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Supply Chain Management And Sustainable Performance In Listed Consumer Goods Firms: The Nigeria Evidence

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Abstract

Research Objectives: This study examined supply chain management and sustainable performance in Nigeria context.

Methodology: Ex-post facto research design was used in the study, why secondary data gathered from Nigeria listed consumer goods firms for the period of 2014 to 2022 was utilized from financial statements. The simple random sampling and filtering technique was used to select the sample. This was analysed using descriptive statistics, correlation analysis and regression technique.

Findings: The result revealed that supply chain inventory management has a negative and significant effect on sustainable performance at 1% level of significance while supply chain information technology has a negative and insignificant effect on sustainable performance at p-value > 0.05 underscoring the importance of supply chain management in a sustainable economy.

Recommendations: Nigerian-listed consumer goods firms should ensure that supply chain inventory management contributes positively to sustainable performance and adopt other elements of supply chain management like supply chain integration and supply chain collaboration for sustainable performance. Finally, there should be further empirical study on supply chain management among these consumer goods firms.

Key words: *Supply Chain Inventory Management, Supply Chain Information Technology, Supply Chain Management, Sustainable Performance.*

1.0 INTRODUCTION

Supply chain management (SCM) is a management practice that consists of a set of activities carried out in the organization to promote effective management of its supply chain. The goal

and objective of supply chain performance is to meet the needs of customers by supplying the right product at the right place, time, and price. The supply chain process is very important for managers to develop the capabilities for predicting patterns in customer preferences in respect to changes in demand (Min, et al., 2019). Zinn and Goldsby (2017a) posited that the supply chain is now based on customer centricity to provide customers with the new technological brand of goods and services. The advent of information technology capabilities lead to the adoption of supply chain management practices in the area of sharing demand information so as to reduce the level of inventory logistics in a manufacturing concern.

The shortcomings of the supply chain of a firm make it impossible to achieve the goals of sustainability, customer satisfaction, new product development and sustainable performance. Sustainable performance is the ability of a business organisation to efficiently utilize the available resources to meet its performance goals. Odusanya, et al. (2018) affirmed that sustainable performance is the maximisation of the optimum goal for a company to remain in business and to withstand competition from firms operating in similar industry through effective SCM. The main challenges that may affect the effectiveness and efficiency of the supply chain of a manufacturing company include inability to forecast, long lead times, lack of optimum target inventory and high supply chain costs (Moosivand, et al., 2019). However, most studies in developing and emerging countries used questionnaire to measured SCM without considering secondary data (Anichebe & Agu, 2013; Agu, et al., 2016; Atnafu & Balda, 2018; Phebe & Njoku, 2018; Mulandin & Ismail, 2019). The research gap of this study is based on the use of secondary data to measure supply chain management proxies of supply chain inventory management and supply chain information technology. Also, the study addressed other gaps such as the period gap to investigate how SCM components affect sustainable performance in Nigeria listed consumer goods firms for the period of 2014 to 2022. The general research question aims to provide answers on how SCM affects sustainable performance of listed consumer goods firms in Nigeria. While the broad objective is to investigate supply chain management and sustainable performance of listed consumer goods firms in Nigeria. The specific objectives are to investigate the effect of supply chain inventory management on sustainable performance and to examine the effect of supply chain information technology on sustainable performance.

2.0 LITERATURE REVIEW

2.1 Sustainable Performance

The essence of sustainable performance is premised on the development of the consumer goods sector which is a segment of the manufacturing industries in Nigeria. Sustainable performance in the area of performance has gained tremendous expansion and growth in the financial market in terms of value of shares and stocks (Mohd, et al., 2018). Urhoghide and Korolo (2022) defined sustainable performance as the extent to which a business organization utilizes its assets to earn revenues in the course of business operations. Timothy, et al. (2020)

affirmed that sustainable performance is how successful a firm is and how the managers of the firm were able to effectively explore the firm resources to generate wealth for the owners in terms of performance. Shivashankar and Kadadevarmath (2014) see sustainable performance measurement as means of measuring the effectiveness and efficiency of the supply chain process of the business organisation for improving performance. The effective and sound measurement of chain performance allows the supply chain manager to potentially, strategically and continuously meet goals and objectives of the manufacturing organisations (Agami, et al., 2012). Pujawan and Mahendrawathi (2017) added that the measurement system of sustainable performance is hinged on the overall supply chain performance evaluation.

2.2 Concept of Supply Chain Management

Supply chain management (SCM) is the activities of coordination and collaboration within chain members (suppliers, intermediaries, distributors and customers) by introducing the right product, at the right time, in the right place, at the right price (Anca, 2019). Li (2014) argued that supply chain management is based on synchronized decisions and actions to integrate the suppliers, the manufactures, the warehouses, the transporters, the retailers, and the final customers in an effective manner by bringing the right product or service and distributed at the right quantities, at the right prices, to the right locations, in the right condition, and at the right time, so as to reduce costs logistics. This is achieved within the reach of logistics management (Anca, 2019).

SCM has created massive awareness for organizations in recent times due to the importance of collaboration that existed within the organization and beyond. The efficiency of the supply chain is the central point of cost and asset management of a manufacturing company (Moosivand, e al., 2019). The SCM is an instrument that creates collaboration between suppliers in the supply chain so as to provide an efficient supply chain in meeting customer expectations. In a bid to meet those expectations among others is the supply chain inventory management and supply chain information technology.

2.2.1 Supply Chain Inventory Management

Supply chain inventory management is a critical concept in relation to organisation's success in a dynamic competitive market (Agu, et al., 2016). Inventory management is a means of efficiently integrating suppliers, manufacturers, warehouses and inventory in order to produce and distribute the right quantities of finished goods at the right time and in order to minimize system wide costs while satisfying service-level requirements (Kimaiyo & Ochiri (2014). According to Ogbo, et al. (2014), supply chain inventory management system is the replenishment of lead time, replenishment of goods, returns and defective goods and demand forecasting, carrying costs of inventory, asset management, physical inventory, available physical space, demand forecasting, inventory valuation, inventory visibility, future inventory price forecasting and quality management. Atnafu and Balda (2018) stressed that inventory

management control is one of the most neglected management especially small capitalization firms.

Okwaro, et al. (2017) posited that inventory management efficiency is very relevant to supply chain management. The aim of inventory management efficiency is to create a system for planning and controlling the moving of inventory to meet the expectation of the customers. Inventory turnover in supply chain inventory management cannot be undermined for the successful operation of productive firms because inventories itself constitute the aggregate resources of the operating unit within the phases of production, delivery, and transactions (Priya, et al., 2020). Phebe and Njoku (2018) maintained that effective supply chain inventory control is a signal for sustainable performance. Therefore, the study proposed that supply chain inventory management has no significant effect on sustainable performance.

2.2.2 Supply Chain Information Technology

The increasing competitive pressure on business organizations arguably has become the major factor behind the level of innovation technology that has been experienced in the process of SCM. Supply chain information is the act of capturing and disseminating timely and relevant information for decision makers to plan effectively (Mishra, et al., 2014). Lin, et al. (2023) affirmed that supply chain information management is the process of meeting the expectations of customers in the supply chain of a business organisation. Rightly, Ahmed, et al. (2019) stated that elements of logistics management include operational communication, performance related communication, operational planning and control, collaborative improvements, sharing logistics resources, new product development, general knowledge generalization, financial and technological support and strategic partnership. Information flow is a good means of communication that creates an environment of trust, harmony and proficiency (Akpoyovwaire, 2013).

Supply chain information technology is premised on intangible assets which is seen as the capitalization of software and development cost incurred from the point of technological feasibility. Information technology programs are a potent factor that enable business organizations to change opportunities into new ideas and put them into practice with the rudiment of innovation (Bhatti, et al. 2021b). The information technology classes of supply chain are brand names, masthead and publishing, computer software, license and franchises, copyrights, patents and industrial property rights, services and operating rights, recipes, formulae, models, designs and prototypes, intangible assets under development. Thus, supply chain information technology has no significant effect on sustainable performance.

2.3 Review of Empirical Literature

The empirical studies related to the concept under review are supply chain inventory management and supply chain information technology.

2.3.1 Supply Chain Inventory Management and Sustainable Performance

Priya, et.al, (2020) used data from listed textile and consumer goods industry for the period covering 2009 to 2019 to evaluate the correlation among efficiency of inventory control and supply chain profitability in India. The data were analysed using regression analysis, correlation and descriptive statistics. They established that inventory turnover ratio and inventory conversion period has a negative correlation with supply chain profitability. Umar (2019) used a sample of 79 companies from cement, sugar and automobile sectors of Pakistan covering the period of 2006 to 2015 to investigate the effect of inventory turnover on supply chain firm profitability. The Generalized Method of Moment results revealed that inventory turnover ratio had insignificant effect on supply chain firm profitability measured by return on asset while sales growth ratio, net working capital, and firm size were significantly associated with inventory turnover. Shardeo (2015) studied the impact of inventory management on the financial performance of the firm. The regression results revealed that inventory turnover ratio has an insignificant impact on supply chain profitability.

2.3.2 Supply Chain Information Technology and Sustainable Performance

Olarewaju and Msomi (2021) conducted an empirical study on the relationship between IT program reporting (intangible assets) and performance of firms. They made use of secondary data for the collection of data and employed descriptive statistics, Pearson correlation and regression analysis to test the formulated hypotheses. They documented that IT program reporting exert a significant positive effect on performance. Abdul, et al. (2019), examined the impact of logistics management on performance of supply chain firms in Nigeria. The regression results revealed that transportation management logistics and information flow logistics had significant positive influence on organizational effectiveness of supply chain firms at 1% level of significance. Mashiloane, et al. (2018) examined the relationship between supply chain dynamism, information sharing, inter-organisational and supply chain management in the South Africa manufacturing sector. The regression results showed that information sharing of supply chain integration has a significant positive relationship with supply chain management.

2.4 Theoretical Review

The diffusion of innovation theory was propounded by Rogers in 1983. This theory is based on the theory of communication and information flow through the adoption of new ideas and technologies (Roger, 1995). The theory postulates the process by which an innovation is communicated through certain channels over time and among the members of a social system. In other words, the diffusion of innovation evaluates how, why, and at what rate new ideas and technology are communicated and adopted by users of communications. Information flow logistics is a managerial tool explored to reduce unnecessary managerial burdens and rules in order to improve the effectiveness of the organization (Eunju, 2009 cited in Shonubi & Akintaro 2016). The theory predicted five (5) main factors that strongly influence the usage of innovation in the area of SCM such as the relative advantage,

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complexity, compatibility, trial ability and observability. With the use of the above in supply chain management, sustainable performance is achieved in organisations.

2.5 Conceptual Framework

The conceptual framework for this study is represented in Figure .2.1.

Supply Chain Management

Source: Researcher's Idea (2024)

The above is a diagrammatic expression of the concept of supply chain management and how it relates to sustainable performance. It would be deduced from the prior studies that supply chain management has the propensity of influencing sustainable performance.

3.0 METHODOLOGY

The research design employed in this study is ex-post facto research design which enables the researcher to collect, analyse and interpret data. The population of this research is made up of 21 listed consumer goods companies on Nigerian Exchange Group (NGX) (see appendix). The simple random sampling technique alongside the filtering method led to the sample of sixteen (16) listed consumer goods companies which must have finished their obligation in delivering annual reports for the year ended 2014 to 2022. The data were analysed using descriptive statistics, Pearson correlation matrix and ordinary least square regression technique with EViews 9.0 econometric software.

3.1 Model Specification

The study used ordinary least square regression technique. The study adapt regression model of Ayam and Kusi (2023) which was shown as;

$YCS = a + \beta SSP + \beta IMS + \beta LIP$. ……..... (3.1)

Where; YCS = Customer satisfaction (predictor variable),

βSSP = Strategic supplier partnership factor (independent variable),

βIMS = Inventory management system factor (independent variable), and

$\beta SSLIP$ = Lean inventory practices factor (independent variable).

a = Constant value

The adapted regression model of Ayam and Kusi (2023) was re-specified in econometric form as shown below:

$SP_{it} = \beta_0 + \beta_1 SCIM_t + \beta_2 SCIT_t + \varepsilon i$ ……..... (3.2)

Where:

SP= Sustainable performance

SCIM= Supply chain inventory management

SCIT= Supply chain information technology

$ß_1 – ß_2$ = Coefficients of variables

3.2 Measurement of Variables

The measurement of the variables for the study were represented in the table 1 below.

Measurement of the Variables

Variable	Measurement	Sources
SP = Sustainable performance (Dependent variable)	Sustainable performance was measured by dividing profit after tax by total assets.	Onyeka, et, al. (2018); Urhoghide & Korolo (2022)
SCIM = Supply chain inventory management (Independent variable).	Supply chain inventory management was measured by the ratio of inventory to sales	Mappanyukki & Sari (2017); Eroglu & Hofer (2011a)
SCIT= Supply chain information technology	Supply chain information technology was measured by the amount of money spent on IT program reported in the annual financial reports for the periods "1" OTHERWISE "0"	Gamayun (2015)

Source: Researcher's Idea (2024).

4.0 PRESENTATION OF DATA AND ANALYSIS OF RESULT

4.1 Descriptive Statistics

The descriptive statistics result is presented in Table 4.1 below.

Table 4.1: Descriptive Statistics

	SP	SCIM	SCIT
Mean	5.276846	0.242353	0.451389
Median	3.676850	0.168800	0.000000
Maximum	42.90000	2.436100	1.000000
Minimum	-9.781000	0.000000	0.000000
Std. Dev.	8.022951	0.277842	0.499368

Skewness	1.215412	4.646261	0.195370
Kurtosis	5.828407	31.32367	1.038169
Jarque-Bera	83.45278	5331.488	24.00874
Probability	0.000000	0.000000	0.000006
Sum	759.8659	34.89890	65.00000
Sum Sq. Dev.	9204.587	11.03909	35.65972
Observations	144	144	144

Source: EViews 9.0 Output (2024)

The result showed that sustainable performance (SP) has a mean value of 5.27, a minimum value of -9.78, a maximum value of 42.90 and a standard deviation value of 8.02. This indicates that there is a low level of sustainable performance given the median value of 3.67 among the listed consumer goods firms. Supply chain inventory management (SCIM) has a mean value of 0.24, a minimum value of 0.00, a maximum value of 2.43 and a standard deviation value of 0.27. Supply chain information technology (SCIT) has a mean value of 0.45, a minimum value of 0.00, a maximum value of 1.0 and a standard deviation value of 0.49. The Jarque-Bera statistic values affirmed that all the variables were normally distributed.

4.2 Correlation Analysis

The correlation analysis is presented in Table 4.2 below.

Table 4.2: Correlation Analysis

	SP	SCIM	SCIT
SP	1.000000	-0.137653	-0.034969
SCIM	-0.137653	1.000000	-0.102742
SCIT	-0.034969	-0.102742	1.000000

Source: EViews 9.0 Output (2024)

The correlation coefficient result showed that supply chain inventory management (SCIM) is negative and moderately associated with sustainable performance (SP=-0.13). This implies that changes in supply chain inventory management might lead to a decrease in sustainable performance. It is also revealed that supply chain information technology (SCIT) is negative and weakly associated with sustainable performance (SP=-0.03). This implies that changes in supply chain information technology might lead to a decrease in sustainable performance. The correlation coefficient showed that a negative association exists between the variables.

4.3 Regression Result

The regression result is presented in Table 4.3 below.

Table 4.3: Regression result

Regressors	Coefficient	Std. Error	t-Statistic	Prob.
C	6.635823	1.704811	3.892411	0.0002
SCIM	-4.122121	4.341201	-0.949535	0.3440
SCIT	-0.797464	2.025403	-0.393731	0.6944

R-squared	0.021386	Mean dependent var	5.276846
Adjusted R-squared	0.007505	S.D. dependent var	8.022951
S.E. of regression	7.992788	Akaike info criterion	7.015570
Sum squared resid	9007.737	Schwarz criterion	7.077441
Log likelihood	-502.1210	Hannan-Quinn criter.	7.040710
F-statistic	1.540673	Durbin-Watson stat	0.691853
Prob(F-statistic)	0.217821	Wald F-statistic	0.494473
Prob(Wald F-statistic)	0.610946		

Source: EViews 9.0 Output (2024)

Decision Rule: Hypotheses are tested at 5% (0.05) at level of significance. The null hypothesis ($H_{O)}$ was accepted, if the probability value (p-value) was greater than 5% (0.05) otherwise rejected

It was observed from table 3 that R^2 value of 0.021386 which accounted for about 2% of the variation in the dependent variable which was jointly explained by independent variables leaving about 98% unexplained by factors not captured in the model. On account of the overall significance of the model, the Wald F-statistic value of 0.49 and its associated probability of 0.61 indicated that there is no significant linear relationship between the variables. Meanwhile, supply chain inventory management (SCIM) exerted a negative (-4.1221) and insignificant (0.3440) effect on sustainable performance (SP) at p-value >0.05,

and supply chain information technology (SCIT) exerted a negative (-0.7974) and insignificant (0.6944) effect on sustainable performance (SP) at p-value >0.05. In addition, a robust regression was explored to underscore the no linear relationship in Table 4.4 below.

Table 4.4: Robust Regression Result

Regressors	Coefficient	Std. Error	z-Statistic	Prob.
C	6.736023	0.774109	8.701645	0.0000
SCIM	-11.08321	1.688568	-6.563673	0.0000
SCIT	-1.421464	0.939499	-1.513002	0.1303

R-squared	0.084865	Adjusted R-squared	0.071884
Rw-squared	0.222755	Adjust Rw-squared	0.222755
Akaike info criterion	244.7830	Schwarz criterion	254.2469
Deviance	4559.923	Scale	4.364891
Rn-squared statistic	43.79262	Prob(Rn-squared stat.)	0.000000

Mean dependent var	5.276846	S.D. dependent var	8.022951
S.E. of regression	8.439010	Sum squared resid	10041.58

Source: EViews 9.0 Output (2024)

It was observed from table 4 that R^2 value of 0.084865 which accounted for about 9% of the variation in the dependent variable which was jointly explained by independent variables leaving about 92% unexplained by factors not captured in the model. On account of the overall significance of the model, the Rn-squared statistic value of 43.79 and its associated probability of 0.00 indicated that there is a significant linear relationship between the variables. Expectedly, supply chain inventory management (SCIM) exerted a negative (-11.08) and significant (0.0000) effect on sustainable performance (SP) at p-value < 0.05.

This means that changes in supply chain inventory management would lead to a decrease in sustainable performance at 1% level of significance. Supply chain information technology (SCIT) exerted a negative (-1.4214) and insignificant (-0.1303) effect on sustainable performance (SP) at p-value >0.05. The result would form the basis of policy recommendations and implication.

4.4 Discussion of Findings

The regression results in Table 4.4 showed that supply chain inventory management exerted a negative and significant effect on sustainable performance at p-value < 0.05. The result is consistent with the findings of Priya, et.al, (2020) on the relationship between efficiency of inventory control and supply chain profitability in India that inventory turnover ratio has a negative correlation with supply chain profitability. The findings of Shardeo (2015) on the impact of inventory management on the financial performance are also consistent with the results that inventory turnover ratio has a negative correlation with supply chain profitability. The finding of Umar (2019) is contrary to the result that inventory turnover ratio had an insignificant effect on supply chain firm profitability. Supply chain information technology exerted a negative and insignificant effect on sustainable performance at p-value >0.05. The result is inconsistent with the findings of Olarewaju and Msomi (2021) on the relationship between information technology and performance that IT program reporting exert a significant positive effect on performance. The findings of Abdul, et al. (2019) on the impact of logistics management on performance was also inconsistent with the result that IT program reporting exerted a significant positive effect on performance.

5.0 CONCLUSION AND RECOMMENDATIONS

This study investigated supply chain management and sustainable performance listed consumer goods firms in Nigeria. The SCM is an instrument that creates collaboration between suppliers in the supply chain so as to provide an efficient supply chain in meeting customer expectations. The study concluded that supply chain inventory management is a variable of SCM that adversely affects sustainable performance. The study also affirmed that supply chain information technology adversely affects sustainable performance but, it was statistically not significant. Therefore, other variables not captured in this study also contribute to sustainable performance.

5.1 Recommendations

In light of the empirical findings, it is recommended that:

i. Management of Nigeria listed consumer goods firms should ensure that there is effective inventory management in place to check against the adverse effect of supply chain inventory management on sustainable performance.

ii. Consumer goods firm should leverage on supply chain information technology within the supply chain ecosystem for positive sustainable performance overtime.

5.2 Suggestion for Further Studies

It is suggested that further empirical study on sustainable supply chain management among Nigeria listed consumer goods firms should adopt other elements of supply chain management like supply chain integration and supply chain collaboration for driving sustainable performance.

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APPENDIX: DATA REGRESSION

SN	COMPANIES	YEAR	SP	SCIM	SCIT
1	Cadbury Nig	2014	5.2487	0.0784	0
	Cadbury Nig	2015	4.0585	0.0696	0
	Cadbury Nig	2016	-1.0439	0.1675	0
	Cadbury Nig	2017	1.0555	0.1890	0
	Cadbury Nig	2018	2.9900	0.1630	0
	Cadbury Nig	2019	3.7180	0.1542	0
	Cadbury Nig	2020	2.8058	0.1481	0
	Cadbury Nig	2021	1.0294	0.1912	0
	Cadbury Nig	2022	0.9765	0.2158	0
2	Champion Breweries	2014	-7.8659	0.1073	0
	Champion Breweries	2015	0.7468	0.1000	0
	Champion Breweries	2016	5.3245	0.1372	1
	Champion Breweries	2017	5.1300	0.1241	1
	Champion Breweries	2018	-2.5156	0.1552	1
	Champion Breweries	2019	1.5345	0.1015	1
	Champion Breweries	2020	1.3968	0.1029	1
	Champion Breweries	2021	7.2977	0.0973	1
	Champion Breweries	2022	10.2628	0.1140	1
3	Dangote Sugar Refinery	2014	22.6317	0.3659	1
	Dangote Sugar Refinery	2015	19.8372	0.1539	1
	Dangote Sugar Refinery	2016	21.7619	0.2793	1
	Dangote Sugar Refinery	2017	42.9000	0.2331	1
	Dangote Sugar Refinery	2018	22.2040	0.2506	1
	Dangote Sugar Refinery	2019	20.6788	0.2413	0
	Dangote Sugar Refinery	2020	10.7093	0.2940	0
	Dangote Sugar Refinery	2021	6.1341	0.2029	0
	Dangote Sugar Refinery	2022	11.1166	0.1098	0
4	Flour Mills Of Nigeria	2014	1.8058	0.2060	0
	Flour Mills Of Nigeria	2015	2.4684	0.2063	0
	Flour Mills Of Nigeria	2016	4.1756	0.1713	1

	Flour Mills Of Nigeria	2017	1.8310	0.2236	1
	Flour Mills Of Nigeria	2018	3.3344	0.2052	1
	Flour Mills Of Nigeria	2019	0.9597	0.2254	1
	Flour Mills Of Nigeria	2020	2.6307	0.2015	1
	Flour Mills Of Nigeria	2021	4.7210	0.2533	1
	Flour Mills Of Nigeria	2022	0.6131	0.4685	1
5	Guinness Nig	2014	7.2346	0.1233	1
	Guinness Nig	2015	6.3764	0.0907	1
	Guinness Nig	2016	-1.4715	0.1277	1
	Guinness Nig	2017	1.3173	0.1834	1
	Guinness Nig	2018	4.3833	0.1331	1
	Guinness Nig	2019	3.4104	0.1915	1
	Guinness Nig	2020	-8.7265	0.2532	1
	Guinness Nig	2021	0.7410	0.1338	1
	Guinness Nig	2022	7.2574	0.1547	1
6	Honeywell Flour Mill	2014	5.2507	0.2049	0
	Honeywell Flour Mill	2015	1.6488	0.2558	0
	Honeywell Flour Mill	2016	-3.9763	0.1098	0
	Honeywell Flour Mill	2017	3.8046	0.0848	0
	Honeywell Flour Mill	2018	3.5463	0.1098	0
	Honeywell Flour Mill	2019	0.0497	0.1895	0
	Honeywell Flour Mill	2020	0.4573	0.2178	0
	Honeywell Flour Mill	2021	0.7638	0.1805	0
	Honeywell Flour Mill	2022	-0.6564	0.2325	0
7	International Breweries	2014	8.6395	0.1209	1
	International Breweries	2015	6.4514	0.1356	1
	International Breweries	2016	7.9229	0.1250	0
	International Breweries	2017	2.3005	0.4436	0
	International Breweries	2018	-1.2461	0.1646	0
	International Breweries	2019	-7.6108	0.1660	0
	International Breweries	2020	-3.3182	0.1038	0
	International Breweries	2021	-3.7571	0.4011	0

	International Breweries	2022	-4.4659	0.3943	0
8	Nestle Nig	2014	20.9647	0.0764	0
	Nestle Nig	2015	19.9109	0.0715	0
	Nestle Nig	2016	4.6731	0.1134	0
	Nestle Nig	2017	22.9719	0.0979	0
	Nestle Nig	2018	26.4935	0.0868	0
	Nestle Nig	2019	23.6242	0.1172	0
	Nestle Nig	2020	15.9279	0.1819	0
	Nestle Nig	2021	12.9053	0.1676	0
	Nestle Nig	2022	11.7977	0.1977	0
9	Nigeria Breweries	2014	12.1755	1.0000	0
	Nigeria Breweries	2015	10.6834	0.0967	1
	Nigeria Breweries	2016	7.7400	0.0996	1
	Nigeria Breweries	2017	8.6463	0.1168	1
	Nigeria Breweries	2018	5.0064	0.0928	1
	Nigeria Breweries	2019	4.2076	0.1193	1
	Nigeria Breweries	2020	1.6526	0.1071	1
	Nigeria Breweries	2021	2.6100	0.1422	1
	Nigeria Breweries	2022	2.1273	0.1517	1
10	Nigerian Enamelware	2014	2.7936	0.3149	0
	Nigerian Enamelware	2015	1.4805	0.3629	0
	Nigerian Enamelware	2016	2.9402	0.1572	0
	Nigerian Enamelware	2017	0.7733	0.4007	0
	Nigerian Enamelware	2018	-0.0728	0.5262	0
	Nigerian Enamelware	2019	-5.5147	1.1528	0
	Nigerian Enamelware	2020	-7.0333	1.1800	0
	Nigerian Enamelware	2021	-5.9648	1.2137	0
	Nigerian Enamelware	2022	-9.7810	0.3999	0
11	Mcnichols Consolidated	2014	10.7166	0.0558	0
	Mcnichols Consolidated	2015	14.3609	0.0620	0
	Mcnichols Consolidated	2016	12.1749	0.0705	0
	Mcnichols Consolidated	2017	7.0891	0.0443	0

	Mcnichols Consolidated	2018	4.7524	0.0658	1
	Mcnichols Consolidated	2019	2.3706	0.0772	1
	Mcnichols Consolidated	2020	2.4976	0.2031	1
	Mcnichols Consolidated	2021	21.2698	0.1680	1
	Mcnichols Consolidated	2022	5.2425	0.0000	1
12	Nascon Allied	2014	14.8698	0.1308	0
	Nascon Allied	2015	12.9222	0.1195	0
	Nascon Allied	2016	9.8165	0.1487	0
	Nascon Allied	2017	17.7391	0.1115	0
	Nascon Allied	2018	14.6024	0.1696	0
	Nascon Allied	2019	4.7719	0.1611	0
	Nascon Allied	2020	6.0717	0.1842	0
	Nascon Allied	2021	7.3319	0.1290	0
	Nascon Allied	2022	9.8490	0.1406	0
13	Nigerian Northern Flour Mill	2014	7.1494	0.1391	0
	Nigerian Northern Flour Mill	2015	-4.8522	0.0406	0
	Nigerian Northern Flour Mill	2016	-5.0129	0.4046	0
	Nigerian Northern Flour Mill	2017	-0.3743	1.0277	1
	Nigerian Northern Flour Mill	2018	-1.0306	0.9343	1
	Nigerian Northern Flour Mill	2019	-0.6348	0.0000	1
	Nigerian Northern Flour Mill	2020	0.7611	0.1765	1
	Nigerian Northern Flour Mill	2021	0.9493	0.3699	1
	Nigerian Northern Flour Mill	2022	0.6058	0.5408	1
14	Pz Cussons	2014	7.1623	0.2783	0
	Pz Cussons	2015	6.7828	0.2873	0
	Pz Cussons	2016	2.8613	0.2773	0
	Pz Cussons	2017	4.0922	0.3605	0
	Pz Cussons	2018	2.1747	0.3233	0
	Pz Cussons	2019	1.4460	0.3847	1
	Pz Cussons	2020	-9.2281	0.3920	1
	Pz Cussons	2021	2.0376	0.2813	0
	Pz Cussons	2022	6.1196	0.2703	0

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15	Unilever Nig	2014	5.2745	0.1545	1
	Unilever Nig	2015	2.3765	0.1042	1
	Unilever Nig	2016	4.2376	0.1416	1
	Unilever Nig	2017	6.1528	0.1265	1
	Unilever Nig	2018	6.9265	0.1499	1
	Unilever Nig	2019	-7.1565	0.1962	1
	Unilever Nig	2020	-4.1062	0.2616	1
	Unilever Nig	2021	0.6356	0.2121	1
	Unilever Nig	2022	3.5626	0.1844	1
16	Vitafoam Nig	2014	3.6357	0.2855	0
	Vitafoam Nig	2015	1.7182	0.2598	1
	Vitafoam Nig	2016	-0.2400	0.3254	1
	Vitafoam Nig	2017	-0.9522	0.2901	1
	Vitafoam Nig	2018	3.7536	0.2842	1
	Vitafoam Nig	2019	17.8323	0.2461	1
	Vitafoam Nig	2020	18.0991	0.2257	0
	Vitafoam Nig	2021	14.4608	2.4361	0
	Vitafoam Nig	2022	11.46709	0.0000	0