created excessive material handling and raw material inventory?
- i. How would problems of overproduction and unnecessary production steps be eliminated?

1.5 Hypothesis:

Ho: There is no significant relationship between logistics supply chain management and organizational efficiency

Hi: There is significant relationship between logistics supply chain management and organizational efficiency.

1.6 Significance of the Study

Logistics supply chain management deals with the total concept of managing materials in a positive way, all aspects from the suppliers and subcontractors through purchasing, stock control, production and distribution to the final customer. Hence the significance of this research includes:

- a. It will help organization to reduce materials and inventory waste, which Makes them inefficient producers vulnerable to challenges from cost efficient producers.
- b. It will help organizations see the need for continuous supply relationships which ensures quality and flow of value to the customers and pressures for low prices on the suppliers.
- c. It will reveal the necessities of effective logistics supply chain management and also add to the existing literature and knowledge, considering the importance of supply chain to the growth of organizations and the satisfaction of customers, the research will motivate and provoke more research in the field for improved logistics supply chain management to the betterment of organizations and satisfaction of customers and the society.

1.7 Limitations of the study

The logistics supply chain management seems to be a new concept and broad. There seemed to be inadequate or insufficient coverage on the project due to the time frame in conducting the research, but what ever materials I did lay my hands on had already justified its being considered an interesting and just project.

1.8 Scope of the study:

The area of study for this research will be an assessment of logistics supply chain management in British American Tobacco Zaria covering year 2000 to date.

1.9 Definition of Key Terms

Logistics: Is the art and science of managing and controlling the flow of Goods, energy, information and other resources like product, services and people from the sources of production to the market place (Arnold 1991).

In Bound Logistics: Involves all the activities, which impact upon the flow of Goods into the organization, and therefore include purchasing, contract management, incoming transportation and receipt of materials (Bailey, 1994).

Supply Chain: Encompasses all activities associated with the flow and transformation of goods from the raw materials stage through to end users, as well as the associated information flows (Monezka, 2002).

Supply Chain Management: Is the process of planning, implementing and controlling the operations of the supply chain with the purpose to satisfy customer requirements as efficiency as possible (Monezka, 2002).

CHAPTER TWO

Theoretical Framework Literature Review

1. Introduction

In light of the intended nature of the study, efforts has been made to consult and review relevant works of earliest scholars primarily to indicate and appreciate their concern and opinion in respect to Logistics Supply Chain Management.

According to Martin Christopher (1986), the logistics orientation recognizes that that in order to improve the performance of the system, as measured by the cost effective provision of customer service, all the interrelated activities in moving materials and goods from source to user must be managed as a whole. Logistics is specifically concerned with the flow of goods through the economic system. In the business firm the logistician is concerned with the in bound movement of goods to supply the production processes of the firm. The activities which are referred to as logistics activities are a consequence of the distance and time gap between production's location and the point of consumption and of the inability or the economic undesirability of having production output respond instantaneously, to the needs of the market place. Thus, primary logistics activities includes movement

and storage, information flow, especially sales information that sets the logistics system in motion. The logistician sets the level of the move-store activities in a way that gives an optimum balance between the contribution of revenues associated with the level of customer service provided and the cost maintaining the customer service level.

Nowadays, one of the few outcomes in the constantly changing business world is that organizations can no longer compete solely as individual entities. Increasingly, they must rely on effective supply chains, or network, to successfully compete in the global market and networked economy (Baziotopulus, 2004).

Supply chain management is specially concerned with the management of entire value – added chain, from the supplier to the manufacturer right through to the retailer and the final customer. The primary goals is area to reduce inventory, increase the transaction speed by exchanging data in real time and increase sales by implementing customer requirements more efficiently. It is now recognized in major organization as an area for reducing costs and adding value. It also improve trust and collaboration among supply chain partners, thus improving inventory visibility and improving inventory velocity.

2.2 The Logistics Concept:

Logistics as a concept is considered to revolve from the military's need to supply themselves as they moved from their base to a forward position. In ancient Greek, Roman and Byzantine empires, there were military officers with the title "Logistikos" who were responsible for financial and supply distribution matters. Logistics as its own concept in business evolved only in the 1950s. This was mainly due to the increasing complexity of supplying one's business with materials and shipping out products in an increasingly globalized supply chain, calling for experts in the field (Christopher, 1992).

The logistics concept according to Martin Christopher (1986) involves a radical transformation of the way a company faces up to the needs of the marketplace in terms of its entire operation management. What is implicit in this new approach is the recognition of the need to balance the requirements of customer service against the internal management of its resources. The integrative nature of the logistics task is to bridge the operations gap between source of supply and final demand.

This concept is analogous to the concept of material management and distribution management. The suggestion is that logistics is a planning framework rather than a business function. In other words the management task interest in logistics is not so much concerned with the management of material flows but rather with providing

the mechanism for establishing objectives and strategies within which the day-to-day activities of material management and distribution management can take place.

Logistics affects the balance sheet and the profit and loss account. It has implications for resources utilization and it can provide the means for coordinating supply, operations and distribution. According to Jensen (1992) logistics can be defined as having the right quantity at the right time for the right price. It is the science of process. In corporate all industry sectors, and manages the friction of project life cycles, supply chains and resultant efficiencies. Logistics is the art and science of determining requirements; acquiring them; distributing them and finally maintaining them in an operational ready condition for their entire life (Donald, 1978). Hadfield and Nichols (2002) view logistics as the art and science of managing and controlling the flow of goods, energy, information and other resources like products, services and people from the source of production to the market place. It is difficult to accomplish any marketing or manufacturing without logistical support. It involves the integration of information, transportation, inventory, ware housing, material handling and packaging. The operating responsibility of logistics is the geographic repositioning of raw materials, work in process and finished inventories where required at the lowest cost possible.

2.3 Objective of Logistics

Within the broader objectives of the firm, the business logistician seeks his own functional goals that will move the firm towards its overall objectives. Logistics activity results in the highest possible return on investment over time. There are two dimensions to this goal.

1. The impact of the logistics system design on the revenue contribution
2. The cost for the system design.

Ideally, the logistician should know how much additional revenue would be generated through incremental improvements in the quality of customer service provided. However, such revenue information is not generally known with great accuracy. The analysis then turns to a cost analysis rather than profit or return on investment analysis.

According to Donald (1978), costs involved in the logistics system are broadly of two types: operating costs and capital costs. The greater the time value of money, then maximizing the present value of cash flows or maximizing the internal rate of return of cash flows would be an appropriate statement of the objective. Maximizing the cumulative return on investment over time is the single most important objective to assure the survival of the firm.

2.4 Logistics Operations

According to Donald and Closs (1996), the operational aspect of logistics is concerned with management of the movement and storage of enterprise materials and finished products. As such, logistical operations are viewed as commencing with the initial transportation of materials or component parts from source of procurement and terminating with the final delivery of manufactured or processed products to a customers or consumers. For a large manufacturer, logistics operations may consist of thousands of an industrial user, retailer, wholesaler, dealer or other marketing intermediary. For a large retailer, logistics operations may commence with the purchase of products for resale and terminate either with consumer pickup or with delivery to the consumers home. For a hospital, logistics starts with procurement and ends with full support of surgical and recovery operations. The significant point is that regardless of the size and type of enterprise. Logistics operations are divided into three categories:

1. Physical distribution management: This is concerned with movement of product to customers. In a physical distribution sense, the customer is viewed as the final stop in the marketing channel. It is through the physical distribution process that the time and space of customer service become an integral part of marketing. Thus physical distribution links an enterprise with its customers.
2. Materials management: Sometimes referred to as physical supply is concerned with the procurement and movement of materials, parts and finished

inventory from geographical points of purchase to manufacturing or assembly plants, warehouses or retail stores. Depending upon the situation, the process of acquisition is commonly identified by different titles. For the manufacturer, the process of materials acquisition is typically called purchasing. Material relates to inventory with respect to inbound flow, and product is used to identify inventory for outbound customer shipment. The fundamental difference is that a product results from whatever value is added to material as a consequence of the enterprise's manufacturing sorting or assembly.

3. Internal inventory transfer: This process concerns control over semi finished components as they flow between stages of manufacturing and the initial movement of finished product to warehouses or retail outlets. Inventory transfer has one significant distinction when contrasted to physical distribution or materials management. Whereas both physical distribution and materials management deal with the uncertainty of market forces, inventory transfer operations are limited to movement within and ostensibly under the complete control of the enterprise.

2.5 Logistics Coordination

Logistics coordination is concerned with the establishment of requirements and specifications which integrates overall logistical operation (Donald 1978). Coordination is required to establish and maintain operational continuity. Logistics

coordination involves planning and control of operation matters. Coordination is divided into four areas of managerial concern.

1. Product – market forecasting: The establishment of objectives of guide logistic operations requires that estimates be compiled concerning future sales expectations and inventory requirements. The formulation for a statistical estimate of future sales is the primary concern of product – market forecasting. It constitutes a firms initial effort to reconcile, program, and if possible postpone the anticipatory process inherent in a free market system.

2. Order processing: Constitutes a “here and now” measure of marketing activity by the forecast. The arrival of a customer order initiates the physical distribution process which, when completed, provides the logistics effort necessary to support marketing. Order processing of demand, is an essential aspect of logistics coordination.

3. Operational planning: The operational plan integrates what the enterprise is capable of doing with what management decides to attempt in the future. The plan specifies how the enterprise will deploy available resources over a specified period. The main point is that the operational plan provides managerial direction to the overall enterprise and details specific logistics activities.

4. Material requirement planning: Is a useful technique in the manufacturing industry for overcoming the problems of inventory management for components, which are in dependent and lumpy demand (Baily, 1994). Material requirement planning can be described as a system for supplying the number of components required to produce a known quantity of finished assemblies. Procurement and short – term scheduling in manufacturing typically require a great deal more coordination than procurement of resale. Thus material Requirement Planning (MRP) has been developed to assist management in time phasing of acquisition and conversion in a manufacturing or assembly situation. The three ingredients, which go into the MRP package, are the bill of materials, the inventory status file and the master production schedule.

2.6 Logistics Information System

At the heart of an efficiently managed material flow there has to be an efficiently managed flow information. Information is the trigger function for the logistics system as well as being vital for its maintenance. Information is what keeps the materials flow system “open” in the sense that it is capable of adjusting to new circumstances. Any system that does not incorporate a feed back and control element, succumbs eventually to entropy or decay. To provide a responsive, customer – oriented logistics system, it is therefore necessary to ensure that the physical system is paralleled by an information system.

The information system needs to produce timely and relevant information which can produce the basis for logistics response and where necessary corrective management action (Donald, 1978). One further element for definition remains and that is the concept of an information system. A system might simply be defined as a device for converting an input into an output. An information system normally uses multiple inputs that is data from many sources and process and integrates that data to give specified information outputs. For example, demand for a particular item might be recorded at each sales point in the logistics system amalgamated, trends established and then compared with records of stock on hand and planned production levels to provide an output of projected stock availability. This can then provide basis for management action.

The complete logistics information system will be a complex set of data which is capable of manipulation and analysis in as many ways as are required by the logistics manager. More often than not the system must incorporate the capability for more detailed statistical analysis to be performed. At the end of it all there must be an output which makes sense in terms of the decisions that have to be taken and which reflects the costs as well as the benefits of operating and maintaining the system.

The specific functions performed by the logistics information system include:

1. Customer service and communications function: The efficiency with which customer orders are processed and the extent to which communications with customers are maintained is determined by the effectiveness of the logistics information system. The typical logistics system must cope with a wide variety of customer demands. It is the suppliers information system, which takes the first impact of the customers order and thus the system responsiveness, and flexibility becomes all – important.

2. Planning and control function: To provide an adequate basis for planning the logistics information system must incorporate a forecasting facility based upon demand data captured as the order is entered obviously the information system is uniquely positioned to perform this task in that order entry is the point of entry to the system. The combination of forecast demand with information on replenishment lead times makes possible the planning of stock and its location within the physical system. The control of performance is only possible through the logistics information system. Standards need to be established on all aspects of the logistics system. Thus service levels by product and customer category, as well as facility utilization targets and budgeted costs, need to be embedded into the

system's database. Against these benchmarks performance can be monitored and variances reported where necessary.

3. Coordination function: The concept of logistics stands or falls upon the ability of the organization to manage its materials flow and the related information flow in an integrated way. Means must therefore be found to enable production planning to be tied in with procurement schedules, for delivery frequencies to be matched to sales – call cycle etc. The common bond that binds these various activities together is shared information.

2.7 Inbound goods Movement.

According to Baily and Farmer (1994) in bound goods movement, or inbound logistics involves all the activities, which impact upon the flow of goods into the organization, and may therefore be thought of as including purchasing, contract management, incoming transportation and receipt of materials.

Ideally these activities should be handled in an integrated manner, resulting in such in such benefits as lower costs, improved supplier relations, improved product value, on time delivery, receipt of Goods in better condition and less defective material. This function needs to be managed in such a way that they maximize its contribution to the management of the supply chain and that all non – value adding activities are eliminated.

2.8 Internal goods Movement

Internal goods movement incorporates control, storage and handling. Careful attention paid to these aspects can lead to added value through a reduction in inventory carrying costs through lower stocks, reduced losses and damage and improved utilization of storehouse space. The following points should be noted when considering the internal movement of goods.

- a. Utilization: The choice of the most appropriate unit load for example pallets, containers, cage pallets etc.
- b. Population storage: That is putting the most rapidly moving goods together near to the point issues.
- c. Location: Random or fixed. Fixed is better for location but poor on space utilization and vice versa for random
- d. U-flow or through – flow: Through – flow is generally considered to be suitable for manufacturing operations and the u – flow for fast moving goods being received and issued in the same state.
- e. Minimize movement of materials
- f. Select the most suitable handling equipment
- g. Make maximum use of information technology for location and retrieval.

2.9. Goods Movement Theory

This theory suggest that the movement, handling or transportation of materials adds to the cost of the material without adding in any way to value. If the objective is to achieve the lower overall acquisition cost then this has important implications and care must be taken not to add unnecessarily to cost by inefficient handling. The rule is therefore to handle (move) goods as little as position (Bail and Farmer, 1994).

2.10 Materials Handling

The British standards institution defines materials handling as technology employed to move, transport store or discriminate materials wit or without the aid of mechanical appliances. The enythesis is on the movements of materials into, out of and within store. Materials handling cover a wide range of technology. It provides a means for considerable cost savings, particularly in labour – intensives activities. According to Donald and Closs (1996) Materials handling functions include:

1. Loading and unloading: The first and last activities in the materials handling chain of events are loading and unloading. When goods arrive at a warehouse they must be off loaded from the transportation equipment. In many cases, unloading and movement to storage are handled as one operation. In others, they are separate processes, sometimes requiring special equipment. When unloading equipment is

not different from the equipment used to move goods to storage, unloading may be treated as a separate activity since goods may be off loaded and then sorted, inspected, and classified before moving on to a storage location. Several additional activities may take place at the loading point. A final check as to order content and order sequencing may be carried out before loading onto the transportation equipment.

2. Movement to and from storage: Between the unloading and loading points in a storage facility, goods maybe moved several times movement from the unloading point to a storage are, movement may be to the shipping dock or to an order – picking area for stock replenishment. The actual movement activity can be accomplished by any number of the many types or materials handling equipment available. These range from manual push trucks to fully automated conveyor system.

3. Order filling: The final materials handling activity is that of order filling. This is the selection of stock from the storage area according to customer requests. Order selection may take place directly from semi-permanent storage areas or from areas especially laid out to enhance the orderly flow of materials and therefore to promote efficient order selection. Order filing is often the most critical of small – volume orders makes this labour intensive and because the speed at which orders are selected directly affects customer service.

2.11 Warehousing:

To be efficient in meeting consumer and customer demands and responding to competition firms must establish warehouses at various locations. Some of the firm's stock or materials will be kept near the plant while the rest will be located in some rented or public warehouses. The advantage in owning a warehouse is the control it affords the firm, which helps assure efficient warehousing and a high level of customer service. Additional services can be provided such as, inspecting goods, packaging them, shipping them to customers, involving customers and even providing desk space and telephone service for company sales people.

Firms may choose to own a private warehouse or take up a public warehouse. The private warehouse is an attractive alternative under a number of specific conditions:

- a. If the product line requires special handling and storage, it may be necessary to train and control the operating personnel and acquire specialized equipment and facilities for handling and storage to assure the quality of warehousing needed.
- b. It offers less expensive warehousing when there is a high and stable volume of demand flowing through the facility such that full utilization of the facility is possible.

- c. It offers high degree of control.
- d. All the benefits of real estate ownership accrue to the warehousing
- e. It may later be converted to a manufacturing facility, especially a warehousing located next to production facilities. The private warehousing has the potential for offering better control, lower costs and greater flexibility. The public warehousing also offers many advantages like:
 - a. No fixed investment: It requires no investment for the firm renting, space. All warehousing costs are variable.
 - b. Lower costs: It offers lower costs when inventory is low or inventory patterns are seasonal.
 - c. Location flexibility: It is easy to change warehouse locations as market shifts.
 - d. In transit privilege: That is granting of a single transportation rate from origin to destination.

2.12. Out bound goods Movement

This concerns the activities involved with transport and distribution. Effective management in this element of the supply chain can generate substantial benefits through efficiency in the management of finished goods inventories, selection of the most suitable mode of transport, selection of the most effective channels of

distribution and the routing of transport. The management of outbound goods requires the consideration and coordination of the following:

- a. Transport: Vehicles and routes
- b. Warehousing: central and local
- c. Production: Batch size and lead
- d. Customer service: Appropriate level
- e. Depots: size; number and location
- f. Finance; capital investment

2.13 Transportation

According to Martin Christopher (1994), effective transportation management minimize cost, with the transport function being evaluated in terms of cost per mile or cost per case shipped or some such similar measure.

The type of transportation a firm chooses will affect the price of its product, its on time delivery performance, the inventory level, and the condition of materials or goods when they arrive. These results also affect consumer's attitude towards the firm and its products.

2.14 Benefits of Logistics

1. Adjusting to rate, time and place: Effective logistics system help firms to adjust to rate, time and place of production to meet customers demand.
2. Influence buying and size of inventory: Effective logistics system enables firms to buy in large quantities thus taking advantage of quantity discount offered by suppliers and also avoid overstocking and also avoid overstocking and stock-outs.

2.15 The Supply Chain Concept

The perception that purchasing is no longer a routine, administrative ‘ordering’ activity is now widely, if not universally held. The expression supply chain has come into prominence, although there is competing terminology such as the expression ‘value stream’ preferred by the promoters of “lean manufacturing”. Pipeline management is another expression with a similar meaning, and there are advocates of the term “networks”. All of these terms effect the fact that purchasing is no longer just about ordering or buying, but has a strategic role, and is concerned with the flow of materials from raw state to use and disposal (Baily et al 2005).

During the past decades, globalization, outsourcing and information technology have enabled many organizations to successfully operate solid collaborative supply networks in which each specialized business partner focuses on only a few key strategic activities (Scott, 1993). This inter-organizational supply network can be

acknowledged as a new form of organization. Traditionally, companies in a supply network concentrate on the inputs and outputs of the processes, with little concern for the internal management working of other individual players.

In the 21st century, there have been few changes in business environment that have contributed to the development of supply chain networks. First as an outcome of globalization and proliferation of multi-national companies, joint ventures, strategic alliances and business partnerships were found to be significant success factors, following the earlier “Just-in-Time”, “Lean management” and “Agile manufacturing” practices (Macduffie and Helper 1997). Second, technological changes, particularly the dramatic fall in information communication costs, a paramount component of transaction cost, has led to changes in coordination among the members of the supply chain network (Coase, 1998).

The term supply chain according to Monezka et al (2002) encompasses all activities associated with the flow and transformation of goods from the raw materials stage (extraction), through to end users, as well as the associated information flows. Materials and information flows both up and down the supply chain. The supply chain includes all those involved in organizing and converting materials through the input stage, conversion phase and outputs. The cycle is often repeated several

times in the journey from the initial producer to the ultimate customer as on organization's finished good is another's input. The structural entity of the supply chain is concerned with activities such as make, transform, move and store.

Primary supply chains are those that ultimately provide the goods or services to the customer. The support chains are regarded as those that supply consumables or maintenance, repair and operating (MRO) items and capital items to support the activities. It is desirable that developing good practices and concepts are implemental throughout the supply chain by migrating these ideas both upstream. This will require inter-organization cooperation and may involve such factors as cross-functional teams, recognition of the need to delight both internal and external customers, empowerment, more flexible management structures, effective partnerships etc. Such developments will reduce costs and add value throughout the supply chain.

2.16 Supply Chain Management (SCM)

What supply chain management is about is the linkage of the immediate seller/buyer relationship into a longer series of events. A company's suppliers have their own suppliers, and often our direct customers are not the ultimate consumers. Supply chain management sees the various buyers and sellers as being part of a continuum, and recognizes the benefit to be derived from attempting to take a

strategic and integrated view of the chain rather than focusing on the individual links and thereby sub – optimizing. In other words, the focus of managerial attention is not just the individual company or organization but the interactions between the series of organizations that constitute the chain. It might be helpful to visualize the firms in the chain, and the flow of goods or services and information passing between them as links.

Supply Chain Management is concerned with the coordinated flow of materials and services from origins through suppliers into and through the organization and onto the ultimate consumer in such a way as to maximize value added and minimize cost. Associated flows of information and funds are also included (Baily et al 2005).

According to Monezka et al (2002) Supply chain management is the integration of activities through improved supply chain relationships to achieve a sustainable competitive advantage.

Supply chain management is the process of planning, implementing and controlling the operations of the supply chain with the purpose to satisfy customer

requirements as efficiently as possible. Supply chain management spans finished goods from point-of-origin to point-of-consumption.

Aziotopoulos (2004) view supply chain management as a cross-functional approach to managing the movement of raw materials into an organization and the movement of finished goods out of the organization toward the end-consumer. As corporations strive to focus on core competencies and become more flexible, they have reduced their ownership of raw materials sources and distribution channels. These functions are increasingly being out sourced to other corporations that can perform the activities better or more cost effectively. The effect has been to increase the number of companies involved in satisfying consumer demand, while reducing management control of daily logistics operations. Less control and more supply chain partners led to the creation of supply chain management concepts.

Hadfield and Nicholas (2002) defined supply chain management as the management of the entire value added chain, from the supplier to manufacturer right through to the retailer and the final customer. It is the oversight of materials, information and finances as they move in a process from supplier to manufacturer to wholesaler to retailer to consumer. Supply chain management involves coordinating and coordinating and integrating these flows both within and among companies.

It is said that the ultimate goal of any effective supply chain Management system is to reduce inventory (with the assumption that products are available when need).

According to the chartered supply chain management, professionals (CSCMP), a professional association that developed a definition in 2004, supply chain management encompasses the planning and management of all activities involved in sourcing and procurement, conversion, and all logistics management activities. Importantly, it also includes coordination and collaborating with channel partners, which can be suppliers, intermecharies, third – party service providers ad customers. In essence, supply chain management integrates supply and demand management within and cross companies.

Baily and Farmer (1990) posited that the partnership approach to supplier is part of the concept of supply chain management. This approach is broader than the simple relationship between the suppliers and buyers of separate organizations. It deals with the total concept of managing materials in a positive way, all aspects from the suppliers and subcontractors through purchasing, stock control, production and distribution to the final customer. It is concerned with achieving the lowest cost in the whole manufacturing and supply process by identifying and balancing the relationship between the separate links in the supply chain and ensuring that the

whole chain operates at the lowest total cost and the maximum efficiency. The point we are considering here is the link in the chain between the buyer's organization and the supplier as this is a vital element in ensuring continuity of supply, particularly where a JIT System is in operation and there is no margin of error on supplies. The supply chain assumes a flow of value to the customer and pressure for low prices on the supplier.

According to Vickery et al (2003), supply chain management is the combination of art and science that goes into improving the way a company finds the raw components it needs to make a product or service and deliver it to customers. The following are five basic components of supply chain management.

1. Planning: This is the strategic portion of supply chain management. A big piece of planning is developing a set of metrics to monitor the supply chain so that it is efficient, cost less and delivers high quality and value to customers.
2. Source: Choosing the suppliers that will deliver the materials for creating the product. Develop a set of pricing, delivery and payment processes with suppliers and create metric for monitoring and improving the relationships. And putting together processes for managing the inventory of goods and services from suppliers, including receiving shipment, verifying them, transferring them to your manufacturing facilities and authorizing supplier payments.

3. **Make:** This is the manufacturing step. Schedule the activities necessary for production, testing, packaging the preparation for delivery. As the most metric-intensive portion of the supply chain, measure quality levels, production output and worker productivity.
4. **Delivery:** Coordinating the receipt of orders from customers, develop a network of warehouses, pick carries to get products to customers and set up an invoicing system to receive payment.
5. **Return:** The problem part of the supply chain creates a network for receiving defective and excess products back from customers and supporting customers who have problems with delivered products.

2.17 Organizing for Supply Chain Management

The need to coordinate and share information across organizations and functional groups has resulted in the development of higher –level positions designed to oversee various supply chain activities.

Total supply chain management is an organizational concept whose primary objective is to proactively manage the two – way movement and coordination of goods, services and information from raw material through end user (Monezka et al, 2002). Materials management focuses on the coordination of goods, services and information from suppliers through operations, and it is a subset of total supply

chain management. Physical distribution management focuses on the coordination of goods, services and information from operations through end user, and it is also a subset of total supply chain management. Conceptually, total supply chain management involves both materials management and physical distribution management.

A structure that coordinates the diverse activities within a supply chain contrasts greatly with one where separate supply chain groups or activities report to different executive managers. Organizing as an integrated supply chain structure requires traditionally separate activities to report to an executive responsible for coordinating the two – way flow of goods, services and information from supplier through customer. Most large organizations have a materials or supply chain executive responsible for coordinating separate supply chain activities. The supply chain executive may even report directly to the executive committee, which reflects the importance of this activity.

2.18 The Benefits of integrated supply chain concept

1. Provide direct over materials and service costs
2. Develop awareness of managing the system trade offs within a supply chain.

3. Open channels of communication and stimulate the sharing of ideas across organizations and groups.
4. Support the career paths of talented personnel by providing the means to develop-well-rounded expertise.
5. Develop greater operating efficiencies as supply chain activities work together to create materials systems, coordinate procedures, and streamline the movement of material and data.
6. Create a direct link from the customer to external suppliers

2.19 The Supply Chain Activities and Functions.

Purchasing: The perception of the role of purchasing has changed considerably. The function is now seen as being of major importance in ensuring the profitability and indeed survival of the organization.

Inbound Transportation: Organization usually have a specialized traffic and transportation function to manage the physical and informational links between the supplier and the buyer. Organizations that focus on supply chain management must pay close attention to transportation. They recognize the need to control inbound materials shipments as tightly as they control outbound shipments to customers. Allowing a supplier to arrange for inbound transportation may not provide the cost

control or coordination required on the inbound side of the supply chain. Inbound transportation is often outsourced to a specialized transportation provider.

Inbound quality Control: Quality emphasis has shifted from detecting defects at the time of receipt or use to prevention early in the materials – sourcing process. This requires a strong awareness concerning a supplier's role in the quality process. Progressive organizations work directly with suppliers to develop proper quality control procedures and processes.

Receiving and Storage: Receiving and storage is usually part of the materials management function because of the need to control the physical processing and handling of inventory. Receiving and storage includes a variety of tasks. A firm must process incoming receipt records, usually through a computer terminal, which update the in – transit file, purchasing files, the accounts payable system, as well as any other systems requiring receipt information, Material handling is also a critical part of the receiving and storage process, including movement within a facility along with any movement between facilities during the material transformation process.

Control Materials or Inventory: The Materials control group is often responsible for managing materials releases to suppliers. This includes generating the materials release, contacting a supplier directly concerning changes, and monitoring the status of inbound shipments. Material control determines the actual order release quantities and shipment schedules. The inventory control groups required to support customer requirements, which emphasizes the physical distribution side of the supply chain. Integrated supply chain management requires that the materials and inventory control groups coordinate their efforts to ensure a smooth and uninterrupted flow to customers.

Order processing is a vital link in ensuring that a customer receives materials when and where it is needed. It involves accepting a customer order and the sequencing that order internally for fulfillment. Order processing is an important part of supply chain management – it represents a link between the producers and customer's supply chains.

Production planning and scheduling: This activity involves determining the aggregate levels of production for a family of items along with a time – phased, detailed schedule of production. It relies on forecasts from marketing to estimate

the volume of materials that are required over the near term. Because operations must work together closely.

Warehousing: Before a product heads to the customer. It may be stored for a period in a warehouse. This is particularly true for companies that produce according to a forecast in anticipation of future sales.

Increasingly, as companies attempt to make a product only after receiving a customer order, this part of the supply chain may become less important.

Shipping: Shipping involves physically getting a product ready for distribution to the customer. This required packing to prevent damage, completing any special labeling requirements, completing required shipping documents, or arranging transportation with an approved carrier.

Outbound Transportation: Fewer and fewer organizations “own” the transportation link to their customers. This is a part of the supply chain where full –service transportation providers can design and manage entire distribution networks.

Customer Service: This includes a wide range of activities that attempt to keep a customer satisfied with a product or service after the initial sale. Often, this means having dedicated customer account manager who help in managing customer

promotions, inventory control and delivery schedules. This may require providing customer training or having technical support personnel available to answer phone questions 24 hours a day.

2.20 Supply Chain Business Process Integration

Successful Supply chain management requires a change from managing individual functions to integrating activities into key supply chain processes. The purchasing department places orders as requirements become appropriate. Marketing, responding to customer demand, communicates with several distributors and retailers, and attempts to satisfy this demand shared information between supply chains partners can only be fully leveraged through process integration.

Supply chain business process integration involves collaborative work between buyers and suppliers, joint product development, common systems and shared information. According to Lambert and Cooper (2002) operating an integrated supply chain requires continuous information flows, which in turn assist to achieve the best product flows. The key supply chain processes stated by Lambert (2004) are:

1. Customer relationship management
2. Customer service management

3. Demand Management
4. Order fulfillment
5. Manufacturing flow management
6. Supplier relationship management
7. Returns management

The level of integration and management of a business process link is a function of the number and level ranging from low to high, of components added to the link (Ellram and Cooper, 1990). Consequently, adding more management components or increasing the level of each component.

2.21 Supply Chain Management and Information System

The introduction of information systems in supply chain management originally was limited to the automation of clerical functions (William et al 1997). Information systems were viewed as providing infrastructural support to the value chain and having an indirect impact on the competitiveness of a product. Companies were able to reduce costs through information systems, improve the time – to – market of products and allow all parties in the supply chain to better manage current resources and plan for future needs. Firms started to utilize information systems to directly influence the processes comprising the value chain

(Rushton and Oxley, 1994). Through the utilization of information systems, companies have been able to integrate similar functions spread over different areas as well as curtail unnecessary activities, thus enhancing their capability to cope with sophisticated needs of customers and meet product quality standards.

Early (1989), classified the scope of information technology into the following categories according to whether information technology is widely used in the value chain or selectively used for only information processing and whether it is applied for value creation or applied for the connection of value adding activities:

1. Information technology that automates or improves the physical aspect of every activity.
2. Information technology that is used for physically connecting each value activity or controlling those activities at the connecting point.
3. Information systems that facilitate the implementation, support and management of value activities.
4. Information systems that optimize or adjust the connection of each value activity. Earl's Classification covers the company's supply chain, linking suppliers and customers.

2.22 Benefits of Supply Chain Management

1. Ensuring the right quantity of parts for production or products for resale arrive at the right time. This is enabled through efficient communication, ensuring that orders are placed with the appropriate amount of time available to be filled. The supply chain management system also allows a company to constantly see what is on stock and making sure that the right quantities are ordered to replace stock.
2. Keeping the cost of transporting materials as low as possible consistent with safe and reliable delivery. Supply chain management system enables a company to have constant contact with its distribution team, which could consist of trucks, trains, or any other mode of transportation. It allows the company to track where the required materials are at all times. As well, it may be cost effective to share transportation costs with a partner company if shipments are not large enough to fill a whole truck and this again, allows the company to make this decision.
3. Ensuring production lines function smoothly because high-quality parts are available when needed. Having an effective supply chain management system in place ensure that production can always run smoothly without delays due to ordering and transportation.
4. Ensuring no sales are lost because shelves are empty. Managing the supply chain improves a company's flexibility has the ability to produce goods at lower

prices and distribute them to consumers quicker than companies without supply chain management thus increasing the over all profit.

5. Keeping the cost of purchased parts and products at acceptable levels. Supply chain management reduces costs by controlling the quality of goods thus reducing internal and external failure costs and working with suppliers to produce the most cost efficient means of manufacturing a product.

6. Cooperation among supply chain partners ensures mutual success. This relationship allows a company to have access to current, reliable information, obtain lower inventory levels, cut lead times, enhance product quality, improve forecasting accuracy and ultimately improve customer service and overall profits.

2.23 Supply Chain management Problems

The supply chain management must address the following problems.

1. Distribution Network configurations: Number and location of suppliers, production facilities, distribution centers, warehouses and customers.
2. Distribution strategy: Centralized versus decentralized, direct shipment, cross docking, pull and push strategies, third party logistics.

3. Information: Integrate systems and processes through the supply chain to share valuable information, including demand signals, forecasts, inventory and transportation.
4. Inventory management: Quality and location of inventory including raw materials, work – in – process and finished goods.

2.24 Supplier Relations

According to Baily and Farmer, (1990), one of the most important aspects for the buyer of assuring supplies is the maintenance of good supplier relationships. Good supplier relationships can be a major asset to the buyer not only in assuring supplies but also in maintaining quality levels and good prices. Good supplier relations have always been an important factor in the maintenance of supplies, particularly during periods of shortage, over recent years attitudes towards suppliers relationships have gradually changed from an adversarial to a partnership approach.

This change has been brought by the increasing use made by buyers of techniques such as quality assurance, zero defect policies, statistical process control (SPC) and Just-in-Time (JIT), all of which place additional responsibilities on to suppliers who will only be willing to accept them if they see some long-term benefit for

themselves in the relationship. So in return for accepting these additional responsibilities it has become common to offer the supplier a long – term prospect of business in what is referred to as a partnership relationship with both parties offering and accepting complementary responsibilities and helping to solve problems to their mutual benefit.

The partnership approach, or co-makership clearly influences the nature of the relationship between buyer and sellers. However, it also influences the selection criteria for the selection of a supplier in the long-term relationship may differ from the competitive criteria approach in the adversarial approach.

2.25 Supplier Selection

Choosing the right supplier is frequently the key to obtaining quality, performance and price. One of the most important aspects of the supplier selection process for important contracts is the plant visit known as the vendor audit or capability survey. It is most important that such surveys for the determination of supplier capability are conducted objectively. (Baily et al, 2005).

Supplier selection has traditionally been described as being based on the 5 RS (Right price, right quality, right quantity, right time and right place). However,

greater emphasis is now placed on the management of the buyer / supplier relationship in a non – adversarial longer – term perspective and it may mean that the 5 RS are no longer sufficient when compared with the qualitative aspects of the relationship and the longer – term perspective.

An article by Ray Carter (1991), entitled the 7 Cs of Effective Supplier Evaluation advocates a more comprehensive approach does not actually make the 5 RS any less important. They are still there, but the supplier selection approach is broader.

Carter’s 7 Cs for supplier selection are:

1. Company – all staff all the time
2. Capacity – sufficient and flexible
3. Commitment – to quality
4. Control – Control of process
5. Cash – Sufficient funds for the business
6. Cost – cost/price relationships and total cost ownership
7. Consistency – Consistent production of goods or services

More recently Carter has added two more Cs, they are:

8. Culture – Compatible with similar values
9. Clean – environmentally sound

Hence the selection criteria have now become Carter's 9 Cs of supplier selection (Carter. R 2000).

2.26 The Lean Supply Chain Concept

According to Monezka et al (2002) , when inventory moves so fast that firms essentially hold zero inventory on hand, they are following a system know as the lean supply chain – a combination of Just-in-Time purchasing, Just-in-Time transportation and just –in-time production. All three elements combined to create a supply chain that minimizes inventory investment and eliminate waste.

John Shook (2000), defines lean as a philosophy that seeks to shorten the time between the customer order and he shipment to the customer by eliminating waste.

Womack and Jones (1996), in their book Lean Thinking, argue that all activities associated with lean attempt to achieve three objectives: flow, pull and striving for excellence. Flow means that inventory moves through the supply chain continuously with minimal queuing or non – value – added activity being performed. Paul means that customer orders start the work process. An upstream work centre will not create output unless a down stream work center directly requests (pulls) that output. The output is needed and consumed, leading to no

inventory or waste. Striving for excellence means that the supply chain must have perfect quality. Any thing less than perfect quality leads to waste.

Those in charge of materials at the plant their key metric is to have inventory available for production schedule and a secondary focus of not having too much or too little inventory. Those in charge of inbound and outbound yard at the plant should be managing all the inbound trailers, having high asset utilization and velocity in the shipping yard, and high productivity in the work place. Shippers should make sure that a trailer shows up on time to pick up materials and gets it to customers on time and that materials get there undamaged (Darren Dolcemascola (2006).

Practitioners of lean supply chain focus on eliminating physical waste (in the form of inventory) and process waste (unnecessary steps in a value chain or time during which assets or goods are unnecessarily idle).

Lean supply chain focuses on driving waste out of the entire value chain for a product. To have a truly lean supply chain firms have to go outside their four walls. They have to reach their suppliers because there are going to be constraints present at but their suppliers and customers (Nussle and Morgan 2004).

Just –in – term Purchasing

Implementing a Just-in-time (JIT) purchasing system is the first major element of a lean supply chain. A JIT purchasing system means receiving frequent receipts of materials from suppliers to meet immediate requirement. The following features define a true JIT purchasing system:

1. A commitment to zero defects by the buyer and seller
2. Frequent shipment of small lot sizes according to strict quality and delivery performance standards.
3. Closer, even collaborative, buyer – seller relationships
4. Extensive sharing of information between supply chain members
5. Electronic data interchange capability with suppliers.

A JIT purchasing system is an operating philosophy that does not tolerate high inventory levels, less than perfect quality, or other inefficiency and waste between buyer and seller. It is a continuous supply chain improvement process that requires cooperation, coordination and information sharing to eliminate inventory throughout the supply chain – (Monezka et al 2002).

Just –in – Time Transportation

JIT – in Time transportation, another key element of a lean supply chain, refers to the efficient movement of goods between the buyer and seller. This involves frequent deliveries of smaller quantities directly to the point of use at the purchaser. A lean transportation network relies on company – owned or contracted vehicle that pick up and deliver according to a regular and repeatable schedule in a closed loop – a system that moves goods from supplier with return materials such as containers.

JIT transportation systems feature certain innovations that can further eliminate supply chain waste. The first includes specialized transportation vehicles that allow easy leading and unloading of smaller quantities. The second innovation includes the extensive use of returnable plastic or steel containers. As drivers pickup materials from suppliers they leave empty containers that were used in earlier deliveries. The third innovation involves point – of – use doors at production facilities. Since excessive material handling and travel within a facility is wasteful, delivery should be made to the door closet to where the materials is needed (Moneszka et al 2002)

Just-In-Time Production

This aspect of the lean supply chain involves taking raw and semi-finished material and converting it to finished goods to satisfy customer orders. JIT production consists of the following elements:

1. Uniform facility loading and level scheduling
2. Equipment set – up reduction
3. Inventory pull systems with visible signals
4. Facility layout changes
5. Total quality and continuous improvement
6. Standardized material handling containers
7. Production and process simplification
8. Total preventive maintenance
9. Flexible work force featuring teamwork
10. Right performance measures.

2.27 Summary of the Chapter Two

In the chapter of the study we have critical examined and reviewed relevant literature on the logistics supply chain management.

We examined the concept of logistics which involves a radical transformation of the way a firm faces up to the needs of the market place in terms of its entire

operations management, the logistics operation and coordination and the logistics information systems which trigger the logistics activities. We also reviewed the objectives and benefits of logistics, inbound goods movement, internal goods movement and the goods movement theory and the techniques employed to move materials like material handling, warehousing and transportation so as to obtain an overall cost benefit of the firm and satisfactory customer service.

We also examined the concept of the supply chain, the supply chain management, the benefits of the supply chain management and the problems encountered. We reviewed the supply chain activities and function, supply chain business process integration, the supplier relations and selection and the concept of lean supply chain which have to do with the elimination of waste using the JIT purchasing, transportation and production.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction:

This selection of the research work is an attempt to produce a brief but comprehensive description of the procedure involved in the research exercise. It comprises of the research design, population, sampling techniques and sample size, data collection instruments, method of data analysis, Methodological difficulties and also a profile of the case study.

3.2 Research Design

Klinger (1977) described research design as the plan, structure and strategy of investigation concerned so as to obtain answers to research questions and to control variations. It is the specification of methods and procedures for acquiring the information needed to structure or solve a problem. It's the over all operational pattern or frame work of projects that stipulates what information is to collected from which source and by what procedures.

The descriptive research design will be used in this research. Descriptive research describes and interprets what is and seeks to find out the conditions or relationships that exists, effects that are evident, or trends that are developing. The survey

research will be used for the description using personal interview and questionnaires.

3.3 Population

The Population of this research work consists of the employees of British American Tobacco (BAT) Zaria.

3.4 Sampling Technique and Sample size.

The sample size for this research consists of 40 employees in the following functional areas: purchasing, storage and warehousing, transportation, production, and distribution. This choice of sample size was informed by the number of employee in the selected functional areas that cover the logistics supply chain management in the organization.

The purpose sampling technique was used to select the sample areas and the simple random sampling technique was adopted in selecting the research respondents, so that all members of the population have equal chances of being selected.

3.5 Data Collection Instruments

Instrumentation involves careful selection of adequate and appropriate tools which are administered in order to collect relevant data concerning the study. For this study the questionnaire and interview schedule will be used.

The questionnaire will consist of structural questions and some open questions so that it can adequately answer the research questions and solve the problems. Consequently, an interview is scheduled with the supply chain manager.

3.6 Validity and Reliability of the Research Instrument

An instrument could be said to be valid for use in a research work when experts in the field of the study express satisfaction after careful scrutiny with the quality of the format in which the instrument was designed.

Hence, the research questions, questionnaires and interview questions to be used have been duly forwarded to the supervisor of this research work consequently; his approval was given after careful scrutiny.

The reliabilities of the questionnaire and interview questions would be established by administration of the instrument to the respondents in the British American Tobacco Zaria. The responses would be compared to determine consistency.

3.7 Administration of Data Collection Instruments.

The researcher administered and retrieved the questionnaires. A total of 40 questionnaires were administered, 34 retrieved and 6 were not retrieved. An instructed interview scheduled with the supply chain manager was conducted. The would be used for data analysis.

3.8 Methods of Data Analysis

The Analysis and interpretation of the raw data of any research are the vehicle through which rational opinion can be expressed on the issue being investigated.

The techniques for data analysis for this research work will be the statistical procedures, which include statistical tables, frequencies and percentages, descriptions that would be considered adequate and appropriate for the purpose of precision and clarity. The analysis and interpretation are the means by which the research problems are answered. The hypothesis would be tested to verify results using the Person product moment correlation coefficient.

3.9 Methodological Difficulties

Given the nature of the research, the researcher found it difficult to cover a larger number of respondents due to the policy of the organization which restricted the employees from giving out some information and some refused to return the questionnaires.

3.10 Profile of British American Tobacco (BAT)

The historical development of BAT can never be complete without first looking back at Nigerian Tobacco Company PLC, Zaria, being a company that British American Tobacco was part of and has taken over.

Nigerian Tobacco Company Ltd, Zaria, developed from a business based on import trading. Its existence can be dated back to 1912 when all tobacco products and brands were imported and sold by various trading companies.

In 1912, the British American Tobacco Company, BAT in London established depots and sales organization in Nigeria to handle distribution of its own products. A pilot factory was later established at Oshogbo in the present Osun State in 1933 to manufacture cigarettes from imported leaves. In 1937, the first full scale factory was opened in Ibadan in Oyo State and subsequently the Port Harcourt factory was opened and followed by Zaria Factory in 1959.

In 1951, the Nigerian Tobacco Company Ltd, was incorporated to BAT. In 1960, NTC Ltd, became a public in Nigeria come of the ordinary shares of stocks of the company. By December 1980 the number of NTC stockholders in Nigeria stood at about 50,000, this made NTC then to be one of the first few publicly quoted Nigerian company by the Nigerian Stock Exchange. By the same year the company's paid up share capital stood at N50,000,000.00 NTC activities were spread over the whole company.

However, Nigerian Tobacco company pioneered the tobacco growing on a commercial scale in 1934, when following the setting up of the pilot factory in Osogbo, the company did a survey of a likely means of growing tobacco crops. Tobacco growing was first concentrated around Oshogbo in Oyo State of Nigeria. However, with rapid growth and expansions of NTC and due to larger market share for its products the farming of Tobacco crops were soon extended to other areas Like Iseyi and Ago-Are both in Oyo State and later extended to Northern Nigeria, Sokoto, Kano, Maiduguri and Zaria.

The Port Harcourt factory was closed down in 1983 and Ibadan factory closure followed in December 1995, leaving Zaria Factory alone for operation.

However, the British American Tobacco (Nig) Ltd. Acquired the ownership position of Nigeria Tobacco company on 5th October 2001. The present company took over with the name British American Tobacco (Nig) Ltd and registered under the companies and Allied matters.

The British American Tobacco Company (Nig) Ltd as earlier pointed out was a share holder in NTC PLC, Zaria with a share capital of 60% which gave them the right to buy over the remaining share capital of 40% as a result of operational losses and huge liabilities incurred by NTC PLC.

During the take over exercise, each shareholder was paid 20% above their initial share holding as agreed upon by the shareholders during one of their annual General Meetings where the decisions to finally sell the company to B.A.T.N.L was taken.

The new company has its Head Office in Lagos with regional offices at Zaria, Enugu, Port Harcourt and Ibadan.

CHAPTER FOUR

DATA PRESENTATION ANALYSIS AND INTERPRETATIONS

4.1 INTRODUCTION

This chapter presents clearly and discusses all the data/information gathered in the conduct of the study. The data collected was based on the logistics supply chain management activities in organization.

4.2 Presentation and analysis of the outcomes from the data collection instruments administered.

1. Do the company do demand planning for its materials requirement adequately ahead of production?

Table 4:1 Planning and Materials ahead of production

VARIATION	NO. OF RESPONDENTS	PERCENTAGE (%)
Yes	34	100
No	-	-
Total	34	100

Source: Questionnaire Administered

This table shows that the 34 respondents representing 100% expressed the view that the company do demand planning for its materials requirement well ahead of production.

2. Does the company experience inadequacy of materials and components?

Table 4.2 To who inadequate of Materials

VARIATION	NO. OF RECONDENTS	PERCENTAGE (%)
Agreed	20	85.8
Disagreed	14	41.2
Total	34	100

Source: Questionnaire Administered

From the above we could see that 20 respondents representing 58.8% agreed that the company experience inadequacy of materials and components, while 14 respondents represent 41.2% disagreed to the inadequacy of materials and components.

2 Does information flow adequately through the company?

Table 4.3 Information flows in the company.

VARIATION	NO.OF RESPONDENTS	PERCENTAGE (%)
Yes	34	100
No	-	-
Total	34	200

Source: Questions Administered

All the respondents representing 100% are of the view that information flow adequately through the company.

4. Does the company maintain a continues relations with its suppliers, Table Maintain a Continue Relations with Supplier with suppliers.

VARIATION	NO OF RESPONDENTS	PERCENTAGE (%)
Yes	34	100
No	-	-
Total	34	100

Source: Questionnaire Administered

This table shows that all the 34 respondents representing 100% are of the view that the company maintains a continuous relationship with its suppliers.

5. Do suppliers sometimes supply low quality raw materials?

Table 4.5. The Supply of low quality raw Materials.

VARIATION	NO OF RESPONDENTS	PERCENTAGE (%)
Agreed	19	55.9
Disagreed	15	44.1
Total	34	100

Source: Questionnaire Administered

From the above we could see that 19 respondents representing 55.9% expressed the view that suppliers sometimes supply low quality raw materials, while 15 the respondent representing 44.1% disagreed.

6. Do the company place high concern for good quality and standard materials used for production?

Table 4.6: Concern for good quality and standard materials used.

VARIATION	NO OF RESPONDENTS	PERCENTAGE (%)
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Yes	34	100
No	-	-
Total	34	100

Source: Questionnaire Administered

All the respondents representing 100% are of the view that the company has concern for good quality and standard materials used for production.

7. Do products damage on transit?

Table 4.7: Damage of products on transit.

VARIATION	NO OF RESPONDENTS	PERCENTAGE (%)
Yes	18	52.9
No	16	47.1
Total	34	100

Source: Questionnaire Administered

This table shows that 18 respondents representing 52.9% expressed the view that products damage on transit, while 16 respondents representing 47.1% disagreed that product does not damage on transit.

8. Does the company sometimes produce defective products?

Table 4.8: Production of Defective Products.

VARIATION	NO OF RESPONDENTS	PERCENTAGE (%)
Yes	15	44.1%
No	19	58.9%
Total	34	100

Source: Questionnaires Administered

From the above, we could see that 15 respondent representing 44.1% expressed the view that the company sometimes produces defectives products, while 19 respondents representing 55.9% disagreed.

9. If yes what is responsible for the production of defective products?

Table 4.9: Reasons for defective products.

VARIATION	NO OF RESPONDENTS	PERCENTAGE (%)
Machine	5	33.3

Human Errors	3	20
Low Quality Materials	3	20
Process	4	26.7

Source: Questionnaire Administered

From the above, we could see that 33.3% of the respondents are of the view that the machine is responsible for the production of defective products, 20% each are of the view that it's as a result of human errors and low quality raw materials, while 26.7% are of the view that the production processes are responsible for the production of defective products.

10. Does the company pursue zero defects throughout the chain?

Table 4:10: Pursuit for zero defective products.

VARIATION	NO OF RESPONDENTS	PERCENTAGE (%)
Yes	34	100
No	-	-
Total	34	100

Source: Questionnaire Administered

All the respondents representing 100% are of the view that the company pursues zero defects throughout the chain.

11. What method does the company adopt in pursuing zero defects throughout the chain?

Table 4:11 Methods to check zero defective products.

VARIATION	NO OF RESPONDENTS	PERCENTAGE (%)
Quality check	25	73.5
Process check	6	17.6
Quality Workers	3	8.9

Source: Questionnaire Administered

From the above table, 25 respondents representing 73.5% are of the view that quality check is the method, 17.6% said it is through process check, while 8.9% said it is through quality of workers.

12. Does the company experience the problems of over production?

Table 4.12: Problems of Over production.

VARIATION	NO OF RESPONDENTS	PERCENTAGE (%)
------------------	--------------------------	-----------------------

Yes	34	100
No	-	-
Total	34	100

All the respondents are of the view that the company does not experience the problem of over production.

13. Does the company adequately coordinate activities along the chain?

Table 4:13: Coordination of chain activities

VARIATION	NO OF RESPONDENT	PERCENTAGE (%)
Yes	34	100
No	-	-
Total	34	100

Source: Questionnaire Administered

All the respondents are of the view that the company adequately coordinates activities along the chain.

14. Does logistics supply chain management benefits the company?

Table 4:14 Benefit of supply chain management

VARIATION	NO OF RESPONDENTS	PERCENTAGE (%)
Yes	34	100
No	-	-
Total	34	100

Source: Questionnaire Administered

All the respondents are of the view that logistic supply chain management benefits the company.

4.3 DISCUSSION OF RESULT

Here the researcher intends to bring out the results obtained, in order to find out whether the result of the research work is consistent with the already existing body of knowledge. The researcher therefore determines to find out the areas of impact effective logistics supply chain management has on the organization.

In table 1, the researcher tried to find out whether the company does demand planning for its materials requirement adequately ahead of production. The result indicates that all the respondents agreed that the company does demand planning. This is well conferred by Donald (1978), that the establishment of objectives to guide operations requires demand planning, that is estimates be compiled concerning future sales expectations and inventory requirements.

In table 3, all the respondents agreed that information flow adequately through the company. It goes to mean that information is very important for the effective and efficient flow of activities along the chain to reduce cost, improve time – to-market of products and the management of current resources and planning for future needs.

In table 4, the respondents agreed that the company maintains a continuous relationship with its suppliers. Baily and Farmer (1990), a good supplier relationships are major asset to the buyer not only in assuring supplier but also in maintaining quality levels and good prices.

The result in table 11, shows that the company pursue zero defect throughout the chain by adopting through quality check, process check and acquiring high quality employees. Partnership relationship between buyers and suppliers is also a technique in pursuing zero defects along the chain because it ensures quality of suppliers.

The researcher was also interested in finding out the benefit of logistics supply chain management on the company. The respondents are of the view that the

company benefits in the areas of good planning, on time deliveries, improved service quality availability of materials for production, costs reduction, prompt supply of component parts and an organized logistics section. Effective logistics supply chain management helps firms to adjust to rate, time and place of production to meet customers demand, avoid overstocking and stock outs, improves flexibility to respond to unforeseen changes in demand and supply.

The researcher was able to find out the logistics supply chain management problems the company faces. The respondents are of the view that the company face the problems of suppliers not being able to meet the agreed supply demanded on time, fleet maintenance from suppliers and point of use delivery.

4.4 FINDING

Based on the research carried out it was found out that effective logistics supply chain management has a great impact on the organization. That to ensure high quality of raw materials and productions constant quality and process check is necessary throughout the chain.

It was identified that the production of defective products is as a result of the machine usage which is not always hundred percent, the processes involved in

production and the human limitations. That to ensure zero defect information flow is necessary within the organization and from customers, withdrawal of low quality materials and use of quality employees to ensure proper quality control.

The problems encountered are the fleet maintenance from suppliers and delivery failures, which affects productions.

4.5 HYPOTHESIS TESTING

The hypothesis will be tested using the Pearson product – moment correlation coefficient (r). The level of significant is 5%.

$$r = \frac{N\sum xy - \sum x \sum y}{\sqrt{N\sum x^2 - (\sum x)^2} \sqrt{N\sum y^2 - (\sum y)^2}}$$

The responses from the following question was used for the testing

Questions	Yes X	No Y	XY
6	34	0	0
7	20	14	280

9	30	0	0
10	34	0	0
11	19	15	285
12	34	0	0
13	18	16	288
14	15	19	285
16	34	0	0
20	34	0	0
21	34	0	0

$$N = 11 \quad \sum x = 306 \quad \sum y = 64 \quad \sum xy = 1138$$

$$\sum x^2 = 9146 \quad \sum y^2 = 1038$$

$$(\sum x)^2 = 93636 \quad (\sum y)^2 = 4096$$

$$r = \frac{11(1138) - (306)(64)}{\sqrt{11(9146) - 93636} \sqrt{11(1038) - 4096}}$$

$$r = \frac{12518 - 19584}{\sqrt{6970} \sqrt{7322}}$$

$$r = \frac{7066}{7147.6} = 0.9886$$

The degrees of freedom = $N - 2 = 11 - 2 = 9$

The critical using table = 0.6021

Therefore the obtained R^2 must be greater than the critical to be significant. If the obtained is greater than the critical value, we reject the null hypothesis (H_0) and accept the (H_1)

We therefore accept the H_1 : There is significant relationship between logistics supply chain management and organizational efficiency.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 SUMMARY

In this research work we have critically logistics supply chain management and its impact on organization. We looked at the background of the supply chain, the objectives and significance of the research work.

In accordance, we have reviewed some relevant literatures that seek to establish the fact that effective logistics supply chain management has a strong impact in determinant organizational growth, development and efficiency. The logistics concept, which involves a transformation of the way an organization, faces up to the need of the market place in its entire operations management and the supply chain concept were well established in the theoretical framework for this study. The activities along the chain which comprises of purchasing, transportation, quality control, receiving and storage, warehousing, order processing, production planning and scheduling and customer service that ensure satisfaction.

We equally examined the procedures involved in the research work. The research design, instruments and source for data collection, which was used to verify results and the techniques used for data analysis for the purpose of clarity.

We also presented and analyzed the data collected, and to see whether the result of the research is consistent with already existing body of knowledge. We saw that demand planning is necessary for adequate production, a continuous relationship with suppliers for maintaining quality levels and good prices. On this basis, we established the fact that logistics supply chain management is necessary for good planning, materials available, on time delivery, costs reduction and the elimination of wastes.

We have identified areas of deficiencies and suggestions for improvement were made at the concluding part of this research work.

5.3 CONCLUSION

Based on the finding of this study, it could be concluded that effective logistics supply chain management is of great necessity for organizational efficiency.

To ensure high quality of materials the organization must maintain a constant quality and process checks and a partnership relationship with suppliers. The flow of information necessary for effective and efficient operations, and the delivery of value to customers.

However, the organization is faced with the constraints of fleet maintenance form suppliers and the inability to meet on time delivery demand of materials, which affects production.

5.4. RECOMMENDATIONS

Any organization that intends to achieve operational efficiency and productivity must place great importance to the management of its logistics supply chain so as to reduce inventory, increase the speed of transactions, reduce cost and eliminate waste.

Organizations should institutionalize regular forums to review the performance of the supply chain as a whole as well as each individual partners performance against agreed metrics so that total quality of materials and products, on time delivery and customer satisfaction will be achieved. A partnership relationship should be built with suppliers to ensure deliveries of partnership relationship should be built with

suppliers to ensure deliveries of supply on time and the avoidance of delivery failures.

The organization should out source the transportation of materials that is the inbound movement of raw materials from suppliers to specialist or logistics partners for on time delivery and materials availability and the avoidance of raw materials remaining longer transit.

The organization should invest more on the development and training of its employees through seminars, workshops and short study courses for effectiveness and efficiency in the performance of operations and the elimination of wastes.

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[http://www.autologisticsglobal.com!](http://www.autologisticsglobal.com)

APPENDIX

Questionnaire on the assessment of effective logistics supply chain management in
British American Tobacco BAT Zaria

1. Name of Respondent _____
2. Sex Male Female
3. Educational Attainment?
 - a. Primary []
 - b. Secondary []
 - c. Polytechnic []
 - d. University []
 - e. Others (specify please) []
4. Which functional area do you belong to?
 - a. Purchasing
 - b. Storage and Warehousing
 - c. Transportation
 - d. Distribution/Marketing
 - e. Production
 - f. Customer service

5. Do you understand what the concept of logistics supply chain management is all about?
Yes [] No []
6. Do this company do demand planning for its materials requirement adequately ahead of production? Yes [] No []
7. Does the company experience inadequacy of materials and components?
Yes [] No []
8. Do materials at stock exist at high level in the company?
Yes [] No []
9. Does information flow adequately through the company?
Yes [] No []
10. Does the company maintain a continuous relationship with its suppliers?
Yes [] No []
11. Do suppliers sometimes supply low quality raw materials?
Yes [] No []
12. Do you think that the company has concern for good quality and standard materials used for production?
Yes [] No []
13. Do products damage on transit?
Yes [] No []

14. Does the company sometimes produce defective products?

Yes [] No []

15. If yes what is responsible for the production of defective products.

16. Does the company pursue Zero defect throughout the chain?

Yes [] No []

17. If yes what method does the company adopt?

18. Does the company experience the problems of over production?

Yes [] No []

19. If yes how can it be controlled or eliminated?

20. Do the companies adequately coordinate activities along the chain?

Yes [] No []

21. Does logistics supply chain management benefit the company?

Yes [] No []

22. If yes does it benefit the organization?

23. What logistics supply chain management problem you think the company face?
