

# Vertical integration and financial performance in African emerging economies: Case Study of Olam Nigeria Limited, Nigeria

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## Keywords

Vertical Integration, Financial Performance, Upstream, Downstream, EBIT, ROI

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## Abstract

*The rapid population growth and the ongoing globalization of the economies result in increased competitiveness. Customers now prefer organizations' that do not just meet but also exceed their needs. Vertical Integration (VI) has been used as a vital tool to increase competitiveness by aligning organizational functions and promoting new opportunities through supply chain management. Though, there has been ambiguity in findings on the impact of vertical integration on financial performance worldwide. Hence, the purpose of this study is to provide empirical evidence regarding the impact of vertical integration on financial performance in African emerging economies, a case study of Olam Nigeria Limited. The secondary data was obtained from Olam's cross-sectional financial record between 2010-2018, and the primary data was from 175 respondents out of the 183 questionnaires administered to the employee sample frame.*

*Descriptive statistics and regression analysis were used to analyze the data. The findings indicate a positive impact between the components of vertical integration and financial performance measures in Olam Nigeria Limited. This study is one of the first studies conducted in emerging economies after the International Monetary Fund (IMF) upgraded 9 African countries, including Nigeria. These findings can serve as a strategic, operational guide for business managers who may be considering vertical integration to improve their financial performance. This study also adds to the secondary source on the subject matter in the Nigerian Agribusiness sector, and it reiterates the three theories: transaction cost theory, resource-based theory, and property rights theory. However, the financial performance measurement metrics are limited to Olam's recommended parameters to gauge its progress, and the study did not cover the moderating variables.*

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## Introduction

Nigeria accounts for 2.35% of the world's population, made up of 36 states inclusive of the Federal Capital Territory (FCT) Abuja. The country has a growth rate of 2.60% with a land area of 923,768 square kilometers (World Population Prospects, 2019), most of which are fertile or suitable for farming activity. Since the 1970s, the country's income source has been oil (Michael and Oyeyemi, 2018). However, before discovering oil, the agriculture sector was a significant aspect of Nigeria's economy regardless of the oil boom (Izuchukwu, 2011). Despite decades of the booming oil sector in the Nigerian economy, agriculture is debatably the most relevant aspect of the economy. In 2017, "Agriculture contributed around 20.85 percent to Nigeria's GDP" (Izuchukwu, 2011). Enduring food security remains the first and most vital to human life and survival. Food security necessitates a need for strategies that will positively impact agricultural firms' financial performance and contribution to the nation's economy. Vertical integration is considered an extensively promising prospect in agribusiness firms in rural settings (Carillo *et al.*, 2016).

One of the many agricultural firms in Nigeria is Olam Nigeria Limited, a subsidiary of the Olam group, one of the largest and oldest agriculture firms with representation across over sixty countries globally. Olam has its presence in several countries across continents: Asia, Europe, Australia, North America, South America, Central America, including Africa. Kewalram Chanrai Group (KC Group), one of the oldest companies in Africa and Asia with over 150 years of trade history, established Olam Nigeria Limited. Today, the firm is spread across 133 locations across states in Nigeria, and over 3000 direct

employees, approximately 500,000 farmers, and 70,000 seasonal workers. Olam has offices and operational units across all geopolitical zones in Nigeria, with functional scope expansion in three major business streams: exports and imports, branded packages, and food products. Its value chain activities include sourcing, processing, marketing, and distributions.

The offerings of Olam Nigeria Limited are grouped into animal feeds and hatcheries, sourcing and procurement, grading, processing and export of; cocoa, cashew, and sesame hulling, local farming, milling, rice production and distribution, wheat milling and pasta, biscuits, candy and confectionery, culinary ingredients; spices: onion and garlic, pepper, tropical spices, chili, and specialty products, noodles, tomato paste, and dairy beverages. Olam Nigeria Limited is one of the sustainability leaders in the industry and operates a defensible and differentiated strategy. The firm uses different forms of vertical integration across its products and businesses. Olam engages in relationship marketing as a strategy to give them a competitive edge. They also offer their customers solutions and services based on their strength and industry trends. Olam's presence in many countries worldwide provides the company with access to experts, experience, product, business, and origin knowledge, giving them global power and a chance to lead the industry (Financials, n.d.; Nigeria, n.d.).

The increasing global market competitiveness requires a strategy that will give the business a progressive financial performance. This market requires a strategy directed at a firm's sustainable competitive advantage ((Porter and Kramer, 2002). Hence, it is a requisite for managers to employ a strategy that will enhance financial performance to meet its ultimate profit goal. One of the most critical strategies championed by strategists in addressing supply and distribution challenges to boost performance is vertical integration. The vertical integration strategy is an up or down extension of a business activity employed to enhance performance. Over the years, scholars have examined the consequence and influence of vertical integration on performance in different firms across industries and geographical regions.

As a consequence of the global market, managers are responsible for developing a strategy to boost performance. According to Statista, the global population is forecasted to increase by two-thirds, and the Nigerian population expected to be double by 2050. In addition, the Nigerian market has been included in emerging markets with other 8 African countries by International Monetary Fund (IMF) (Africa Business, 2020). These emerging growth economies and rapid population growth are a challenge for entrepreneurs, national and foreign investors. There is a potential for remarkable high returns while concurrently embracing substantial risks to exceed customers' expectations and maintain competitive advantage. For an organization to be sustainable, it must identify its customers' preferences, predict the market's needs and find a niche. This competitive and sophisticated market requires organizations to go beyond the meeting and exceed market needs to remain relevant.

Vertical Integration (VI) has been used as a vital tool to increase competitiveness by aligning organizational functions and promoting new opportunities through supply chain management. There has been ambiguity in findings on the impact of vertical integration on financial performance, especially in emerging economies. This strategy is often geared towards financial performance, as it is the primary objective of a business. Hence, managers must strategize accurately towards a progressive financial performance and a competitive edge in the industry. In strategizing to tackle these challenges, many firms have employed a vertical integration strategy to boost general performance, specifically financial performance (Zhang, 2013). Vertical integration strategy is a multi-dimensional concept split across internal and external integration (Harrigan, 1983, 1985; Prajogo *et al.*, 2012). The internal integration deals with the internal activities of the firm: process and functional roles. In contrast, external integration deals with the firm's external activities: supplier/upstream and customer/downstream. Vertical integration action was created by Andrew Carnegie around 1902, in a bid to have his company Carnegie steel dominate the steel market by making more money and controlling the market (Ashay and Ananda, 2001; Schmenner, 2009). Gustavus Franklin Swift Sr. applied this strategy in his meatpacking business for cost control (Chandler, 2009). Over time, other firms adopted the vertical integration strategy as a corporate move to majorly gain a competitive edge, cut cost, control the market, among others, toward the firm's objective and good performance output. Vertical Integration (VI) defines a firm engaging in an activity that can otherwise be from a third party (Hovenkamp, 2010).

Furthermore, Porter (1998) describes vertical integration as the technological expansion to production's principal activity within the same firm's structure. Vertical integration is a firm's merged activities that are not part of its primary function but linked to the chain of marketing activities (Ayinde *et al.*, 2017). Williamson (1991) views vertical integration as a firm's last option when all other options fail. According to Harrigan (1985) and Hoskisson (1987), "vertical integration strategy is often employed by firms seeking to increase economies of scale and efficiency" vertical integration functions as a practical tool used by strategists to respond to supply and distribution challenges geared towards influencing performance. Unfortunately, this strategy interface with many dynamic real-world complexities that may affect the intended expectation on performance. In general, several academic scholars' studies on vertical integration remain an issue of intense arguments on the challenges and benefits of this strategy for the companies and the consumers stemming from the various vertical integration and performance relations findings.

Although VI has been well researched and implemented in developed countries, it is still critical in African emerging economies like Nigeria, where research on VI is still very few. In addition, a review of relevant previous empirical studies has shown ambiguous findings. These findings range from; positive impact by Gil and Warzynski (2009); Maroof *et al.* (2017) to negative impact by Hamdaoui and Bouayad (2019); Pieri and Zaninotto (2013), and to non-significant by Mamman *et al.* (2013), and mixed outcomes (Andreou *et al.*, 2015; Forbes and Lederman 2010; Maina and Kavale 2016; Rothaermel *et al.* 2006; Zhang 2013). This ambiguity in findings across industries and regions necessitates the continuity of research interest in the relevant area. Therefore, this study investigates the impact of vertical integration on financial performance in Olam Nigeria Limited. Further, the research problem in broad question is: "What is the impact of Vertical Integration (VI) components on Financial Performance (FP) measures using Olam Nigeria Limited as a case study?"

## Literature Review

### Vertical Integration and Theories

The primary aspect of vertical integration is that it creates value addition to its value chain (Badinger and Egger, 2008). Harrigan (2009) stated that vertical integration should be from two perspectives: internal benefits and costs and effects on competitive postures. The author further explained that internal benefits affect profitability as the strategy. Simultaneously, strength in competitive posture enables firms to be more responsive to changes in market needs and less vulnerable to competitors' maneuvers. Williamson (1986) and Afaro *et al.*, (2016) describes vertical integration as the cost of arranging business transactions to reduce the production process's overhead cost. Vertical integration can be motivated by lowering transaction costs, improving incentives, and limiting the holdup problem between upstream and downstream firms, especially when it is difficult to contract (Coase, 1937; Jacobides and Winter, 2005; Williamson, 1975; 1985). Jacobides and Winter (2005) argued that vertical integration is the quest to lower transaction costs and enlarge its company's capacity. In the 1970s, transaction cost theory developed in vertical integration studies concerning "make or buy" or "buy or sell." The transaction cost theory driven by cost-saving action was due to incompleteness and inefficiencies embedded in the market contract and potential organizational responses (Joskow 1985; Klein *et al.*, 1978; Goldberg, 1976; Williamson, 1971, 1975, 1985).

Langlois and Robertson (1989) stated that discouraging holdup and supply interruptions necessitated vertical integration among organizations. Historically, Powell (1990) asserted that vertical integration is often employed by firms that intend to enjoy benefits inherent in the strategy and mitigating constraints associated with supplying firms. Stuckey and White (1993) concurred that it is adopted by organizations to ensure stability in their value chain. Flexibility in the production unit and distribution unit of vertically integrated companies serves as the bedrock of a vertical integration strategy.

Vertical integration may be desired by a company that intends to attain a competitive advantage among its competitors by protecting resource imitation (Barney, 2002). Vertical integration is driven by the need for the effective and efficient use of resources to boost performance and gain competitive advantage, this strategy aligns with the resource-based theory (Hitt *et al.*, 2016).

The resource-based theory was explained by Wernerfelt (1984) in his book titled "the resource-based view of the firm." The theory emphasized the achievement of an organization's competitive advantage.

The resource-based theory has created expansion on theoretical and empirical knowledge of vertical integration decisions. The core point of this theory is that resources and capabilities owned and controlled by firms considered heterogeneous evaluated through resource-market imperfections, unique resources, inability to alter stock, among others (Barney, 1991; Dierickx and Cool, 1989; Wernerfelt, 1984; Penrose, 1959; Schumpeter, 1942). Rantakari (2010) defined the resource-based view theory as client companies' ability to create and sustain a competitive edge through efficient internal resource utilization. The author further explained that a firm combines tangible and intangible resources that necessitate the company to compete favorably with similar firms.

French (1989) argued that organizations ventured into vertical integration to control raw materials, provide mass marketing, and ensure internal production efficiency. Christopher (2011) asserted that vertical integration typically implies the absolute control of inputs suppliers and the organization's distribution channels, particularly with a vertically integrated supply chain. Williamson (1975) concluded that the rationale for adopting vertical integration was to cater to uncertainty in the contract and improve decision-making. Bain (1956); (1959) explained that vertical integration involves different activities along the value chain to establish market control. Grossman and Hart (1986) stated that the control and ownership of tangible resources provide room for vertical integration. Hart (1995), Hart and Moore (1990a), Grossman and Hart (1986) were some of the developers of the property rights theory of integration. The theory stated that the inability to perfect contractual agreement between the firm and outside market gladiators triggers the need to integrate vertically. The theory explains the property rights allocation pattern, which includes the ability to make decisions concerning an asset's use when unforeseen contingencies occur or circumstances not included in a contract, changes ex-ante investment incentives. Grossman and Hart (1987) stated that attributing integration to be the owner of assets and not people indicate the evaluation of benefits and costs implication of integration. The authors further explained that the right to control one party necessitates another party's decline to possess absolute control.

Table 1. Comparison of theoretical perspectives of vertical integration

Excerpts	Transaction Cost Theory	Resource Base Theor	Property Rights Theory
Pioneers of the theory	(Coase, 1937)	(Penrose, 1959)	(Coase, 1960)
Developer(s) of theory	(Williamson, 1970; Joskow 1985; Klein <i>et al.</i> , 1978; Goldberg, 1976)	(Wernerfelt 1984; Dierickx and Cool, 1989)	(Grossman and Hart, 1986; Hart, 1995; Hart and Moore, 1990b)
Concept of theory	Coordination and cost efficiency	Firm's Heterogeneity	Ownership and control of the firm's tangible and intangible assets
Objective of theory	To reduce cost	To achieve a competitive advantage	To attain control and ownership
Determinant of theory	The analysis of make or buy comparison	The competitive advantage of a firm's resources	The result of cost and benefit comparison
Theory critique	Lacks operational content, cannot provide empirically verifiable hypotheses (Clarke, 1991)	An organization must be valuable, rare, inimitable and non-sustainable (J. Barney, 2002)	Comparison of cost and benefit is complex (Grossman and Hart, 1986)

### Vertical Integration and Financial Performance

Financial performance is multi-dimensional with multiple measurements (Carton and Hofer, 2010), hence, the need to select the financial measures suitable for this study. Financial performance is the firm's economic position over a given time. It entails gathering and using funds measured by pointers of liquidity, solvency, capital, adequacy ratio, leverage, and profitability (Fatihudin *et al.*, 2018). Financial performance relates to the financial efficiency of the business. It relies on finance information reported mainly in income statements and balance sheets. The other performance variables have a direct or indirect

effect on the financial performance output. Erasmus (2008) defined financial performance as a way of monetizing an organization's operations and policies solely to highlight a given firm's financial strengths and weaknesses. Furthermore, financial performance displays a company's financial position to ensure decision-making efficiency. Bititci *et al.* (2000) asserted that in evaluating a firm's financial performance, relevant data from the organizations' financial statements and other materials are employed to determine, compare and analyze the company's financial status in terms of profitability, and operating conditions, among others.

Mamman *et al.* (2013) examined vertical integration on performance in SMEs and found vertical integration has no significant impact on performance. The author stated further that there is no vertical integration in most SMEs operating in the Kaduna State of Nigeria. In contrast, Andreou *et al.* (2015) showed mixed results of the positive and non-significant impact of vertical integration on performance. Sikuka (2010) studied the financial performance of companies involved in the integration business model and found that integrated companies had high financial performance than non-integrated companies. The author further explained that assets and revenue growth constituted the bulk of integrated companies' financial performance through financial ratios analysis. Jensen and Meckling (1976) highlighted the need for internal expansion of an organization. The authors further explained that the need to meet shareholder's expectations is often the company's priority. Randall *et al.* (1990) pointed out that vertically integrated firms realized devastating outcomes in their financial reports, affecting their financial performance. These findings reflect ambiguity, hence the general hypothesis; *vertical integration has no significance on the financial performance of Olam Nigeria Limited.*

#### **Upstream/Downstream on EBIT/ROI**

Upstream vertical integration involves controlling raw materials needed to process finished products, which otherwise would have been supplied by independent contractors or external producers (Liu, 2016). A firm's expansion to upstream integration ensures availability in the supply of its raw materials in a cost-effective manner (Loertscher and Riordan, 2019). Upstream integration relates to the inputs' design for lowering production costs by allowing organizations to supply their primary resources. It provides the courage for organizations to diversify their resources to produce raw materials or control the quantum of materials purchased (Perry, 1982). By implication, the upstream integration strategy ensures a constant supply of resources and becomes more proactive and efficient in their production process. In essence, upstream integration serves two purposes: boosting the firms' input and minimizing transaction costs. By adopting upstream integration, organizations can efficiently manage their value chain and strategically reduce the costs along the supply chain (Nicovich *et al.*, 2007).

The most critical aspect of evaluating an organization's performance is to analyze earnings or returns resulting from the firm's strategic approach. Evaluation gives the company and other stakeholders a vivid understanding of the strategic positioning on investments. Several studies find that the existence of two competing accounting methods affects the value-relevance of earnings (Misund *et al.*, 2008, 2015; Bryant, 2003). One of the notable perimeters used in measuring organizations' performance is the Return on Investment (ROI). Return on investment indicates the extent to which an organization realizes meaningful returns on the use of capital. It equally shows whether or not an organization is solvent (Zamfir *et al.*, 2016). Thus, it enables efficiency assessment of an amount invested or, in other words, ROI allows measuring the result to the means used to obtain it. Hence, the researcher hypothesized that.

*H<sub>0</sub>: Upstream integration has no significant impact on financial performance in Olam Nigeria Limited.*

*H<sub>0</sub>(a): Upstream integration has no significant impact on return on investment in Olam Nigeria Limited.*

*H<sub>0</sub>(b): Upstream integration has no significant impact on earnings before interest and tax in Olam Nigeria Limited.*

Downward vertical integration allows firms to reposition their distribution strategy by ensuring prompt delivery of finished products to their consumers (Wheelen and Hunger, 2011). Put merely, downstream integration provides firms with the liberty to own and control distribution channels that deliver finished products to consumers (Scherer and Ross, 1990). Organizations implementing downstream integration expect to enhance overall performance by ensuring an increase in the demand for finished goods. Furthermore, downstream integration helps organizations distinguish their products from that of competitors, allow easy access to the distribution channel and provide an accurate demand for its

products (Porter, 2008). More importantly, the rate at which an organization would achieve performance depends entirely on the pattern of communication, the use of technical information, and efficiency in the decision-making process (Paulraj *et al.* 2008). Downstream integration arises from the move organizations made to ensure users' satisfaction in the distribution stage by gaining absolute control in distributing finished goods and services to the target markets or providing outlets to ensure seamless sale transactions. Again, acquiring the whole or portion of the control of marketing channels or intermediaries is often regarded as downstream integration (Jobber, 2006). It, therefore, hypothesized that.

*H0: Downstream integration has no significant impact on financial performance in Olam Nigeria Limited.*

*H0 (a): Downstream integration has no significant impact on return on investment in Olam Nigeria Limited.*

*H0 (b): Downstream integration has no significant impact on earnings before interest and tax in Olam Nigeria Limited.*



Fig. 1 Conceptual framework, Researchers 2020

## Research Methods

Olam Nigeria Limited provides a perfect context to explore the impact of vertical integration on particular financial performance measures, namely Earnings Before Interest and Taxes (EBIT) and Return on Investment (ROI). Olam practices upstream and downstream integration in their operations, as revealed by the pilot study through the interview to five randomly selected supervisory employees from each of these functional areas of Olam: Marketing, Finance, HR, Production, and Sales. The interview consists of six questions: The firm produces its own raw materials (upstream), the firm produces its own package (upstream), the firm does its own package printing (upstream), the firm distributes through other wholesalers (downstream), the firm distributes directly through other retailers (downstream), and the firm distributes directly to customers through its own retail outlets (downstream). The answers to these objective questions were (a) for some of its products, (b) all of its products, (c) none of its products, and all responses confirmed vertical integration in some of the firm's products.

The study was conducted using an explanatory research design, best suited for this study according to Akhtar (2016), who alluded that, contrary to descriptive design, the explanatory design goes beyond observation and description approach attempts to explain the phenomenon's causes. The study population consisted of all staff members of Olam Nigeria Limited, located in Lagos metropolis. Lagos state was preferred not only because it is the country's commercial hub but also the head office of Olam Nigeria Limited. At the time of the study, the firm had a total of 338 full-time employees including managers, inspectors, marketers, and administrative staff. The convenience sampling technique was adopted to distribute the structured questionnaire to 183 employees calculated based on the Taro Yamane Formula at a 5% significance level. 175 questionnaires were returned out of the 183, representing a response rate of 95.6%. The questionnaire was content validated by a research expert, and the Cronbach's Alfa coefficient shows a value of 0.942, indicating high internal consistency among the respondents. Also, secondary data between the 2010 and 2018 was confidentially and reliably obtained from Olam Nigeria Limited. The descriptive statistics and regression analysis were carried out using Statistical Package for Social Sciences (SPSS) version 20.

## Findings and discussions

### Findings

From the secondary data, on the one hand, the explanation of R-value for upstream investment on return on investment, and upstream investment on EBIT were 0.949 and 0.889, respectively. On the other hand, the explanation of R-value for downstream investment on return on investment, and downstream investment on EBIT were 0.979 and 0.817, respectively. These outcomes are excellent statistical indication of the level of prediction. ANOVA results showed a statistically significant prediction of upstream on ROI,

upstream on EBIT, downstream on ROI, and downstream on EBIT as  $F(1, 7) = 66.808$ ,  $F(1, 7) = 26.284$ ,  $F(1, 7) = 163.943$ , and  $F(1, 7) = 14.043$  with  $p < 0.05$ , respectively. The unstandardized coefficient, 'B1' for upstream and downstream on ROI is equal to  $-1.024e-5$  and  $2.4e-6$ , indicating a one-unit increase of upstream and downstream investment, which equals a decrease and an increase in ROI of  $1.024e-5$  and  $2.4e-6$ , respectively. In contrast, the unstandardized coefficient, B1, for upstream and downstream on EBIT is equal to 0.246 and -0.157, indicating that a one-unit increase of upstream and downstream investment translates an increase and a decrease in EBIT of 0.246 and 0.157, respectively.

Upstream investment has an insignificant positive and significant positive impact on ROI and EBIT, respectively. In contrast, downstream investment has a significant negative and insignificant negative impact on ROI and EBIT. The following are the regression equations:  $ROI = 0.113 + 2.4e-6UVI - 1.024e-5DVI$ ; and  $EBIT = -208.687 + 0.246UVI - 0.157DVI$ , where ROI = Return on Investment, EBIT: Earnings Before Interest and Tax, UVI = Upstream Vertical Integration, DVI = Downstream Vertical Integration.

For more clarity, primary data were also used for the regression analysis. The R-values for upstream practices on ROI, upstream practices on EBIT, downstream practices on ROI, and downstream practices on EBIT are 0.701 and 0.697, 0.617, and 0.765 respectively. These outcomes are excellent statistical indication of the level of prediction. ANOVA results showed a statistically significant prediction of upstream on ROI, upstream on EBIT, downstream on ROI, and downstream on EBIT as  $F(1, 173) = 167.241$ ,  $F(1, 173) = 163.213$ ,  $F(1, 173) = 106.105$ , and  $F(1, 173) = 243.584$  with  $p < 0.05$ , respectively. The unstandardized coefficient, 'B1' for upstream and downstream practices on ROI is equal to 0.580 and 0.239, and EBIT is equivalent to 0.617 and 0.413, respectively. For every upstream and downstream effort, there is an increase in ROI of 0.580 and 0.239, and EBIT of 0.617 and 0.413. Overall, the results showed that upstream and downstream integration practices have a statistically significant positive impact on both ROI and EBIT.

The following are the regression equations:  $ROI = 1.786 + 0.580UVI - 0.239DVI$ ; and  $EBIT = -1.032 + 0.617UVI + 0.413DVI$

**Table 2. Test of hypotheses**

Research Hypotheses		P-Value	Conclusions
<b>H<sub>0</sub></b> : Upstream integration has no significant impact on financial performance in Olam Nigeria Limited.	<b>H<sub>0</sub> (a)</b> : Upstream integration has no significant impact on return on investment in Olam Nigeria Limited.	<b>Secondary data</b> : 0.461 >5%	H <sub>0(a)</sub> was supported.
		<b>Primary data</b> : 0.000 <5%	H <sub>0 (a)</sub> was not supported.
	<b>H<sub>0</sub> (b)</b> : Upstream integration has no significant impact on earnings before interest and tax in Olam Nigeria Limited.	<b>Secondary data</b> : 0.023 <5%	H <sub>0(b)</sub> was not supported.
		<b>Primary data</b> : 0.000 <5%	H <sub>0(b)</sub> was not supported.
<b>H<sub>0</sub></b> : Downstream integration has no significant impact on financial performance in Olam Nigeria Limited.	<b>H<sub>0</sub> (a)</b> : Downstream integration has no significant impact on return on investment in Olam Nigeria Limited.	<b>Secondary data</b> : 0.019 <5%	H <sub>0 (a)</sub> was not supported.
		<b>Primary data</b> : 0.000 <5%	H <sub>0 (a)</sub> was not supported.
	<b>H<sub>0</sub> (b)</b> : Downstream integration has no significant impact on earnings before interest and tax in Olam Nigeria Limited.	<b>Secondary data</b> : 0.106 >5%	H <sub>0(b)</sub> was supported.
		<b>Primary data</b> : 0.000 <5%	H <sub>0(b)</sub> was not supported.

## Discussion

The idea of embarking on vertical integration strategy is to expand its value chain, maximize profit, optimize resources, control the market, and gain competitive advantage. Generally, there are two significant aspects of vertical integration: upstream integration and downstream integration. Previous studies have shown that vertical integration is one of the firms' strategies to improve performance towards a competitive edge. Thus, this study focused on the impact of vertical integration on the financial performance of Olam Nigeria Limited. Specifically, the research aimed to ascertain the impact of upstream

integration on ROI, the impact of upstream integration on EBIT, the impact of downstream integration on ROI, as well as the impact of downstream integration on earnings EBIT in Olam Nigeria Limited.

The pre-test findings show that Olam Nigeria Limited engages in both the upstream and downstream integration practices. Broadly, the primary and secondary empirical evidence showed a positive impact of vertical integration components on financial performance measures. The broad findings from the primary data were consistent with the secondary data findings. However, the secondary data indicates that there is no significant impact of upstream integration on return on investment, and no significant impact of downstream integration on earnings before interest and tax. In support of the insignificance in the secondary data findings, Adelman (1955) found that a "high degree of VI is not always the most profitable." They suggest that organizations may profit more from backward strategy. Also, Buzzel (1983) found that ROI declines as firms increase raw and semi-finished materials production.

Additionally, it has been established that primary data is more reliable than secondary data because secondary data are challenging to verify. They can be exaggerated or manipulated before organizations make them available for public consumption (Schneeweiss, 2007; Hoffmann et al., 2008; Cole and Trinh, 2017; Squitieri and Chung, 2020).

Vertical integration is often a long-term, capital-intensive investment, and it may be challenging to get a good measure of the impact on performance using cross-sectional data of 9 years' period. Nevertheless, the findings from the primary data show uniformity, a positive impact of vertical integration (upstream and downstream) on financial performance (earnings before interest and tax and return on investment). Overall, it can be concluded that there is a significant positive impact of downstream and upstream integration practices on the financial performance (ROI and EBIT) of Olam Nigeria Limited. This finding is supported by previous empirical studies such as the study of Maroof et al. (2017), Gil and Warzynski (2009), and Forbes and Lederman, (2010).

### **Conclusion, implications, and limitations**

The study found that the vertical integration ensures the positive progression of its financial performance. Specifically, the results show a statistically significant impact of vertical integration investment and practices on earnings before interest and tax and the return on investment. The findings supported the assertion of (Dichev et al., 2012) that the organization's specific strategy can change the company's reported earnings. The study found that upstream vertical integration intervention boosts earnings and return on investment during the review period. The findings on descriptive analysis of the impact of the firm's production of raw materials on production cost, profit, and sales revenue is averagely 59%. Olam Nigeria Limited achieves success in their earnings and return on investment because of upstream integration practices. In addition, the downstream sector of Olam Nigeria Limited recorded a direct relationship with earnings and returned investment. The downstream integration enables an organization to contact customers through the distribution of finished products directly. The positive relationship could also result from the timely delivery of finished products through the combination of the wholesaling and retailing channels of distribution.

Theoretically, the study supports the transaction cost theory concerning vertical integration decision, and transaction cost theory involves a cost-benefit analysis to guide the decision. Practically, the study was carried out on an existing firm, and the study findings are an independent report and guide for the firm as it builds its operation. Academically, the study becomes an addition to the literature for future research in this area. The following recommendations are based on the study findings: Firms should consider vertical integration strategy when trying to be cost-effective in the long run. Firms should be guided by their objective, available resources, and cost-benefit when considering vertical integration action. The vertically integrated firm should embrace third parties' participation or partnership in pre- and post-production integration. These recommendations will help the firms, especially in an emerging market like Nigeria, meet market needs, go beyond their expectations, and improve their performance.

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