

Distributional Strategies and Marketing Effectiveness of Petroleum Marketing Firms in Rivers State, Nigeria

Dr. Nwachukwu, Darlington¹

Ignatius Ajuru University of Education, Port Harcourt
darlington.nwachukwu@iaue.edu.ng

Dr. Tumba, Monday²

Ignatius Ajuru University of Education, Port Harcourt
mondaytumba710@gmail.com

Abstract: *The petroleum marketing industry in Rivers State, Nigeria is grappling with the challenge of poor marketing effectiveness, leading to frequent shortages and frustrated consumers. This study explores the impact of distributional strategies on the marketing effectiveness of petroleum marketing firms in Port Harcourt. Specifically, it examines the influence of distribution networks and modes of transportation on sales revenue. The study adopts a cross-sectional survey research design, with a population of ten identified petroleum marketing firms in Port Harcourt. The entire population is sampled using a census sampling technique, resulting in a total of 46 usable responses. Data analysis is conducted using the Spearman's Rank Order Correlation coefficient in SPSS version 26.0. The findings reveal a very strong positive relationship between distribution networks and sales revenue, as well as a strong positive relationship between modes of transportation and sales revenue. These results emphasize the importance of establishing robust distribution networks and selecting suitable transportation modes to enhance marketing effectiveness. The study concludes that optimizing distribution strategies can significantly improve sales revenue for petroleum marketing firms. Recommendations include enhancing distribution networks, optimizing transportation modes, continuous monitoring and evaluation, fostering collaboration and partnerships, and promoting research and innovation. Implementing these recommendations can help firms achieve higher sales revenue, improved customer satisfaction, and sustainable growth in the competitive market. This study offers valuable insights to the petroleum marketing industry in Rivers State, providing a foundation for enhancing marketing effectiveness through effective distributional strategies.*

Keywords: *Petroleum marketing firms, Marketing effectiveness, Distributional strategies, Distribution networks, Modes of transportation, Sales revenue.*

1.1 Introduction

Nigeria is the largest producer of crude oil in Africa and the sixth-largest producer in the world (Kamer, 2023). The petroleum industry is one of the major contributors to the Nigerian economy, accounting for over 90% of the country's export earnings and about 80% of government revenue (Ekeghe, 2023). The downstream sector of the petroleum industry, which involves the marketing and distribution of refined products, is a critical part of the Nigerian economy. However, the industry faces several challenges, including inadequate infrastructure, low investment in storage facilities, and a weak distribution network (Ode et al., 2019). These have affected the marketing

efficiencies of the firms under this industry, and for them to really boost their marketing effectiveness, they need to connect to distributional strategies.

The distribution strategy of petroleum marketing firms is crucial to their success in the Nigerian market. A robust distribution network ensures that products are available to consumers when and where they are needed. However, the effectiveness of the distribution strategy depends on the mode of transportation used to move the products from the depots to the retail outlets (Lalush, 2023). Tankers, pipelines, and trucks are the primary modes of transportation used in the Nigerian petroleum industry. Each mode has its advantages and disadvantages, and the choice of mode of transportation affects the cost and efficiency of the distribution network (Rodrigue, 2020).

According to Bureau of Public Enterprises (2018), the Nigerian petroleum industry is characterized by a complex distribution network, which includes depots, tank farms, and retail outlets. The distribution network also involves the transportation of products from the depots and tank farms to the retail outlets using various modes of transportation such as pipelines, tankers, and trucks. However, the effectiveness of the distribution network and mode of transportation used by petroleum marketing firms in Nigeria is yet to be fully explored (Ehinomen & Adeleke, 2012).

Therefore, this study seeks to examine the impact of distributional strategies on the marketing effectiveness of petroleum marketing firms in Port Harcourt. The study used distribution network and mode of transportation as dimensions of the independent study, and sales revenue, market share, and return on investment as measures of the dependent variable.

Although several studies have been conducted on distribution strategy and marketing performance. For instance, Uche et al. (2022) investigated the effect of distribution channel strategies on the performance of banks. The study adopted a descriptive survey research design. The population of the study was 43 management staff of five commercial banks operating in Nigeria. The data was analyzed and presented using percentages, mean and standard deviation. The study found that the adopted distribution channel strategies have a significant effect on the performance of the banks.

The study by Karanja et al. (2015) sought to determine the effect of distribution strategy on the performance of MSP intermediary organizations. The study employed a descripto-explanatory cross-sectional survey research design and collected primary data from 219 respondents from a target population of 397. The study established that choice of distribution strategy contributed significantly to MSP intermediary organizations performance.

Lastly, Adimo (2017) investigated the relationship between differentiation strategy and performance of Sameer Africa Ltd located in Nairobi, Kenya. The study employed a correlational research design. The study targeted 112 employees of Sameer Africa (K) Limited comprising of senior management, HODs and junior staff and 90 dealers based in Nairobi. A sample of 134 respondents was selected by use of stratified and simple random sampling techniques. Primary data was collected through self-administered questionnaires. The quantitative data was analyzed using descriptive statistics in the form of tables and inferential statistics in the form of Pearson

correlation and regression analysis with significance level of 0.05 to test the hypothesis. From the findings of the study, majority of the respondents believed that Sameer Africa (K) Ltd could achieve competitive advantage through channel differentiation.

Of all these studies, there tend to exist scarce empirical research work on the impact of distributional strategies on the marketing effectiveness of petroleum marketing firms within the context of Rivers State in Nigeria using two dimensions for distributional strategies (distribution network and mode of transport) as against one measure of marketing effectiveness (sales revenue) in the petroleum marketers firm, hence our point of departure. This creates a gap which this study will fill after being conducted since it will contain the described variables and will be conducted in the said geographical area.

1.2 Statement of the Problem

The petroleum marketing industry in Rivers state, Nigeria is facing a major challenge of poor marketing effectiveness. Despite the enormous demand for petroleum products in the region, petroleum marketers are struggling to effectively distribute their products and maximize profits. This has resulted in frequent shortages, long queues at petrol stations, and a general sense of frustration among consumers. The lack of a well-coordinated distribution network and reliable transportation system are major factors contributing to the problem. Additionally, inadequate infrastructure, poor management practices, and lack of access to funding also hinder the marketing effectiveness of petroleum marketers in Port Harcourt.

To improve the marketing effectiveness of petroleum marketers in Rivers State, it is imperative to develop and implement effective distribution strategies. This includes establishing a well-coordinated distribution network that ensures reliable and timely delivery of petroleum products to all parts of the region. A better mode of transportation such as pipelines and trucking to ensure that products are delivered efficiently and cost-effectively. Hence this paper empirically examined how distributional strategies such as distribution network and mode of transportation can help influence the marketing effectiveness of petroleum marketing firms in Port Harcourt, Rivers State.

1.3 Purpose of the Study

The main purpose of the study was to examine the effect of distributional strategies on marketing effectiveness of petroleum marketing firms in Rivers State. The specific objectives of the study include:

1. Examine the influence of distribution network on marketing effectiveness of petroleum marketing firms in Port Harcourt.
2. Investigate the effect of mode of transportation on marketing effectiveness of petroleum marketing firms in Port Harcourt.

1.4 Research Questions

The following research questions guided the study:

1. To what extent does distribution network influence marketing effectiveness of petroleum marketing firms in Port Harcourt?
2. To what extent does the mode of transportation influence marketing effectiveness of petroleum marketing firms in Port Harcourt?

1.5 Research Hypotheses

The following null hypotheses were tested at 0.05 level of significance:

H₀₁: There is no significant relationship between distribution networks and sales revenue of petroleum marketing firms in Rivers State.

H₀₂: There is no significant relationship between modes of transportation and sales revenue of petroleum marketing firms in Rivers State.

1.6 Significance of the Study

The significance of any research study entails the contribution it makes to the body of knowledge (data base) as it affects the practitioner, scholars, government and the society at large (Nwachukwu et al., 2023). The study on distributional strategies and marketing effectiveness of petroleum marketing firms in Rivers State, Nigeria holds significant implications for various stakeholders:

- i. **Practical Implications:** The findings will provide valuable insights for petroleum marketing firms to enhance their marketing effectiveness and improve sales revenue, customer satisfaction, and competitiveness.
- ii. **Academic Contribution:** The study expands existing knowledge by exploring the impact of distributional strategies on marketing effectiveness in the petroleum marketing industry, filling a gap in empirical research.
- iii. **Policy Development:** Policymakers can utilize the study's recommendations to formulate policies that address distributional challenges, improve infrastructure, and enhance overall industry performance.
- iv. **Economic Impact:** Improved marketing effectiveness leads to increased sales revenue, profitability, and economic growth, benefiting the Nigerian economy and generating employment opportunities.
- v. **Consumer Benefits:** Effective distributional strategies ensure product availability, reduce shortages, and enhance customer satisfaction for petroleum consumers.

2.1 Literature Review

2.2 Theoretical Review

This study was anchored on the resource based view which argues that firms that are able to leverage resources to implement a value creating strategy not simultaneously being implemented by any current or potential competitor can achieve competitive advantage. The resource-based view theory was developed by Penrose in 1959 and was expanded by Barney in 1991. The Resource – Based view of the firm (RBV) according to Onditi (2018) draws attention to the company's internal environment as a driver for competitive advantage and lays emphasis on the resources that firms have developed to compete in the environment. It states that the possession of strategic resources provides an organization with a golden opportunity to develop competitive advantage over its rivals (Barney, 1991 cited in Onditi, 2018). On this study, the resources of the organization (petroleum marketing firms) that could be leverage to improve marketing effectiveness and stand competitive in the industry includes its distribution strategies in terms of distribution network and its model of transportation. These resources to large extent influence organization's competence to embrace effective marketing outputs and stand competitive.

2.3 Conceptual Review

Enago Academy (2019 cited in Nwachukwu & Worlu, 2023) asserts that conceptual research centres on the concept that spells out or explains the phenomenon being studied. In a conceptual review, the focus is on understanding the conceptual basis of a topic rather than examining empirical evidence or specific applications (Nwachukwu & Tumba, 2023).

The major concepts used in this study include distribution strategies, marketing effectiveness, distribution network, mode of transportation, and sales revenue. These concepts were reviewed so as to have a better knowledge of them while being used in the study.

2.3.1 Concept of Distribution Strategies

Distribution strategies refer to the plans and tactics adopted by firms to ensure the efficient movement of their products from the point of production to the point of consumption. According to Kotler and Keller (2016), distribution strategies encompass various decisions related to the distribution network and modes of transportation employed by firms. The distribution network plays a crucial role in ensuring that the products reach the target market effectively and efficiently (Coughlan et al., 2016).

On the account of Rutten (n.d.), distribution strategy involves coming up with an efficient method of disseminating your company's products or services, and the goal of this type of strategy is to maximize revenue while maintaining loyal customers. Lalush (2020) stated that a distribution strategy is a considered method of getting goods and services to end-users with the end goal of maximizing revenue and customer loyalty.

If an organization is selling a product or service, it will only gain repeat customers if it effectively deliver a product and ensure that users can receive item information easily, they can make this happen by using a distribution strategy that aligns with your business needs (Lalush, 2020). The establishment of an effective distribution strategy can assist businesses reach a wider audience of potential consumers and reduce the costs associated with marketing and delivering their products (Indeed Editorial Team, 2023).

2.3.2 Dimensions of Distribution Strategies

2.3.2.1 Distribution Network

The distribution network is a critical dimension of distribution strategies. It involves the selection, management, and coordination of intermediaries to facilitate the movement of products. A distribution network could be seen as the flow of goods from a producer or supplier to an end consumer and it consists of warehouses, storage facilities, and transportation systems that support the movement of goods until they reach the end consumer (CFI Team, 2022). Hayes (2021) asserts that in a supply chain, a distribution network is an interconnected group of storage facilities and transportation systems that receive inventories of goods and then deliver them to customers.

Research by Rosenbloom (2017) highlights the significance of an effective distribution network in enhancing the market reach and customer accessibility of petroleum marketing firms. Developing an efficient distribution network is one of the most critical aspects of the success of a company. It is a component of strategic planning that allows a company's products to reach customers quickly and efficiently while at the same time keeping costs low for the company so that they may realize larger profit margins (Hayes, 2021). The distribution network is a crucial dimension of distribution strategy for petroleum marketing firms. It encompasses the structure, organization, and management of intermediaries involved in the movement of petroleum products from the manufacturer to the end consumer. The distribution network plays a vital role in ensuring the efficient and effective flow of products, facilitating timely delivery, optimal market coverage, and customer accessibility.

2.3.2.2 Mode of Transportation

The mode of transportation is another important dimension of distribution strategies. It pertains to the selection of appropriate transportation modes, such as pipelines, tankers, and trucks, for the movement of petroleum products. According to Ballou (2017), the choice of transportation mode significantly impacts the delivery time, cost, and overall efficiency of the distribution process.

Modes of transportation or types of transport according to Brown (2020) refer to a combination of networks, infrastructures, vehicles, and operations, which include walking, the road transport system, rail, ship transport, and modern aviation. SubjectQuery (2019). Asserts that modes of transport include various types of factors or methods to transfer the goods or product from one place to another place, which includes:-Roadways Transportation, Railways Transportation, Water Transportation, Air Transportation, and Pipelines Transportation.

The mode of transportation is a critical dimension of distribution strategy for petroleum marketing firms. It refers to the method or means by which petroleum products are transported from the manufacturing facilities to the end consumer. Selecting the appropriate mode of transportation is crucial as it directly impacts the efficiency, cost-effectiveness, and reliability of product delivery. The choice of mode of transportation depends on several factors such as the distance to be covered, the volume of products to be transported, infrastructure availability, and the characteristics of the products themselves. Petroleum marketing firms often have multiple options for transporting their products, including pipelines, tankers, trucks, rail, and even air transport.

One widely discussed mode of transportation for petroleum products is pipelines. Pipelines offer several advantages for petroleum marketing firms. According to Arosanyin (2005), pipelines are a preferred mode of transportation for petroleum products due to their high capacity, continuous flow, and lower vulnerability to theft and pilferage. The use of pipelines ensures a constant supply of products and reduces transportation costs, leading to improved marketing effectiveness.

Tankers and trucks are another commonly used mode of transportation for petroleum products. They provide flexibility and can reach areas that may not be accessible by pipelines. However, their effectiveness is influenced by factors such as road conditions, traffic congestion, and security risks. Firms relying on tankers or trucks may experience delays, increased costs, and customer dissatisfaction due to these challenges. Rail and air transport are also considered modes of transportation for petroleum products, although they are less commonly used due to various constraints. Rail transportation may be suitable for long-distance transportation, especially for bulk shipments, while air transport offers the advantage of faster delivery but can be cost-prohibitive for large volumes. The selection of the mode of transportation is a strategic decision that requires consideration of various factors. It involves assessing the trade-offs between cost, speed, reliability, and flexibility. Different modes of transportation have different cost structures, and firms must evaluate the impact on their overall distribution costs.

2.3.3 Concept of Marketing Effectiveness

Several authors have offered valuable definitions of marketing effectiveness. According to Kumar et al. (2019), marketing effectiveness refers to the ability of marketing strategies and activities to achieve their intended goals and objectives, ultimately leading to increased customer satisfaction, loyalty, and advocacy. Marketing effectiveness refers to the degree to which marketing activities contribute to the achievement of the firm's marketing objectives (Leadspace Team, 2023). Verhoef et al. (2019) define marketing effectiveness as the extent to which marketing efforts contribute to financial performance, including metrics such as return on investment (ROI), revenue growth, and market share. While Eisenbeiss et al. (2020) highlight that marketing effectiveness can be evaluated based on its impact on market outcomes, including brand equity, brand awareness, and customer perceptions. It involves the evaluation of various marketing efforts in terms of their impact on sales, customer satisfaction, brand image, and profitability (Rust et al., 2004). In this study, we define marketing effectiveness as the measure of how well a marketing strategy or campaign achieves its objectives and contributes to the overall success of a business.

Marketing effectiveness is a crucial aspect of organizational success, driving business growth and profitability. In this research study, we will explore the concept of marketing effectiveness by examining definitions provided by various authors. We will then delve into measurement techniques of marketing effectiveness. In

2.3.4 Measures of Marketing Effectiveness

2.3.4.1 Sales Revenue

Sales revenue is a key measure of marketing effectiveness. It represents the monetary value generated from the sale of products or services. Schmidt (2023) defines sales revenue as the income received by an organization from its sales of goods or the provision of services. The ability of

marketing efforts to drive sales revenue is a key indicator of marketing effectiveness. Several authors have highlighted the significance of sales revenue in evaluating marketing effectiveness.

According to Verhoef et al. (2019), sales revenue is a fundamental measure of marketing effectiveness as it directly reflects the financial impact of marketing activities. It serves as a tangible outcome, indicating the success of marketing strategies in driving customer demand and generating revenue. In their study, Homburg et al. (2018) emphasize the importance of sales revenue as an essential performance indicator of marketing effectiveness. They argue that marketing efforts should aim to increase sales revenue by targeting the right customer segments, delivering superior value propositions, and creating strong brand equity. Furthermore, a study conducted by Kumar et al. (2019) reveals that marketing activities that effectively target and engage high-value customers tend to generate higher sales revenue. By identifying and focusing on customers who contribute significantly to revenue, organizations can optimize their marketing efforts to achieve better financial outcomes.

To enhance the understanding and measurement of sales revenue, organizations can utilize various external resources. Industry reports, such as those provided by research firms like Gartner or Forrester, offer valuable insights into market trends, customer preferences, and competitive dynamics that impact sales revenue. Additionally, financial databases, such as Bloomberg or S&P Capital IQ, provide access to comprehensive financial data, enabling organizations to benchmark their sales revenue performance against industry peers.

.2.4 Empirical Review on Distribution Strategies and Marketing Effectiveness

Several empirical studies have been conducted to investigate the impact of distribution strategies on marketing performance of businesses. Beginning with the earlier studies, Irimu (2009) conducted research on the impact of distribution channel strategies employed by the sewing machine industry in Nigeria, specifically focusing on Amedo Centres (k) Ltd. In her study, she discovered that the location of the service facility plays a crucial role in such businesses, as many potential customers may lack the financial means for public transportation or may feel uncomfortable visiting distant outlets. In another study, Alumila (2004) examined the distribution strategies utilized by health maintenance organizations in Nigeria. She observed that healthcare customers, unlike customers of other services, highly value face-to-face interactions with the seller and prioritize building a trusting relationship.

Amaka (2012) study tried establishing the effect of marketing distribution channel strategies on a firm's performance among commercial banks in Kenya. The study adopted a descriptive survey research design. The population of the study was all the forty three commercial banks operating in Kenya. The study used both primary and secondary data to be collected through questionnaires. The data was analyzed and presented using percentages, mean and standard deviation. The study found that the branch network, electronic banking and multiple distributions were used by the banks. Marketing strategies being employed by the banks were aggressive marketing, mass marketing and value marketing. The marketing features employed by the banks was close relationships with customers, product specialization, extensive market research, selective distribution, segmentation of market, high quality innovative products and controlled relationship with customers while increased relational norm with channel partners, intensive distribution to a mass market and low behavioral control on consumers were employed by the banks to a moderate

extent. The marketing distribution strategies results to increased sales, market share and profits, the bank being able to market changes more effectively and enhanced ability of the bank to generate, disseminate, and respond to market changes.

Adimo (2017) conducted a study to examine the influence of distribution channel differentiation on the organizational performance of Sameer Africa Ltd, located in Nairobi, Kenya. The study focused on 112 employees of Sameer Africa (K) Limited, including senior management, heads of departments, and junior staff, as well as 90 dealers based in Nairobi. A sample of 134 respondents was selected using stratified and simple random sampling techniques. The researchers collected primary data through self-administered questionnaires. Descriptive statistics, such as tables, and inferential statistics, including Pearson correlation and regression analysis with a significance level of 0.05, were employed to analyze the quantitative data and test the hypothesis. The study's findings indicated that a majority of the respondents believed that Sameer Africa (K) Ltd could gain a competitive advantage through channel differentiation.

Uche et al. (2022) conducted a study in Nigeria to assess how distribution channel strategies impact the performance of commercial banks. The specific aim of the study was to identify the distribution channel strategies employed by commercial banks in Nigeria and examine their effect on bank performance. The research design utilized for this study was a descriptive survey. The study focused on a population of 43 management staff members from five commercial banks operating in Nigeria. Data collection involved the use of questionnaires. The collected data was analyzed and presented using percentages, mean values, and standard deviation. The study revealed that the banks utilized branch networks, electronic banking, and multiple distribution channels. Regarding marketing strategies, the banks employed aggressive marketing, mass marketing, and value marketing. Furthermore, the study demonstrated a significant correlation between the adopted distribution channel strategies and the performance of the banks.

Ohai and Iyadi (2023) conducted a research study to investigate the impact of distribution strategies on the marketing performance of breweries in Nigeria. The study utilized a descriptive survey research design and focused on employees from Nigeria Breweries Plc in Enugu, West Africa Breweries Limited in Lagos, International Breweries Plc in Onitsha, and Guinness Nigeria Plc in Benin-City. The total number of staff in these breweries was reported as 443. To ensure an adequate sample size, 210 respondents were selected using a stratified sampling technique. Both primary and secondary data were collected and analyzed using correlation and regression analysis as analytical tools. The findings of the study revealed that distribution strategies, including channel structure, exclusive distribution, intensive distribution, and selective distribution, significantly influence the marketing performance of breweries in Nigeria.

Based on these assertions and findings, we formulate our next set of hypotheses:

H₀₁: There is no significant relationship between distribution networks and sales revenue of petroleum marketing firms in Rivers State.

H₀₂: There is no significant relationship between modes of transportation and sales revenue of petroleum marketing firms in Rivers State.

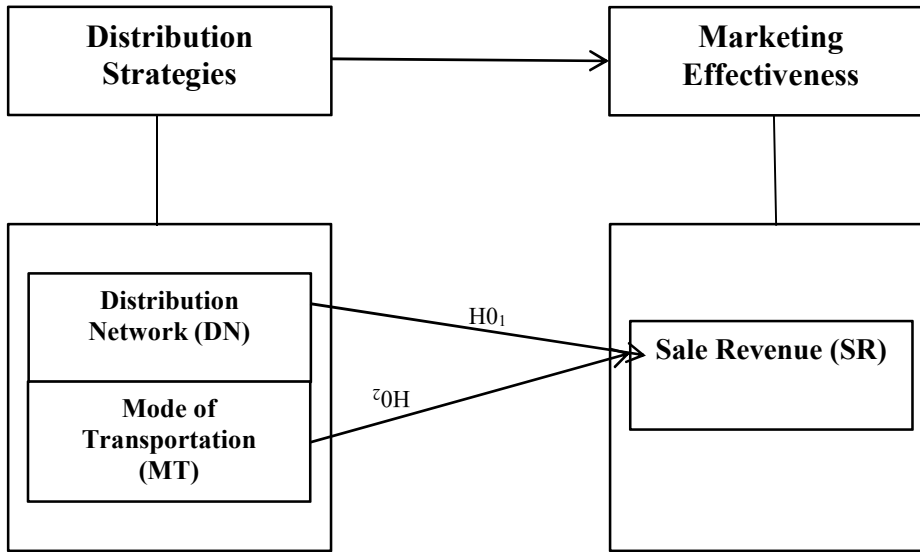


Fig 2.1: Operational Framework Showing the Relationship between Distributional Strategies and Marketing Effectiveness of Petroleum Marketing Firms in Port Harcourt.

Source: Researchers Conceptualizations from Literature.

3.1 Research Design

This study adopted the cross-sectional survey research design. Cross-sectional surveys are studies aimed at determining the frequency or level of a particular attribute in a defined population at a particular point in time. This design was used because it takes a snapshot at a situation in the organization under study, and analyzes at the same time.

3.2 Population of the Study

The population of this study typically consists of all the petroleum marketing firms operating in Port Harcourt. This includes both large and small firms engaged in the marketing and distribution of petroleum products within the defined geographical area. This population consists of ten (10) identified petroleum marketing firms from <https://www.finelib.com/cities/port-harcourt/business/-oil-and-gas/-oil-marketing-firms>.

3.3 Sample Size and Sampling Techniques

The population of our study is small and accessible; hence we adopted the census sampling technique and study the whole ten (10) identified petroleum marketing firms. The researcher purposively administer a copy of questionnaire to five management employees in each of the ten (10) identified petroleum marketing firms in Port Harcourt. This gave a total of fifty (50) copies of questionnaire. This consists of Human Resource Managers, Operations, Sales Manager, Marketing, and finance.

3.9 Method of Data Analysis

The Spearman's Ranking Order Correlation coefficient was adopted with the use of Statistical Package for Social Sciences version 26.0 to analyze the data obtained from the variables of the study and testing of the hypotheses at 0.05 level of significance. The acceptance and rejection of hypothesis were based on the result of the value that was calculated. It will be employed to test if relationships existing between the independent and dependent variables.

The study utilized both primary and secondary data collection method, and the main research instrument which is the copies of questionnaire was validated via experts checking. While

Cronbach's Alpha technique was used to check for its reliability. The reliability coefficients of the study's constructs were above 0.70 benchmark recommended by Nunnally (1978).

Table 3.1 Reliability Statistics

Table 3.3 Cronbach's Alphas of Study Variable

S/N	Variables	No. of items	Alpha (α)
1	Distribution Network	3	0.885
2	Mode of Transportation	3	0.991
3	Sales Revenue	3	0.877

Source: Research Data, 2023.

4.1 Analyses of Data

4.1.1 Results

Table 4.1: **Distributions and Retrieved Copies of Questionnaire**

Detailed Response Rate	Distributed Copies	Retrieved Copies	Not Retrieved Copies	Retrieved Used Copies
Total	50(100%)	48(96%)	2(4%)	46(96%)

Source: Research Survey, 2023

From table 4.1 above, a total of 50 copies of the questionnaire were distributed to the selected five management employees in each of the ten (10) identified petroleum marketing firms in Port Harcourt. 2 copies of questionnaire were dropped due to incomplete responses and mistakes, while 2 copies representing 4% were lost in transit. Therefore, a total of 46 representing 96% response formed the basis of our analysis. Spearman's Ranking Order Correlation coefficient was used to analyze our data set with the aid of SPSS version 23.

Table 4.2 Description on Range of correlation (ρ) values and the corresponding level of association

Range of r with positive and negative sign values	Strength of Association
$\pm 0.80 - 0.99$	very strong
$\pm 0.60 - 0.79$	Strong
$\pm 0.40 - 0.59$	Moderate
$\pm 0.20 - 0.39$	Weak
$\pm 0.00 - 0.19$	Very weak

The positive (+) sign in the values of (ρ) indicates a positive relationship, while the negative (-) sign in the value of (ρ) indicates an indirect/negative or inverse relationship. Thus, the sign of the ρ explains the direction of association between the two variables.

4.1.2 Decision Rules

Reject the null hypothesis (H_0) and accept its alternative (H_a) if $p\text{-value} < 0.05$ for 2 – tailed test and conclude that significant relationship exists.

Test of Hypothesis 1

H_{01} : There is no significant relationship between distribution networks and sales revenue of petroleum marketing firms in Rivers State.

H_{a1} : There is a significant relationship between distribution networks and sales revenue of petroleum marketing firms in Rivers State.

Table 4.3: Correlation between Distribution Network and Sales Revenue

Spearman's rho	Distribution Network	Distribution Network		Sales Revenue	
		Correlation Coefficient	1.000	.894**	
		Sig. (2-tailed)	.	.000	
		N	46	46	
	Sales Revenue	Correlation Coefficient	.894**	1.000	
		Sig. (2-tailed)	.000	.	
		N	46	46	

**. Correlation is significant at the 0.01 level (2-tailed).

Source: SPSS Output, 2023

Table 4.3 above indicates the result of Spearman rank order correlation coefficients value with ($\rho = 0.894$ at $P\text{-v}=0.000 < 0.05\%$). This result showed that there is a Very strong positive and significant relationship between distribution network and sales revenue of petroleum marketing firms in Rivers State.

Test of Hypothesis 1

H₀₂: There is no significant relationship between modes of transportation and sales revenue of petroleum marketing firms in Rivers State.

H_{a2}: There is a significant relationship between modes of transportation and sales revenue of petroleum marketing firms in Rivers State.

Table 4.4: Correlations between Mode of Transportation and Sales Revenue

Spearman's rho	Mode of Transport	Mode of Transport		Sales Revenue
		Correlation Coefficient	1.000	.793**
		Sig. (2-tailed)	.	.000
	Sales Revenue	N	46	46
		Correlation Coefficient	.793**	1.000
		Sig. (2-tailed)	.000	.
		N	46	46

** . Correlation is significant at the 0.01 level (2-tailed).

Source: SPSS Output, 2023

Table 4.4 illustrates the result for the test on the relationship between mode of transportation and sales revenue. The relationship between mode of transportation and sales revenue is revealed to be significant with a rho = 0.793 and p = 0.000. The result indicates a strong level of relationship between mode of transportation and sales revenue. In this sense, it suggests that mode of transportation contributes significantly towards enhancing Sales revenue of petroleum marketing firms in Rivers State; hence, the hypothesis of no significant relationship between modes of transportation and sales revenue of petroleum marketing firms in Rivers State is rejected. The results show that: There is significant relationship between modes of transportation and sales revenue of petroleum marketing firms in Rivers State.

Table 4.33 Summary of Test Hypotheses

S/N	HYPOTHESES	(r)	P – VALUE	DIRECTION	MAGNITUDE	DECISION	CONCLUSION
H ₀₁ :	There is no significant relationship between distribution network and sales revenue	0.894**	0.00	+VE	Very Strong	Reject	Significant
H ₀₂ :	There is no significant relationship between mode of transportation and sales revenue	0.793**	0.00	+VE	Strong	Reject	Significant

Source: Research Findings Based on SPSS Output

4.2 Discussion of Findings

The overall findings from the tables and statistical analysis indicate that both distribution networks and modes of transportation have a significant impact on the sales revenue of petroleum marketing firms in Rivers State. These results align with previous studies conducted by Amaka (2012), Adimo (2017), and Uche et al. (2022), which also found a positive relationship between distribution strategies and firm performance.

The findings provide valuable insights for petroleum marketing firms in Rivers State, highlighting the importance of effective distribution networks and transportation modes in achieving higher sales revenue. By optimizing their distribution strategies and selecting appropriate transportation modes, these firms can enhance their overall performance and competitiveness in the market.

Hence, this study confirms that there is a significant relationship between distribution networks and sales revenue, as well as modes of transportation and sales revenue, in petroleum marketing firms in Rivers State. The positive correlations indicate the importance of considering these factors when developing marketing and distribution strategies in the petroleum industry.

5.1 Conclusion and Recommendations

Based on the data analyses results and findings, the study conclude that distribution strategies have significant positive impact on marketing effectiveness of petroleum marketing firms in Rivers State, Nigeria. Therefore, this study recommends the following:

1. **Enhancing Distribution Networks:** Petroleum marketing firms should focus on strengthening and optimizing their distribution networks. This includes improving logistics, supply chain management, and ensuring efficient delivery of products to customers. By investing in robust distribution networks, firms can enhance their sales revenue and improve customer satisfaction.
2. **Transportation Mode Optimization:** Firms should carefully evaluate and select the most suitable transportation modes for their operations. This may involve considering factors such as cost-effectiveness, reliability, speed, and environmental impact. By utilizing efficient transportation modes, firms can streamline their operations and improve sales revenue.
3. **Continuous Monitoring and Evaluation:** It is crucial for petroleum marketing firms to continually monitor and evaluate the performance of their distribution strategies. This can be done by analyzing sales data, customer feedback, and market trends. Regular assessments will enable firms to identify areas for improvement and make necessary adjustments to their distributional approaches.
4. **Collaboration and Partnerships:** Firms should explore collaboration opportunities with other stakeholders in the distribution network, such as suppliers, distributors, and retailers. Building strong partnerships can lead to improved coordination, cost efficiencies, and increased market penetration.
5. **Research and Innovation:** Constant research and innovation in distribution strategies and transportation methods are vital for staying competitive in the dynamic petroleum marketing industry. Firms should stay updated on the latest technological advancements and industry best practices to enhance their distributional effectiveness.

By implementing these recommendations, petroleum marketing firms in Rivers State can enhance their distribution strategies, improve marketing effectiveness, and ultimately achieve higher sales revenue and sustainable growth in the competitive market.

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