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Efficiency Analysis of Agro-Allied Firms: Implications for Regional Economic Performance in Nigeria

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Abstract

Agro-allied industry is a fundamental sector of the Nigeria economic environment, especially in the South-South region that is full of vast agricultural resources. This industry has an enormous impact on the national Gross Domestic Product (GDP), creation of job, and food security. The empirical study to be discussed below looks at how the shipment evaluation management practices affect an operational performance in agro-allied businesses, and at the same time, how the performance of organizations could affect macroeconomic growth. The current research has examined shipment assessment management, but rather little focus has been on the overall impact of this on organizational performance and national building. To fill this gap, the study will take the mixed-methods approach that will entail the incorporation of quantitative survey, qualitative interviews and econometric analysis. The respondent sample was 950 out of 1,494 staff members of six agro-allied companies in the South-South region. Through descriptive statistical processes, including means and percentages, to sum up the demographics variables, inferential studies, such as multiple regression and chi-square tests ($p < 0.001$) were used to analyse the hypotheses. The results show that the management of shipment evaluation has a positive and statistically significant impact on both the performance and economic growth of the organization, which supports the importance of the management of the agro-allied industry in Nigeria to strengthen the local economy.

INTRODUCTION

Agro-allied industry forms one of the strategic sectors in Nigerian economy that contributes significantly to the GDP of a country and creates jobs to millions of people. It involves the production, processing, and marketing of farm produce- crops, livestock and fisheries. The sector faces intense challenges when controlling shipments in the South-South geopolitical area that can reduce customer satisfaction, competitiveness, and trigger delays, damages, and losses of products. There is a dearth of empirical studies that measure the effects of shipment evaluation management on the organizational performance in this context of the region. According to the studies by Kanike (2023), Ikpe and Shamsuddoha (2024), and Paul

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et al. (2024), the industry is facing the plethora of logistical and supply-chain inefficiencies which negatively impact performance.

The agro-allied industry plays a decisive role within the larger Nigerian economy, including agriculture, food processing, and livestock production (Akinbobola and Akinnagbe, 2023; Salau, 2019). The effective management of shipment evaluation will be needed to ensure a smooth flow of goods and more efficient organizational performance (Oteri et al., 2023; Proença et al., 2022). This management involves the methodical evaluation and management of shipment quality, condition and integrity during transportation and logistics processes. The main goal is to provide the timely delivery, maintain the integrity of products and meet the standards and the regulations. The possibility of influencing organizational performance in this industry is determined by the efficiency of the supply chain, operational efficiency, productivity, and financial performance (Dike and Mughal, 2020; Lee, 2021; Green et al., 2008). Finally, organizational performance indicates the ability of an entity in meeting its strategic objectives, goals and targets.

Although the importance of managing shipments effectively through shipment evaluation is clearly recognized, the majority of firms in the industry do not have the necessary systems and processes to effectively handle shipments (Mehmood, 2021; Song, 2021). Such lack may result in high price, low customer satisfaction and lack of competitiveness. Furthermore, there is limited research on the topic of this area in the agro-allied sector and its impact on the economic development in South-South Nigeria. The current study aims to fill this gap by providing some light into the interconnection between shipment evaluation management, organisational performance, and economic growth in the industry.

The current research is substantive on a number of reasons. It aims at supplementing the available literature by exploring how shipment evaluation management affects the organisational performance of South South Nigeria agro allied industry. It also explains the impacts of such management on the performance of an organisation in the context mentioned above. Furthermore, the paper outlines the issues faced by the companies in implementing the best practices of shipment evaluation management. Lastly, it also offers suggestions on how shipment evaluation management can be improved in the industry.

Literature Review

An emerging body of literature shows a positive relationship between shipment evaluation management, organisational performance, and economic growth. Good shipment evaluation management can reduce costs and help to lower the delivery time and increase the customer satisfaction which helps to improve the organisational performance. On the other hand, ineffective shipment evaluation management can create delays, damages and shipment loss hence deterring organisational performance and economic growth. A number of studies have been used to research the connection between shipment evaluation management and organisational performance. As an example, Bhattacharya et al. (2014) concluded that the organisational performance in the Indian manufacturing industry had a positive correlation with the effective shipment evaluation management.

In one of the recent studies carried out by Ding (2024), it was noted that shipment evaluation management is one of the key determinants of organizational performance in the Chinese logistics industry. The writers carry out a thorough literature review of available literature on shipment evaluation management and its organizational performance and resultant impacts on economic growth. The review will focus mainly on the empirical studies that have been carried out in the overnight agro-allied sector, besides other general studies that involve the measurement of shipment and performance of the organization. Ajao (2016) looked at the relationship between

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human resource management (HRM) practices and the performance of organizations in Nigeria, the agro-allied industry. As it was noted, training and development, performance appraisal, recruitment and selection and compensation and reward management were the key HRM practices used by companies in the industry. In line with this, one study was published in ARCN Journals (2020) to examine the relationship between supply-chain integration and organizational performance in agro-allied sector. The results showed that technical integration, organisational integration and productivity have positive relationships with the market share and organisational performance. Moreover, in a 2020 report on the effluent management in medium and large agro-allied industries in Southwest Nigeria, it was reported that best practices in effluent management were positively related to the organisational performance. Lastly, a study by Investment in Agro -Allied Industry (2020) investigated the connection between investment in the agro-allied industry and organizational performance, and concluded that the level of investment had a positive relationship with organizational performance.

Theoretical Framework

The theoretical background of this question is based on the Contingency Theory and the Resource-Based View (RBV) of the enterprise. According to the Contingency Theory, an organization can only perform well when there is a match between its internal systems and processes and the external environmental conditions (Lawrence and Lorsch, 1967). The implication of the Contingency Theory in the context of the current study is that the effectiveness of the shipment evaluation management in the performance improvement of the organization depends on the correspondence between the practices of shipment evaluation management and the unique needs and issues peculiar to the Agro-allied industry of South-South Nigeria.

Resource-Based View is the statement that was developed by Barney in 1991 and argued that organizations could gain a long-term competitive advantage by utilizing their distinct resources and capabilities. Considering this study, the RBV suggests that shipment evaluation management can form part of competitive advantage among companies in the Agro-allied sector of South-South Nigeria, depending on whether they can create and exploit unique shipment evaluation management competencies that were valuable, scarce, and hard to imitate.

Conceptual literature

Shipment Evaluation Management

Shipment evaluation management is a very important part of logistics and supply chain management. It involves the process of assessing and tracking shipments to satisfy delivery within the set time, at the best condition and at the lowest cost. Shipment evaluation management, when properly implemented, helps organisations to reduce transportation costs, minimise delivery time, and enhance customer satisfaction (Chan & Zhang, 2011; Al Zadajali and Ullah, 2024). It is established through empirical studies on the topic that effective practices in shipment evaluation help to lower transportation expenses, improve delivery time, and raise customer satisfaction (Chan and Zhang, 2011; Al Zadajali and Ullah, 2024).

Organizational Performance

Organisation performance refers to the abilities of an entity to achieve its stated goals and objectives. It is a complex measure that includes financial measures, customer satisfaction measures, and operation efficiency measures. Organisational performance is critical in maintainability of agro-allied sector competitiveness and long-term viability. Empirical evidence indicates that proper logistics and supply-

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chain management, such as shipment evaluation, have a positive impact on organisational performance (Kisperska-Moron and Swierczek, 2011; Nazarov, 2024).

South South Nigeria: Agro Allied Industry

South-South Nigeria agro-allied industry is faced with many impediments which include; lack of adequate infrastructure, inefficient logistics and supply chain activities, and limited access to finance. Such problems have negative implications on the performance of firms in the industry. It is against this context that the current paper aims at analyzing the effects of shipment evaluation management on the performance of the organisations within the SouthSouth Nigerian agroallied industry.

Economic Growth

Ivic (2015) identifies economic growth as the variations in production on materials within a comparatively brief period, which usually consists of one year. Gross Domestic Product (GDP) is a macro-economic marker of aggregate worth of final goods and services that are generated within the borders of a particular country within a given year (usually annual), converted into monetary units. GDP has been commonly used to measure the economic performance and growth trend of a country. The concept of growth in economics theory suggests the annual increase in the material production in terms of value expressed in the growth rate of GDP or national income. In the current research, the economical growth is operationalised as an increase in the volume of production in a nation, or an increase in gross domestic product in a year and the real gross domestic product (RGDP) is used as the main quantitative parameter.

METHODS

Research Design

The theoretical model assumes that the successful management of shipment evaluation, along with good organizational performance has a positive impact on the economic development. This impact is dependent on the correspondence between shipment evaluation management practices and the specific requirements and issues that are being faced by the agro-allied sector in South South Nigeria.

A descriptive survey was also used to guarantee the description of all the situation and reduce bias in data gathering, thus, decreasing the interpretive error. As mentioned by Christensen et al. (2019), the quantitative research design is the method of collecting data with the members of the study in numerical form (Amaonye et al., 2024). The design that will be used in this investigation is the descriptive survey that will allow the researcher to gather information about a cross-section of the target population with respect to an existing phenomenon (Leedy and Ormrod, 2001). The reason why this design is adopted is that the study does not control any variable but presents the variables in their occurrence among the participants.

Study area

The research was done in South-South part of Nigeria, and the six states were Akwa Ibom, Bayelsa, Cross river, delta, Edo, and Rivers. These states were selected with the purpose of the study. The participant pool was made up of randomly selected personnel based in these states. The region was sampled intentionally because of the famous oil and gas reserves, thus making it an important pillar in the Nigerian economy and this guarantees the generalizability of the results.

Population of the Study

The study population will be the total population of all employees (N=1,494) in the six South-South states, Cross River, Edo, Delta, Bayelsa, Rivers, and AkwaIbom in

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the six selected agro-allied firms. The amount of staff members in the respective agro-allied companies furnished the human resources departments with information on the total number of employees in each of the six companies, and this information is represented in Table 1 and Figure 1.

Table 1. Population distribution

S/N	Agro-Allied Companies	States	Population of Employees
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

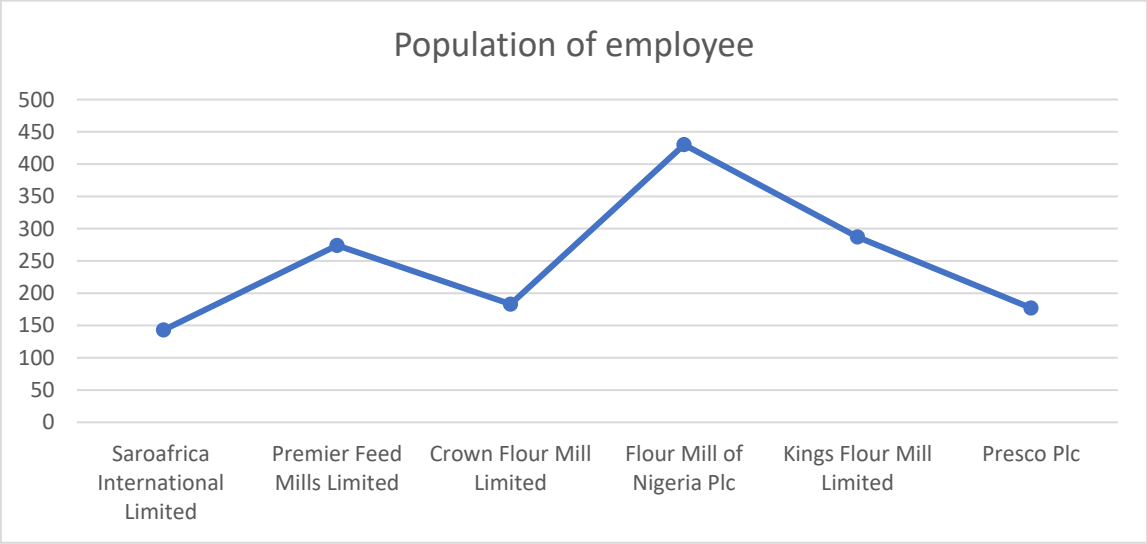

Figure 1. Population distribution

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

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

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According to the formula, 950 samples were received. A proportionate stratified sampling was used to sample the respondents among the Agro-allied companies. The research was a combination of quantitative and qualitative research designs that were based on a structured questionnaire. The questionnaire was set up to focus on variables that determine the level of shipment evaluation management and organizational performance on the economic growth of the Agro-allied companies in the South-South region and consequently, Nigeria.

Validity of the Instrument

Validity in research refers to how well the acquired data is fitting the field of investigation (Ghauri and Gronhaug, 2005). It basically means that what is being measured by the measurement instrument is what it is supposed to measure. Validity relates to the extent at which a research instrument measures what it is said to measure. Content Validity was used in the current research. The degree of relevancy and representation of an assessment tool of the target construct is termed as content validity. Such validation of content is basic in development of a new instrument, which provides information as to the soundness of the tool through an analysis of conformity between the tool and the target constructs. This allows making meaningful inferences and decisions based on the scores of the instruments as per the purpose of the assessment. A copy of the questionnaire coupled with a copy of the study that entailed statement of the problem, purpose, research questions, and hypotheses was distributed to the experts of the field to ensure that the questionnaire measured the intended constructs. These professionals considered face validity so that there were no difficult words, unclear and ambiguous statements, and items which were not relevant to the instrument. They also determined the content validity to ensure that at least all important facets of the topic were contained in an instrument.

Instrument Reliability

In ancient terminology, reliability is the extent of consistency and stability of a measurement procedure. It is a measure of the ability to get much the same results when measurements are done under the same conditions (Bordens and Abbot, 2002). A measurement is said to be reliable when it is applied on the same object, it yields the same results each time the measurement is done. This is often referred to as test -reliability and it evaluates reliability through time. This questionnaire was also applied on the same respondent at different times to find out whether the scores were constant. Stability coefficient, also called test-retest reliability coefficient, is also a range of coefficients ranging between 0 to 1, with 1 being perfection, exceeding 0.9, excellence; exceeding 0.8 and less than 0.7, questionable; exceeding 0.5 and less than 0.6, poor; and less than 0.5, unacceptable, with 0 indicating no reliability. Reliability was tested through the test-retest method in this study. The data that were obtained were then correlated based on the Spearman Rank Order correlation formula. The internal consistency of the data was measured using Cronbach alpha, and the coefficient of Cronbach alpha was used as the conformity test in the consistency of items.

Method of Data Analysis

The data analysis was done using descriptive and inferential statistical methods. The SPSS V26 and EViews were used, because the dataset under investigation is quantitative. Inferential statistics was used to determine the pre and post intervention differences in the intervention cohort compared to the control group. These description tools made it easier to give a detailed view of the data and bring out important characteristics. The frequencies and percentage were calculated to explain the demographic features of the staff in agro-allied companies and

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multilinear regression model was applied to evaluate the effect of shipment evaluation management and organisational performance on economic growth.

To approximate the effects of the shipment evaluation management and organisational performance on the economic growth, a multiple linear regression model was used.

The model is detailed in the following way:

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

The given equation represented in a more econometric form will look as follows:

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

The above equation will be use 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 on government policies and regulation.

ID = Infrastructural development.

LF = proxy of the firm size in labor.

INF = Inflation expressed 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

RESULTS AND DISCUSSION

Data Presentation

The questionnaire was given to 965 respondents in six sampled agro (-allied companies in order to receive answers on shipment evaluation management and organisational performance. The questionnaire was distributed to 965 copies out of which 950 copies were received, which comprised 98.45 percent and 15 copies were not returned, which constituted 1.55 percent. Table 4 reflects the dissemination of the questionnaire, returned, and not-returned rates and per centile rate of retrieval and not-retrieved in the sampled companies.

According to table 2, 102 out of 105 copies of the questionnaire that were distributed in Saroafrica International were returned, which is 97.14 percent and three copies were not returned and this is 2.86 percent. A total of 162 copies of the questionnaire were distributed in Premier Feed Mills with 160 copies being accessed and a figure of two copies, which constitute 1.24 percent refund not being returned. In the same case, the questionnaire sent to 125 copies at the Crown Flour Mill Limited, 122 copies as a percentage of 97.60% were retrieved and three copies which comprise 2.40% were not returned. Table 4 in Flour Mill of Nigeria Plc showed, of the 207 copies of the questionnaire that had been distributed, two of the copies were returned, 99.03 percent in the company and two were not returned, 0.97 percent. In case of Kings Flour Mill Limited, 244 copies of the questionnaire were given out and 241 copies, or 98.77 percent, were returned and three copies or 1.22 percent were not returned. In

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the same way, Table 4 in Presco Plc showed that the rate of return to the questionnaire in the company was 98.36 out of 122 copies mailed, indicating that two out of 122 (1.64) copies were not returned.

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 per centage	Per centage not returned	Total per centage
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 demographic attributes of the sample respondents of the sampled agro-allied firms. As stated in the table, 653 (68.7) of 950 respondents were males, and 297 (31.3) were females. The data in age groups show that three of them were the larger part of participants: 323 respondents (34.0 %) were 18-30 years, 401 respondents (42.2 %) were 31-40 years, 179 respondents (18.8 %) were 41-50 years, and 47 respondents (4.9‘) were 51 and above.

In Table5, marital-status data indicates that most of the respondents were married. However, out of the 950 respondents, 385 (40.5) were single, 525 (55.3) were married, 31 (3.3) were divorced, and 9 (0.9) were widowed. When it comes to educational qualifications, Table 5 indicates that the majority of the respondents possessed an HND or B.Sc. In particular, 198 respondents (20.83-19.94) had SSCE/NECO or GCE, 223 respondents (23.51-24.17) had OND/NCE diplomas, 421 respondents (44.31-45.24) had HND/B.Sc. diplomas, 70 respondents (7.43-7.93) MBA or M.Sc. diplomas, and 38 respondents (4.03- With respect to work experience, the ratio of staff with 1-10 years of experience was 397 (41.79), staff with 11 through 20 years of experience was 202 (21.26), staff with 21-30 years of experience was 173 (18.21), and staff with 31 years or more experience was 178 staff (18.74).

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

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	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 Operational Manager Logistics Manager Other Total	 6 6 6 932 950	 0.63 0.63 0.63 98.11 100
6	Working experience 1–10 11-20 21-30 31 and above Total	 397 202 173 178 950	 41.79 21.26 18.21 18.74 100

Source: Fieldwork, 2024

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

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Source: Field work (2024)

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

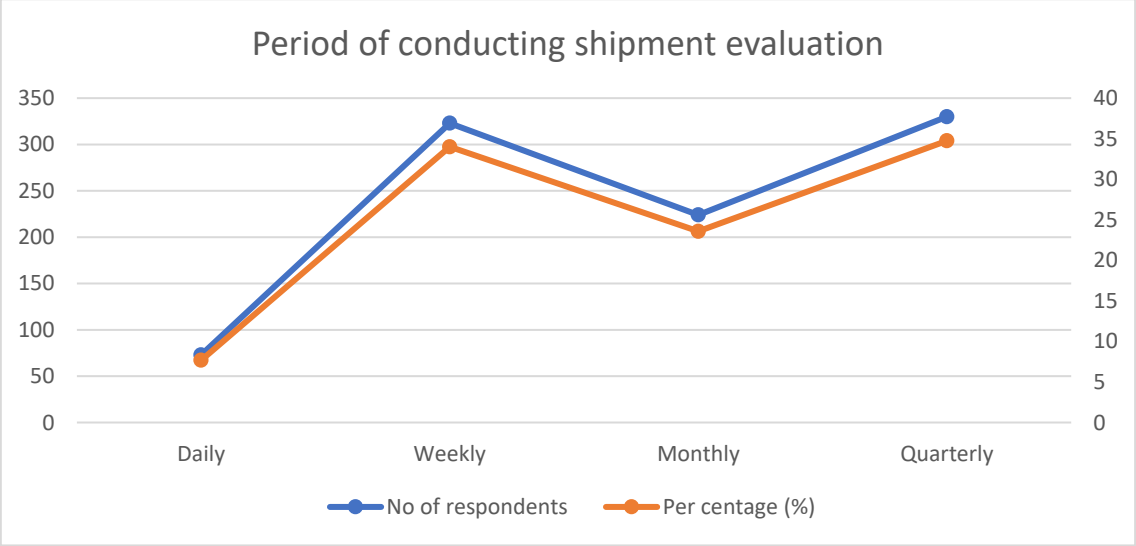

Figure 2. Period of conducting shipment evaluation by agro-allied company

Figure 2 depicts the responses to the question concerning the frequency of shipment evaluation performed by their organisations. The data show that 73 (7.68) of the respondents provided that the shipment evaluations are conducted on a daily basis, 323 (34) respondents stated that they perform evaluations on a weekly basis, 224 (23.58) respondents stated that they do it monthly, and 330 (34.74) respondents stated that they do it quarterly. All these numbers reflect the frequency of evaluation distributions among all the respondents.

The Objectives2 and Objectives3 analysis aim to evaluate the impact of the organisational performance on the economic growth in total and how the shipment evaluation management affects the economic growth.

Table 6. Short run Vector Error Correction Model estimates

Variable	D(RGDP)	D(OP)	D(SEM)	D(TAX)	D(ID)	D(LF)
CointEq1	-0.756232	–	–	–	–	–
	(0.91199)					
D(RGDP(-1))	-1.787196	0.088993	-2.417879	-4.691552	-5.021211	-0.520219
	(1.76999)	(0.08257)	(3.77341)	(3.75033)	(5.09489)	(0.36250)
D(RGDP(-2))	-1.090536	0.038960	0.945419	-1.774109	-0.490082	-0.214737
	(1.24696)	(0.05817)	(2.65837)	(2.64211)	(3.58936)	(0.25538)
D(OP(-1))	-4.312739	0.101659	1.835249	-7.015671	1.755231	-1.188989
	(5.90503)	(0.27546)	(12.5888)	(12.5118)	(16.9975)	(1.20937)
D(OP(-2))	1.513587	0.457892	-18.41549	-11.05826	-10.24931	-1.966380
	(4.55057)	(0.21228)	(9.70126)	(9.64192)	(13.0987)	(0.93197)
D(SEM(-1))	0.039203	-0.007174	-0.627875	0.039807	0.324036	0.065287
	(0.16801)	(0.00784)	(0.35817)	(0.35598)	(0.48361)	(0.03441)
D(SEM(-2))	0.008650	1.993305	-0.023558	0.330110	-0.403101	0.090697
	(0.16583)	(0.00774)	(0.35353)	(0.35137)	(0.47734)	(0.03396)
D(TAX(-1))	-0.006435	0.004719	0.394408	0.057064	-0.043609	-0.042034
	(0.18015)	(0.00840)	(0.38407)	(0.38172)	(0.51857)	(0.03690)
D(TAX(-2))	-0.046256	-0.003250	0.351908	-0.184660	0.930824	0.020991

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	(0.17974)	(0.00838)	(0.38319)	(0.38085)	(0.51739)	(0.03681)
D(ID(-1))	-0.003185	0.003673	0.143531	0.149806	-0.269432	-0.022629
	(0.08335)	(0.00389)	(0.17770)	(0.17662)	(0.23993)	(0.01707)
D(ID(-2))	0.039498	0.004436	0.200487	0.320801	0.007008	0.011756
	(0.07051)	(0.00329)	(0.15031)	(0.14939)	(0.20295)	(0.01444)
D(LF(-1))	1.572619	-0.040669	1.799465	5.124718	2.937601	0.745502
	(1.76283)	(0.08223)	(3.75813)	(3.73514)	(5.07427)	(0.36103)
D(LF(-2))	2.025024	-0.049460	-1.561157	0.957998	-3.285318	0.551440
	(1.25164)	(0.05839)	(2.66835)	(2.65203)	(3.60283)	(0.25634)
C	0.142228	-0.003219	0.210343	0.359453	0.360949	0.021175
	(0.07717)	(0.00360)	(0.16452)	(0.16352)	(0.22214)	(0.01581)

Source: Authors' computation using E-views 10 (2024)

Table 51 shows the empirical findings of the estimated regression line. The estimated regression line has a positive intercept of 3.17, that is, at a level of 10 percent, keeping all other explanatory variables constant, the increase in real GDP or the economic growth will be 31.7 percent. The statistically significant outcomes are that the four explanatory variables are important predictors of economic growth in the South-South region of Nigeria of the agro-allied firms. The t -statistics of 5.04, 5.02, 6.83, 4.09, and 5.07 are justified by the rule of thumb to infer this point since these values are above 2 in absolute terms. Therefore, the variables have a statistically significant effect on the performance of agro-allied firms in the South-South region.

The value of the coefficient of determination, R 2 = 0.98 factoring in the data implies that the model fits the data highly well. Additionally, the adjusted R 2 = 0.98 indicates that the series of explanatory variables explain about 88 per cent of the overall variance in the dependent variable and thus indicates the high explanatory power of the model. Similarly, a F statistic of 255.35 affirms the entire model statistical significance which is more than the critical value of 2.53 in the 5 percent level. This finding supports the fact that independent variables play a combined role in determining the dependent variable, meaning that they have a strong linear relationship.

Table 7. Empirical results

Dependent Variable: RGDP				
Variable	**Coefficient**	**Standard Error**	**t-Statistic**	**p-Value**
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)

Test of hypothesis

To carry out this study successfully, three (5) hypotheses formulated in this research work were examined by subjecting them to statistical test with the aid of multiple regression using the E-views and chi-square distribution at P < 0.001 level of significance to determine the validity or otherwise of the hypothesis. This is computed using the formular:

$$X^2 = \frac{(0-E)^2}{E}$$

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Where:

0 = Observed frequency from the respondents

E = Expected frequency

X^2 = Chi-square statistics

P = Probability ratio

H0: Null hypothesis

H1: Alternative hypothesis

Decision rule: The decision rule has it that H0 (Null hypothesis) should be rejected and H1 (Alternative hypothesis) accepted if the calculated value is greater than or exceeds the critical value otherwise, do not reject the null hypothesis H0.

Hypothesis one

H0: There is no impact of shipment evaluation management practice on operational performance

H1: There is an impact of shipment evaluation management practice on operational performance

Using the chi-square (X^2) Method for Computation

From the calculations below in table 8, chi-square (X^2) calculated value of 39.788 is greater than chi (X2) critical value of 3.09 at P < 0.001. Thus, H0 is rejected and H1, accepted. Therefore, shipment evaluation management practice is said to be a booster to operational performance.

Table 8. Using the chi-square X^2 method for computation

Responses	**O**	**E**	**O – E**	**$(O - E)^2$**	$\frac{(0-E)^2}{E}$	**X^2**	**P**
Yes	820	950	-130	16,900	17.789	39.788	< .001
No	130	950	-820	672,400	707.789		

Source: Author's computation from questionnaire administered, field survey (2024)

Hypothesis two

H0: There is no impact of overall organization performance on economic growth.

H1: Economic growth is influenced by the overall organization performance.

The rule of thumb was used to test the hypothesis; the t -statistic obtained stood at 5.04 and the probability ratio (p -value) was 0.00 which is less than the 5 per cent (0.05) significance level as reported in Table 7. The null hypothesis is, therefore, rejected and the alternative accepted, which points to the overall organizational performance having a significant effect on the economic growth.

Hypothesis three

H 0: There are no impacts of shipment evaluation management on economic growth.

H1: Shipment evaluation management has an impact on economic growth.

Using the rule of thumb test, the t -statistic was 5.01, which was greater than 2 as well, and the p -value was 0.00, which was less than 5% in Table 7. Based on this, the null hypothesis is disapproved and the alternative is accepted and the economic growth is found to be statistically influenced by shipment evaluation management.

Shipment evaluation management stability test and organizational performance on the equation of economic growth

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Tests used included Cumulative Sum (CUMSUM) and Cumulative Sum of Squares (CUMSUM SQ) tests, which were used to determine the stability of the parameter estimates. Both of the figures 1 and 2 show that the CUMSUM and CUMSUM SQ statistics are within the critical bounds of 5% level of significance. The above plots suggest that the estimated coefficients do not change significantly during the period of the research and the existence of a long-run relationship between shipment evaluation management and organizational performance and economic growth. This is an indication that the coefficients change over time.

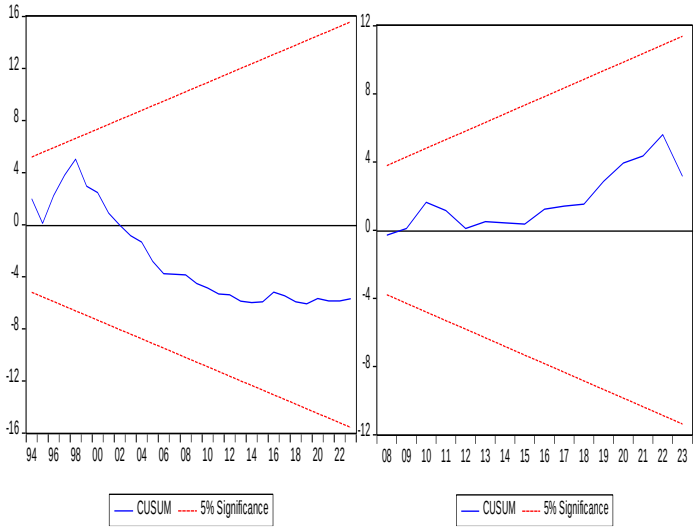

Figure 3. CUSUM and CUSUM of SQ for shipment evaluation and organizational performance on economic growth

Source: Author's computation using E-views 10 (2024)

Shipment Evaluation Management, Organizational Performance, and Economic Growth in South-South Nigeria

The aim of the study was to assess the role of the shipment evaluation management on the performance of the organizations and economic development in the South-South Nigerian agro-allied sector. The results suggest that shipment evaluation management has a strong control on operational performance, and organizational performance, in its turn, positively impacts economic growth. Moreover, the direct impact of the shipment evaluation management on the economic growth can be measured, which highlights its strategic relevance to the agro-allied industry. Following the objectives of the research, theoretical framework, and existing research, the implication of these findings is discussed herein.

One of the main conclusions of the work is that shipment evaluation management is one of the determinants of operations efficiency. Statistically, it is proved that the companies that follow systematic approaches to shipment evaluation, including visual inspection, reviewing of documentation, and transportation management systems, have higher chances of cutting the delays in shipment, less product damage, and customer satisfaction. The subsequent results are consistent with earlier studies; Singh et al. (2018) found a beneficial role of shipment evaluation management in performance of the Indian manufacturing, and Wang and colleagues (2006) emphasized its significance in on-Chinese logistics. Dike and Mughal (2020) noted in the Nigerian setting that the inefficiency of fleet and shipment management normally increases the expenses and reduces competitiveness. The current study complements the already available literature by confirming such findings in the agro-allied sector, which places shipment evaluation management as an indispensable factor in terms of food security and employment in rural areas.

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The second theme is the relationship between the organizational performance and economic development. The analysis shows that successful companies are among the key players in developing the economy of the region. The result is in line with the previous research conducted by Ajao (2016), who reported that good human resource management practices within the agro-allied industry enhanced the performance of the organizations, which ultimately contributed to the overall contribution of the sector to the GDP of Nigeria. Similarly, ARCN Journals (2020) highlighted the fact that supply-chain integration improves productivity and competitiveness. Hypothetically, these findings support the Resource-Based View (Barney, 1991) that assumes that companies achieve long-term benefits as a result of exploiting unique resources and capabilities. The performance metrics in the present case which include productivity, efficiency, and customer satisfaction are not only some of the indicators of successful performance internally but also drivers of larger economic results.

The results also highlight the direct role of shipment evaluation management on the economic growth. Besides improving the performance of the firm, effectively practicing shipment ensures stability of supply-chain, minimized wastes, and increased market access to agricultural products. This is in line with Contingency Theory (Lawrence and Lorsch, 1967) which also provides that organisational effectiveness is determined by the levels of coherence between the organisational processes and external environmental conditions. In South-Southern part of Nigeria where the logistical issues and bottlenecks of infrastructures are commonplace, efficient shipment analysis serves as a backup plan that enables corporations to adapt to the uncertainty of the environment. The high level of statistical correlation between the shipment evaluation management and the economic growth shows that the efficiency of logistics is not only an operational need but also a development necessity.

The other interesting observation is on the use of technology in managing shipments. The statistical data indicates that more agro-allied companies are implementing the use of transportation management systems (TMS) and warehouse management systems (WMS) even though the use of spreadsheet-based approaches is very common. This direction indicates the transition to digital instead of manual processes, which is in line with the international best practices in the field of logistics (Christopher, 2016; Cichosz et al., 2020). However, the fact that not all countries are adopting the sophisticated technologies suggests that the resource constraint is still the factor that does not allow complete optimisation. The use of digital solutions, therefore, can be one of the essential policy interventions to support the agro-allied industry in increasing its competitiveness.

Further implications are made to policy and practice. To begin with, the companies should consider incorporating shipment evaluation as part of the strategic management process and not as just a normal operation. Second, managers ought to emphasize on employee training and capacity building in order to avoid the situation where the human capital has fallen behind the technological advancements. Third, the government and the industry players need to resolve the infrastructural deficits especially the transport networks, storage facilities, electricity supply, which have remained the culprits in the logistics management in the region. This coincides with the Investment in Agro-Allied Industry (2020), which argues that better infrastructure is needed in order to unearth the potential of the sector.

The study has a number of limitations in spite of its significant contribution. The sample was also limited to six agro-allied firms, thus limiting the extrapolation of the outcomes. Even though the sample size was strong, it is desirable to include more firms in other parts of Nigeria to have a more varied logistical setting. Additionally, the use of self-reported survey data presents the possibility of bias, since the

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respondents would tend to exaggerate the performance of the organisation or misrepresent inefficiencies. Longitudinal studies would also play a crucial role in determining causal relationships between shipment evaluation management, company performance, and economic growth in the long term.

CONCLUSION

The current paper has explored the complex aspects of the shipment evaluation management, organisational performance and its impact to the economic growth of the agro-allied businesses in the South-South Nigeria. The findings shed light on the critical role that various management behaviors and technological incorporation relate to the development of efficiency in operations, productivity, and total success in the agro-allied industry. Clearly, the effective shipment evaluation management has a significant positive impact on the efficiency of the operations of such companies. Through enhancing the shipment evaluation processes, the agro-allied organisations will have a smoother logistics, reduced delays and more efficient use of resources. This results in reduced costs, increased productivity as well as an enhanced competitive position in the market. Hence, agro-allied businesses are encouraged to focus and invest in the implementation of effective shipment evaluation procedures in order to strengthen their overall performance.

Recommendations

The South South Nigeria agro allied sector should implement strong shipment evaluation management systems to reduce shipment delays, damages and goods loss. The logistical processes can be optimised by the implementation of modern technologies like transportation management systems (TMS) and warehouse management systems (WMS), which can make supply-chain more efficient. Through combining these tools, organisations will be able to realise more transparency, lessen bottlenecks in operations and deliver agricultural products to the destination in good time.

Besides this, agro-allied industry in the South-South region must develop and track the organizational performance indicators that are linked comprehensively to the national economic growth goals. Productivity, operational efficiency, customer satisfaction, and growth in revenues are some of the metrics that can be used to give quantitative measures of organisational effectiveness. Indicators of this nature can be systematically monitored to allow firms to determine areas of improvement and make evidence-based policy decisions, which leads to the development of an evidence-based management culture.

Investment into the development of human capital is an important tool of improving organisational performance, as well as overall economic development. The skill sets of the employees can be effectively upgraded through structured training and development programmes, and strategic alliances with the institutions of higher learning and the vocational education institutions. These initiatives would not only enhance the competencies of individuals but also build a stronger and more innovative ecosystem of the industry.

Lastly, the agro-allied sector must also promote frameworks of collaboration between various stakeholders, such as the government, individual business, and research institutions. Cooperative efforts that focus on the growth of infrastructure, the improvement of logistic and transport systems, and the increase of access to finance and the market can lead to the synergies. By leveraging the aggregate skills and resources, the stakeholders will be able to solve the common problems, open up new prospects, and spur economic growth and development in the region over the long term.

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