ASSESSING THE IMPACT OF SHIPMENT EVALUATION MANAGEMENT, ORGANIZATIONAL PERFORMANCE AND ECONOMIC GROWTH OF AGRO-ALLIED INDUSTRY IN SOUTH-SOUTH, NIGERIA

EYO, BASSEY OKON
Department of Business Management, Faculty of Management Sciences, University of Calabar
Correspondence email: bassey_eyo2003@yahoo.com
Phone number: +2348068474850

ABSTRACT
The agro-allied industry is a crucial sector in the Nigerian economy, particularly in the South-South region, which is known for its rich agricultural resources. The industry plays a significant role in contributing to the country's Gross Domestic Product (GDP), providing employment opportunities and ensuring food security. This empirical research study investigated the impact of shipment evaluation management practice on operational performance. While studies have explored shipment evaluation management, few have investigated the relationship between shipment evaluation management, organizational performance on economic growth. This study aims to bridge the gap. By addressing these objectives, this study will contribute to providing insights into the impact of shipment evaluation management on organizational performance in the Agro-allied industry in South-South Nigeria. The study made use of a mixed-methods approach, combining surveys, interviews and econometrics analysis**.** A sample size of 950 was used drawn from a population that consists of 1,494 staff from six (6) agro-allied companies located in the South-South region of Nigeria. Mean and percentages were used to analyzed demographic varaibles. Multi-regression analysis and the chi-square distribution at $P < 0.001$ level of significance to determine the validity or otherwise of the hypothesis was used for data analysis. The results are reported in tables and represented graphically. The result of the study shows that shipment evaluation management and organizational performance significantly impacts economy growth and ultimately improving economy of South-South Nigeria.
Keywords: Organizational performance, Management, Economic growth, Industry
JEL Classification: L21, M11, O10. L1

1 INTRODUCTION
The Agro-allied industry is a vital sector of the Nigerian economy, contributing significantly to the country's Gross Domestic Product (GDP) and providing employment opportunities for millions of people. The industry is involved in the production, processing, and distribution of agricultural products, including crops, livestock, and fisheries. The Agro-allied industry in South-South Nigeria faces significant challenges in managing shipments, which can lead to reduced customer satisfaction, decreased competitiveness, delays, damage, and loss of products. There are few studies on the impact of shipment evaluation management on organizational performance in the Agro-allied industry in South-South Nigeria. However, the industry faces numerous challenges, including inefficient logistics and supply chain management, which can negatively impact organizational performance.

The agro-allied industry plays a critical role in Nigeria national economy, encompassing various sectors such as agriculture, food processing, and livestock production. Within this industry, efficient shipment evaluation management is crucial for ensuring the smooth flow of goods and optimising organisational performance. It involves the process of assessing and managing the quality, condition and integrity of shipments throughout the transportation and logistics process. The primary goal of shipment evaluation management is to ensure that shipments are delivered on time, in good condition and in compliance with relevant regulations and standards. In the agro-allied industry, organisational performance is

influenced by various factors, such as the effectiveness of supply chain management, operational efficiency, productivity, and financial performance (Dike & Mughal, 2020). However, organisational performance involves the achievement of strategic objectives, goals, and targets by an organisation.

Shipment planning and scheduling are critical components of logistics management, playing a crucial role in ensuring timely and efficient delivery of goods (Bowersox et al., 2013). The complexity of shipment planning and scheduling arises from the need to consider multiple factors, including transportation modes, routes, and capacities (Liu et al., 2014). Various optimization techniques have been employed to address the challenges of shipment planning and scheduling. Mathematical programming approaches, such as linear programming and integer programming, have been widely used to optimize shipment planning and scheduling decisions (Chen et al., 2012). Metaheuristics, such as genetic algorithms and simulated annealing, have also been employed to solve complex shipment planning and scheduling problems (Wang et al., 2015). Despite significant advances in shipment planning and scheduling research, several gaps and challenges remain. One of the major challenges is the need for more efficient solution methods that can handle large-scale shipment planning and scheduling problems (Liu et al., 2014). Another challenge is the incorporation of uncertainty and risk into shipment planning and scheduling decisions (Chen et al., 2012).

Furthermore, the importance and existing research of effective shipment evaluation management, organizational performance, and economic growth, many firms in the industry lack the necessary systems and processes to manage shipments efficiently. This can result in increased costs, reduced customer satisfaction, and decreased competitiveness. Furthermore, there are few research and literature on this topic in the context of Agro-allied industry and economic growth in South-South Nigeria.

This study aims to fill these research gaps and is significant for several reasons. This study aims to contribute to the existing literature and by investigating the impact of shipment evaluation management on organizational performance in the Agro-allied industry in South-South Nigeria. It will provide insights into the impact of shipment evaluation management on organizational performance in the Agro-allied industry in South-South Nigeria. The study will identify the challenges faced by firms in the industry in implementing effective shipment evaluation management practices. Finally, it will provide recommendations for improving shipment evaluation management practices in the industry.

2 LITERATURE REVIEW

2.1 Conceptual literature

Shipment Evaluation Management

Shipment evaluation management is a critical component of logistics and supply chain management. It involves the systematic evaluation and monitoring of shipments to ensure that they are delivered on time, in good condition, and at the lowest possible cost. Effective shipment evaluation management can help organizations to reduce transportation costs, improve delivery times, and enhance customer satisfaction. Studies have shown that effective shipment evaluation management can help organizations to reduce transportation costs, improve delivery times, and enhance customer satisfaction (Bowersox et al., 2013; Christopher, 2016).

Organizational Performance

Organizational performance refers to the ability of an organization to achieve its goals and objectives. It is a multifaceted concept that encompasses various dimensions, including financial performance, customer satisfaction, and operational efficiency. In the context of the Agro-allied industry, organizational performance is critical for ensuring the competitiveness and sustainability of firms. It is a multifaceted concept that encompasses various dimensions,

including financial performance, customer satisfaction, and operational efficiency. Studies have shown that effective logistics and supply chain management, including shipment evaluation management, can have a positive impact on organizational performance (Kisperska-Moron & Swierczek, 2011; Li et al., 2006).

Agro-Allied Industry in South-South Nigeria

The Agro-allied industry in South-South Nigeria is characterized by a number of challenges, including inadequate infrastructure, inefficient logistics and supply chain management, and limited access to finance. These challenges can negatively impact the performance of firms in the industry. Against this backdrop, this study aims to investigate the impact of shipment evaluation management on organizational performance in the Agro-allied industry in South-South Nigeria.

Economic growth

According to Ivic (2015), economic growth include changes in material production and during a relative short period of time, usually one year. Gross Domestic Product (GDP) is a macroeconomic measure that represents the total value of all final goods and services produced within a country's borders over a specific time period, typically a year in monetary terms. It's a widely used indicator of a country's economic performance and growth. In economic theory, the concept of economic growth implies an annual increase of material production expressed in value, the rate of growth of GDP or national income. In this study, economic growth is considered to increase in the volume of production in a country, or an increase in gross domestic product as the main quantitative indicators of production for a period of one year. Real gross domestic product (RGDP) shall be used as a measure of economic growth.

2.2 Theoretical Literature

The theoretical framework for this study is based on the Contingency Theory and the Resource-Based View (RBV) of the firm. The contingency theory, developed by Lawrence and Lorsch (1967), suggests that organizational performance is influenced by the fit between the organization's internal systems and processes and the external environment. In the context of this study, the Contingency Theory suggests that the effectiveness of shipment evaluation management in improving organizational performance depends on the alignment between the shipment evaluation management practices and the specific needs and challenges of the Agro-allied industry in South-South Nigeria.

The Resource-Based View (RBV), developed by Barney (1991), suggests that organizations can achieve sustained competitive advantage by leveraging their unique resources and capabilities. In the context of this study, the RBV suggests that shipment evaluation management can be a source of competitive advantage for firms in the Agro-allied industry in South-South Nigeria, if they can develop and leverage unique shipment evaluation management capabilities that are valuable, rare, and difficult to imitate.

2.3 Empirical Literature

There is a growing body of literature that suggests a positive relationship between shipment evaluation management, organizational performance and economic growth. Effective shipment evaluation management can help organizations to reduce costs, improve delivery times, and enhance customer satisfaction, all of which can contribute to improved organizational performance. Conversely, poor shipment evaluation management can lead to delays, damage, and loss of shipments, which can negatively impact organizational performance and economic growth. Few studies have investigated the relationship between shipment evaluation management and organizational performance on economic growth. For example, a study by Bhattacharya et al. (2014) found that effective shipment evaluation management was positively related to organizational performance in the Indian manufacturing industry. The result was

corroborated by Wang et al. (2017) who also found a positive relationship between shipment evaluation management factor influencing organizational performances in the Chinese logistics industry. The study provides an overview of the existing research on shipment evaluation management, organizational performance and its impact on economic growth.

Shipment planning and scheduling are critical components of logistics management, playing a crucial role in ensuring timely and efficient delivery of goods (Bowersox et al., 2013). The complexity of shipment planning and scheduling arises from the need to consider multiple factors, including transportation modes, routes, and capacities (Liu et al., 2014). Li et al. (2016) on the other hand presented a mixed-integer linear programming model to solve the shipment planning and scheduling problem with time windows and capacity constraints. The authors showed that the proposed model can efficiently solve the problem and provide optimal shipment plans and schedules. The authors considered time windows and capacity constraints, which are common in real-world shipment planning and scheduling problems and proposed a mixed-integer linear programming model, which can efficiently solve the problem. In a similar study, Li et al. (2016) has several implications for practice. Firstly, the proposed model can be used by logistics companies to optimize their shipment plans and schedules. Secondly, the study highlights the importance of considering time windows and capacity constraints in shipment planning and scheduling. Finally, the study provides insights into the trade-offs between different shipment planning and scheduling strategies.

Real-time shipment tracking and monitoring is crucial for efficient and effective logistics management. Lee et al. (2015) proposed a real-time shipment tracking and monitoring system using Radio Frequency Identification (RFID) and Global Positioning System (GPS) technologies. The authors demonstrated that the proposed system can provide accurate and timely information on shipment location, status, and condition and integrated RFID and GPS technologies to provide a comprehensive and accurate tracking system. The implications of the study as stated by the authors is that the proposed system can be used by logistics companies to improve their shipment tracking and monitoring capabilities. Secondly, the study highlights the importance of integrating RFID and GPS technologies for real-time shipment tracking and monitoring. Finally, the study provides insights into the potential benefits of implementing a real-time shipment tracking and monitoring system.

The study by Wang et al. (2018) further contributes to the existing literature on shipment tracking and monitoring in several ways. Firstly, the authors also integrated IoT sensors and data analytics techniques to provide a comprehensive and accurate tracking system. Secondly, the authors demonstrated the effectiveness of the proposed system through a case study. Finally, the authors discussed the potential benefits of the proposed system, including improved shipment visibility, reduced transit times, and enhanced customer satisfaction. The study highlights the importance of integrating IoT sensors and data analytics techniques for real-time shipment tracking and monitoring. Finally, the study provides insights into the potential benefits of implementing a real-time shipment tracking and monitoring system.

The implications of the study by Zhang et al. (2017) and Liu et al. (2020) is that logistics companies can use machine learning algorithms to optimize their shipment costs and improve their bottom line. Secondly, the study highlights the importance of considering multiple factors, such as route and mode of transportation, when optimizing shipment costs who proposed a novel approach using deep learning algorithms to optimize shipment costs. Thus, Shipment cost optimization is a critical challenge in logistics and transportation management. Traditional optimization methods have limitations in handling complex and dynamic shipment cost data.
Systems

In Nigeria, Ajao (2016) examined the relationship between human resource management practices and organizational performance in the Agro-allied industry in Nigeria. The study found a positive relationship between training and development, performance

appraisal, recruitment and selection, and compensation and reward management were the human resource management practices in use by firms in the Agro-allied sector. In a separate study by ARCN Journals (2020) the study rather investigated the relationship between supply chain integration and organizational performance in the Agro-allied industry. The study discovered that technical integration, organizational integration, and productivity were positively related to market share and organizational performance. The result was investigated by Analysis of Effluent Management (2020) that analyzed effluent management among medium and large scale Agro-allied industries in South west, Nigeria. The study found that effective effluent management practices were positively related to organizational performance. Research by Investment in Agro-Allied Industry (2020) examined the relationship between investment in the Agro-allied industry and organizational performance. The study also found that investment in the Agro-allied industry was positively related to organizational performance.

Finally, the study by Lee et al. (2015) contributes to the existing literature on real-time shipment tracking and monitoring in several ways. Firstly, the authors integrated RFID and GPS technologies to provide a comprehensive and accurate tracking system. Secondly, the authors demonstrated the effectiveness of the proposed system through a case study. Finally, the authors discussed the potential benefits of the proposed system, including improved shipment visibility, reduced transit times, and enhanced customer satisfaction.

These studies however did not take into consideration the basis that could make shipment evaluation management and organizational performance to contribute to the economic growth of both the sector and the nation as a whole. Hence the gap of the study.

3 METHODOLOGY

3.1 Research design

The study was anchored on the contingency theory as stated earlier in the theoretical literature of this study. This is because, the conceptual model suggests that shipment evaluation management and organizational performance has a positive impact on economic growth, and that this impact is contingent on the alignment between the shipment evaluation management practices and the specific needs and challenges of the Agro-allied industry in South-South Nigeria.

The study thus use a mixed methods research. This is because it combines quantitative and qualitative approaches to provide a more comprehensive understanding of a research problem. Furthermore, the mixed methods and the rationale for its use in this study includes for triangulation. Comprehensive understanding, increased validity, improve generalizability, enhanced credibility, flexibility, policy and practice relevance.

A descriptive survey was used. This is to ensure complete description of a situation making sure that there was minimum bias in the collection of data thus reducing error in interpreting data. According to Christensen, Johnson, and Turner (2019), the quantitative research design is the strategy for gathering information from the study participants in a numerical format (Amaonye, Abang & Onuorah 2024). The type of quantitative research design adopted for this study is the descriptive survey design that helps the researchers to gather data from a cross- section of the target population about an existing phenomenon (Leedy & Ormrod, 2001). This design is used because no attempt is made to manipulate any of the variables in this research; they are represented as they exist among the participants in this study.

3.2 Study area

The study was carried out in the South-South region of Nigeria. It consists of six states: Akwa Ibom, Bayelsa, Cross River, Delta, Edo, and Rivers. Which were used for the study. The study however made an attempt at covering randomly selected staff in the study area. The area of

study was purposively selected because it is known for its rich oil and gas resources, making it a significant contributor to Nigeria's economy. This is so as to have a fair result

3.3 Population of the study

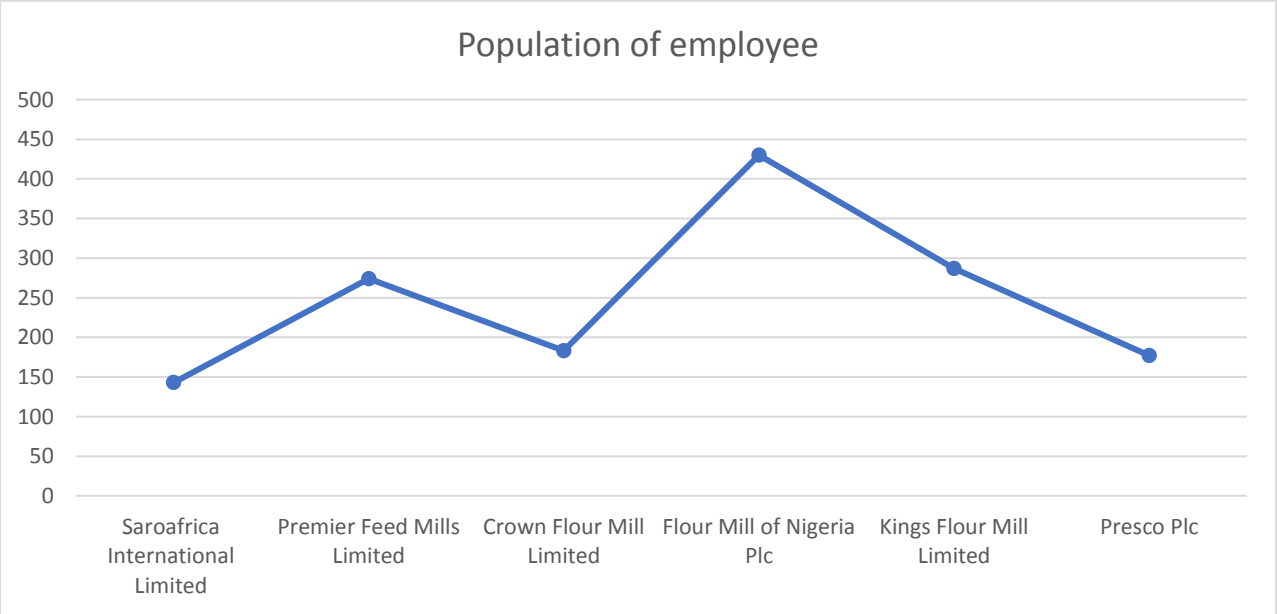
The population of the study comprises the entire 1,494 employees from the selected agro-allied companies in the six states of the South-South region, including (Cross River, Edo, Delta, Bayelsa, Rivers, and Akwa-Ibom). Based on the information obtained from the human resources departments of the agro-allied companies, the total number of employees in each of the six companies is presented in Table 1 and figure 1.

TABLE 1: Population distribution

S/N	Agro-allied companies	States	Population of employee staff
1	Saroafrica International Limited	Edo	143
2	Premier Feed Mills Limited	Delta	274
3	Crown Flour Mill Limited	Cross River	183
4	Flour Mill of Nigeria Plc	Cross River	430
5	Kings Flour Mill Limited	Akwa Ibom	287
6	Presco Plc	Edo	177
	Total		1,494

Source: Human Resources Department of the selected Agro-allied companies, 2024

FIG. 1: Population distribution



Source: Human Resources Department of the selected Agro-allied companies, 2023

3.4 Sample size

The sample size was calculated using Yamane's formula with a confident level 95% and an error 5% (P = 0.05). This is as given below:

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

Where:

n = Sample size

N = Population size

e = error margin (alpha value)

$$n = \frac{1494}{1+1494\ (0.05)^2}$$

$$n = \frac{1494}{1+1494\ (0.0025)}$$

$$n = \frac{1494}{3.735}$$

$$n = 950$$

Based on the formula, this study obtained 950 samples. Proportionate stratified sampling was used to draw samples from the Agro-allied companies. The study applied both quantitative and qualitative method. The study used structured questionnaire. The questionnaire was structured to focus on the questions that measure the extent to which shipment evaluation management and organizational performance affect the economic growth of agro allied companies in South-South and by extension, Nigeria.

3.5 Method of Data Analysis

Data was analysed using both descriptive and inferential statistics. The E-views and the Statistical Package for Social Sciences (SPSS V26) were used. These were favored because of the quantitative nature of the data to be used in the data analysis. Inferential statistics to assess pre-post intervention changes within the intervention group compared to the control group were also used. These descriptive statistical tools were helpful to the study to describe the data and the features of data that is of interest. The frequency and percentage were also used to analyze demographic data of staff of Agro-allied companies, while multilinear regression analysis was used to determine the impact of shipment evaluation management and organizational performance on economic growth.

A multiple linear regression model was used to determine the influence of shipment evaluation and organisational performance on economic growth.

The model is specified as follows:

RGDP = f (OP, SEM, TAX, ID, LF)

Presenting the above equation in a more explicit econometric form can be expressed as below:

$Y_i = ß_0 + ß_1OP_t + ß_2SEM_t + ß_3TAX_t + ß_4ID_t + ß_5LF_t + ß_6INF_t + \epsilon_t$

The above equation will be used to solve objective 2 and objective 3

Where:

Y = Economic outcome measured by Real Gross Domestic Product (RGDP) of the 6 South-South States put together

$ß_0$ = Constant term

OP = Organisational performance

SEM = Shipment evaluation management

TAX = Tax compliance proxy for Government policies and regulations

ID = Infrastructural development

LF = Labor force proxy for firm size

INF = Inflation measured in per cent

$ß_0, ß_1, ß_2, ß_3, ß_4, ß_5$ and $ß_6$ are parameters to be estimated

t = time dimension

ϵ_i = Error term

4. RESULT AND DISCUSSION OF FINDINGS

4.1 Data presentation

A total of 965 copies of questionnaire were administered to respondents in the six selected agro-allied companies to obtain responses on shipment evaluation management and organisational performance. Out of 965 copies of questionnaire distributed, 950 copies of the

questionnaire were retrieved, representing 98.45 per cent while a total of 15 copies of the questionnaire were not returned representing 1.55 per cent. Table 4 shows the breakdown of questionnaire distribution, returned, and not returned rate and per centile rate of retrieval and not retrieved in the selected companies.

Table 2 indicates that out of 105 copies of the questionnaire distributed in Saroafrica International, 102 copies were retrieved representing 97.14 per cent, while three copies were not returned representing 2.86 per cent. Out of 162 copies of the questionnaire distributed in Premier Feed Mills, 160 copies were retrieved representing 98.76 per cent returned rate, while a total of two copies representing 1.24 per cent were not returned. Similarly, out of 125 copies of the questionnaire distributed in Crown Flour Mill Limited, 122 copies representing 97.60 per cent were retrieved while three copies representing 2.40 per cent were not returned. In Flour Mill of Nigeria Plc, table 4 indicated that out of 207 copies of the questionnaire distributed, two copies were retrieved representing 99.03 per cent returned rate in the company while two copies were not returned representing 0.97 per cent. Also, in Kings Flour Mill Limited, out of 244 copies of the questionnaire distributed, 241 copies representing 98.77 per cent were retrieved while three copies representing 1.22 per cent were not returned. Similarly, in Presco Plc, Table 4 revealed that out of 122 copies of the questionnaire distributed in the Company, 120 copies were retrieved representing 98.36 per cent returned rate in the company while two copies were not returned representing 1.64 per cent.

TABLE 2: Distribution and returned rate of questionnaire.

S/N	Selected Companies	Copies of questionnaire administered	Copies of questionnaire returned	Copies of questionnaire not returned	Returned %	% not returned	Total %
1	Saroafrica International	105	102	3	97.14	2.86	100
2	Premier Feed Mills	162	160	2	98.76	1.24	100
3	Crown Flour Mill Limited	125	122	3	97.60	2.40	100
4	Flour Mill of Nigeria Plc	207	205	2	99.03	0.97	100
5	Kings Flour Mill Limited	244	241	3	98.77	1.22	100
6	Presco Plc	122	120	2	98.36	1.64	100
	Total	965	950	15	98.45	1.55	100

Source: Fieldwork, 2024

Table 3 shows the demographic characteristics distribution of respondents in the selected agro allied firms. The table indicated that out of 950 respondents, 653 respondents representing 68.7 per cent were male, while 297 respondents representing 31.3 per cent were female. Data on age bracket of respondents shows that three age group made up most respondents, out of 950 respondents, 323 respondents representing 34.0 per cent were between 18-30 years of age; 401 respondents representing 42.2 per cent were between 31-40 years of age; and 179 respondent

representing 18.8 per cent were between the age bracket of 41-50 years while 47 respondents representing 4.9 per cent were 51 years and above of age.

Data on the marital status of respondents from table 5 reveals that a large majority of the respondents were married. However, out of 950 respondents, 385 respondents representing 40.5 per cent were single; 525 respondents representing 55.3 per cent were married; 31 respondents representing 3.3 per cent were divorce while nine respondents representing 0.9 per cent were widow/widower. Data on educational qualification of respondents from table 5 indicates that the bulk of the participants were holders of HND/B.Sc. Out of 950 respondents, 198 respondents representing 20.8 per cent were SSCE/NECO or GCE holders; 223 respondents representing 23.5 per cent were OND/NCE holders, and 421 respondents representing 44.3 per cent were holders of HND/B.Sc; 70 respondents representing 7.4 per cent were holders of MBA/M.Sc; while 38 respondents representing 4.0 per cent were holders of other qualifications. In terms of working experience, 397 staff representing about 41.79 per cent are those with working experience between 1 to 10 years; those with 11 to 20 years working experience were 202 which is about 21.26 per cent, those with 21 to 30 years working experience were 173 staff which is about 18.21 per cent. Furthermore, 178 staff representing 18.74 per cent are staff with 31 years and above working experience

TABLE 3: Demographic distribution of respondents

S/N	Items	Number of respondents	Percentage
1	Sex		
	Male	653	68.7
	Female	297	31.3
	Total	950	100
2	Age bracket		
	18-30	323	34.0
	31-40	401	42.2
	41-50	179	18.8
	51 and above	47	4.9
	Total	950	100
3	Marital status		
	Single	385	40.5
	Married	525	55.3
	Divorce/Separated	31	3.3
	Widow/widower	9	0.9
	Total	950	100
4	Educational qualification		
	SSCE, NECO or GCE	198	20.8
	OND/NCE	223	23.5
	HND/B.Sc	421	44.3
	PGD, MBA/M.Sc	70	7.4
	Others specify	38	4.0
	Total	950	100
5	Position in the organization		
	Managing Director	6	0.63
	Operational Manager	6	0.63
	Logistics Manager	6	0.63
	Other	932	98.11
	Total	950	100
6	Working experience		

1–10	397	41.79
11-20	202	21.26
21-30	173	18.21
31 and above	178	18.74
Total	950	100

Source: Fieldwork, 2024

4.2 Data analysis

Objective 1: To examine the impact of shipment evaluation management practice on operational performance

Assertion 1: How does your organization currently evaluate shipments?

From table 4,173 of the respondents stated that their company use visual inspection to evaluate shipments; 523 stated that the weight and measurement method was used to evaluate shipment. Furthermore of the respondents 254 stated that their company use documentation review to evaluate shipments

TABLE 4: Respondents view

Responses	No of respondents	Per centage (%)
Visual inspection	173	18.21
Weight and measurement	523	55.05
Documentation	254	26.74
Total	950	100

Source: Field work (2024)

Assertion 2: What technology does your organization use to support shipment evaluation management?

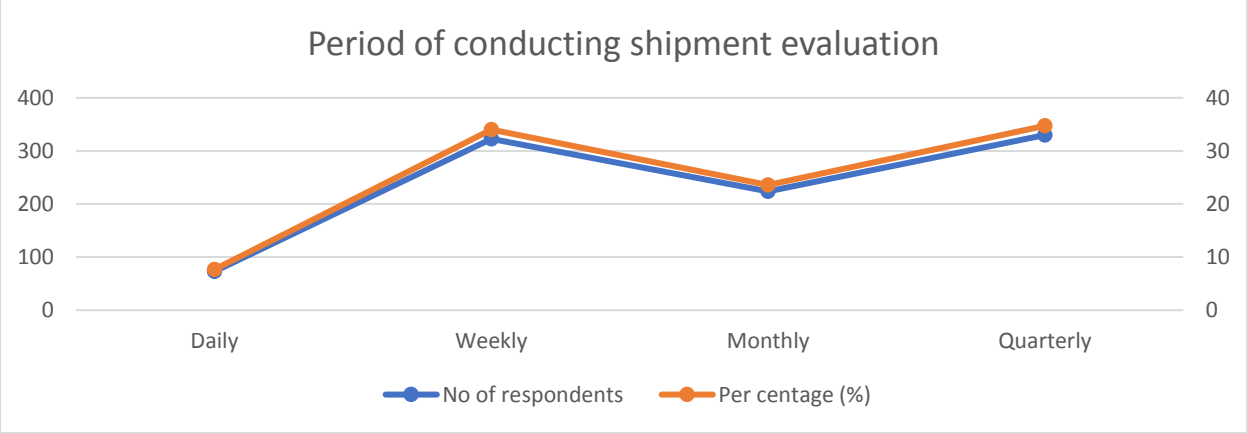
TABLE 5: Respondents view

Responses	No of respondents	Per centage (%)
Spreadsheets	173	18.21
Transportation management system (TMS)	523	55.05
Warehouse management system (WMS)	254	26.74
Total	950	100

Source: Field work (2024)

Assertion 3: How often does your organization conduct shipment evaluations?

FIG. 2: Period of conducting shipment evaluation by agro-allied company



Source: Author's computation (2024)

From figure 2, shows the respondents answer on the frequency that their organization conducts shipment evaluation. The figures shows that 73 staff which makes up 7.68 per cent stated that shipment evaluation is done daily in their organization, 323 that represents 34 per cent said its done weekly, 224 respondents held that shipment evaluation is carried out monthly in their organization which represents 23.58. While 330 stated that shipment evaluation carried out quarterly in their organization. This number of respondents represents 34.74 per cent of the total respondents.

Analysis of Objective 2 and objective 3: To access the overall impact of organizational performance on economic growth and to determine the impact of shipment evaluation management on economic growth

The empirical result of the estimated regression line is presented in table 6. The estimated regression line as presented has a positive intercept represented by 3.17. This means that at 10 per cent, holding all explanatory variables constant, real gross domestic product which is economic growth will still increase automatically by 31.7 per cent. The result in Table 7 likewise showed that the coefficient of shipment evaluation management (SEM) was positive and significant at less than 1 per cent significant level with a p-value of (0.000). Based on this result the null hypothesis (Ho) was rejected in favour of the alternative hypothesis. This implies that shipment evaluation management have significant effect on economic growth of Agro-Allied firms in South-South, Nigeria. This result supports the findings of Liu et al. (2020) proposed a novel approach using deep learning algorithms to optimize shipment costs. The authors demonstrated that the proposed approach can accurately predict shipment costs and optimize routing decisions.

This result indicated that effective shipment evaluation management positively impacts the operational efficiency of agro-allied firms. When companies can efficiently manage their shipments, it leads to smoother logistics, reduced delays, and minimised operational bottlenecks. This can result in cost savings, increased productivity, and a streamlined supply chain, which are critical factors for the success and growth of any organisation. The result agrees with the findings of Lee et al. (2015) who found that Agro-allied firms that can implement better shipment evaluation management strategies gain a competitive edge over their rivals. In a competitive market, having a well-organized supply chain and timely deliveries can attract more customers and clients. This advantage can lead to increased market share and improved profitability for the firms, enabling them to stay ahead in the industry. The study was also supported by the finding of Wang (2022) who found that efficient shipment evaluation management often leads to on-time deliveries and better handling of goods. This, in turn, enhances customer satisfaction. Satisfied customers are more likely to be loyal to the company and recommend its products or services to others. Positive word-of-mouth and a good reputation can be invaluable for attracting new customers and retaining existing ones.

Furthermore, the result in table 7 shows that a unit increase in TAX payment will cause economic growth to increase by 4.22. This is highly significant as the probability ratio shows a 0.00 which is less than the 5 per cent level of significance. Finally, Infrastructural development has a positive influence on economic growth. Thus a unit increase in infrastructural development will cause economic growth to increase by 0.002. The result is statistically significant with a probability ratio of 0.022 which is less than the 5 per cent level of significance. Labour force affects economic growth positive as can be seen in the result. A unit increase in labour force will cause economic growth to increase by 0.76. This is corroborated with the study by Ajao (2016) who found a positive relationship between training and development and human resource management practices which is in use by firms in the Agro-allied sector

The result of the findings has several implications for practice. Firstly, it can be used by logistics companies to optimize their shipment costs and improve their bottom line. Secondly, result of the study highlights the importance of leveraging deep learning algorithms in shipment cost optimization. Finally, the study provides insights into the potential benefits of implementing a data-driven approach to shipment cost optimization and implementing a real-time shipment tracking and monitoring system.

The R-squared value of 0.98 shows that the estimated regression line has a very high fit on the data. In particular, the adjusted R-squared value of 0.98 shows that about 88 per cent of the total variations in the dependent variables has been explained by variations in the explanatory variables. This means that the estimated regression equation has a very high explanatory power.

Similarly, the F-statistics value of 255.35 shows that the overall model is statistically significant. This is because the F-statistics value of 255.35 calculated is greater than the critical value of 2.53 at 5 per cent level of significance. This means that the independent variables have joint impact on the dependent variable. The overall significance of the model also shows that there exists a high degree of linear relationship between the dependent variable and the independent variables.

TABLE 6: Empirical results

Dependent Variable: RGDP

Variable	Coefficient	Std. Error	t-Statistic	Prob.
OP	4.263898	0.845894	5.040700	0.0000
SEM	0.361939	0.072067	5.022280	0.0000
TAX	0.422305	0.061621	6.853228	0.0000
ID	0.002494	0.027539	4.090553	0.0224
LF	0.759861	0.149933	5.068021	0.0000
C	3.168380	1.118905	2.831678	0.0079

$R^2 = 0.98$ Adj. $R^2 = 0.88$; F (6, 33) = 255.35; Prob (F-statistics) = 0.000000 ; DW= 2.03
Source: Author's computation using in E-views 10 (2024)

5. POLICY RECOMMENDATIONS AND CONCLUSION

1. The agro-allied industry in South-South, Nigeria should implement efficient shipment evaluation management systems to reduce delays, damage, and loss of goods. This can be achieved through the adoption of technology, such as transportation management systems (TMS) and warehouse management systems (WMS), to streamline shipment evaluation processes.
2. The agro-allied industry in South-South, Nigeria should develop organizational performance metrics that align with economic growth objectives. This can include metrics such as productivity, efficiency, customer satisfaction, and revenue growth. By tracking these metrics, organizations can identify areas for improvement and make data-driven decisions to enhance their performance.
3. The agro-allied industry in South-South, Nigeria should invest in human capital development to enhance organizational performance and contribute to economic growth. This can include training and development programs for employees, as well as partnerships with educational institutions to develop the skills and knowledge of the workforce.
4. The agro-allied industry in South-South, Nigeria should foster collaboration and partnerships among stakeholders, including government agencies, private sector organizations, and research institutions. This can include partnerships to develop infrastructure, improve

logistics and transportation systems, and enhance access to finance and markets. By working together, stakeholders can address common challenges and opportunities, and contribute to economic growth and development in the region.

5.1 **Conclusion**

This study delved into the various aspects of shipment evaluation management, organisational performance and its impact on the economic growth of Agro-Allied firms in South-South, Nigeria. The findings from this research shed light on the critical role that different management practices and technology play in driving operational efficiency, productivity, and overall success in the agro-allied industry. It was evident that effective shipment evaluation management significantly influences the operational efficiency of these firms. By optimising shipment evaluation processes, agro-allied companies can ensure smoother logistics, reduced delays, and improved resource utilization. This, in turn, leads to cost savings, increased productivity, and a competitive advantage in the market. Hence, agro-allied firms are encouraged to prioritize and invest in efficient shipment evaluation practices to enhance their overall performance.

However, while the study provides valuable insights into the impact of shipment evaluation management on organizational performance and economic growth in the agro-allied industry in South-South Nigeria, there are several gaps and challenges for future research and limitations to consider. Future research directions are identified including a geographical, data quality and cross-sectional design, a longitudinal study incorporating more mediating and moderating variables to gain deeper insights into the experiences and challenges of agro-allied industry stakeholders in managing shipments and evaluating their impact on organizational performance and economic growth

References

Ajao, M. G. (2016). Human Resource Management Practices and Organizational Performance in the Agro-Allied Industry in Nigeria. Obafemi Awolowo University.

Akinyemi, O. (2019). Route optimization and its impact on logistics performance in the agro-allied industry. *International Journal of Management and Economics, 55*(1), 20-34.

Amaonye, B. C.; Abang, S. O. & Onuorah, N (2024). Economic and mindfulness-based intervention for lecturers' resilience and well-being in higher education in Nigeria. *West African Journal on Sustainable Development,*1 (2), 01-26

Analysis of Effluent Management. (2020). Analysis of Effluent Management among Medium and Large Scale Agro-Allied Industries in South west, Nigeria.

ARCN Journals. (2020). Supply Chain Integration and Allied Industries in Nigeria. *ARCN Journals.*

Bordens, K.S., & Abbott, B.B. (2002). Research Design and Methods: A Process Approach. *McGraw-Hill Companies, New York. BMC Psychology*, 9, (116)

Chen, L., Song, X., & Zhang, Y. (2013). Shipment planning and scheduling in logistics: A review and future directions. *International Journal of Production Research*, 51(23-24), 7365-7383. doi: 10.1080/00207543.2013.848482

Christensen, L., Turner, L. A., & Johnson, R. B. (2023). Randomized designs in psychological research. In H. Cooper, M. N. Coutanche, L. M. McMullen, A. T. Panter, D. Rindskopf, & K. J. Sher (Eds.), APA handbook of research methods in psychology: Research designs: Quantitative, qualitative, neuropsychological, and biological (2nd ed., pp. 609–628). American Psychological Association.

Dike, E. C., & Mughal, M. A. (2020). Fleet maintenance management in the agro-allied industry: A case study of a logistics company. *International Journal of Research in Business Studies and Management, 7*(4), 15-24.

Ghauri, P. N., & Grønhaug, K. (2005). Research Methods in Business Studies: A Practical Guide. London: Pearson Education

Investment in Agro-Allied Industry. (2020). Investment in Agro-Allied Industry: A Quantum Leap into Nigeria's Economic Diversification.

Leedy, P., & Ormrod, J. (2001). Practical Research: Planning and Design (7th ed.). Upper Saddle River, NJ: Merrill Prentice Hall.

Lee, J., Lee, Y., & Shin, J. (2015). Real-time shipment tracking and monitoring using RFID and GPS. *International Journal of Production Research, 53(9),* 2821-2833. doi: 10.1080/00207543.2014.984242

Li, Z., Wang, W., & Liu, X. (2016). Shipment planning and scheduling with time windows and capacity constraints. Transportation Research Part E: *Logistics and Transportation Review*, 91, 137-155. doi: 10.1016/j.tre.2016.03.008

Liu, X., Li, Z., & Wang, W. (2020). Shipment cost optimization using deep learning algorithms. *IEEE Transactions on Intelligent Transportation Systems, 21(1),* 141-150. doi: 10.1109/TITS.2019.2913939

Ngechu, M. (2004). Understanding the Research Process and Methods. An Introduction to Research Methods

Wang, X., Li, Z., & Zhang, Y. (2018). Shipment tracking and monitoring using IoT and data analytics. *IEEE Transactions on Industrial Informatics, 14(3),* 1216-1225. doi: 10.1109/TII.2017.2777460

Zhang, Y., Chen, L., & Song, X. (2017). Shipment cost optimization using machine learning algorithms. Transportation Research Part C: *Emerging Technologies, 77*, 345-356. doi: 10.1016/j.trc.2017.01.011