

Article citation info: Ayantoyinbo B. B., Gegeleso O. M., Impact of Inbound and Outbound Logistics Services on Small Scale Business. *Transport & Logistics: The International Journal*, 2018; Volume 18, Issue 44, June 2018, ISSN 2406-1069

IMPACT OF INBOUND AND OUTBOUND LOGISTICS SERVICES ON SMALL SCALE BUSINESS

Boye Benedict Ayantoyinbo¹, Omolola Madoh Gegeleso²

*^{1,2}Department of Transport Management, Ladoke Akintola University of Technology
Ogbomoso, Nigeria.*

¹ +2348033229046, benedictboye@yahoo.com, ² +2348067426730, fomamoo@gmail.com

Abstract:

*Inbound Logistics can be defined as the transportation, storing and delivering of goods which is coming into the location of the business while Outbound Logistics is the transportation of goods which is going out of the business location. This study assessed the impact of inbound and outbound logistics on small scale business. The research was carried out among Small Scale Business in Ogbomoso North Local Government Area of Oyo State, Nigeria. The population of the study consists of 20 bakers which were identified in Ogbomoso North Local Government Area, Oyo state, five (5) of the Bread bakers were chosen for this study which were selected purposive
ely due to their location within the study area. The data collected was analyzed using regression analysis. The analysis indicated that inbound and outbound logistics services have not been efficiently utilized by small scale businesses. The analysis also reveals that Small Scale Business has not effectively use the actors involved in the outbound logistics activities. Finally, Small Scale Businesses should embrace the benefit that can be derived from this system in order to make adequate decision on how to leverage their profit and improve performance in the competitive environment for more customers' satisfactions.*

Key words:

Logistic Service, Inbound Logistics, Outbound Logistics, Small Scale

INTRODUCTION

Inbound and outbound logistics encompass the planning and scheduling activities that accompany the flow of goods between an enterprise and its external associates i.e. its suppliers and customers, this logistics services sees to the delivery process in most company. The procurement of materials needs to happen at the facility on their due date so that they are available for the production of finished goods. Martin Murray also opined that the delivery of

finished goods to customers is equally important to ensure that the customers have the highest level of customer service possible [1].

Inbound Logistics can therefore be defined as the transportation, storing and delivering of goods into the location of the business while Outbound Logistics is the transportation of goods going out of the business location. It is essential for the Logistics managers to ensure the efficiency of networks distributing the goods and reduce the transportation and storage costs associated with the company [2]. Inbound and Outbound Logistics are combined within the field of Supply-Chain Management in helping managers as they seek to maximize the reliability and efficiency of distribution networks while minimizing Transport and Storage costs. Understanding the differences and correlation between Inbound and Outbound Logistics can provide insight for developing a comprehensive supply-chain management strategy. [3]

Inbound and Outbound Logistics Services is not complete without effective physical distribution, it has been an important feature of industrial, commercial and economic life for so many years and the efficiency and effectiveness of this cannot be achieved without transportation and warehousing. Every activity and element in the physical distribution is extremely important in order to achieve the goal of a fully integrated and seamless physical distribution, thereby ensuring the lowest possible cost together with sufficient levels of customer services.

The physical distribution considers many sales distribution channels, such as wholesale and retail, and includes critical decision areas like customer service, inventory, materials, packaging, order processing, transportation and logistics. Accounting for nearly half of the entire marketing budget of products, the physical distribution process typically garnishes a lot of attention from business managers and owners. As a result, these activities are often the focus of process improvement and cost-saving initiatives in many businesses. [3].

Businesses work with different supply-chain partners on the inbound and outbound side of logistics. The inbound side concerns the relationship between companies and their suppliers, while the outbound side deals with how companies get products to their customers. Regardless of the source or destination, companies may work directly with third-party distributors on either side as well. A wholesaler, for example, might work with a distributor to receive products from an international supplier, while using their own fleet to deliver goods to their domestic customers. Business enterprises often seeks to satisfy customer's need, maximize profit and have leverage over competition in the market, this objective cannot be achieved without effective inbound and outbound logistics services.

It is against this background that this paper is set to determine the impact of inbound and outbound logistics services on small scale businesses with the view of managing distribution through inbound and outbound logistics services in satisfying their customers, maximizing profit and coping with competition.

1 LITERATURE REVIEW

Logistics management is thus part of the supply chain that includes the process, planning, implementing and controlling procedures for the efficient and effective transportation and storage of goods including services, and related information from the point of origin to the point of consumption (in-bound, outbound, internal and external flows) for the purpose of conforming to customer requirements cost effectively and ensure that current and future profitability is maximized [4].

Over the years, products and services have increased in complexity and variety, as have the demands of consumers, logistics services too have advanced as national and international markets of goods and services have expanded. Thousands of new products and services have been introduced over recent decades and are sold and distributed to consumers all over the world. As a result, market has thus become increasingly competitive; in particular, companies have found it increasingly difficult to maintain traditional profit level and growth rates [5]. These companies have not only had to increase in complexity to meet the challenges of demanding and expanding markets, products and services but must constantly be investigating new strategies for improving their competitive advantage and profitability.

1.1 Systems Approach

1.1.1 Total system concept

Physical distribution management is a classic example of the system's approach to business problem. Business objective can be realized by recognizing the mutual interdependence of the basic functional areas of the firm (Marketing, warehousing, production/ inventory control, finance, etc.). The same reasoning can be applied to the areas of physical distribution and logistics. The physical distribution manager balances each of these functional areas and sees that none is stressed to the point where it becomes detrimental to each other. One of the central themes of this text is to highlight the need to integrate marketing activities so they combine into single marketing effort. Managers have now become more conscious of the potential of Physical Distribution Management (PDM), and recognize that logistical systems should be designed with the total function in mind.

A fragmented approach to PDM is a principal cause of failure to provide satisfactory service and causes excessive cost. Considering the various objectives of the functional areas, a physical distribution system is with a specified level of service provided to customers to minimize the cost involved in physically moving and storing the product from the production point to the point where it is needed. Within any PDM structure, there is potential for conflict. Individual managers striving to achieve their personal goals may/can frustrate overall PDM objectives; Sales and marketing manager will favour high stock levels, special products and short production runs coupled with frequent deliveries. On the other hand, the Transport Manager tends to reduce costs by selecting more economical, but slower transport methods, or by even waiting until a load is full before making a delivery. Financial manager will exercise pressure to reduce cost whenever its possible and discourage extended warehousing networks thereby favouring long production runs and standard products. It is possible for all these management areas to 'appear' efficient if they succeed in realizing their individual objectives but this might as well be at a cost if the chosen marketing strategy is not well implemented

Browex et al [6] postulates guidelines to how levels of service to customers can be provided at an optimal costs. In his view, he said, Senior Management must communicate overall distribution objectives to all company management and ensure that they are well understood. He furtherstated that in an ideal environment, systems approach to PDM should encompass production and production planning, purchasing and sales forecasting. The conflicting objectives may have to be optimized which can be done using the three inter-related concepts of systems approach.

1.1.2 Total cost approach

Included in the system's approach is the concept of total cost because individual costs are less important than the total cost. The cost of holding high stock may appear unreasonable, but if high stocks provide a service that leads to higher sales and profit, then the total cost of the PDM activities would have been effective.

This approach is opined that all relevant functions in physically moving and sorting materials and products should be considered as a whole and not individually. Such functions include;

- Transportation
- Warehousing
- Inventory and plant location
- Inventory control of material and products.
- Materials handling
- Information flow including order processing
- Packaging

The key to total cost concept is that all cost items are considered simultaneously when attempting to meet specified service levels. When testing alternative approaches, the cost of some functions will increase, some will decrease and some will remain the same. Costs are a reflection of distribution strategy, and maximum service cannot be provided at minimum cost. Therefore the objective of this approach is to find the alternative with the lowest overall total cost.

1.2 Key Goals of Inbound and Outbound Logistics

‘Effective and productive supply chains are able to narrow their supply chain focus down to a few simple goals. For most companies, these goals should be increased efficiency, increased sales, better relationships, and improved customer service [7].

Increased Efficiency - Increased efficiency reduces inventory and total overhead, while developing cost-effective transportation rates. While many companies focus their energy on internal logistics (warehouse), it’s important to note that transportation is crucial. Efficient transportation enables company to gain control of inbound and outbound logistics.

Increased Sales - Increased sales are a major goal of inbound and outbound logistics. By keeping products in stock, delivering shipments on time, and efficiently moving products through the warehouse, this will avoid losing sales and capitalize on existing orders.

Better Relationships - Transportation of goods is one of the last interactions a retailer has with a supplier in physical distribution, it’s important to focus on relationships. It is good to employ the service of third party in maintaining this relationship in order to have a Just In Time delivery to consumers.

Improved Customer Service - Going hand in hand with the idea of better relationships through healthy interactions is a focus on customer service. Whether dealing with inbound or outbound logistics, satisfying customers is the main objectives of business owners.

2 RESEARCH METHODOLOGY

Study area

The Ogbomoso city in Oyo State, South Western Nigeria on the A1 Highway lies between latitude 14⁰N and 4⁰N of the equator and longitude 2⁰E and 15⁰E of Greenwich Meridian Time (GMT). It was founded in the mid-17th century. The population was approximately 645,000 in 2006 according to National Population Census. The city is considered one of Nigeria’s largest urban centres and the majority of the people are members of the Yoruba ethnic group. The major agricultural products found in the region are yams, cassava, maize and tobacco. It has two local government areas: Ogbomoso North Local Government and Ogbomoso South Local Government.

A total number 200 bakers was identified in Ogbomoso, twenty (20) bakers were identified in Ogbomoso north, out of which five were purposively chosen based on their daily production output and their location within the study area. A structured questionnaire was administered on 150 respondents which comprises of the staff and customers of the selected Small Scale Business, they were chosen because they are the key actors within the supply chain system. The questionnaire is based on 5 likert rating in order to assess attitude and other phenomena of interest. Data collected was analysed using inferential Statistics (multiple Regression) and Descriptive statistics (Percentages).

The regression model postulated is given thus:

$$Y = a + b_1X_1 + b_2X_2 + b_3X_3 + \dots + b_nX_n + e$$

Where: Y = Dependent Variable

a = Regression Constant

$X_1 - X_n$ = Independent Variables

e = Error Term

3 RESULTS AND DISCUSSION

The demographic analysis of respondents shown in Tab 1 shows that 60% of the employee are within the age bracket of 20 years with School leaving Certificate as their highest qualification, this implies that they form the majority of the workforce in the bread making industries in Ogbomoso North Local Government. This is an indication that for every Small Scale Business to thrive in a competitive environment, they often seek for ways to reduce their cost in terms of wages and salary of staff in order to maximize profit after production.

Tab 1. Demographic characteristic of respondents

Age	frequency	Percentage	Cumulative Percentage
Less than 20	90	60.0	60.0
21-30	30	20.0	80.0
Above 40	30	20.0	100.0
Qualification			
WAEC	60	40.0	40.0
NCE/ND	50	33.3	73.3
MSc.	40	26.7	100.0
Position in the Company			
Senior Manager	25	16.7	16.7
Junior Manager	20	13.3	30.0
Junior Staff	60	40.0	70.0
Cleaner	45	30	100.0

Source: Author's Computation (2018)

Tab.2 Regression Model

Model	Unstandardized coefficients		Standardized coefficients	T	Sig.
	B	Std. error	Beta		
Constant	1.160	.258		4.498	.000
Packaging	.118	.039	.244	2.994	.003
Channel of distribution	-.92	.079	-.101	-1.167	.245
Delivery	.102	.089	.091	1.145	.254
Material sourcing	-.043	.032	-.112	-1.370	.173

Source : Author's Computation (2018)

Tab. 3 Model Summary for the effect of Logistics services on Small Scale Business

Model	Sum of Squares	df	Mean Square	F	Sig
Regression	3.649	5	.730	3.120	.001 ^a
Residual	33.684	144	.234		
Total	37.333	149			

Source: Author's Computation (2018)

Regression model is given as:

$$\text{Logistics Services} = 1.160 + 0.118x_1 - 0.092x_2 + 0.102x_3 - 0.043x_4$$

The primary dependent variable is defined as Logistics Services this is categorized as the inbound and outbound activities; the primary independent variables are Packaging, Channel of Distribution, Delivery, and Material Sourcing.

Correlation Coefficient R is 0.313; this shows the combined effect that the independent variables (Packaging, Channel of Distribution, Delivery and Material Sourcing) has on the dependent variable (Logistics Services) while adjusted R² which is the coefficient of determination is 0.98 at P<0.05), this implies that 98% percent of the variation on performance is explained by the four independent variables considered in the model. The significance of this value was tested with the analysis of variance (ANOVA) and the calculated F- value is 3.120 which is significant at (P<0.05). In consonance with the study it can be said that imbibing the ethics of supply chain management through the inbound and outbound of logistics services by Small Scale Businesses will improve the general performance, increase profitability, and improve the customer satisfaction which gives opportunity for expansion.

The coefficient of packaging 0.118 which is significant at (P<0.05) implies that inbound and Outbound Logistics activities enable Small Scale Business to minimize waste that may occur due to defect of materials. This is in tandem to the findings of [8] that packaging solutions prevent product damage while cutting costs and boosting efficiencies can be counter-intuitive. Channel of distribution with coefficient of -0.092 which is not significant at (P<0.05) implies that a decrease in Channel of Distribution tends to cause a 0.092 unit decrease in Customer Satisfaction this indicates that a slack in upholding the just in time strategy in delivery leads to customers disloyalty and this endangers Small Scale Business to achieve a balance in the competitive market. [9] buttress that Just-In-Time technique looks for ways of avoiding this by moving to small, frequent deliveries with short lead times. Flexibility reduces lead time and ensures that specific customer requirements are met. It also suggests that the channel of distribution adopted by this Small Scale Businesses is ineffective. Outbound Logistics activities include delivery through effective use of transportation system.

For any organization or business to have leverage over competitors there is need to consider the just in time strategy according to [9].

The coefficient of delivery 0.102 is found not be significant at ($P < 0.05$); this shows that Small Scale Business have not effectively use the actors involved in the outbound logistics services, this is due to some underlying factors such as management style, expertise etc. Quick response to customers' needs can be a competitive advantage to many firms; it involves quickly bringing a new product or service to the market, quick delivery of existing products or service to a customer after they have ordered and quickly handling customer complaints[10], material sourcing is important for any production to be effective and profitable. Information must flow from the entire key player to achieve the desired goal.

Coefficient of material sourcing is - 0.043, this is not significant at ($P < 0.05$) it implies that decrease in material sourcing tends to 0.043 unit decrease in production which results into ineffective production and lowers productivity and performance. Sourcing for materials is the primary activity in any manufacturing organization whether it is a Small Scale Business or a large conglomerate. Small Scale Business being a growing business has not been able to utilize effectively the inbound logistics services in procuring their raw materials.

4 CONCLUSION

Conclusively, the findings shows that inbound and outbound logistics services contributes significantly to organization's ability to control costs, improve customer service and allow businesses focus on its growth but the inability to harness its benefits will lead to a decline in the production and growth of the businesses. This shows that the adoption of logistics services with the clear benefits of improving customer service and timely delivery of products can be achieved. It is evident that inbound and outbound logistics needs to be viewed as a strategic initiative with far-reaching consequences that requires careful consideration and a thorough process to improve the chances of success. Furthermore, the study shows that small and medium scale businesses needs to tap into the evolving concept and grasp the importance of this services in order to keep them abreast of the happenings in the global market especially in ther customer services responsibilities.

Therefore, to a large extent through this paper work more information has been to add to some of the literatures in Logistics and Supply Chain Management in particular with emphasis on information to small scale business to embrace the benefit accrued in inbound and outbound logistics services in order to make adequate decision on how to maximize profit, improve performance, have leverage in the competitive environment and to satisfy their customers bearing in mind that flexibility in reducing lead time and effective transportation system must be considered.

References

- [1] Martin M., 2016, “Inbound and Outbound Deliveries in SAP”, Available at the Balance Small Business Electronic Journal, Retrieved from <https://www.thebalancesmb.com>, 2221331
- [2] Wesfort E.G., 2015, “Inbound and Outbound Logistics Management Process”, Available at Wesfort University College, School of Business and Information Technology Electronic Publication, Retrived from <http://mywestford.com>
- [3] James C., 2016, “Introduction to Business: Homework Help Resource”, Retrieved June 3rd, from <https://study.com>
- [4] Council of Supply Chain Management Professional 2006, “CSCMP Supply Chain Management Definitions and Glossary”
- [5] Sowinski L. L., 2000, “The Top 3PLs, Good reasons for using third-party logistics providers and their cousin the 4PL” Who’s who in logistics: Armstrong’s Guide to Third Party Logistics Services Providers. 8(2). pp 14-19
- [6] Bowersox, D.J. and Closs, D.J., 1996, “Logistical Management: The Integrated Supply Chain Process” International ed., McGrawHill, New York, NY
- [7] Courtney E., 2014, “Key Goals of Inbound and Outbound Logistics” Available at Industry News, Retrieved from <https://gtgtechnologygroup.com> , pp 15
- [8] Suzanne H., 2014, “Finding Cost of Savings: It’s the Whole package”, Available at Inbound Logistics Journal, Retrieved from <http://www.inboundlogistics.com>
- [9] Waters, D, 2002, “Operations Management”, 2nd Edition, Pearson Education, Harlow, England
- [10] Stevenson, W. J, 2000, “Operations Management”, 9th Edition, The McGraw-Hill, New York.