

E-PAYMENT AND PERFORMANCE OF FAST-MOVING CONSUMER GOOD (FMCG) COMPANIES IN LAGOS STATE, NIGERIA

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ABSTRACT:

In the changing business trend, e-commerce organizations use online payment systems that bring a lot of efficiency in business operations and convenience to customers. It offers customers the advantages of cost-effective transactions at any time and location. Despite the importance of E-Payments, there is still delay in payment when it comes to service delivery and thus the organization is slow in delivering as a result of timelessness in supply. Still, organizations have not been able to effectively pay the suppliers due to late payment and delayed approvals for supply of goods and services. For this reason, this study sought to determine the relationship between E-payment and inventory management performance of FMCG companies in Lagos State, Nigeria. A survey research design was used for this study. The study population was 3 FMCG Companies in Lagos State Dangote Sugar refinery, Chi Ltd and Dansa Food. Convenience sampling techniques was used to select the 3 FMCG Companies. Purposive sampling techniques was used to choose 435 staff of procurement and Supply chain department of the 3 selected FMCG companies in Lagos State, Nigeria. The staff were choosing because they have knowledge on the study variables. Primary data was collected using structured questionnaire. The hypothesis was tested using correlation analysis. The findings of this study show that there is a strong positive relationship between E-payment and performance of inventory management ($r = 0.81$). It was suggested that FCMG organizations enhance their information systems skills and build a stronger information technology infrastructure to boost inventory management performance.

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Introduction

In recent years, the increasing development of communication as well as information technology has changed human life (Alzoubia, Alshuridehb, Al Kurdid ,Alhyasate & Ghazalf, 2022). These technologies have a great impact on human society and also influence on social events and behaviors (Roozbahani, Hojjati, & Azad, 2015). Most organizations in the world are gradually transacting business using information technology due to competitive market. Digitized business transaction in procurement entity is growing in its scope and importance. However, it does not matter what they have in stores that they are offering. All of them should follow the same rule that makes customers feel safe while they shop online, because related to the goods quality, e-commerce would not exist without customers trust (Strzelecki & Rizun, 2020).

E-commerce is an E-payment method that buys and sells products information, data and money regarding the commercial payments via the internet. Essentially e-commerce allows the purchasing and selling of physical goods via online platforms, which makes payment easy for businessmen and customers who can buy and sell anywhere at any time (Neger & Uddin, 2020). E-payment plays an effective role in the transaction process in today's world business. It is because of its timeliness, efficiency and convenience (Kabir, Saidin, & Ahmi, 2015). Thus, Customers move more quickly through the payment process due to fast transaction time, thus reducing longer check-out queues especially during peak season. Increased customer spending, increased frequency of purchases, and increased customer loyalty increase revenues (Ndegwa & Ndolo 2021). Also, reduced cash handling, improved payment terminal reliability, and streamlined payment processes, improve operational efficiency and reduce operating costs. In addition, many verifiable studies have also revealed the e-payment systems with some investigating factors that affect its uses and adoption (Ndegwa & Ndolo 2021). The lack of an efficient way may hinder the success rate of e-commerce development. However, the rapid changing growth of the internet has activated the need for e-payment processes which are more pertinent for the web over conventional payment processes. Moreover, the e-payment system includes different electronic modes of payments by which financial institutions offer many e-payment services and opportunities to their customers such as the debit cards, mobile banking, credit cards and on-line banking system (Premchand & Choudhry, 2015).

Managing the supply chain of fast-moving consumer goods has faced many challenges. An example of fast-moving consumer goods is the food industry supplying foodstuffs to retailers.

From a supply chain point of view, the first operation in a food factory is customer order picking. This is done for each retailer and sorted for transportation. Sometimes the batches are transported directly to food markets, sometimes via a wholesale terminal, where several supplier batches are combined into single delivery for retail. Supply chains in the food industry operate in a very fast phase, counting hours rather than days in many cases.

The FMCG sector in Africa has significant scope to expand. Poverty levels in especially Sub-Saharan Africa (SSA) are still quite high, with food and other necessities dominating consumer budgets (Ngure & Nore, 2023). For this reason, the food sub-sector of FMCG has a very large market to cater for, while penetration rates in the other categories still have significant room to expand. There is need for FCMG companies to apply information technology in their operation. Thus, there is need to evaluate the relationship of e-payment with inventory performance of FCMG Company in Lagos State, Nigeria.

Statement of the Problem

Technological advancement not only open up many opportunities but also put pressure on consumer goods business players, especially those who have not been able to adopt this technology as their competitors. In the changing business trend, e-commerce organizations use online payment systems that bring a lot of efficiency in business operations and convenience to customers.

Lack of an E-payment system in an organization has made it impossible for the organization to achieve the best deal of the supply contract and thus little is done in terms of giving the right information. Payments are delayed when it comes to service delivery and thus the organization is slow in delivering as a result of timelessness in supply. Furthermore, organizations have not been able to effectively pay the suppliers due to late invoicing and delayed approvals for supply of goods and services. (David & Geoffrey, 2015).

The fast-moving consumer goods sector is unarguably one of the biggest industries in the world and comprised diverse products, including foods, drinks, personal care products down to electronics, household goods and many more (Binuyo, Ekpe & Binuyo, 2019). The products in this category are usually low cost, but with high turnover in terms of units sold. This is because FMCGs are household products that are used very frequently (Pradhan & Misra, 2014). The profit margin is however low on each of the products. The products are usually easily substituted either by competitors' activities or otherwise.

In Nigeria and other developing nation, the manufacturer of fast-moving consumer goods (FMCG)

continue to face challenges that affect their growth and performance. One of the challenges is late payment of supplier, ambiguity in buyer and supplier transaction, increase in lead time, inventory replenishment cost, meeting customer demand. Due to competitive nature of the business, FCMG need to adopt innovative method to enhance their service delivery.

Recent studies Kilay, Simamora and Putra (2022) examined the Influence of E-Payment and E-Commerce Services on Supply Chain Performance in relation to Implications of Open Innovation and Solutions for the Digitalization of Micro, Small, and Medium Enterprises (MSMEs) in Indonesia. Also, Hassan, Daryanto, Roy, and Feng (2020) annalysed the decision-making methods for retailers who sell deteriorating products that utilize an e-commerce platform and offering preorder. The study considers several features that relate to the retail business in a growing e-commerce market. It considers an online payment system that brings efficiency and convenience. Binuyo et al. (2019) investigated the effect of innovative strategies on the growth of selected FMCG firms in Lagos state, Nigeria. Obunde (2019) in their study effect of e - procurement on supply chain performance of county governments in kenya, review different theories on e-procurement, it includes dynamic capability theory, value chain theory, resource-based view theory and contingency theory of management. The paper submitted that the combination of this theory in any organization would establish a framework e-procurement.

This study therefore, attempts to address this gap by conducting empirical study on FCMG companies in Lagos State, Nigeria to evaluate the relationship between E-procurement and Performance of inventory management in FCMG.

Objective of the Study

To examine the relationship between e-payment and performance of inventory management of FCMG Companies in Lagos State, Nigeria.

Research Hypothesis

Ho: E-payment does not have significant relationship with performance of inventory management of FCMG Companies in Lagos State, Nigeria.

Literatures Review

Conceptual Review

E-Payment

According to Alhammadi and Tariq (2020) Electronic payment is a mechanism used to transfer

money electronically or digitally between two entities. it can also be defined as the payment for goods or services on the internet through a bill-paying gateway (Kesharwani, 2021). E- Payment Method includes debit/credit cards, fund transfers, e-wallets, e-checks, wireless payments, e-banking, online banking, m-payment, e-broking, e-finance, payment gateways, and virtual currency (Ngeyi, 2018). The benefits of using electronic payments include time savings, reduced risk of losing money, low transaction costs, high security, data accuracy, improved process efficiency, and increased sales (Nasr, Fallag & Nasr, 2020).

David and Geoffrey (2015) stated E-payment is the fastest growth area in the global economy and almost carries potentials beyond measure. It provides consumers with the benefits of anytime, anywhere transactions, with lower costs. Moreover it, shortens the distance between the buyer and the seller and shrinks the world into a small village. More than ten e-payment benefits for both buyer and seller. Such as cost savings and speed in selling and purchasing, exposure to new customers (global reach), convenience and transparency to users, better quality of product/service (global reach), reduce need for office space and fewer resources required (ecological) (David & Geoffrey, 2015).

Performance of Inventory Management.

Inventories consist of assets or items held in the business process, goods consumed or goods used in the production process that are to be sold. Inventory was evolved in the 1950 and its due purpose was to ensure that there was increase in supply chain and inventory management globally (Leah, 2018). This process involves information integration, transportation, acquisition, inspection process, handling of materials, the process of warehousing, packaging process and control of supplies and security (Axsäter, 2015). Inventory controls all the processing that supplying involves from the production point to the supply chain process. The factors used to measure the performance of inventories are; inventory turnover, cost of carrying inventory, receiving efficiency, inventory accuracy, or picking/packing (Kesavan 2015). The frequency at which inventories are used in a company are measured by inventory turnover. The number of products being sold is also important due to the amount of money a company has invested. A company also needs to evaluate whether the products they have stocked is what is in demand or not. If inventories are not carried out effectively, there is likelihood that there will be losses incurred too. Inventory that is not fast enough slows the activities in the company and this leads to slow supplies and losses (Stadtler, 2015). Inventory is also associated by the level of profits that a company incurs per

supply chain. All costs in the company that involve rent, utilities and salaries, perishability, shrinkage (leakage) and insurance are all controlled by inventory (Pal, Mahapatra & Samanta, 2015). There have been benefits that have been associated with inventory management, production planning and scheduling since the 1980s. Inventory management includes activities of forecasting and product replenishment. It determines when to order products, how much to order and the most effective source of supply for each item in the warehouse (Leah, 2018). This ensures that distributors have the right quantity of the right item in the right location at the right time. Inventory control regulates the inventory that is already in a distributor's warehouse. This includes knowing what products are being stocked and how much of a particular item is available. It is about know exactly where each product is located in the warehouse, ensuring that all inventory remains in great condition and laying out the warehouse in a way that minimizes the cost of filling customer orders. In the manufacturing industry for example, countries such as Japan, Europe and North America have recorded a significant improvement in effectiveness and efficiency in the process of manufacturing and distribution. Inventory has also enabled many countries to develop and grow through collaborations with other companies. This has been achieved by sharing of information from one company to the other on changes in demand and how to ensure they deal with the demand rates (Bargetury & Kimuta, 2019).

Theoretical Framework

The Resource Based View (RBV) Theory

The RBV states that a resource has to be heterogeneous in nature and not mobile for it to ensure successful transformation of a short-term competitive advantage to a long-term competitive advantage. It focuses on the ability of organizations to being able to provide products that are not imitable and cannot be substituted. This factor enables an organization to sustain its competitive advantage, which in return ensures a long-term sustainability. Supply chain management and procurement have been in the long term been controlled by IT (information technology) (Pressutti, 2003). Here, RBV comes in to analyze sustainability on how IT sources are involved. Strategic resources derive economic rent, which is measured by IT as per RBV (Rajkumar, 2001). This results from the focus of RBV on provision of goods that are inimitable, rare, valuable, and non-substitutable through information technology.

The theory also insists on resources that are immobile and heterogeneous. The challenges that are associated with resources include lack of capability to provide unique products, lack of ambiguity

social complexity and lack of adequate knowledge and skills, which are much emphasized by the theory for the long-term sustainability of competitive advantage (Simon & Alistair, 2005). The resources derived from information technology may be difficult for other firms to imitate, as they do not possess the learning capabilities, organizational knowledge and time. This is due to the IT nature of sustainability to provide dynamic and sensitive terms (Webb, 2004).

The theory thus focuses on how to increase and sustain competitive advantage in businesses by using information technology, which is a strategic resource that needs to be embraced and adopted effectively in FCMG companies in Nigeria. Firms should acquire resources from information technology/use lessons and time learnt from previous experiences.

Empirical Review

Alzoubia et al. (2022) examined the relationship and impact of electronic payment methods on the sales growth with the mediating role of online shopping by targeting UAE banking Industry. This study followed the quantitative approach and a correlational design. The empirical data were collected through a survey designed. The results of the study showed high internal consistency among the study variables as Cronbach's Alpha values ranged from .873 to .855. Further, this study highlighted the significant relationship and direct impact between online shopping and sales growth. Meanwhile, indirect impact was confirmed by the results between online shopping and sales growth through e-payment. In this regard, results can help to identify the impact of e-payment on sales growth through online shopping and also provide advantage for this and many other similar organizational studies.

Kilay et al (2022) assessed the influence of the use of e-payment and e-commerce services on MSME supply chain performance, as well as suggesting open innovations and solutions to accelerate the digitization of MSMEs. We collected data from 164 MSMEs in Indonesia, then conducted multiple linear regression analysis, descriptive analysis of research indicators, and interviews and discussions with research experts. The results demonstrate that there exists a positive and significant influence of both e-payment and e-commerce service variables on the performance of MSME supply chains in Indonesia. We determine ten research indicators with low values, which thus pose an obstacle to the digitization of MSMEs, and their implications, in order of open innovation and solutions, are presented in order to assist MSME actors, the government, and related institutions in accelerating the digitalization of MSMEs in Indonesia

Hasan et al. (2020) examined the decision-making methods for retailers who sell deteriorating

products that utilize an e-commerce platform and offering preorder. The researcher assessed the optimum price and replenishment cycle when multiple discounts policy is implemented for customers when they purchase during the preorder period and make the payment via an online system. The proposed economic order quantity model works for non-instantaneous deteriorating items that will maximize the total profit. Moreover, it considers the effect of selling price and advertisement on customer demand. The concavity of the profit function is proved. Then, a comparison is carried out between the traditional payment system and online payment. Finally, two numerical examples and the sensitivity analysis are performed. The results show the benefit of the system with online payment compared to the traditional one. Further analysis shows that the total profit increases when the frequency of advertisement, interest from the banking company, location perimeter and the no deterioration time increase.

The study conducted by Maha, Hussein and Dina (2020) on the Impact of Internet of Things on Supply Chain Performance. It concluded that the effect of IoT on supply chain performance becomes essential in today's academic research. However, evocative evidence to explain the role of IoT in and its impact on supply chain performance is vital to be investigated. The data was collected through an exploratory study using semi-structured interviews on a sample of 9 companies from different sectors. Purposive sampling is applied as the companies chosen would be involved in tracking their products via technologies. Interviews were conducted via emails, and their schedule had 5 questions in addition to using "Supply Chain Performance Metrics Framework" which outlines thirty-two measures divided into three main categories i.e. strategic, operational and tactical, in order to ask the interviewees about the impact of IoT on each of these measures. Through findings of this study using the semi-structured interviews, all the interviewees spoke positively about the outcomes of IoT deployment in their companies to improve supply chain performance for their strategically, technically, and operationally levels.

Also, the study conducted by Jerimiah, Chendedzai and Manillal (2020) on E-procurement, supplier integration and supply chain performance in small and medium enterprises in South Africa. The literature analysed in the study disclosed that e-procurement is one of the most critical developments in SCM in modern times. E-procurement, represented by its five functions – e-sourcing, e-negotiation, e-informing, e-design and e-evaluation – involves the use of technology in facilitating transactions between buyers and suppliers. The literature also revealed the fundamental role of supplier integration in supporting SCP in different forms of enterprises. For

the collection of data, a cross-sectional survey design was followed, which involved the once-off distribution of questionnaires to targeted respondents without repeating the process. The questionnaires were distributed in person by the principal researcher over 3 months between May and July 2017. Because the geographic area (Gauteng Province) to be covered for the data collection was wide, three trained field workers were employed as research assistants. Data were subjected to statistical analysis using the Statistical Package for Social Sciences (SPSS) version 25.0 and the Analysis of Moment Structures (AMOS) version 25.0. The respondents' biographical information and the composition of the sample were analysed using descriptive statistics in the form of frequencies, whereas inferential statistics were used to test the hypotheses.

Futher, Ahmed, Aiman, Mohamed and Mohamed (2019) examined the effect of procurement practices on organizational performance in service organizations. It was concluded that by using the SEM analysis of the impact of Procurement Practices; Customer Orientation, Strategic Supplier Partnership, Information Sharing, Adoption of IT, Reverse Logistics and Knowledge Management on Organizational Performance. It could be observed that there is an insignificant impact of Procurement Practices on Organizational Performance as P-values are more than 0.05. The research methodology section are divided into an outline of the research design, research questions and hypotheses. Also, the research framework is delineated together with the exploration model and factors of the research. additionally, the targeted population are outlined moreover because the analysis sample. Finally, the data collection process and also the statistical tools used in a while within the empirical study are introduced.

A study by David and Geoffrey (2015) on effects of e-procurement on supply chain management performance. The main finding of the study was that were of the opinion that they find payments online more convenient and was interpreted to mean that the development of IT has enhanced the usage of epayment and improved the use of supply chain management. This was also interpreted to mean that the complete implementation of the website usage had to a large extend integrated, much more effective supply chains with full information transparency and optimal allocation of value adding processes. The study went ahead to compute a Chi-square test indicating how the variables interacted in the study.

Research Methods

For the purpose of this study, a survey research design was adopted. The population used for the

study is four hundred and thirty-five (435) staff of store department, procurement, finance and Supply chain Department of notable three (3) FCMG companies in Lagos State. The companies are Dangote sugar refinery, Chi Ltd and Dansa Food. Proportional stratification was used to stratify the population into 161 Dangote sugar refinery, 143 Chi Ltd and 131 Dansa Food. convenience sampling techniques was used choose the three FCMG companies and Purposive was used to determine the choice of staff due to their knowledge on the study variable. In order to reduce the sample size to a manageable size, the Taro-Yamane's model is applied. This is expressed below:

$$n = \frac{N}{1+N(e)^2}$$

Where: N = Population

e = allowable error (%)

1 = a constant value

Given that, N = 435 (Total Population)

and e is assumed to be 5% (allowable error)

, then sample size is;

$$n = \frac{435}{1+435(0.05)^2}$$

$$n = \frac{435}{1+435(0.0025)}$$

$$n = \frac{435}{2.0875}$$

$$n = 208.383$$

n is approximately to 208

The result was shown in the table 1 below,

Table 1: Proportional strata of the sample size among the selected FCMG Companies

Professional Cadre	Population	Sample size
Dangote Sugar Refinery	161	161/435* 208 = 77
Chi Ltd.	143	143/435* 208 = 68
Dansa Food	131	131/435* 208 = 63
Total	435	208

Source: Researcher computation 2024.

Out of two hundred and eighty (208) questionnaires distributed, one hundred and eighty five (185)

questionnaire (88.9% response rate) was received and used for the study analysis. Data for this study were collected from primary source. The primary data are taken through the use of questionnaire. The questionnaire was divided into two sections; section A on demographic questions while section B bothers on question relating to the subject matter of the research. Using a Likert scale of 5 points, the degree of agreement by the respondents to each of the items in the questionnaire is measured by calibrating the scale into strongly agree (SA), agree (A), Undecided(U), Disagree (D) and strongly disagree (SD) with the value 5,4,3,2 and 1 respectively. Collected data were analyzed and interpreted, simple frequency tables were used in presenting the results. The hypothesis was tested using correlation analysis with the aid of statistical packages for social science scientist (SPSS).

Results and Interpretation

Table 2: Descriptive statistics of E-Payment

Description	Level of Agreement					Average	
E-Payment	SD	D	U	A	SA	Mean	Std Dev
There is immediate reflection of payments	0.0%	24.2%	21.1%	24.2%	30.5%	3.61	1.160
We find payments online more convenient	0.0%	25.3%	26.3%	25.3%	23.2%	3.46	1.109
We do not incur agency costs due to direct payments online	0.0%	26.3%	21.1%	31.6%	21.1%	3.47	1.100
We trust payments systems of the organization	0.0%	20.0%	23.2%	29.5%	27.4%	3.64	1.091
We receive notifications on demand	0.0%	23.2%	21.1%	26.3%	29.5%	3.62	1.141
Grand Average						3.56	1.12

Source: Field Survey (2024).

From the result above, the grand mean for E-Payment is 3.56 which indicates that respondents

agreed with most of the statements on the high scale as it relates to E-Payment with the overall standard deviation of 1.12 which implies that the response were a little clustered around the mean

Table 3: Descriptive statistics of Performance of Inventory Management.

Inventory Management	Level of Agreement					Average	
	SA	A	U	D	SD	Mean	Standard Deviation
There is Reduction of Lead Time	43.0%	36.0%	7.0%	7.0%	7.0%	4.01	.913
There is Inventory Turnover Rate	38.0%	49.0%	5.0%	6.0%	2.0%	4.15	.914
There is Reduction of Inventory Carrying Cost / Holding Costs	49.0%	35.0%	4.0%	8.0%	4.0%	4.17	.902
There is Optimization of Inventory Levels	31.0%	42.0%	14.0%	11.0%	2.0%	3.89	.934
There is Order Fulfillment	35.0%	51.0%	9.0%	3.0%	2.0%	4.14	.853
Grand Average						4.07	0.90

Source: Field Survey (2024).

As it shown on the table above, the grand mean inventory management of 4.07 indicates that respondents agree with most of the statements on the average scale as it relates to inventory management with the overall standard deviation of 0.90 which implies that the response are not clustered around the mean.

4.2 Test of Relevant Hypothesis

Ho: there is no significant relationship between e-payment and performance of inventory management of FCMG Company in Lagos State, Nigeria.

Table 4: Correlations

	E-Payment	Performance of Inventory Management
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E-payment	Pearson Correlation	1	.810**
	Sig. (2-tailed)		.000
	N	185	185
Performance of Inventory management	Pearson Correlation	.810**	1
	Sig. (2-tailed)	.000	
	N	185	185

**Correlation is significant at the 0.01 level (2-tailed).

From the model summary above, the correlation result indicates that there exists a strong positive relationship between E-payment and Performance of inventory management $R = 0.841$. This result is statistically significant because the p-value of the result (0.000) is less than the 0.01 level of significance used for the study. Therefore, the null research hypothesis was rejected. This result implies that there is relationship between E-payment and performance of inventory management of FCMG companies in Lagos State, Nigeria.

Discussions of Findings

This study was carried out to examine the “relationship between e-payment and performance of inventory in FCMG Companies in Lagos State, Nigeria”. The study has been conducted using the deductive and descriptive study method. The authors have considered primary data sources. This study found that the online payment is convenient and there is immediate reflection of payment which increase the inventory turnover, reduce lead time and there is reduction in inventory carrying and holding cost. Also, the customer order was fulfilled. The study was carried out at FCMG Company in Lagos State, Nigeria with 185 samples. Statistics analysis like SSP software were used on data. Through the hypothesis and correlation that were done in the study. The study found that e-payment methods have significant and positive relationship with performance of inventory management. The findings is in agreement with the view of Haan et al. (2020) that online payment benefit organization than physical mode of payment.

Conclusion and Recommendation

From the results of the study, it is concluded that e-payment has a significant relationship with performance of inventory management in FCMG Company in Lagos State, Nigeria. Based on the

conclusion, the study recommended as follows

- i. FCMG Company in Lagos State, Nigeria should develop more information technology infrastructure, and to improve its information systems capabilities in order to improve the performance of inventory management.
- ii. Keeping up with the latest technologies is required to stay in the market, as competitors would never wait to take the lead if they can.
- iii. Training the staff on the new systems and technologies would increase the chances of successful implementation of those technologies.

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