Vertical Integration and Economic Performance on Managerial Capability Framework

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Abstract

The study's goal was to gather empirical information on the effects of vertical integration on economic performance. Between 2010 and 2018, the secondary data was cross-sectional. The survey was given to 183 workers from various companies who were chosen by convenience and snowball sampling. The influence of vertical integration on financial performance was identified and evaluated using an econometrics model. The study used a quantitative measuring method and an explanatory research methodology. The main data was analyzed using version 20 of the Statistical Package for Social Sciences (SPSS) software, which employed frequency and percentage to characterize the original data. The secondary data analysis, on the other hand, was done with an econometric-view statistical program series 7. Furthermore, descriptive statistics, ordinary least squares regression to explain the independent variable's impact on the dependent variable, and unit root to check if the regression was spurious; and determining stationarity to test the null hypotheses were used to describe the secondary data. The outcomes of the study revealed that vertical integration components have a beneficial impact on managerial effectiveness. The researcher advises that any company pursuing vertical integration think about their current financial situation and the cost implications of the approach before committing to it because it is clearly capital expensive.

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INTRODUCTION

1.1 Background of the study

Managers are accountable for designing a plan to improve performance as a result of the global market. As a business's principal goal, this approach is frequently aimed toward financial achievement. As a result, managers must strategy carefully in order to achieve a progressive financial performance and get a competitive advantage in the industry. Many companies have used a vertical integration approach to increase overall performance, particularly financial performance, in order to address these difficulties (Zhang, 2013).

Andrew Carnegie pioneered vertical integration action in 1902 in order for his firm Carnegie Steel to dominate the steel industry by earning more money and dominating the market (Ashay & Ananda, 2001; Schmenner, 2009). In his meatpacking firm, Gustavus Franklin Swift Sr. followed suit and utilized this method (Chandler, 2009). Other companies eventually embraced the vertical integration approach as a corporate move to acquire a competitive advantage, decrease costs, and control the market, among other things, in order to achieve the firm's goal and achieve good performance outcomes.

Vertical Integration (VI) is the term used to describe a company that engages in an activity that would otherwise be performed by a third party (Hovenkamp, 2010). Vertical integration, according to Porter (1998), is the technical extension of production's primary activity within the same firm's structure. Vertical integration refers to a company's combined activities that aren't part of its core business but are related to the marketing chain (Ayinde, et al. 2017). Vertical integration, according to Williamson (1991), is a firm's final resort after all other choices have failed. Vertical integration has been identified as one of the most investigated business strategies, indicating its widespread applicability and relevance.

"Vertical integration strategy is often employed by firms seeking to increase economies of scale and efficiency," according to Harrigan (1985) and Hoskisson (1987). Vertical integration serves as a practical tool used by strategists to respond to supply and distribution challenges aimed at influencing performance. Unfortunately, this technique interacts with a variety of dynamic real-world difficulties, which may alter the desired performance expectation. Several academic experts' studies on vertical integration have sparked heated debates on the obstacles and advantages of this approach for businesses and customers, based on varied vertical integration and performance related results. Previous empirical studies on the influence of Vertical Integration (VI) on Performance (P) have produced a wide range of results, including co-variation, positive, negative, and non-significant outcomes.

The term "vertical integration strategy" refers to a notion that encompasses both internal and external integration (Harrigan, 1983, 1985; Prajogo, et al. 2012). Internal integration is concerned with the firm's internal operations, such as processes and functional responsibilities. External integration, on the other hand, is concerned with the firm's external operations, such as supplier/upstream and customer/downstream. However, as an independent variable, this study focuses solely on the upstream and downstream dimensions of external integration.

Performance is a multi-dimensional notion relating to action and consequence, according to Carton & Hofer (2010): Selden & Sowa (2004): Sonnentag & Frese (2005). Although the performance action is subjective and the performance outcome is objective, both performance dimensions are reliant on independent factors aiming at efficiency and effectiveness. The independent variable investigated in this study is a performance outcome dimension.

1.2 Statement of the problem

Vertical integration is a common corporate technique used by businesses to manage external elements and the value chain of their products in order to improve performance output. Vertical integration is a widely studied corporate approach that companies utilize to increase performance all around the world. Studies of vertical integration on performance in diverse industries across geographies have been conducted by Andreou, et al. (2015); Forbes & Lederman (2010); Maina & Kavale (2016); Lahiri & Narayanan (2013); Mamman, et al. (2013); Mose (2013), among others.

A examination of several of these research on the impact of vertical integration on performance revealed mixed results. Positive Gil & Warzynski (2009); Maroof, et al. (2017), negative Hamdaoui & Bouayad (2019); Pieri & Zaninotto (2013), non-significant Mamman, et al. (2013), and mixed results are among the findings (Andreou, et al. 2015; Forbes & Lederman 2010; Maina & Kavale 2016; Rothaermel, et al. 2006; Zhang 2013).

Although research on the influence of vertical integration on performance over time have been conducted, the ambiguity of findings across businesses and locations fuels continuous interest in this topic. To explore the influence of vertical integration on management performance in particular. The goal of the research was to find reliable solutions to this broad topic.

1.3 Conceptual framework

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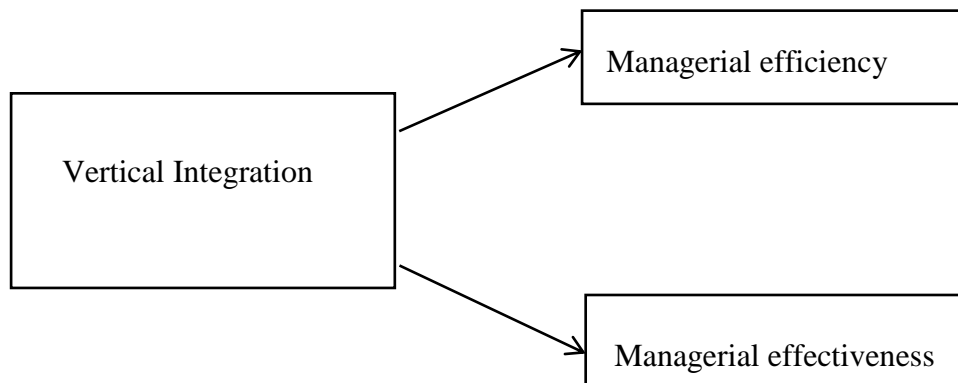
REVIEW OF RELATED LITERATURE

2.1 Vertical integration

According to Williamson (1986), vertical integration is the cost of arranging business transaction store duce the production process's over head cost. From the definition, the essence of vertical integration is to stabilize or minimize transaction costs incurred by economic agents to obey the contractual agreement with other parties. The nature of the sector, the pattern of goods manufactured, and the distribution channel will determine the quantum of the cost that vertically integrated companies will save. On the contrary, adopting vertical integration implies more investment, which leads to an increase in fixed cost, additional risk intake, and colossal operational costs. In essence, the effectiveness of vertical integration strategy depends entirely

on whether the inherent benefits of vertical integration surpass the additional cost of implementing the strategy.

Vertical integration involves establishing supply and distribution activities within the value chain. The value chain includes all the stages that transform raw materials into a finished product fit for consumption and activities related to pre-production, production, and post-production. A firm in the middle stream or second chain activity may source raw material from other firms and sell off to distributors. Sometimes, the middle stream firm may decide to expand its activities or operations to supply or distribution activities. A firm's advent towards the supply of raw materials is backward integration, making the firm a raw material supplier. In contrast, the action of a firm distributing its products is forward vertical integration.
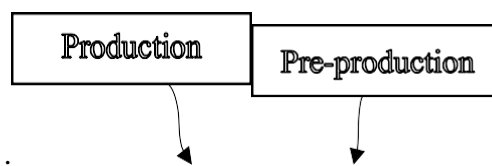

Generally, vertical integration provides various aspects through which organizations can achieve self-reliance in producing goods and services and the distribution of finished products. Vertical integration strategy is applicable for organizations with dual production stages: the upstream and the downstream (Perry, 1989). The author further explained that production output in the upstream stage serves as the input to that of the down-stream stage, and the requirement needed for the completion of the production process would be from the upstream stage. Flexibility in the production unit and distribution unit of vertically integrated companies serves as the bedrock of a vertica lintegration strategy (Coase,1937).Furthermore,technicaleconomiesofscalearethemotive for adopting vertical integration. More importantly, it is a cost advantage tool to broaden the scale of production. The reduction in inputs for organizations involved in the upstream process creates tremendous output in the downstream unit due to technical economies of scale.

Technical economies of scale occur due to the cost-effective benefit to firms and, as such, known as a sine qua non to vertical integration. Technical economies of scales how that there duction in fluencesthe down stream unit'sefficiencyin in puts cost. The challenges embedded in the distribution of finished products, particularly the issues regarding the use of agency for strategic purposes, are rectified through vertical integration. Based on this, it is arguable to generalize that vertical integration supports removing thea gency relationship in the distribution channel. Arrow (1975) argued that the role of vertical integration is not only to put a lasting solution to the agency problems but alsotorede sign the pattern of distribute on offini she dproducts. However,Crocker's (1983) assertion was somewhat different in that the vertical integration strategy does not nullify the agency relationship; instead, it in volves in ternalin formation provided by aninternalauditor. Vertical in tegration can in deedbe applied to control price fluctuations' adverse effects by ensuring productsynchronizationinthetwo units (upstream and downstream) and optimizing the distribution of finished products(Perry, 1982).

AccordingtoMaina&Kavale (2016),agri-business encompasses extraction, production, storage, distribution, and processing of Agric-based products in the supply of production inputs and the provision of services, such as extension and research. How ever, vertical integration is crucial to enhance the agricultural in dustry'scompetitive level by focusing on adequate market supply with high demand. Theprimary aspect of vertical integration is that it creates value addition to its

value chain (Badinger & Egger, 2008). Equally, vertical lyintegrated transaction cost sarem in imal and suitable for firms with limited economies.

Fig2.3:Verticalintegrationmulti-dimensionstructure
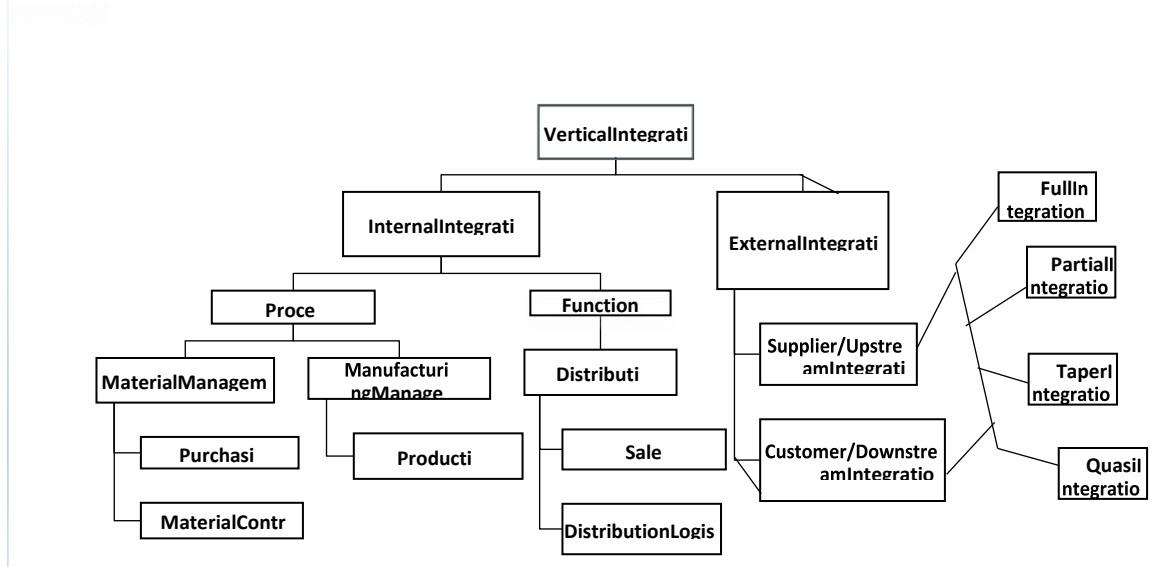
Vertical integration is a multidimensional concept categorized majorly across two constructs; internal and external integration (Zhao *et al.* 2011; Stank *et al.*, 2001;Harrigan, 1985). The figure above is the author's illustration of vertical integration dimensions from literature. From the above figure, it is evident that financial performan ceisbroad and need stofocus on am etricmeasureo finterest givenits multiple dim ensions. Hence, the study focused on upstream and down stream in tegrationas the in dependent variable.

Fig2.4:Verticalintegrationcomponents
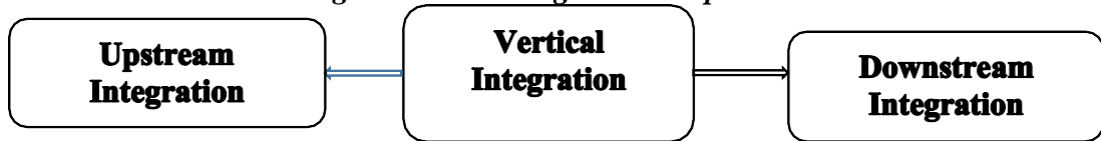
1. Upstreamanddownstreamintegration

For scholars in strategic management, vertical in tegration is when organization sestablish and control it supstream (backward) and down stream (forward) activities.

Upstream vertical integration involves controlling raw materials needed to process finished products, which otherwise would have been supplied by in dependent contract or so rexternal producers (Liu,2016). Afirms'expansion to up streamintegrati on ensures availability in the supply of its raw materials in a cost-effectivemanner (Loertscher & Riordan, 2019). Upstream integration relates to the inputs'designforloweringproductioncostsbyallowingorganizationstosupplytheirprimaryresources. It provides the courage for organizations to diversify their resources to producer aw material sorcontrol the quantum of material spurchased (Perry,1982).Byimplication, the upstream integration strategy ensures a constant supply of resourcesand become more proactive and efficient in their production process. In essence,upstream integration serves two purposes;

boosting the firms' input and minimizing transaction costs. By a dopting up stream integration, organizations can efficiently manage their value chain and strategically reduce the costs along the supply chain(Nicovichet al., 2007).

Downward vertical integration allows firms to reposition their distribution strategy byensuring prompt delivery of finished products towards their consumers (Wheelen &Hunger, 2011). Put merely, downstream integration provides firms with the liberty toown and control distribution channels that deliver finished products to consumers(Scherer & Ross, 1990). However, organizations towards implementing downstreamintegration expect to enhance overall performance by ensuring an increase in thedemand for finished goods. Furthermore, downstream integration helps organizations distinguish their products from that of competitors, allow easyaccess to the distribution channel and providean accurate demand for its products (Porter,2008). More importantly, the rate at which an organization would achieve performance dependsentirelyonthepatternofcommunication,theuseoftechnicalinformation,andefficiencyinthed ecision-makingprocess(Paulraj*etal.*2008).Downstreamintegration arises from the move organizations made towards ensuring users'satisfaction in the distribution stage by gaining absolute control in distributingof finished goods and services to the target markets or providing its outlets toensure seamless sale transactions. Again, acquiring the whole or portion of the control of marketing channels or in terme diaries is of tenregarded as down stream integration(Jobber, 2006).

2.   Empiricalreview

According to Monteverde &Teece (1982), vertical integration occurred when competitive advantage, including production, technology, among others, is entirely in possession of aparticular organization. For instance, aproducer wouldconsider vertical integration if the cost of relying on a supplier would affect the business turnover orexposesthebusinesstoopportunisticre-contracting. Equally, Langlois & Robertson (1989) stated that discouraging holdup and supply interruptions necessitated vertical integration among organizations. Historically, Powell (1990) asserted that the strategy of vertical integration is of ten employed by firms that int end to enjoy benefits   in   herentin   the strategyandmitigatingconstraintsassociatedwithsupplyingfirms,ChandlerJr.(1977) examined the evolution of vertical integration. The author stated that for an organization to adoptmodern technology, ensur emass production,and establishd is tribution efficiency, vertical integration is essential. French (1989) argued that organizations ventured into vertical integration to control raw materials, provide massmarketing, and ensure internal production efficiency. Williamson (1975) concludedthat the rationale for adopting vertical integration was not only to cater to uncertainty in the contract butalso improved decision making.

Bain (1956); (1959) explained that vertical integration involves different activities along a value chain and establish market control. Grossman & Hart (1986) stated thatthe control and ownership of tangible resources provide room for vertical integration. Harrigan (1986) similarly relates vertical integration with the requirements needed to actualize the upstream and the downstream business units. Perry (1989) describedintegrated companies as the combination of the dual production process. The authorfurther explained that the upstream process is a whole or part of the input needed tosurvive the downstream unit. Riordan (1990) explained vertical integration as "the organization of two success ivestages of production by asinglefirm."Harrigan(2009)stated that vertical integration should be from two perspectives: internal benefits and costs, and effects on competitive epostures.The author

further explained that in ternal benefits affect profitability as the strategy. Simultaneously, strength in competitive posture enables firms to be more responsive to changes in market needs and lessvulnerableto competitors'maneuvers. Christopher (2011) asserted that vertical in tegration typically implies the absolute control of inputs suppliers and the organization's distribution channels, particularly with a vertically integrated supplychain. Stuckey & White (1993) concurred that it is adopted by organizations to ensure stability in the irvaluecha in.Vertical in tegration can be motivated by reducing transaction costs, improving incentives, and limiting the holdup problem between upstream and downstream firms, especially when it is difficult to contract (Jacobides& Winter, 2005; Williamson, 1975; 1985). Jacobides & Winter (2005) argued that vertical integration is the quest to lower transaction costs and enlarge its company'scapacity.

Erasmus (2008) defined financial performance easa way of monetizing anorganization's operations and policies solely to highlight a given firm's financialstrengths and weaknesses. Qi *et al.* (2014) explained the financial performance as theoverall operating performance realized during a specific period, usually a year. The author further explained that business growth, profitability, and asset quality are yardstickine valuatinga firm's financial performance. In thesamevein, Zhang (2010) defined financial performance as the financial results measured with a financial ratio analysis to ol for anestimated period. According to Zhang (2007), financial performance displays acompany'sfinancial position to ensur edecision-makingefficiency.(Bititci*etal.*2000),assertedthatinevaluatingthefinancialperformanceofafirm,rele vantdatafromtheorganizations'financialstatementsandothermaterialstodetermine,compareandanal yzethecompany'sfinancialstatusintermsofprofitability,and operating conditions, among others. Horne and Wachowicz Jr. (2008) further asserted that the suitable pattern of evaluating a firm's financial standing is to embarkon "checkups" through the use of financial ratio analysis. (Kloptchenko *et al*. 1998),supports Johnand James'sargument by adopting seven financial ratiosin evaluating firm'sfinancial performance.

The ratios include operating margin, return on total assets, return on equity, currentratio,shareholders'equityratio,interestcoverageratio,andaccountsreceivableturnover ratio. Additionally, Liu (2010) examined China's top 10 steel industry firms' financial performance listed on Shanghaiand Shenzhen stock using financial ratios and further employed regression and factor analysis to analyze data pertinent to research questions. The author found a significant link between financial ratios and financialperformance. Mcquire *et al.* (1988) adopted market return ratios and accounting ratiosin analyzing the firm's financial performance. The authors explained variables attached to market return ratios, including the total market return and risk-adjusted marke treturn. In contrast, accounting ratios variable sentailsales growth, asset growth, operating profit growth,and to talassets.

Sikuka (2010)studied the financial performance of companies involved in the integration business model. The authorfound 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.

Katchova &Enlow (2013) compared the financial performance of agri-businessesasagainst non-agribusinesses for fifty years using financial ratio analysis and balancesheet/ in come statement items.The authors discovered that the agri-businesses' performance outweigh some other firms' profitability ,liquidity, and market ratios. Iyakaremye (2015) assessed the financial

performance of agricultural companies in the Nairobi Security Exchange. The author employed returnon assets, return one quit yandretur non sales for analyzing financial performance. Financial ratios are the appropriate eparameters in determining the financial performance of a firm. Stigler (1951) explained that vertically integrated companies'likelihood of triumph is high because of the small input demand for the production process. Jensenand Meckling (1976) highlighted the need for internal expansion of anorganization. Thea uthors further explained that the need to meetshareholder' sexpectati on sis of ten the company'spriority. D'Aveni& Ravencraft (1994) discoveredthe benefits associated with the use of a vertical integration strategy. The authors explained that reducing the general costs and reducing research and development expend ituresmakeverticalintegrationa whole someidea. Randall*etal*. (1990) pointedout that vertically integrated firms realized devastating outcomes in their financialreports,affecting their financial performance

3.0 Methodology

The study comprises of two selected business in Imo state. These organizations are selected based on their level of adoption of vertical integration. The study made use of survey method of research design. This gave the respondents equal chances of being selected. The questionnaire was the major instrument used to generate data and the questionnaires were distributed to the staff of the various organization.

Appropriate use of statistical tables and percentages were used in the presentation of data from the questionnaire distributed. The statistical techniques that were used for data analysis is Analysis of Variance (ANOVA) and 20.0 version of statistical package for social sciences (SPSS) respectively. The ANOVA was used to analyze two hypotheses.

4.0 RESULT

4.1 Hypothesis One

S/N	OPTIONS				
	SA	A	U	D	SD
1.	69	56	4	16	10
2.	55	42	9	25	24
3.	63	54	10	21	9
4.	70	67	5	7	4
5.	65	62	6	16	6

Ho: vertical integration has no effect on managerial efficiency.

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Oneway

Notes

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Descriptive
VAR00001

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
1.00	5	64.4000	5.98331	2.67582	56.9707	71.8293	55.00	70.00
2.00	5	56.2000	9.44458	4.22374	44.4730	67.9270	42.00	67.00
3.00	5	6.8000	2.58844	1.15758	3.5860	10.0140	4.00	10.00
4.00	5	17.0000	6.74537	3.01662	8.6245	25.3755	7.00	25.00
5.00	5	10.6000	7.86130	3.51568	.8389	20.3611	4.00	24.00
Total	25	31.0000	25.57505	5.11501	20.4431	41.5569	4.00	70.00

ANOVA
VAR00001

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	14742.000	4	3685.500	77.103	.000
Within Groups	956.000	20	47.800		
Total	15698.000	24			

Decision

From the SPSS output, the p-value is 0.000, which is less than the level of significance (0.05), therefore we reject the null hypothesis and conclude that vertical integration has effect on managerial efficiency.

4.2   Hypotheses Two

Ho: vertical integration has no effect on managerial effectiveness.

	OPTIONS				
	SA	**A**	**U**	**D**	**SD**
6	54	43	15	17	26
7	48	40	15	32	20
8	40	32	10	37	36
9	40	38	10	37	30
10	40	49	6	30	30

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Oneway

Notes

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Descriptive

VAR00001

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
1.00	5	44.4000	6.38749	2.85657	36.4689	52.3311	40.00	54.00
2.00	5	40.4000	6.26897	2.80357	32.6160	48.1840	32.00	49.00
3.00	5	11.2000	3.83406	1.71464	6.4394	15.9606	6.00	15.00
4.00	5	30.6000	8.20366	3.66879	20.4138	40.7862	17.00	37.00
5.00	5	28.4000	5.89915	2.63818	21.0752	35.7248	20.00	36.00
Total	25	31.0000	13.10534	2.62107	25.5904	36.4096	6.00	54.00

ANOVA

VAR00001

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	3334.400	4	833.600	21.168	.000
Within Groups	787.600	20	39.380		
Total	4122.000	24			

Decision

From the SPSS output, the p-value is 0.000, which is less than the level of significance (0.05), therefore we reject the null hypothesis and conclude that vertical integration has no effect on managerial effectiveness

5.0 Conclusion

From the findings the researcher makes the following conclusions;

1. Vertical integration has effect on managerial efficiency

2. Vertical integration has effect on managerial effectiveness.

6.0   Recommendation

Company pursuing vertical integration thinks about their current financial situation and the cost implications of the approach before committing to it because it is clearly capital expensive.

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