Impact of Management Information System on Supply Chain Management

Sunday Akintunde [a], Iwuozor Odili Markanthony [b]

[a,b] *Department of Business Administration University of Abuja, Abuja, postcode -902001, Nigeria*

A B S T R A C T

This study analyses the Impact of Management Information System on Supply Chain Management of Selected Supermarkets looking at the case in FCT, Abuja, Nigeria, taken into consideration Enterprise Resource Planning, electronic data interchange impact and electronic payment technology. The target population of the study was 515 people which comprises of 90 customers of City Mart, Gwagwalada, 90 customers of ShopRite Abuja Gate Ways, Lugbe, Airport road, 90 customers of Geskiya Supermarket, Kurudu, 90 customers of Big Idea Supermarket & Pharmacy, Gwarinpa, 90 customers of Price Ebeano Supermarket, Gaduwa and 65 staffs. The sample size was determined using the Taro Yamane sample size determination technique, Survey instrument was used in this study and the collected data analyzed based on such issues as Management Information System and Supply Chain Management. Findings revealed that management information system have significant impact on supply chain management in super markets in Abuja. The study thus recommends that supermarkets, especially the one with fast moving inventory should take a strategic approach to adoption of information systems concerned with supply chain management. It is important that such organizations consider the supply chain of the systems before deciding on which information system to adopt as these systems are resource intensive to put into place.

Keywords: Enterprise Resource Planning, electronic data interchange impact, electronic payment technology, management information system, Supply chain management.

1. INTRODUCTION

In the Global platform, the adaptation of management information system has been a major player that helps to integrate key business processes from end users through original suppliers that provides products, services, information and hence adds value for customers and other stakeholder. Researchers all over the world had come to an agreement that Supply chain management (SCM) is the 21st century worldwide operations strategy for achieving organizational competitiveness (Jonathan, Alexander, & Amoako, (2013).

In the western part of the world like in the US for instance, adoption of information system strategies in supply chain operations can be traced back to 1980s (Maru and Pesce, 2000). In African, various organizations in Africa are already using one form of information systems or another in various business operations such as marketing, finance and accounting and supply chain. In Nigeria, the use of information systems in supply chain has become a popular practice especially among large scale retailers and super markets.

Supermarkets in Abuja such as City Mart in gwagwalada, ShopRite Abuja Gate Ways, Lugbe, Airport road, Geskiya Supermarket, Kurudu, Big Idea Supermarket & Pharmacy, Gwarinpa, and Price Ebeano Supermarket, Gaduwa are not left out, they are adopting various strategies and components of management information system to ensure they remain competitive in the market. Automation, use of enterprise resource planning system and the use of electronic data interchange have become very popular in organizations. In the attempt to link up with the suppliers and customers, organizations resort to use of information systems that provide real time link with the stakeholders. Some have resorted to e commerce and e -supply chain management. The success of supply chain depends on the ease of information flow between the organization and the Suppliers and Customers.

According to Gilbertson, & Lehman, (2009), the technology has enabled the superstores to properly collect its revenues, and to avoid the costs associated with delayed revenue collection. Further, the technology facilitates easy issuance of payment receipts to the customers which previously had required the presence of students to collect receipts. With the assistance of the technology, collection details are generated at regular interval and sent to relevant authorities for reimbursement. Customers are not required to be present in the supermarket, or go to banks to make their payments with this system.

According to Schniederjans, & Cao, (2002), most Supermarkets are using one among the many technologies in place for keeping records that is keeping the information on a computer stored in the operating system and the file processing technology allows users to manipulate the information, the technology system can present a number of application programs; these are written to meet the needs of the organization, new technology application programs are added as the need arises.

1.1 Statement of the Problem

A close look at the operations of most supermarkets in Abuja shows that most of them had been performing poorly in recent times, most superstores spend most of their productive time, gathering transaction records without processing them immediately which may be responsible poor Supply chain management. Most of the customers also complained of non-functional enterprise resource system technology resulting to poor transaction and communication with the customers and management of the Supply chain and superstores, stiff competition, and poor delivery services. It was also observed that the inefficiency of electronic sourcing technology in the supermarkets may have resulted to high cost upstream supply chain, stiff competition in the business environment which results to poor relationship with the business partners.

However, it is not known whether the dwindling in Supply chain management system is as a result of not implementing effective electronics data interface technology in their business operations. Therefore, the management of the supermarkets had looked for means and ways to market their goods so as to attract more customers no matter the distance and manage ease interaction between the supermarkets' sales department and the client's viable method that did not need physical contact. Thus, this study sought to analyses transaction support technology and the service delivery of the supermarkets in FCT, Abuja so as to establish better methods of applying technology in business to satisfy customer needs.

1.2 Purpose of the Study

The purpose of this study is to analyse management information system and Supply chain management of selected supermarkets in FCT, Abuja. The specific objectives are as follows:

- To determine the influence of Enterprise Resource Planning on Supply chain management in supermarkets
- To assess the extent to which electronic data interchange impact on Supply chain management in supermarkets
- To determine the influence of electronic payment technology on Supply chain management in supermarkets

1.3 Hypotheses

The following Null Hypotheses are meant to guide research.

$H0_1$- Enterprise Resource Planning has no significant influence on Supply chain management in supermarkets

$H0_2$- electronic data interchange has no significant impact on Supply chain management in supermarkets

$H0_3$- Electronic payment system has no significant influence on Supply chain management in supermarkets

1.4 Significance of the Study

The significance of this study is to give further insight to other researchers and academicians on management information system, electronic data interchange, Enterprise Resource Planning, Electronic payment system and Supply chain management as well as study other gaps. Furthermore, this study gives awareness to private and government employers on the benefits of management information system used in selected supermarket by giving adequate attention to the intangible aspect of their organization.

2. EMPIRICAL LITERATURE

2.1 Information Systems and Supply Chain Management

According to Chandra and Grabis (2007), a supply chain is a network of suppliers, manufacturers, warehouses, distributors, and retailers who work together to transform raw materials into finished items through planned activities and strategies. The flow and conversion of goods from raw materials to the final consumer, as well as the information flows related to it, are all covered by the supply chain. Materials and information move up and down a supply chain, and this movement needs to be controlled. Supply chain management is the process of integrating manufacturers, distributors, and suppliers to carry out their respective tasks. These tasks include obtaining raw materials, converting raw materials into finished goods, and distributing all of these items to clients in the correct quantities, to the required locations and at the exact time to meet the required service level with least cost.

Businesses develop high-performing value systems that, via cooperation and information sharing, give member businesses a significant competitive advantage (Handfield and Nichols, 2002). Information systems are essential for keeping an eye on all of the information-sharing activities taking place along the supply chain, claims Quinn (2007).

- *Interchange of Electronic Data (EDI)*

Using standard document formats called transaction sets, electronic data interchange, or EDI, is a method of routinely transferring massive volumes of repetitive documents across computer systems. The use of EDI is linked to lower administrative costs as well as faster and more accurate data management. Compared to traditional postal services, it allows businesses to transmit and receive standardized business communications more rapidly, flexibly, affordably, and with more security and accuracy.

A common protocol for sending business data between computers is EDI. Information files pertaining to business documents, including invoices, receipts, and business connections, are contained in EDI (Hill and Scudder, 2002).

Direct application-to-application communication, the use of an electronic transmission medium, the use of electronic mail boxes for collection and storage, the storage and transmission of documents, and the use of structured, formatted messages based on globally recognized standards are all crucial components of electronic document interchange (EDI). However, there could be a lot of difficulties with EDI implementation. These difficulties include the inability to grasp its significance, which causes organizations to be afraid of implementing it, and the technical issues that arise during implementation. It is significant to remember that senior management support and complete dedication are required for the deployment of EDI Data

According to Umble (2003), a computer application, a trade division of a corporation, a company, or a group of organizations should all be considered reasonable candidates for an EDI code. Three levels make up EDI routing: file routing, which permits file exchange, interchange routing, which regulates file exchange between system segments, and physical routing, which deals with system communication. Similar to the adoption of ERP, EDI is a multi-phase, complex process. The first step is planning, which entails developing a proposal for the modifications to be implemented in order to implement EDI as well as the specifications required for the procedure. Analysis and design comprise the second stage. It is necessary to form a design team to carry out analysis on the current situation and recommend changes required for EDI system.

The system's construction and installation are the following steps. Legal and practical factors must be taken into account at this point (Jonathan, Alexander & Amoako, 2013).

The collaboration qualities that a business possesses have a significant impact on how well EDI performs. A study by Hill and Scudder (2002) sought to determine how partnership qualities affected EDI performance. He took into account three factors: partner commitment, couple interdependence, and partner trust. According to the study, these characteristics improve integration, use, and diversity, which improves the effectiveness of EDI adoption and, ultimately, improves EDI performance.

- ***Supply Chain Management Upstream***

In order to provide outstanding customer value in the most cost-effective manner and to guarantee high operational performance in the supply chain, this study defines supply chain management as the management of upstream and downstream connections with suppliers and consumers. It drives the supply chain initiative upstream and places manufacturers in the position of the customer. It introduces standards at the source of supply chains, for usage by all trading partners to the end consumer, and enables businesses to take advantage of the infrastructure and standards already in place for customers. Finding opportunities for improvements and cost reductions for suppliers and manufacturers is another aspect of upstream supply chain management.

An upstream integration model was created for it by Iwuozor, Ayasal, and Ajayi (2020), who noted that the model is built upon several components: procurement, which consists of an integration agreement; master data alignment and purchase conditions; material forecasting based on signals from supply and demand; inventory management and traceability based on dispatch receipt, consumption, and financial settlement.

2.2 Theoretical bases

This study is supported by Substantive theory, According to Gray, Matear, and Matheson (2000), substantive theory is most famous from the works of Jacques Ellul and Martin Heidegger. The study makes the case that technology is a new kind of cultural system that reorganizes the entire social world as a subject of control. This method is distinguished by an expansive dynamic that eventually engulfs every prêt-technological enclave and molds social life as a whole. There is therefore no way to avoid the instrumentalization of society other than to withdraw. The only alternative to the relentless pace of change is a return to simplicity or tradition. Max Weber's pessimistic idea of a "iron cage" of rationalization suggests something like this viewpoint, but he did not directly relate it to technology.

The thesis holds that, regardless of political philosophy, the "technical phenomenon" has come to define all contemporary cultures. It also mentioned how quickly technology is catching up to us. He asserts that we are involved in the process of turning the entire planet—including ourselves—into "standing reserves," or raw materials that may be used in technological operations.

The idea that underpins this study supports the claim that the technological restructuring of modern societies stems from a very nihilistic drive to power, which reduces man and Being to the status of inanimate objects (Gray et al, 2000).

2.3 Empirical Literature

In their search for the key elements in an ERP implementation, Fui-Hoonnah and Delgado (2006) identified seven elements: project management skills, system analysis, selection, business plan and vision, change management, communication, ERP team composition, skills and compensation, management support and championship, and technical implementation skills.

In their 2002 study, Hill and Scudder examined how electronic data exchange (EDI) is used in the food industry to coordinate supply chains. Their findings showed that EDI plays a key role in the inter-organizational transfer of supply chain data. Such information transfer is crucial to the upstream supply chain's efficiency. The utilization of Electronic Data Interchange (EDI) is linked to improved supplier and customer collaboration with the company. This study recommended more research that take organizational features into account when forming relationships between EDI and supply chain performance.

Umble (2003) studied the important success elements and implementation techniques for enterprise resource planning. This study recognized ERP systems' complexity. He emphasized that putting ERP into practice is expensive and requires a significant amount of organizational effort and resources.

The assessment of supply chain management (SCM) in effective project delivery in the Nigerian construction industry in Imo state was conducted by Moneke and Echeme (2016). The study's objectives were to identify the supply chain management (SCM) challenges for effective project delivery in Imo state as well as the CSCM practices used to reduce challenges in the Imo state construction industry. Ninety-five (95) construction stakeholders from the public and commercial sectors of the industry in Imo State received a survey questionnaire.

Using the statistical software for social sciences, sixty (60) were successfully retrieved and examined. The unprocessed field data was analyzed using the relative important index (RII) and average mean scores (AMS). The results show that among the issues facing the construction industry, unjust risk distribution and a lack of understanding of supply chain management (SCM) were ranked lowest, while inadequate investment in information technology (I.T.), ineffective communication, and various objectives were ranked highest.

With an emphasis on East African Portland Cement Company Limited, Lilian and Allan (2017) investigated the impact of supply chain management strategies on competitive advantage in the cement manufacturing sector. The study's specific goal was to investigate how strategic supplier partnerships and customer relationships affect Kenyan cement manufacturing companies' ability to compete.The research design used in the study was descriptive. 676 employees from three departments at EAPCC—the supply chain department, sales & marketing department, and production department—were the target group.

Yemane's formula (2007) was used to calculate the study's sample size. The study used questionnaires to gather primary data. The data analysis was conducted using SPSS version 21. The study discovered that competitive advantage in the cement manufacturing sector was driven by strategic supplier partnerships. Along with fostering continued cooperation and shared benefits in important strategic areas including technology, products, and markets, strategic supplier partnerships improved joint inventory management between the company and the supplier. They also encourage cooperation in product design. At EAPCC, customer relationships impacted competitive advantage. Close ties with clients made it possible for clients to tell the company's products apart from those of rivals.

The effectiveness of WAEC's supply chain management practices (SCMP) and important success factors, together with the advantages they provide, were evaluated by Jonathan, Alexander, and Amoako (2013). Primary data from a field survey employing a questionnaire instrument were used in the study. To evaluate the SCMP of WAEC, both descriptive and inferential statistics were employed. The study found that WAEC implements a variety of supply chain procedures, such as collaborative problem-solving with suppliers, continuous improvement, customer involvement, and periodic performance evaluation. Nonetheless, the report pointed out a few difficulties, including a weak information system, trouble forming alliances with important suppliers and customers, and trouble overseeing the council's procurement procedures.

Wafa and Al-tarawneh (2020) conducted research on how information systems can be used to manage and enhance the Employees Affairs Department's decision-making process at Al-Balqa Applied University in AlKarak. A Likert scale consisting of 24 items and five response options was created for the study. It was then given to 20 participants, all of whom represented the Employees Affairs Department. Mean and standard deviation were utilized for discrete data, and regression analysis was performed using SPSS to evaluate the hypotheses. It was found that information systems enhance employees' ability to make decisions.

Using Tuskys Supermarket's Kisii Branch as a case study, Duke Momanyi Nyariki (2017) evaluated the effects of IT in procurement logistics on organizational service delivery. This study used a descriptive research approach, which enabled the researcher to gather exact and relevant data about the state of the phenomena, circumstances, and study groups as of right now. The study employed a sample size of 30, and it was intended for all 300 people who worked in supermarkets in Kisii Town's major business district. The researcher sampled using a stratified approach. It was found that the organization's inability to effectively manage factors affecting IT on procurement logistics, such as cost, competence, and capital outlay, made it difficult to cope with any future difficulties in the same way.

Matotek, R., Ho, J., &Barnham, A. (2006) looked into how some supermarket chains in Nairobi County used electronic point of sale to improve supply chain performance in Kenya's retail industry. The sample for this study was chosen using a purposive sampling technique. The data was summarized and presented using descriptive statistics including mean, frequency distribution, and percentages. The link between the independent and dependent study variables that are outlined in the study's goals was investigated using Pearson's correlation coefficients. Review findings showed that four factors—mobile point of sale, cloud-based communication technologies, EFTPOS, and fast scan systems—accounted for 73.2% of the retail division's progress in supply chain performance.

2.4 Existing Gap for the Study

Previous academic research in supply chains and management information system literature has confirmed that it is extremely difficult to measure the quality of material using manage the supply chain system variables, Hoonnah and Delgado (2006) establish the critical factors in the implementation of ERP and identified seven factors such as business plan and vision, change management, communication, ERP team composition, skills and compensation, management support and championship, project management skills, system analysis, selection and technical implementation skills while Umble (2003) who pointed out that implementation of ERP is costly and demands a lot of organizational time and resources. Other studies in similar areas determined building project performance, some are based on the client's point of view with measurement of residential building performance was restricted to client performance criteria and to the best of the researchers' knowledge, none of pervious study has examine end users satisfaction of residential apartments

linked to materials suppliers decisions and the choice of a lean SCM compared to agile SCM practice (Abimbola and James, 2012) and other aspect of management information system application in supply chain. However, no study was conducted specifically on the *analyses the Impact of Management Information System on Supply Chain Management with specific reference to Selected Supermarkets in FCT, Abuja*. Thus, the current study will therefore attempt to close this research gap.

3.0 METHODOLOGY

The research design that is adopted in this study is descriptive quantitative research method. According to Luke, Dare and Odili, (2021), it involves description, recording, analysis, and interpretation of the conditions or relationship that exist, practices that prevail, beliefs and processes that are ongoing. The study had two categories of population; (1) 450 customers of the selected supermarkets and (2) 65 employees from the selected supermarkets. Therefore, the population of the study was 515 people which comprises of 90 customers of City Mart, Gwagwalada, 90 customers of ShopRite Abuja Gate Ways, Lugbe, Airport road, 90 customers of Geskiya Supermarket, Kurudu, 90 customers of Big Idea Supermarket & Pharmacy, Gwarinpa, 90 customers of Price Ebeano Supermarket, Gaduwa and 65 staffs (13 each from each of the selected supermarkets). The sample size for the study was determined using the Taro Yamane sample size determination technique that was modified by smith (2008) which is;

$$n = \frac{N}{3 + N(e)^2}$$

Where; N= is the Population size n= is the Sample size e= is the Error of Margin (0.05)

$$n = \frac{515}{3 + 515(0.05)^2} = 120$$

However, 68 samples where considered for the study, purposive sampling method was used to allocated the samples as follows: the sample customers were allocated (1) 100 customers of the selected supermarkets and (2) 20 employees of the selected supermarkets (4 each from each of the selected supermarkets). Twenty of the consumers were distributed to the following stores: City Mart in Gwagwalada; ShopRite Abuja Gate Ways in Lugbe, Airport Road; Geskiya Supermarket in Kurudu; Big Idea Supermarket & Pharmacy in Gwarinpa; and Price Ebeano Supermarket in Gaduwa. There were four staff in each supermarket, for a total of twenty employees. The questionnaire was created with thorough information to analyze the supply chain management of supermarkets in Abuja as well as the management information system. In order to get feedback on the research questions, the grocery employees and patrons were given the questionnaire. This is due to the fact that the necessary data can only be gathered from grocery employees and employees.

The questionnaire consists of two sections namely section one and section two with relevant questions to the required data. Section one contains eight (8) questions aimed at collecting staff demographic data and other information from customers on management information system and supply chain management expected to be provided by the management of the supermarkets. Section two contain thirteen (13) questions to evaluate the extent to which respondents agreed or disagreed with the impact of transaction processing system and service delivery of selected supermarkets in Abuja. The respondents were asked to indicate their choice to each question on a likert scales (1- 5) with possible response from 1 = Strongly Agree (SA), 2 = Agree (A), 3 = Neutral (N), 4 = Disagree (D) to 5 = Strongly Disagree (SD). All the questions added up to twenty-one (21). To determine the reliability and validation of the research instrument, the service of an expert was engaged in the field of computing. The expert is a PhD holder with sufficient experience in Management Information System. The comments and suggestions given were integrated in the questionnaire before it was administered. The study adopted descriptive statistics and they hypotheses was tested with multiple regression analysis computed with the aids of Social Packaging Statistical System (SPSS). The multiple egression model can be specified as shown below using Supply chain management as the dependent variable and management information system (Enterprise Resource Planning, electronic data interchange and E-payment technology) as its proxies that constitutes the independent variables. The regression model is as below.

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \varepsilon$$

Where

Y = Supply chain management

β_0 =Constant

X_1 = Enterprise Resource Planning

X_2 = electronic data interchange

X_3 =E-payment technology

$\beta_1, \beta_2, \beta_3$ are regression coefficients and ε is the error term.

4.0 RESULT OF FINDINGS

4.1 Regression Analysis results

Table 1: Model Summary

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.666[a]	.443	.429	.82851

a. Predictors: (Constant), Enterprise Resource Planning, Electronic data interchange, Electronic payment system

Table 1 revealed the extent to which management information system accounted for change in Supply chain management as indicated by the adjusted R Squared value which showed that 42.9% (0.429) of the change in Supply chain management is brought about by management information system.

Table 2: coefficient of Regression Analysis

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.800	.295		2.714	.008
	Enterprise Resource Planning	.158	.072	.163	2.209	.029
	electronic data interchange	.591	.074	.605	8.014	.000
	Electronic payment system	.066	.101	.047	.650	.517

a. Dependent Variable: Supply chain management

Source: SPSS output version 21

The result from the regression analysis on table 2 showed that Enterprise Resource Planning exhibit significant effects on supply chain management (β = 0 .029, P < 0.05). Electronic data interchange exhibit significant effects on supply chain management (β = 0 .000, P < 0.05), however, Electronic payment system did not exhibit significant effects on supply chain management (β = 0 .517, P < 0.05).

4.2 Discussion of Findings

H0$_1$- Enterprise Resource Planning has no significant influence on Supply chain management in supermarkets

According to Table 2, there was a substantial positive link between Enterprise Resource Planning and supply chain management, with the unstandardized Beta value (=.163, p = 0.029) reflecting this relationship. The first hypothesis was therefore rejected and it is concluded that Enterprise Resource Planning has a significant influence on Supply chain management in supermarkets

Additionally, the findings in Table 2 demonstrates that differences in Enterprise Resource Planning explain for.158 (15.8%) of the variability in supply chain management. However, the outcome of the experiment shows that Enterprise Resource Planning and supply chain management are positively and significantly correlated. This result is consistent with Fui-Hoonnah and Delgado (2006) who establish the critical factors in the implementation of ERP and identified seven factors such as business plan and vision, change management, communication, ERP team composition, skills and compensation, management support and championship, project management skills, system analysis, selection and technical implementation skills. It is not consistent with Umble (2003) who pointed out that implementation of ERP is costly and demands a lot of organizational time and resources

H0$_2$- electronic data interchange has no significant impact on Supply chain management in supermarkets

The unstandardized Beta value (=.605, p=0.000, and p=0.05) for the regression analysis for Electronic data interchange, which showed a positive link with supply chain management, is shown in Table 2. This reveal that electronic data interchange has statistically significant positive effect on Supply Chain Management of supermarkets. The second hypothesis was therefore rejected and it is concluded that electronic data interchange a significant impact on Supply chain management in supermarkets

However, the outcome of the experiment shows that there is a strong and positive correlation between Electronic data interchange and supply chain management this is consistent with the wok of Hill and Scudder (2002) who asserted that use of EDI is associated with enhanced coordination of suppliers to the organization and coordination of customers to the organization.

H0₃- Electronic payment system has no significant influence on Supply chain management in supermarkets

Table 2 also demonstrates the results of the regression analysis for the case of Electronic payment system, which demonstrated a weak positive link with supply chain management, with the unstandardized Beta value (=.0.47, p= 0.517, suggesting p 0.05) as the outcome. This reveal that Electronic payment system has statistically significant positive effect on Supply Chain Management of supermarkets. The third hypothesis was therefore rejected and it is concluded that Electronic payment system has a significant influence on Supply chain management in supermarkets.

 The conclusion of the experiment suggests an insignificant association between Electronic payment system and supply chain management, nevertheless. This result is consistent with Abimaje, Akingbohungbe, &Adams, (2014) assertion that 73.2% of progress in Supply Chain Performance at retail division can be explained by four factors in particular rapid scan systems, cloud based communication systems, mobile point of sale and EFTPOS. And they positively affect supply chain performance

5.0 Conclusion and Recommendations

The organization's overall supply chain management system, which determines how to distribute its goods, is dependent upon the goods and target markets it intends to target. The study also came to the conclusion that Enterprise Resource Planning has a significant influence on Supply chain management in supermarkets, electronic data interchange has a significant impact on Supply chain management in supermarkets, and Electronic payment system has a significant influence on Supply chain management in supermarkets. The results of empirical analyses conducted in this study show that management information system have significant impact on supply chain management in super market in Abuja.

The study thus recommends that supermarkets, especially fast moving inventory take a strategic approach to adoption of information systems concerned with supply chain management. It is important that such organizations consider the supply chain of the systems before deciding on which information system to adopt as these systems are resource intensive to put into place.

References

Abimaje, J., Akingbohungbe, D. O., &Adams, N. (2014). Housing affordability in Nigerian towns: Case of Idah, Nigeria. *International Journal of Civil Engineering, Construction and Estate Management, 1(2),* 31-38.

Abimbola, O. W., & James, O. R. (2012).Contemporary issues in building collapse and its implications for sustainable development.*Nigerian Journal of Building, 2,* 283-29

Moneke, U. U. & Echeme, I. I.(2016). Assessment of Supply Chain Management in Nigeria Construction Industry for Effective Project Delivery in Imo State, Nigeria. International Journal of Development and Management Review, 11(2)

Chandra, C., Grabis, J. (2007) *Supply chain configuration*. New York, Springer.

Handfield, R., Nichols Jr, E. (2002) *Supply Chain Redesign: Transforming Supply Chains into Integrated Value systems, United States of America*: Prentice Hall.

Duke Momanyi Nyariki (2017) An Assessment of the Effects of Information Technology in Procurement Logistics On Organizations Service Delivery: A Case Study of Tuskys Supermarket n Kisii Town, Kisii University

Gray, Matear & Matheson, (2000) Improving the performance of hospitality firms, International Journal

Knoll, M., Peota, R. D., Floersch, D. J., Nistler, S., Floersch, P. J., Benson, C., &Jondal, C. (2016). U.S. Patent No. 9,256,865. Washington, DC: U.S. Patent and Trademark Office.

Fui-Hoonnah and Delgado (2006) iaAcademic Journal of Business, Administration, Law and Social Sciences.Critical Success Factors for Enterprise Resource Planning Implementation and Upgrade, journal of computational information system, DOI:10.1080/08874417.2006.11645928, Corpus ID: 18182747

Gilbertson, C. B., & Lehman, M. W. (2009). *Fundamentals of accounting*. Mason, Ohio: South Western/Cengage Learning.

Hill and Scudder, (2002). The Use of Electronic Data Interchange for Supply Chain Coordination in the Food Industry, Journal of Operations Management 20(4):375-387,   DOI:10.1016/S0272-6963(02)00017-7

Iwuozor Odili markanthony, (2017). The effect of work environment on workers' productivity in Nigerian Breweries Plc, ‖ M.Sc. thesis, Dept. Business Admin, Nasarawa State Univ., Keffi, Nigeria, 2017. Unpublished.

Iwuozor O. M., Ayodele O. J., And Omole O. O.,(2022). Critical Analysis of Information Technology Innovation And The Activities of Courier Service Companies In Federal   Capital Territory, Abuja. Journal Of Business Management, Innovation And Creativity,   Vol.1(1)   Issn:2971-6896

Iwuozor O. M., Ayasal A. A., Ajayi O. G. (2020). Analysis Of Transaction Support Technology And Service Delivery Of Selected Supermarkets In Fct, Abuja, Nigeria, Ire Journals ,Volume 6 (5) Issn: 2456-8880

Jonathan, A. Alexander, F. O. & Amoako, A. D.(2013). Assessing Supply Chain Management Practices on Organizational Performance; a Case Study of the West African Examinations Council (Waec), Ghana National Office, Accra. American Based Research Journal, 2(6)

Karimi, E. & Rafiee, M. (2014). Analyzing the Impact of Supply Chain Management Practices on Organizational Performance through Competitive Priorities(Case Study: Iran Pumps Company). International Journal of Academic Research in Accounting, Finance and Management Sciences, 4(1) 1–15

Mensah, C., Diyuoh, D. & Oppong, D. (2014). Assessment of Supply Chain Management Practices and its Effects on the Performance of Kasapreko Company Limited in Chain   *European Journal of Logistics Purchasing and Supply Chain Management*, 2(7)1 –16

Khalfan, M.M.A; McDermott, P. J. & Kyng, E. (2015). Procurement Impacts on Construction Supply Chains; UK Experiences. SCRI Research Centre in the Built and Human Environment (Buhu), Greater Manchester, UK

Kabazarwe, (2020). The effect of computerized accounting systems on the quality ''of financial reporting in the NWSC Mbarara branch. *Journal of Retailing and Consumer Services, Mbarara* branch

Matotek, R., Ho, J., &Barnham, A. (2006). U.S. Patent Application No. 11/503,903.

Lilian, W. & Allan, K.(2017). Influence of supply chain management practices on competitive advantage in cement manufacturing industry: a case of east African Portland cement company limited. *Strategic journal, 2(27)461 – 481*

Luke, J. Dare and I Odili, (august 2021). Effect of Political Environment on The Performance of Small and Medium Scale Enterprises in FCT, *IEEE Trans.   Okada   Journal   of   Sociology*   Igbinedion   University   Okada.   [Online].   3(1)   pp.305-323.Available: http://www.halcyon.com/pub/journals/21ps03vidmar

Mentzer J. (2001), Defining Supply Chain Management, Journal of Business Logistics, 22(4)

Lysons, K (2007). Purchasing and supply chain management. London: Prentice Hall

Quinn, F. (1997) *What's the buzz? Logistic.* Manag. 36, 43–47.

Reich, B., Benbasat, I., n.d. "Measuring the linkage between business and information technology objectives." MIS quarterly 20(1): 55-81. MIS Q. 20, 55–81.

Schniederjans, M. J., & Cao, Q. (2002). ECommerce in Operations Management. *Toh Tuck Link*: World Scientific

Umble (2003). Enterprise resource planning: Implementation procedures and critical success factors, Academic Journal of Business, Administration, Law and Social Sciences   IIPCCL   Publishing, Tirana-Albana.vol.2(3)Academic Journal of Business, Administration, Law and   Social SciencesIIPCCL Publishing, Tirana-Albania,Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/52.0.2743.116 Safari/537.36 Edge/15.15063

Wafa and Al-tarawneh (2020). Conducted a study on the impact of using information system in improving and managing the decision-making process of the Employees Affairs Department of Al-Balqa Applied University at Al-Karak