

Evaluation of Logistics Management and Performance of Micro E-Businesses in Ilorin Metropolis

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Abstract

Information technology is growing rapidly, forcing many socio-economic changes, creating new business waves and simplifying trading activities. With projection of quarter of total global retails by 2025, e-commerce, easy to set-up and manage has potential of repositioning economy, creating more MSMEs and bridging unemployment gap. Logistics management, as the key factor that actualizes online shopping, can make or mar this potential. Delivery of online purchased goods is an entity that influences customers' satisfaction, continuous patronage of online shopping and ultimately the performance and sustainability of the particular e-business brand. The objective of this study was to evaluate the effect of logistics management on e-business performance in Ilorin metropolis through delivery charges and pick-up and delivery times of goods. The nature of online shopping posed infinite population, as such, the study used the formula of Rose, Spinks and Isabel-Canhoto (2015) to estimate a proportion of an infinite population with an approximate 95% confidence level which gave 400 minimum sample size. Purposive sampling technique was used to select respondents from Jumia's pick up stations in Ilorin metropolis. A questionnaire with close ended questions was used to collect information from them. The data collected were analysed using frequency counts, descriptive and inferential statistics, while t-test was used to test the hypothesis. The study found a significant change in customer satisfaction through improvement in logistics management as it is responsible for more than 57% sales volume of e-business. Online shoppers mostly view delivery charges as extra burden and will not hesitate to complete orders with free or relatively low delivery charges, hence, the moment an order is completed online, customers prefer to have their goods as soon as possible, if not immediately, having to wait for a certain time has limitation on online shopping. The study recommended that e-business brands should strive to have their delivery machineries and charge such prices that will entice their customers. If they must use third party logistics (3PL) service, they should negotiate on their customers' behalf, not exposing them to possible exploitation by the 3PL firms.

Keywords: Logistics, Management, Micro E-business, Performance, Ilorin

Introduction

Farming and hunting as the early major African economic efforts were as old as Africa itself and Nigeria in particular. At independence in 1960 and for much of that decade, agriculture was the mainstay of the Nigerian economy, providing food and employment for the populace, raw materials for the nascent industrial sector, and generating the bulk of government revenue and foreign exchange earnings (Chete, Adeoti, Adeyinka & Ogundele (2017). Hence, Farmers and hunters faced difficulties of moving their goods from the farm, and home usually to the point of possible exchange. Few used the then available transport systems of animals like horse and camel, some later bicycles while majority carried them on their heads and backs to reach the potential persons to exchange with.

Later on, importation complemented, substituted and dominated this old system of meeting needs in Nigeria, equally rely on transportation of goods from producing to consuming countries, then further routines of local transportation within the consuming nation to different states, cities, factories and households are required. Logistics holds a significant impact on the effectiveness of trading and affects the value of trade (Eriamiatoe, 2021). Its continuous advancement over the years enhances globalization in trading and business in entirety.

With the aid of logistics management practices which has equally expand many global giant companies production capacity, the importation trend has witnessed continuous growth today as Nigerians have been enjoying varieties of finished and semi-finished goods of different forms from different parts of the world. Nigeria recorded 92% import and 8% export ratio of container business within six month in 2012 (Jan 2013), NBS (2021) first quarter of 2021 report also showed import of 70.21% over export of 29.79%. This trends makes imported goods conveniently available in any parts of the country as if were produced or assembled locally, as well as positioned Nigeria, the most populous Africa country, in the centre of attention for many Europeans, Asians and other global giants companies without existence of their production factories in Nigeria land, but relied heavily on transportation of their products to their Nigeria potential market courtesy of logistics management.

Regardless of the size, anything that reduces human efforts could be considered as machine, widely regarded to as technology. The continuous advancement of affordable all encompasses latest technology gadgets like laptops, other portable and mobile related IT devices afford ample access to many business catalogues through online platforms, customers are now easy to access through virtual than conventional physical means. The act of trading; exchange of goods and services or things of value could be regard as business, doing this electronically with the aid of internet supported modern technology gadgets makes it an e-business. It has turned the world into a 'global village' where trade can take place between two parties geographically distant from each other (Anekwe & Nwokediba, 2019). Amazon, Alibaba, ebay, Jumia, among others, were the early embracers of this concept and have been making sales without any need for physical stores and have grew up to become large e-business malls today.

Due to its nature, e-business through the use of IT gadgets that concurrently serve as personal communication tools and business store, requires little or no special set up and motivate many individuals especially youth to venture it e-trading. Unlike the mentioned brands that usually have their pick-up stations in addition to home deliveries, the micro e-business brands often rely on third party logistics (3PL) services of another business to conclude the final and most important aspect online purchase which is delivery. This frequently leaves the customers at the mercy of other business to negotiate for delivery time and charges to finally actualize the purchase, this directly and indirectly influence their satisfaction and continuous patronage of online shopping.

E-business is opening new waves of business opportunities. People are exploring delivery services as core business value to meet the need of business logistics management, dispatch riders are now available for intra state delivery, hence, their still exists wide gap begging to bridge as competitive advantage is needed, especially, for e-business and consumer advantages. Jumia; the leading e-business shopping mall in Nigeria (Doris, 2022), and Konga were among the major companies that have thrived on the use of e-commerce and have been the forerunners of e-commerce in Nigeria (Okeke, Oboreh, & Ezeaghaego, 2016). These companies could serve as a model for micro e-business brands and give birth to more electronic malls and stores in Nigeria.

Evident from these statistics and assertions, e-business, if properly harnessed is expected to bridge youth unemployment gap, create more value, promote trading activities and enhance economic prosperity.

Statement of Problem

Business to Business (B2B), Business to Consumer (B2C) and Consumer to Consumer (C2C) exchange of goods and services can take place without either party necessarily connecting physically but virtually through the use of different ICT. This is happening already and as technology keeps advancing, it keeps aiding, promoting and simplifying online sales. Banking industry's continuous electronic initiatives do not only plays a significant role on e-business promotion but settles so many barriers related to it as electronic payment today seems easy, corporate and secured than the old physical method. Hence, logistics management can make or mar these efforts and ruin the e-business potentials especially at micro and small scale levels.

Stephanie (2022) reports approximately 4.9 trillion U.S. dollars e-retail revenue worldwide, further asserts forecast of 50% growth of 7.4 trillion dollars by 2025. NCC reports 68.2% increase in data consumption within December, 2020 and December, 2021 (NCC, 2021) where an earlier report in 2018 has it that, about 98.4 million of online users in Nigeria buy and sale products or services through the internet (NCC, 2018). These facts and figures highlight the prospect of e-business as a catalyst of economic growth, advancing value and creating wealth. In Nigeria, the number of internet clients has additionally risen exponentially since the rise and accessibility of cell phones and information technology in the nation (Usman and Adamkolo, 2020). WhatsApp, Instagram, Facebook, Twitter and Telegram among the popular social media platforms are more of market today, with effective and efficient features that enable sellers and buyers interactions. E-business vendor still concerned with getting the goods delivered to customers after the deal has been sealed electronically. A little gap in delivery charges can ruin already perfected negotiation and delay in delivery time can turn potential customers off, affect their satisfaction and preference of electronic to physical shopping.

Ilorin, the capital of Kwara state was among the first generation of states created in Nigeria in 1967, with abundant resources, hence, Kwara over the long years labelled a civil servant states due to dearth of private businesses to augment government ones. Evident from the above assertions, e-business, if properly harnessed is expected to bridge this gap and enhance economic prosperity. As such, anything capable of undermining this potential required research attention. It is against this backdrop that the study examined how logistics management affect micro e-businesses performance in Ilorin metropolis.

Research Objectives

The study examines the effect of logistics management on micro e-business performance in Ilorin metropolis. Specifically, the study aimed:

- i. To investigate the effect of delivery charges on online shoppers' satisfaction with e-business in Ilorin metropolis
- ii. To examine the effect of pick-up and delivery times on online shoppers' satisfaction with e-business in Ilorin metropolis.

Research Hypothesis

Hypothesis 1: Delivery charges have no significant impact on online shoppers' satisfaction with e-business in Ilorin metropolis.

Hypothesis 2: Pick-up and delivery times have no significant impact on online shoppers' satisfaction with e-business in Ilorin metropolis.

Literature Review and Conceptual Clarification

Commerce and business are words often used interchangeably, both shared strong affinities, but have some technical disparities. Commerce refers to trade; exchange of things of values, while business as an entity, consists of sundry activities of manufacturing and production, marketing, advertising, and even accounting among others which commerce is also part of. This explains why both words often used interchangeably especially in broad discussion where the attention is not on their disparity or technicality. Their bond in conventional settings extends directly to electronic settings, the prefix e-, an abbreviation of electronic indicates international network through the use of emerging technology.

In this context, e-business is concerned with the activities of exchange of produced goods electronically through the use of internet supported IT gadgets. Logistics, the last line of the chain, actualises and brings electronic trading into reality, its management is about effective and efficient movement of goods from point of purchase to the store or warehouse, and deliver to the customers on order. It is of two sides, the inwards aspect of taking the goods in and the outward aspect of taking the goods out. Delivery charges and pick-up and delivery times of

goods, are the factors that this study assumes to be directly related with logistics management and influence customer satisfaction on e-business.

Logistics Management

Logistics can be regarded as the administration of the movement of data, resources and goods, amid the point of origin and the point of consumption or reproduction. It manages the way resources are obtained, stored and shipped to their end destinations.

Types of Logistics

Authors have different reservations on types of logistics based on their functions as categories to define them, hence, they include Inbound and outbound, third party, and reverse logistics.

Inbound and Outbound Logistics

Inbound logistics concerned with the way raw, semi-finished or finished materials and other goods are taken into an organization, or business. It includes the overall steps and processes of ordering, receiving, storing, and transportation and other efforts of management of incoming supplies while outbound as the other way of inbound concerns with management of the entire actions and processes essential to do the opposite of inbound logistics. Inbound logistics focus on bringing in the products or materials into the business, while outbound concern with taking the materials in usually reprocessed or raw out of the business. These flows are set to help an organization maximize the reliability and efficiency of distribution networks as well as minimize transport and storage costs (Ayantoyinbo and Gegeleso, 2018).

Third Party Logistics

Third party logistics also known as 3PL refers to outsourcing or contracting of either whole or part of organizational logistics activities to another firm. Such contracting or outsourcing services to be handled could be, inbound, storage, warehousing, inventory management or outbound elements of logistics management. Since it's usually impossible for every organization, especially micro and small e-business brands to have the entire transportation systems and expertise to handle their logistics services, this necessitates sourcing for it from a 3rd party firm to handle it either in whole or part professionally, also highlights the importance of third party logistics. As dedicated logistic specialists, these firms allow their customers to concentrate on their core competencies and this focus can become a source of competitive advantages (Yangyan, Rafay and Hafiz, 2020). Technically, the transportation industry and third-party logistics service providers are indispensable to companies around the world (Vincent and Patrick, 2018).

Reverse Logistics

Reverse logistics (RL) is the type of *logistics management* that handle the technique of managing anything returning inwards through the supply chain. It is concerned with reverse effort of already concluded outbound logistics services. Although, RL is not directly reflect in total operational plan of logistics management, it is an integral part of organizational logistics management and constituted a significant figure in the entirety of logistics management. Hence, Vlachos, (2016), put that, there are six reverse logistics capabilities that have impact on companies' performance: logistics information management, close-loop capability, supply chain integration, supply chain coordination, conformity capability, and institutional incentives.

In e-business, RL shares high level of traits with return policy. Volume of returns in an e-commerce firm constitutes a significant percentage of overall sales which seems to be much higher than the same observed in a traditional retail firm. E-commerce firms need to take back the returned items and replace the same with the desired ones if the items delivered turned out to be defective or different from the prescribed specifications (Debadyuti, Rahul & Manish, 2020). In e-business context, logistics management speaks volume as it has significant manages the way resources are obtained, stored and shipped to their end destinations, influence

customer satisfaction and ultimately, the performances of the e-business store.

The increased offer on the market has led to intensive competition and some of the companies are faced with the problem of survival (Abdul, Aun, Oladipo, Olota, 2019). E-business store will have to do more than it's required in the conventional physical business to gain customer and even retain them from snatching by another competitor in the market. By implications, logistics through pick-up and delivery times and charges as the efforts that complete activities of online shopping is more paramount for e-business vendors to manage.

Deliveries

Delivery of goods is a unique and main element of logistics, it cut across efficient and friendly charges, on time delivery, ability to pick and deliver goods free of errors from one point to another, effective storage and categorization, repackaging, returns among the host others. All these revolve around effective and efficient logistics management and play important role in actualization of electronic exchange of goods.

Delivery Charges

The practice of visiting selling stores and malls to purchase goods and take care of carriage charge by the customers still largely reflects the culture of delivery on e-business context, negotiation for carriage in form of delivery is still been handled by the buyer who likely inexperienced in such kind of negotiation, in the end, likely pay charges he/she may not happy with which may end up affect the suppose overall satisfaction and luxury online shopping offers.

The diminutive supply of delivery firms compared to high demand only left the customers at the receiving end, hence, the e-business trader often paid no or little attention to this since it does not affect their income, but technically, it affect the customers decision on online shopping culture, ultimately their sales and e-business performance as a whole. A little gap in delivery charge can ruin an already perfected negotiation on a goods and halt actualization of online sales. Bad roads, inadequate fleets of vehicles, inadequate trains, overcrowded airplanes and congested ports are common factors in Nigeria that affect logistics management (transportation and distribution channel) (Karibo, 2019).

Pick-up and Delivery Times

Time is the only uniform, equally universal resource, hence, every economic activity leverage on it. The independent resource every business transactions work towards is time, business activities of exchange of values is globally driven by time. Time can cost and as well safe business huge funds, can make or mar customer satisfaction at the same time, can win a business new customers continuously.

Barani, (2021) expressed that, Lead Time (LT) is the amount of time between process initiation and completion. For customers, LT is the time between a confirmed orders are scheduled for pick up or delivery based on terms and conditions. This sometimes varies based on the customer, location and the product. In e-business context, the time it takes customers to receive confirmed/concluded goods ordered online can be regard as Lead Time. On time delivery is a part of supply chain efficiency which measures the amount of finish goods or services delivered to customers on time and in full (Robert & Chandra (2006); Karibo, 2019). Practically, e-business is largely facilitated by the use of IT, many customers still prefer the culture of visiting the store, examine the goods, negotiate, pay and take the goods home immediately compare to doing these online and still have to wait for certain time to get their goods delivered. Despite convenience of e-business which should aids consumers buying decision, many people has yet to purchase anything online, while some did few times and stop because of time waiting factor. To some, it bruises their ego and freedom of being a rightful owner of goods immediately after payment. Consequently, online sellers need to be strategic and look for means to reduce these barriers and ensure customers get that sense of rightful owner of goods as soon as possible after the payment.

MicroE-business Performance

Performance always have link with a particular objective in which the efforts gear towards. Since business is for profit making, business performance is closely knotted to commercial efficiency which is determined by the ability of a company to implement optimal organisation through offering of goods or services that continually meets the needs and expectation of customers. A business performance is defined as the outputs or meaningful business results measured against its intended outputs (Anekwe & Nwokediba, 2019). Consequently, business performance is measured in many ways using various indices, hence, the common mean is through the business language which is finance. Performance of organization can be measured by operational performance (non-financial performance and financial performance (Barani, 2021).

Directly or indirectly, other business performance measurement indices revolve around its financial prosperity. Customer satisfaction, retention and growth, revenue growth, product demand, profit margin among the host of others are the performance indices commonly used to determine business performance generally. In the context of micro e-business stores which is all about online sales, customer satisfaction, retention and referrals of new customers to enhance future sales is an indication of good performance. The SME performance which can be measured by different tools, such as financial & market performance, SME growth, customer satisfaction, employee satisfaction, customer retention and social responsibility is gaining an unprecedented improvement from the development of the technologies in business and trade (Anekwe & Nwokediba, (2019).

Logistics management is an intrinsic part of business management generally, and the heart of electronic business performance through continues sourcing for affordable at the same time quality goods that will keep meeting customers varying needs, effective and efficient storage and handling of such goods pending dispatch to maintain their high quality nature, fair delivery charges and timely delivery are all factors capable of enhancing customer satisfaction from patronizing e-business store and increase their chance of loyalty and possibly referring more potential customers.

Theoretical Review**Transaction Cost Theory**

Oliver E. Williamson's (1979) study of supply management makes a valuable contribution to understanding sourcing and predicting the likely success of some supply chain arrangements with focus on firm boundaries. Basically, it is based on two central assumptions regarding human behaviour; these being, "opportunism" and "bounded rationality. Opportunism, offering incomplete and/or inaccurate information during both the negotiation of and implementation of economic transactions while on bounded rationality, individuals tend to be rational merely in intent rather than being rational in the absolute sense due to the imperfections inherent in humans' creation, and therefore, in their ability to rationalize.

TC saw transactions broadly as transfers of goods or services across interfaces, and argued that when transaction costs were high, internalizing the transaction within a hierarchy was the appropriate decision. Consequently, customers would prefer conventional method of shopping over online shopping if the cost of actualizing the later poses any form of difficulties or extra charges to them.

Resource-Based View (RBV) Theory

Barney (1991) focuses on the concept of difficult-to-imitate attributes of the firm as sources of superior performance and competitive advantage. Resources that cannot be easily transferred or purchased, require an extended learning curve or a major change in the organization climate and culture, are more likely to be unique to the organization and, therefore, more difficult to imitate by competitors (Pankaj, 2010).

Accordingly, the firms' resources are always heterogeneous and immobile, tangible; physical things like, piece

of land, buildings, and immobile; intangible assets, trademarks, brand equity and reputation, processes, knowledge and experience, that offers advantage to the firms in the long run since competitors cannot easily obtain them like tangible ones. They are the designed and built by the firm and possess value that are advantageous as its strength that will give competitive edge. RBV believes that, it is considerably viable to exploit exterior opportunities using interior resources in a different way to achieve sustainable competitive advantage, instead of trying to obtain novel skills for each different opportunity.

Consequently, an e-business store can use its local resources of connection and sales power to negotiate with delivery firms that offers timely delivery of goods on behalf of the customers, as such having a standard, timely and fair delivery charges for all its customers or have its own delivery tools, this internal efforts and services are expected to give such e-business store a competitive advantage over others, continue increasing its sales and ultimately improve its performance.

Empirical Evidences

Several literatures in recent times have directly and indirectly examined the effect of logistics management on micro e-business performance. These past works on logistics management of micro e-business and its effects on customer satisfaction on online shopping were reviewed and put in appropriate perspectives. This is done to facilitate easy comprehension of the context.

In his study, on effect of e-business on organizational performance in project based organizations, Sadi-Nezhad (2017) found positive relationship between e-business and integrated suppliers, e-business and customers, integrated customers and suppliers and organizational performance. This indicates that, even in project based organization in America, e-business is influencing the sales and general performance. This is in line with the report Jelena, Radoje, Elizabeta, & Cristiano (2020) that, e-commerce boosts firm performance. Evidently, relationship between e-commerce and firm performance may not be a direct one and need mediating approach on a brick and mortal shopping method, but with significant influence on their general sales and performance, and shall do more on online shopping.

A study of Imran and Amjad, (2017) on the relationship between logistics processes, customer service and firm performance in the furniture industry of Pakistan that comprises of small and medium enterprises where production is mainly labour intensive. They found that, logistics processes positively affect customer service and firm performance. Similarly, Jinsung, Minseok, Sehyeuk, and Donghyun (2021) also reported logistics management among other factors that enhance competitiveness of e-commerce firm in Korea. Palpably, even in manufacturing industry, logistics management, if properly managed effectively, will enhance customer satisfaction and have positive effect on SMEs business sales and performance.

In another vein, Sorkun (2019) study on factors that impact logistics service performance of sellers in online marketplaces, the study found that, the competitive nature characterized by product categories and items within the categories affect sales, but free shipping policy and the city from which products are shipped are the factors found to affect logistics service performance. In the case of Nigerian e-business brands where most of their goods are through importation, many foreign logistics factors including duties and rates already soar the prices of goods, all these determine the amount to be tagged on the product after their profit is been considered and everything bounce back on the consumer.

Omoneye (2019) on online shopping and customers' satisfaction in Lagos State, Nigeria, the study revealed that costs involved, level of awareness, time and convenience and risks involved are among the factors that had significant impact on customer satisfaction also that, improved customer satisfaction can in turn impact on continued patronage of online shopping outlets. Noble and Gautam, (2018) on influence of delivery charges and time on online purchase decision, also found that, delivery charges has a strong positive influence on customers

purchasing decision of online goods and that, Managerial implication to focus on efficient logistics service. Obviously, delivery charges influence customer attitude towards online shopping and customers will likely prefer goods with free delivery. Also, Karibo (2019) study on logistics management from firms' performance perspective reported that, logistics management significantly and positively affect the performance of the firms, specifically, effective transportation and distribution influences on time delivery and sales growth.

The study of Hafez, Elakkad, & Gamil (2021) on the relationship between logistics service quality (LSQ) and customer satisfaction and impact of customer satisfaction on customer loyalty further established that customer satisfaction has a significant impact on customer loyalty. In a similar vein, Uchenna, Larry and Ijeoma, (2019) on relationship between customer satisfaction in e-business and organizational performance, their study found a positive and significant relationship between Customer satisfaction in e-business and organizational performance. As indicated in these studies, on-time delivery is one of the main logistics management factors that influence customer satisfaction and loyalty to the e-business brand and enhance their online shopping habit. A satisfied customer will not only keep patronizing e-business brand, but will equally recommend such brand for others, as such, increase sales which is among the indication of good performance to trading business.

Methodology

Descriptive survey which involves collection of data, using questionnaire for the purpose of describing and interpreting existing conditions about a given population was adopted for the study. This helps in achieving the purpose of the study, which is to examine the effects of logistics management on e-business performance in Ilorin metropolis.

Population of the Study

Population could be regarded as the totality of the items or objects within the scope of the study. This could be finite; countable or infinite; uncountable. Jumia as at last quarter of year 2022 operates in eleven (11) countries, with total of 6.8 million active customers in the last quarter of 2020 (Stephanie 2022). Owing to the nature of e-business characterised and facilitated by internet platforms, active users are determined by number of individuals with Jumia application on his/her IT gadgets, these users travel from a country, state and cities to one another, as such, the actual proportion of Jumia's customers per country, state and city is hard to precisely determine at a particular point in time. A customer may place order in Lagos and choose to pick-up it up in Ilorin. Also, the three pick-up stations in Ilorin metropolis recorded 1406 pick-ups between 8th and 25th December, 2021. Usually, because of year end festive and Black Friday sales in December, shopping rate used to be increased around the period. In this figures are also individuals that picked up goods more than once. Due to multiple counting of one person and because more customers use the home delivery option to have their goods, the 6.8 million and 1406 figures are not accurate for adoption. Consequently, the study assumes the target population as infinite, hence, only the individual that placed order online from Jumia and have their goods picked at either of its three pickup stations; Stadium road, Tanke, or Sango Road in Ilorin metropolis made the respondents. Since every purchase on Jumia is only done online, every individual that purchase goods from Jumia possesses the characteristics this study is looking at as such, fit for the study as its population.

However, the sample size of this study was determined by the formula of Rose, Spinks and Isabel-Canhoto (2015) to estimate a proportion of an infinite population with an approximate 95% confidence level. Accordingly, the minimum sample size population for this study is 400. Purposive sampling techniques were used to select a total of 400 respondents that came to pick their items ordered online in Ilorin metropolis. A close ended questionnaire was used to collect primary data from the respondents. This affords the study with first hand information for better and reliable result.

Reliability of the Instrument

Cronbach’s Alpha Coefficients of delivery charges and pick-up and delivery times of goods, sales volume and customer satisfaction respectively.

Table 1

Variables	Cronbach Alpha Coefficients
i. Delivery charges	.843
ii. Pick-up and delivery time	.851
iii. Sales volume	.708
iv. Customer satisfaction	.718

Source: Author’s Fieldwork Computation, 2022

In this study, the delivery charges and pick-up and delivery times of goods, sales volume and customer satisfaction scales have good internal consistency. By implication, all the scales are reliable

Data Collection

The research instrument was administered directly by the researcher with the aid of three Jumia’s pick up stations attendants that served as Research Assistants. While the data collected were analysed using frequency counts, percentages, mean and standard deviation and inferential statistics. The null hypotheses were tested at 0.05 level of significance using t-test statistical tool. The study however honoured the required ethical considerations, as it is in no way have imminent harm to the individuals that made their orders online and came to pick them at either of these pick-up stations. The questionnaire have introductory part that afford the respondents understanding of the study and its purpose and gave their responses at will. Since, data collected were at the pickup stations with the aid of Jumia staff, and neither their names, nor any personal identities are required, the confidentiality is easily maintained.

Analysis and Findings

A total of 400 copies of questionnaire as determined by sampling techniques Rose, et al (2015) were distributed.

Table 2: Response Rate

Response Rate	Frequency	Percentage%
Returned and suitable	383	95.75%
Returned but not suitable	17	4.25%
Total	400	100%

Source: Author’s Computation, 2022

All the 400 questionnaires administered were filled and returned, 383 copies representing 95.7% were well filled and suitable, while the remaining 17 copies representing 4.25% were not well filled and found not suitable for the study. As such, a total of 383 questionnaire which represent 95.75% rate of estimated sample of Rose et al, (2015) for the infinite population was analyzed.

Analysis and Findings

Research Question 1: To what extent do delivery charges affect customer satisfaction and e-businesses performance in Ilorin metropolis?

Table 3 Model Summary

Model	R	R square	Adjusted R square	Std. Error of the Estimate	Durbin-Watson
1	.755 ^a	.571	.567	.371	1.889

a. Predictors: (Constant), Delivery Charges and Pick-up and Delivery times of goods

b. Dependent Variable: Sales Volume

Source: Author's Fieldwork Computation, 2022

Table 3, shows that the correlation coefficient r is 0.755 which indicates that there exists a very strong relationship between sales volume (dependent variable i.e. the variable being predicted) and logistics management (delivery charges and Pick-upand delivery times of goods - which are predictors or independent variables). It is also clear from the table that the r² which is the coefficient of determination is 0.571 approximately 57%. This implies that more than 57% change in sales volume can be explained by the improvement in logistics management.

Table 4: Model 1: Adequacy Test (ANOVA^a)

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	101.588	4	25.397	131.591	.000 ^b
	Residual	76.409	396	.193		
	Total	177.997	400			

a. Dependent Variable: Sales Volume

b. Predictors: (Constant), Delivery Charges and Pick-upand Delivery Times of Goods

Source: Author's Fieldwork Computation, 2022

The Analysis of Variance as contained inTable 2 shows the regression analysis, estimated F-test was 131.591, significant at 1 per cent [$p < .000$] which is less than p-value of 0.05 ($p < 0.05$). This by implication means that the explanatory variable elements can jointly influence change in the dependent variable (sales volume). This implies that the independent variables; Delivery Charges and Pick-upand Delivery Times of Goods significantly influence e-business customer satisfaction and sales volume.

Hypothesis 1: Delivery charges have no significant impact on customer satisfaction and sales volume of e-businesses in Ilorin Metropolis.

Hypothesis 2: Pickup and delivery times of goods have no significant impact on customer satisfaction and sales volume of e-business in Ilorin metropolis

Table 5: Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error			
(Constant)	1.015	.111		9.175	.000
Delivery charges	.367	.141	.078	2.603	.005
Pick-up and Delivery Times of Goods	.179	.045	.091	3.978	.002

a. Dependent Variable: Sales Volume

Source: Author's Fieldwork Computation, 2022

Table 5 presents the coefficient of independent variables. The coefficient of delivery charges (DC) of 0.367 and pick-up and delivery times (PDT) of 0.179 suggest that there exists a moderate positive relationships them and sales volume (SV). In addition, the probability and [t-statistics] value of .005; [2.603] of DC and .002; [3.978] of PDT further suggest that the relationships between them and sales volume are significant since alpha level of 0.05 is greater than their p-values. The conclusion therefore is that modification of the delivery charges is a major contributor to sales volume.

Conclusion

The study shows that, except if relatively low, online shoppers are unsatisfactory with delivery charges and limit their online purchase because of this. As soon as order is completed online, customers prefer to have their goods as soon as possible if not immediately, having to wait for a certain time has limitation on online purchase. Logistics management through delivery charges and pick-up and delivery times of goods significantly affect customer satisfaction and e-business performance. This corroborates the studies of Abdul et al, (2019); Suguna, et al, (2021) and Karibo (2019).

The two hypotheses were empirically tested however, showed that there was a significant relationship between logistics management through delivery charges and pick-up and delivery times as such, the two null hypotheses were rejected. Consequently, improvement in logistic management by e-business brands will enhance customer satisfaction and loyalty and likely increase sales which indicate good business performance in retail business.

Recommendations

E-business brands should strive to have their delivery tools and charge such price that will appeal to their customers, if they must use third party logistics (3PL) service, they should negotiate on their customers behalf not exposing them to possible exploitation from the 3PL.

To increase expertise, address the customers' wish of having their products delivered quickly instead of waiting longer after order has been completed, e-business brands should have its delivery tools or use specific 3PLs agents, this will enhance on time delivery of goods, enhances customers loyalty, improve chances of gaining more customers through referrals.

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