

Influence of Risk Identification and Sales Performance: A Survey of Quoted Petroleum Marketing Firms in Nigeria

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Abstract

The study evaluated the effect of risk identification and sales performance of petroleum marketing firms in the Nigerian oil and gas industry. The purpose of the study was to determine the nexus between risk identification and sales performance. The study proposed a risk identification as the predictor variable while sales performance as the criterion variable with profit and sales turnover as measures of sales performance. The descriptive research design was adopted for the study while the Pearson product moment correlation coefficient was used to test the hypotheses. The study showed that risk identification has a significant and positive effect on both profit and sales turnover. The study recommends that Petroleum marketing firms create a team dedicated to monitoring the supply chains of the firms with the aim of identifying, assessing and the inherent risk that may occur, also that petroleum marketing firms analyze the identified risk and ensure that they deploy a strategy that best suit the peculiar situation of risk identified

Introduction

Scholars have noted that in the downstream sector of the petroleum industry in Nigeria the primarily concerned is the processing of crude oil, how the processed crude oil is distributed and sold. What this implies is that the downstream sector of the oil industry is in the business of importing and freight, transportation, treating, filtering and loading, dispensing, selling and retailing, of crude oil, gasoline, diesel, liquefied petroleum gas, kerosene, and several other petroleum products' (Baghedo and Niyekpemi 2015). The objective of risk identification among the supply chain is the early and continuous identification of events that, if they occur, will have negative impacts on the company's ability to achieve performance or capability outcome goals; these risks may come from within the company or from external sources (David, Patrick & Kennedy 2015). The identification of risks in a supply chain is as important as the knowledge about the impact of risk management effort on different levels of a supply chain (Zuber, Pfohl & Ulrich 2011).

Purpose of the Study

The main purpose of this study is to examine the influence of risk identification on sales performance. Other objectives include

1. To determine the relationship between risk identification and sales turnover
2. To assess the relationship between risk identification and profit

Research question

1. How does risk identification affect sales turn over?
2. To what extent does risk identification affect profit?

Research Hypotheses

H₀₁: There is no significant relationship between risk identification and sales turnover

H₀₂: There is no significant relationship between risk identification and profit

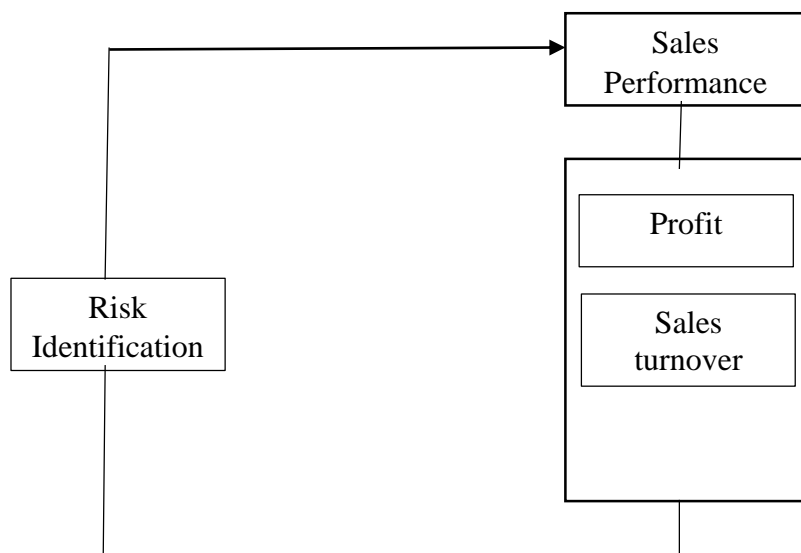


Fig 1.1: Conceptual framework for risk identification and sales performance
Source: Researcher's conceptualization

Literature Review

Theoretical framework

Agency Theory

According to, Mutuku, (2014) “agency theory can be used to extended the analysis of an organization to show the separation of ownership, control and the motivation of management”. Earlier scholars have reported that the agency theory's primary focus is on the study of challenges that does arise if a member usually called the ‘principal’ gives work to another member called the ‘agent’ (Eisenhardt, 1989; Laser & Kerr 1996). Zsidisin & Ellram (2003), Agency issues “have been seen to be influential in shaping management attitude towards risk taking and risk prevention”. It has been agreed that the agency theory highlights the seemingly disparity of interest between shareholders, management and debt holders due to unevenness in earning and distribution (Mutuku, 2014). Consequently, agency theory means that a defined risk prevention policy can have important influence on an organizations value (Fite and Pfliedere, 2010). Agency theory provides strong support for preventing risk as a response to the mismatch between managerial incentives and shareholders (Mutuku, 2014).

Risk Identification

Risk identification has been described as “the processes by which potential risk sources that may affect the sales performance of the organization are identified” (Berle et al 2013; Cagiano et al 2012; Wu, et al 2010; Fang, et al 2013; Lin and Zhou 2011; Lockamy, 2011; Punniyanmoorth et al 2013; Sachdeva et al 2012; Shama and Bhat 2014; Wilding et al 2012; Xie et al 2011; Zamora, Adarme & Palacios 2012). An earlier scholar (Macintosh 2002) as cited by David et al (2015) also alluded to the fact that identifying risk early is an initiative that firms must of necessity engage on periodic bases in order to achieve the most favourable returns for their shareholders, and other stakeholders. Scholars contend that the most critical aspect of ‘supply chain risk management’ is the risk identification process. This they claim allows the firms to identify the vulnerability that may be found from the inside and from the outside of supply chain (Breuer, and Bell 2012; Colin, Pfohl, Gallus & Thomas 2011; Sachdeva et al 2012; Wilding et al 2012). Meanwhile, (Garvin and levesque 2006) as cited by Sodhi and Tang (2012), are of the view that risk identification for researchers within the supply chain management field made use of terms such as ‘uncertainty and risk interchangeably.

Meanwhile, Lin & Zhou (2011) have outlined several sources of internal risk, which include research and development risk, production risk, planning risk, supply risk and delivery risk, production risk, planning risk and information risk. While, Lockamy (2011) highlighted external risk sources to include policy risk, supply risk and delivery risk respectively. It has been said that without identifying risk it will be difficult to develop the appropriate mitigation strategies to reduce the risk (Dash Wu et al 2010; Lin & Zhou 2011; Punniyamoorthy et al 2013). Since supply chains are complex it requires certain tools and techniques to be able to identify the inherent risk. The methods experts recommend include locating the risk, assessing the possible damage to the firm as well as its partners and the impact on the supply chain altogether (Lavastre, Gunaekaran & Spalanzani 2012)

Sales Performance

There appears to be a consensus in the general perception of that sales performance very crucial to all organization in spite of the industry. Meanwhile, the terms seem to possess a variation of meaning to different industrial setting, depending on their objectives. Maduenyi, oke, Fadeyi & Ajagbe, (2015) described sales performance as the measure of the state of an organization, or the outcomes that results from management decision and the execution of those decisions by the employees to meet sales target. Salleh and Kamaruddin, (2011) described sales performance “as the quality and quantity of sales closed in a specific time period”. Meanwhile, Greenberg (2011) posits that sales performance is “a set of financial and non-financial indicators which offer information on the degree of achievement of the objectives and result desired by a firm particularly sales target”. Experts have argued that sales performance could also be described as the ability to achieve organizational goals and objectives. Also, Ahmad et al., (2012), described sales performance in terms of the ability of “any company that sells products to customers using various form of sales performance measurement to evaluate an employee's quality of work and help pinpoint development areas”

Measures of Sales Performance

Different measures have been adopted by scholars in determining sales performance. these include profit, return on asset(ROA), gross profit, sales turnover, Return on investment(ROI), sales growth, export growth, revenue growth, market share, stock price (Maduenyi et al 2015). They argue that none of the individual sales performance determinant can fully clarify all areas of the construct. Other scholars submitted divergent measurement for sales performance they used quantitative data such as return on investment, return on sales etc. however sales performance also include both effectiveness related measures such as business employee satisfaction and growth and efficiency these can reveal the input/output relationship of the firm. For firms to create value via profit maximization, and/or from offering services, companies know that the efficient and effective use of the finances of the organization will ensure that they are able to meet their financial obligations. However, in this study we propose profit and sales turnover as our measures for sales performance.

Profit

Many scholars say that that profit is one of the four cardinal metrics used in the analysis of the sales performance of an organization. An analysis of the health of an organization is clearly seen in her profit ratio as compared to other previous years. Some scholars have measured profit via is “earnings before interest and taxes (EBIT) divided by sales, this measure scholar argue, is very pertinent for managers of business since, there might not be any sort of influenced resulting from low asset base which is prevalent factor in the service sector” (Kiviluoto,2011; Wennberg, Hellerstedt, Wildund, & Nordqvist 2011). Other have measured profit with an

income statement. This they believe will show the true position of the firm. Thus, they list the revenue and expenditures for the period that is normally one calendar year for the organization. So decision tools such as ‘income statement-short form becomes useful in the calculation of the income statement analysis. The income statement analysis, according to experts is the traditional parameter to gauge the profitability of any business for the last accounting period.

Sales Turnover

Experts have described sales turnover as the total amount of revenue generated by an organization during the calculation period. The concept is known to be relevant for tracking sales levels on a trend line via several measurement periods, in order to spot meaningful changes in the activity level. The calculation period is usually for one year. According Lazzari, (2018), “sales turnover is used to calculate the time in which an entire load of inventory is sold through”. This implies that as the firms makes more sales it has higher the sales turnover rate. The fundamental method for calculating “sales turnover” is in relation to the inventory of the firm. In order word it is from what has already been bought as sales are made we are able to detect and calculate sales turn over against the purchased inventory. Calculating sales turnover is said to be essential in the sense that when management are aware of the sales turnover they are able to managed the inventory and order processes to ensure that the organization has a steady flow of product. Also knowing the sales turn over ensure that the product us not over ordered (Lazzarri 2018). In addition, tracking sales turnover enables the organization to predict common revenue and returns in the business. It allows for the trend in sales trajectory to be monitored.

Data Presentation

Reliability

To measure reliability of the scale, inter-item consistency reliability test is used. It is a test of consistency of responses to all the items in a measure (Sekaran and Bougie, 2010). The most popular test of inter-item consistency reliability is Cronbach’s coefficient alpha (Cronbach, 1946). Nunnally (1978) has given the guideline for analyzing Cronbach’s alpha. The guideline says that alpha between 0.5 to 0.6 for exploratory research can be considered.

The Cronbach’s alpha for the dimensions are above the .7 which is the statutory recommendation.

Name of item	Number of item	Cronbach’s alpha(α)
Risk identification	5	.998
Profit	5	.998
Sales turnover	5	.997

Table 4.1 Pearson Correlation analysis depicting the association between risk identification and profit

Variables 1	Statistics	Risk identification	profit
Risk identification	Pearson's	1.000	533*
	Correlation		
	Sig(2-tailed)		.001
	N	33	33
Profit	Pearson's		
	Correlation	533*	1.000
	Sig(2-tailed)	.000	

^{xx} correlation is significant at 0.01 level (2-tailed).

H0₂: There is no significant association between risk identification and profit

Table 4.1, reveals the Pearson's correlation analysis by deploying the statistical package for social science (SPSS) version 22.0. The attendant *p*-value of the association between risk identification (antecedent of supply chain risk management), and profit (antecedent of sales performance) was discovered to be significant (where $p=0.000$), which, is less than the 0.05. The Pearson's *r* is estimated at $-.539^x$ thus, we therefore, reject the null hypothesis and we accept the alternative hypothesis. The Pearson's *r* estimated of $.533^{xx}$ indicates that a strong association exist between risk identification and profit amongst the petroleum marketing firms. The negative sign of the correlation coefficient indicates that the construct risk identification and profit are indirect/negative or inverse associated implying that an increase in risk identification practices does not necessarily imply an increase in profit for the firms. The association is an indirect one in the sense that even if the firm is able to properly identify the prevailing risk some risk, the firm may really not have the capacity to prevent the risk from occurring but can only lessen the impact of the risk after it has occurred.

Table 4.2 Pearson correlation analysis depicting the association between risk identification and sales turnover

Variables 1	Statistics	Risk identification	Sales turnover
Risk identification	Pearson's	1.000	348*
	Correlation		
	Sig(2-tailed)		.000
	N	33	33
Sales turnover	Pearson's		
	Correlation	348*	1.000
	Sig(2-tailed)	.000	

^{xx} correlation is significant at 0.01 level (2-tailed).

H0₃: There is no significant association between risk identification and sales turnover

Table 4.2, indicates the Pearson's correlation analysis by deploying the statistical package for social science (SPSS) version 22.0. The attendant *p*-value of the association between risk identification (antecedent of supply chain risk management), and sales turnover (antecedent of sales performance) was discovered to be significant The Pearson's *r* is estimated at $.348$; We therefore reject the null hypothesis indicating that risk identification does have a significant

association of sales turnover in the petroleum marketing firms in Nigeria. The Pearson's r estimated of .348^{xx} shows that a moderate association between risk identification and sales turnover. The positive sign of the correlation coefficient implies that the construct risk identification and sales turnover are directly associated implying that an increase in risk identification practices would be accompanied by an increase in the sales turnover for the firms.

Findings and Discussion

Risk Identification and Profit

As we mentioned before now "risk identification fundamentally is the process firms employ to detect on time the potential risk that could hinder the operational effectiveness of their supply chains our first hypothesis sought to determine the nexus between risk identification and profit. The hypothesis was stated in the null, the calculation from table 4.1 which was used to test hypothesis 1 (H_{01}) shows that the attendant p -value of the test consistent to risk identification (RI) is 0.000 which is less than 0.01, implying that there is a significant association between risk identification and profit. Also, we observe a substantial association between risk identification and profit (a measure of sales performance). The Pearson's correlation was found to be significant with an r estimate of -.533, which, indicates that there is a significant but moderate association between risk identification and profit. Consequently, we can conclude that there is a substantial link between risk identification and profit. We therefore, reject the null hypothesis and accept the alternative hypothesis. This position, is consistent with previous study such as Kern et al (2012) their study revealed that risk identification is must for firm because it affords firms the opportunity to keep tabs on their supply chain with a view of identifying associated risk. Meanwhile, Simba et al (2017) asserts that grocery manufacturers in South Africa are also prioritizing and evaluating their supply chains to identify risks along the supply chain the study provides credence to our finding that indeed risk identification has a significant association with profit (antecedent of sales performance).

Risk Identification and Sales turnover

Scholars like (Curvic et al 2013; Jung et al 2014) have argued that "when we consider how crucial the health of the supplies is to the success of the firms, the monitoring process afford the organization the ability to identify new risks within the firm and its partners". Which, according to (Saghafian and Van Oyen; Xie et al 2011) can be "considered to be the best course of action for risk monitoring process and in other to identify new risk". Our second hypothesis sought to evaluate the association between risk identification and sales performance. The calculation from table 4.18 that we deployed to test hypothesis 2 (H_{02}) we see a significant connection between risk mitigation (an antecedent of supply chain risk management) and sales turnover (one of the measure of sales performance). The Pearson's correlation was found to be significant with an r estimate of -.340, which indicates that there is a significant but weak association between risk identification and sales turnover. Therefore, we can conclude that there is substantial connection between risk identification and sales turnover. Therefore, we reject the null hypothesis and accept the alternative hypothesis. The position of this study is consistent with the views and findings of Zhao, Huo, Sun and Zhao (2013) conducted a study on "the impact of supply chain risk on supply chain integration and company performance: A global investigation evaluated, the study is based on the high performance manufacturing project database collected from 317 manufacturing plants in 10 countries and three representative industries (machinery, electronics and transportation component)". The study revealed that supply chain risk has a negative influence on organization's performance, therefore, it becomes pertinent to assess risk along the supply chain in order to forestall disruption that could hamper sales.

Conclusion

The cardinal aim of this study is to evaluate the association between risk identification process and sales performance of petroleum marketing firms in Nigeria. In an attempt to achieve this objective, we operationalized risk identification as the predictor variable. While, we used profit and sales turnover as measures of sales performance we tested two hypotheses. The following are the conclusions drawn from the result of our empirical analysis:

- a. That risk identification can positively and significantly affect profit (a measure of sales performance) of petroleum marketing firms. This implies that risk identification by organizations on its supply chains; which is the early detection of the potential risk could mean a huge difference between loss and competitive edge for the firm which is a fall out of profit maximization.
- b. That risk identification has a positive and significant effect on sales turnover (a measure of sales performance) in the petroleum marketing firm. The implication is that identifying risk in the supply chain is an important component in the management of supply chain risk because when supply chain fails it has been established that the firms suffer huge loss and sales turnover is affected negatively.

The study provide impetus for organizations to take seriously the issue of risk identification along their supply chain adequately manage their supply chain with a view to identify the associated risk.

Recommendations

In view of the findings as well as the conclusions of this study, the researcher would therefore recommend that the management of these firm adopt the relevant practices in the identification of risk along their supply chain. As this allow the firm to screen and evaluate the inherent risk associated with their supply chains as we have shown from our study that from the hypothesis we saw a significant association between risk identification and profit maximization a measure of sales performance. Thus, we recommend that:

1. Petroleum marketing firms create a team dedicated to monitoring the supply chains of the firms with the aim of identifying, assessing and the inherent risk that may occur.
2. Petroleum marketing firms analyze the identified risk and ensure that they deploy a strategy that best suit the peculiar situation of risk identified

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