EMPIRICAL INVESTIGATION OF THE FUNCTIONAL RELATIONSHIP BETWEEN PRICING STRATEGIES AND SALES PERFORMANCE: A STUDY OF POLAR PETROCHEMICAL LIMITED ILORIN, KWARA STATE, NIGERIA

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Abstract
The study examines the relationship between pricing strategies and sales performance of Polar Petrochemical Limited. The aim of the study is to examine the relationship between pricing strategy and sales performance of polar petrochemical limited. The study employs descriptive survey research design. Data was obtained from 109 staff of Polar Petrochemical. The primary data obtained with the aid of questionnaires was analysed with Ordinary Linear Regression aided with Statistical Package for Social Sciences (SPSS). The results of the study show that the three pricing strategies investigated in the study: Skimming Pricing Strategy, penetration pricing strategy and Psychological Pricing Strategy have no significant effect on sales performance of Polar Petrochemical Limited. The study recommends that the management of the company should carry out a detail study of the sales performance of the firm over time with a view to overhauling its pricing strategies and adopt a pricing strategy that matches the nature of its products as well as its position in the industry in order to achieve a significant positive impact of such strategies on the performance of the firm.

Keywords: Pricing, strategy, sales performance, Polar Petrochemical Limited

Introduction

Contemporary markets are in most competitive era in history, thus businesses find it difficult to survive and expand. It is very important to recognise price strategies as a marketing tool for growing businesses. The growing pressures of extremely competitive marketing environments make it necessary for business organisation to recognize price strategy in order to gain competitive advantage (Kumar & Pandey, 2017; UKessays, 2018).

Every firm is mostly concerned with its profitability, one of the most widely used tools for measuring organisational success. Businesses nowadays are characterised with high competitive environment thus it is important for any company that is concerned with profit making to implement appropriate pricing strategy (Du & Chen, 2017; UKessays, 2018).

The influence of various pricing strategy on sales performance has been a subject of empirical investigation in recent times with varying results. These include psychological pricing strategy, skimming pricing strategy, penetration pricing strategy, discount pricing strategy, bundle pricing strategy, leadership price strategy and value-based pricing strategy (Du & Chen, 2017).
Certainly, customers would prefer paying less, in fact, they would even prefer to pay nothing but it is simply not feasible to give products without price (Dudu & Agwu, 2014). An organisation that does that will run dry and out of business and would not be able to create value for the customers.

Statement of the Problem

Polar Petrochemical Limited is located in Ilorin, the Kwara State capital with a population of about 1,087,660 in 2017 (Ibikunle *et al.,* 2019). In spite of this market advantage, the company is faced with challenges of low sales in some part of their products whereas they experience favorable sales in other products. Since various pricing strategies are in use in the company and for various products, this study seeks to examine the effect the various pricing strategies have on sales performance of firm in order to recommend to the company on what type of pricing strategy to be adopted in pricing their products. This becomes much more imperative as the literature review carried out in the course of this study revealed that an investigation into this problem has not been previously attempted by scholars as far as the firm is concerned.

Objectives and Research Hypotheses

The aim of the study is to examine the relationship between pricing strategy and sales performance of polar petrochemical limited with the following specific objectives:

i. To examine the effect of skimming pricing strategy on sales performance.
ii. To investigate the effect of penetration pricing strategy on sales performance.

iii. To determine the nature of the relationship between psychological pricing strategy and sales performance.

Three null hypotheses (H_0) have been formulated for empirical test as stated below in a bid to achieve the aforesaid objectives:
H_{o1}: Price skimming strategy has no significant effect on sales performance.
$H_{o2:}$ Penetration pricing strategy has no significant effect on sales performance.
$H_{03:}$ There is no significant relationship between Psychological pricing strategy and sales performance.

Literature Review
Pricing is often used by marketers as a competitive advantage tool in marketing environment to persuade consumers' buying behaviour (Boz *et al.,* 2017). Liu *et al.* (2019) conceptualise pricing strategy as a systematic method in which business organizations adopted to decide prices for their goods and services. Campbell (2020) opines that selecting a product pricing strategy is a momentous decision for firms. This is because it does not only define the early monetisation strategy but it also heavily determines the segment of a market the firm's product will appeal to and how the product will be perceived.

There are various types of pricing strategies used by organizations around the world which in turn determine the sales performance of their organization's goods and services. O'Brien and Brainyard (2021) have identified eight pricing strategies that can help a firm to attract customers thereby improving sales performance. These are captive product pricing, price skimming, penetration pricing, premium pricing, freemium pricing, free trial, product bundling, volume pricing, and tiered pricing. Although, Kienzler *et al.* (2017) opine that the type of pricing strategy used by an organisation will depend on the overall organisation's corporate strategy, customers expected behavior and decision making, competitor strategies and industry changes, the most commonly used pricing strategies include skimming pricing strategy, penetration pricing strategy, and psychological pricing strategy.

Price Skimming pricing strategy involves the setting a high price at the period of products launching. It involves launching of products with a high price and the price is gradually reduced in later periods to attract more price-sensitive customers (CFI Team, 2022). Skimming might be used when the firm is free from entry competition in near future so that the high price can be supported (Du & Chen, 2017; CFI Team, 2022). It is characterized with active promotional activities, its main purpose is to serve buyers that are not too price sensitive.

Penetration pricing is a strategy in which low price is set at the beginning of production or operation, in order to gain large market share or customers and at the same time weaken the entry of competitors. Parikh (2015) observes that it is often employed by firms when the aim is to set its foot in the market. According to Chan *et al.* (2018), this price might be temporarily set below the market price or even lower than cost price. Its essence is to enable the firm "penetrate" the market and promote large sales shortly after the introduction of the product into the market; it is likely to be implemented especially when the organization is facing the challenge of potential entry competition (Musa, 2017).

Psychological pricing strategy has the potential to influence consumer's perception of product's price. They are known as magic prices, charm prices, odd prices, irrational prices, intuitive prices, nine-ending prices or rule of thumb prices (Kumar & Pandey, 2017). Marketing researchers have been studying about psychological pricing strategy since 1930, and they have examined the extent to which psychological pricing strategy has been used in the marketplace. Researchers have studied and identified a numeral digit combination like 95, 99, and 00 as the principal price endings used by organizations around the world depending on price level, market segment, and product category.

The theory of price explains that the price of any specific good or service is based on the relationship between supply and demand. It posits that the point at which the benefit gained from those who demand the entity meets the seller's marginal costs is the most optimal market price for the good or service. It suggests that consumers are price takers and accept prices at face value or as given by the producers. Marketers acknowledge that consumers often vigorously assess price information, decode prices in terms of their knowledge from previous buying experiences, formal communications (such as advertising and sales promotions), informal communications (such as friends, colleagues, family people) (Kumar & Pandey, 2017).

Sales performance is expressed as a concept to measure sales achievement of goods or services. It can also be used to measure and explain sales activities (Gitau *et al.,* 2017). The sales performance of an organisation has a significant influence on quantity of goods sold. Pricing strategy has the ability to initiate positive selling atmosphere thereby enhancing sales performance such as sales volume in terms of the number of units sold. Sales performance measured in monetary term organizational growth and expansion resulting from the number of units of products sold (Ferdinand *et al.,* 2018).

Singh *et al.* (2017) assert that sales performance remains the focal issue within the organisation as the organisations direct their pricing strategies toward attaining higher levels of buyers and value creation, hence, organisations need to clearly understand pricing strategies as the back-bone of their sales performance. Good pricing is an irreplaceable strategy that helps the enterprise acquire and maintain sales performance advantage (Yang *et al.*, 2018).

Baker *et al.* (2017) conducted research on a new pricing strategy evaluation model. The study employed the use of questionnaire to collect information from 385 durable capital goods manufacturers in business-to-business markets the data collected was analyzed using logit modeling and regression analyses. A statistically significant PAF-ROI relationship was found between using the best pricing strategy for given pricing situation and an increased return on an investment. Confidence interval analysis also reveals that pricing mistakes can cost firms up to a 10% decrease in return on investment. Similarly, Choi *et al.* (2017) conducted a research on effects of the discount pricing in the context of the online video game market based on Software-as-a-Service (SaaS). Analysing a large empirical panel data using General Least Squares, the result indicated that pricing policy has positive effects on sales. In a related study, Ingenbleek *et al.* (2017) researched on best practices for new product pricing and found that companies can jeopardize their efforts and investments in the new product development process if they engage in the wrong price-setting practices. Musa (2017) also discovered from the result of a study conducted in Indonesia that bundling pricing strategy has significant influence toward purchasing decision. Furthermore, Nyaga & Muema (2017) established that skimming pricing strategy has a statistically significant positive relationship with firm profitability.

Methodology

This research study adopted descriptive survey design method. The population of the study comprised 150 staff purposively selected from the marketing department of the firm and management staff. Appropriate sample size of 109 was determined for the study through the application of Yamane's (1965) formula as follows:

$$n = \frac{N}{1 + N(e)^2}$$

Where n = Sample size, N = Population, e = error (5%)

For the purpose of this study, purposive sampling technique and simple random sampling technique were adopted in combination. The main source of data for the research study was primary data which was collected from respondents with the use of questionnaire. The variables were measured using items drawn from the reviewed literature (Jackson and Murigi, 2019; Lasoi and Robert, 2020) and written using the five Likert Scale format.

The questionnaire was given to an expert in English Language and a professional in marketing to establish the face and construct validities of the instrument respectively. Similarly, instrument reliability was achieved by conducting a pilot study. To do this,

the researcher determined 10% of the sample size as recommended by (Maalim & Gikandi, 2016) and administered the questionnaires to them. Test-re test approach to determining internal reliability was adopted and the result obtained indicated a strong internal reliability of the instrument. Data collected for this study was analyzed using descriptive and inferential statistics. While objectives (i) and (ii) were achieved using regression analysis, objective (iii) was achieved using correlation analysis. The regression model adopted from Cohen (2008) is as stated below:
$Y_0 = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + e$........... (3.1)

However this model was modified by adding a third independent variable as contained in current study and expressed in econometric form as stated below:
$SPF = \beta_0 + \beta_1 SPS + \beta_2 PPS + \beta_3 PPS + e$........... (3.2)

SPF= Sales Performance; SPS= Skimming Pricing Strategy; PPS= Penetration Pricing Strategy PPS= psychological pricing strategy; β_1-β_3= Coefficient of the Independent Variables; e=error term.

Results and Discussion of Findings

Reliability Test

The study subjected the research instrument to a reliability test too ascertain the internal consistency of the instrument before its administration and analysis. To do this, the test-retest method was employed and the result is as shown in Table 1

Table 1
Reliability Test Using Test-Retest

		test1	test2
test1	Pearson Correlation	1	.753
	Sig. (2-tailed)		.048
	N	11	11
test2	Pearson Correlation	.753	1
	Sig. (2-tailed)	.048	
	N	11	11

Source: *Author's Computation (2022) Using SPSS Version 23*

Table 1 shows that the coefficient obtained from the reliability test using test-retest is higher than 0.7. Since the p-value is also less than 0.05, the result indicates a strong evidence of instrumeny's internal consistency (Aldridge *et al.,* 2017).

Descriptive Statistic: Demographic Profile

Table 2 shows the administration and collection of research instrument.

Table 2

Total Number of Questionnaire Collected and Returned

Item	Response	Percentage (%)
Total Number of Questionnaire Administered	109	100
Total Number of Questionnaire Returned	109	100

Source: Author's Computation (2022)

A total number of 109 questionnaires were administered while the same number (109) of questionnaire were correctly filled and returned for analysis. Therefore, this shows 100% rate of collection.

Results/Summary/ Discussion of Findings

The demographic profiles of the respondents are presented in Table 3

Table 3

Respondents' Demographic Profiles

S/N	Variable	Frequency	Percentage (%)
1	**Sex**		
	Male	91	83%
	Female	18	17%
2	**Educational Qualification**		
	Primary	0	0
	Secondary	0	0
	NCE/ND	3	3
	HND/BSc/BTech	106	97
	Others	0	0
3	**Years of Service**		
	1 – 2 years	19	17
	3 – 4 years	39	36
	5 – 6 years	11	10
	Above 6 years	40	37

Source: *Author's Computation (2022)*

Table 3 shows that out of 109 respondents there are 91 (83%) male respondents and 18 (17%) female respondents this indicates that there are more male staff in Polar Petrol Chemical Limited. This could be due to the nature of the activities which suit males more than females. Furthermore, the table also shows the educational qualification of respondents as follows; out of 109 respondents 3 (3%) are NCE/ND holders while (97%)%) are graduates. This implies that the work force of the company is largely drawn from the educated class which can contribute meaningfully to the progress of the company. Table 4.3 finally shows the years of service of respondents in the organisation, out of 109 respondents 19 (17%) respondents are within 1 – 2 years of experience in the organization, 39 (36%) are within 3 – 4 years of experience in the organization, 11 (10%) are within 5 – 6 years of service in the organisation and

40 (37%) are above 6 years of experience in the organization. This indicates a good staff retention rate in polar Petrochemical.

Hypothesis Testing

This study employed Ordinary Linear Regression to test the hypotheses of the research. The following result was obtained.

Table 4

Regression Result

Variable	Coefficient	P-Value
SPS	-0.169	0.790
PPS	0.098	0.304
PSP	-0.109	0.256
$R^2 = 0.55$	Durbin-Watson = 2.164	F-Value = 2.034
P-Value = 0.014		

a. Predictors: (constant), PSP, PPS, SPS
b. Dependent variable: SPF

Source: *Researcher's Extraction from SPSS Output (2022)*

Table 4 reveals that the model for the study has a good fit. This is shown by the F-value of 2.03. The result also shows that there is no autocorrelation among the variables of the study. This is revealed by the Durbin-Watson statistic of 2.16. The result further indicates that the independent variables (Skimming Pricing Strategy, Penetration Pricing Strategy and Psychological Pricing Strategy) explain 55% of the dependent variable (Sales Performance) as indicated by the R square value of 0.55 while the remaining 45% of the variation in the dependent variable is explained by variables not included in this study.

Ho_1: Skimming Pricing Strategy has no significant effect on Sales Performance.
Upon testing the above hypothesis the result shows that Skimming Pricing Strategy has no significant effect on Sales Performance. This is indicated by a coefficient value of -0.169 at P-value of 0.79. Therefore, the study failed to reject the null hypothesis as stated above. The implication of the result is that a unit improvement on the use of skimming pricing strategy will lead to a 16.9 unit decrease in sales performance of Polar Petrochemical Limited. Thus this result is contrary to the study conducted by Nyaga & Muema (2017) where they found that there was a statistically significant and positive relationship between skimming pricing strategies and sales performance.

Ho_2: Penetration Pricing Strategy has no significant effect on Sales Performance.
Upon testing the above hypothesis the result shows that Penetration Pricing Strategy has no significant effect on Sales Performance. This is indicated by a coefficient value of .098 at P-value of .304. Therefore, the study failed to reject the null hypothesis as stated above. The implication of the result is that a unit improvement on the use of penetration pricing strategy would lead to a 9.8 units decrease in sales performance of

Polar Petrochemical Limited. This result agrees with Ingenbleek *et al.* (2017) who established that companies can jeopardize their efforts and investments in the new product development process if they engage in the wrong pricing strategies.

Ho_3: There is no significant relationship between Psychological Pricing Strategy and Sales Performance.

Upon testing the above hypothesis, the result shows that Psychological Pricing Strategy has no significant effect on Sales Performance. This is indicated by a coefficient value of -0.109 at P-value of .256. Therefore, the study fails to reject the null hypothesis as stated above. The implication of the result is that a unit improvement on the use of psychological pricing strategy will lead to a 25.6 unit decrease in sales performance of Polar Petrochemical Limited. This result is related to the findings of Baker *et al.* (2017) who discovered from their result that pricing mistakes can cost firms up to a 10% decrease in return on investment

Conclusion and Recommendations

Based on the findings of the study, the researcher concluded that the adoption of the three pricing strategies at Polar Petrochemical Limited has not yielded significant positive effects on the sales performance of the company. This could be due to the inappropriate application or a mismatch between strategy and product as suggested by Lasoi & Robert (2020).

Therefore the study recommends that the management of the company should carry out a detail study of the sales performance of the firm over time with a view to overhauling its pricing strategies and adopt a pricing strategy that matches the nature of its products as well as its position in the industry in order to achieve a significant positive impact of such strategies on the performance of the firm.

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