CSCanada
International Business and Management
Vol. 6, No. 2, 2013, pp. 64-70
DOI:10.3968/j.ibm.1923842820130602.1010

ISSN 1923-841X [Print]
ISSN 1923-8428 [Online]
www.cscanada.net
www.cscanada.org

Critical Factors Affectingthe Pricing Objectives of the Exporting Petrochemicals Products

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Received 20 February 2013; accepted 18 April 2013

Abstract

Price, as the only element of the marketing mix that generate revenue, has great importance for managers and companies' pricing officers. Besides, there are only a small number of articles in this field, so in order to determine the components which affect pricing objectives, factor analysis has been used in this article focusing on the data gathered from petrochemical companies in Iran. After refining and going through two stages of questionnaires, 37 variables were extracted from the initial 76 variables and by factor analysis, 4 components were determined. With respect to petrochemical products pricing, findings in this article illustrate a set of qualitative and quantitative variables in the form of limitations of entering the export market or strategies such as penetration strategy, market development, and opportunity creation.

Key words: Pricing objectives; Exporting petrochemicals products; Pricing

Naser Azad, Mohammad EmadMostajeran (2013). Critical Factors Affectingthe Pricing Objectives of the Exporting Petrochemicals Products. *International Business and Management, 6*(2), 64-70. Available from: http://www.cscanada.net/index.php/ibm/article/view/j.ibm.1923842820130602.1010
DOI: http://dx.doi.org/10.3968/j.ibm.1923842820130602.1010

INTRODUCTION

Pricing has been used as a major tool to increase company profitability (Wanmei Soon, 2011). Also, pricing has been known as a key element in marketing strategy (kohli, Suri, 2011). Just like any other company, petrochemical companies must be able to price their products in a manner so that they gain incomes commensurate with the value of their produced good and hold their position with respect to customers, complementary goods, rivalry, and market newcomers. All these factors depend on the goal of the petrochemical companies from product pricing and how they envision themselves in the future. This article shall continue as follows: A comprehensive study of the current literature about pricing objectives and methods, description of implemented research method, detailed analysis of the data, and discussing the results. In the end, conclusion and summary of the major findings of this article will be presented.

1. RESEARCH LITERATURE

Cutler believes factors like surplus production, heavy rivalry, or shift in consumer needs are among the reasons that force companies to choose survival as the main objective of pricing.

In the end, companies price considering their long-term survival (Indounas, Avlonitis, 2005), and thus they must choose target markets for the exportation of their products. The existence of limitations over entering into markets can affect the prices and also pricing targets of the companies. Target market of petrochemical goods can enact limitations such as tariffs in importing country. The amount of taxes and tariffs on imported goods can affect pricing decisions (Odongo, Agneta, Orinda, 2012). In some countries the tariff on petrochemical goods is so high that causes a drastic increase in price of the final

product and makes exporting to such countries practically impossible. The reason for imposing such tariffs or taxes by target export country could be the decision of that country to benefit domestic producers. Technology of the produced good is also one of the variables that affect the price (Cheng-Han Wu, 2012). For example the technology to use the product in target country may not be yet available or the target country may be technologically backward in comparison to the rest of the world.

By using penetration strategy, it is attempted to make the prices attractive for customers and thus attract new customers to buy the products in addition to current customers. Here in order to prevent incidents such as price war in the market, stabilizing the price is one of the objectives of the company. Obtaining the satisfaction of the customer directly affects pricing objectives and competitiveness status of the company in comparison to other rivals (Cravens, 1997). Most companies determine their prices to maximize their profits (Kotler Marketing Management). By assessing demand and cost in various price levels, they set a price for their product so that the profit for their money supply or their current investment gain is maximized. This is the most basic objective among pricing objectives. Price parameters can strongly and directly affect the increase in market share of the company (Dulgui&Proth, 2010). Pricing objectives of the company can determine if the company is after a huge share of the market or not. This policy is reflected in marketing strategies of the company which are dubbed pricing wheels (Shipley ad Jobber 2001). This means that in order to recognize pricing objectives, marketing strategy of the company has to be identified.

The price of produced good of the petrochemical companies is directly bound to world economy and its developments. Expanding inherent complexity and reform of pricing strategies can be observed in a set of internal and external political and economic influences which affects the pricing decisions of a company (Lancioni, Schau, Smith, 2005). When a company decides to develop the market and expand the market for its products, the aforementioned engagement is increased with globalization. When it comes to pricing in this situation, it must be noted that our prices are greatly affected by the prices set by market leaders (Sayman, 2002; Wanmei Soon, 2011). Sometimes the objectives of a company are to be known as the leader in quality. In this way, setting higher prices for the products would be because of the higher quality of those products. In other words, setting higher prices in comparison to rivals will not result in loss of our market as Warren Buffet said: If you've got the power to raise prices without losing your business to a competitor, you've got a very good business. (Bloomberg Business week, February 28 — March 5, 2011, p. 22)

Some companies determine the price of their goods so their sales income is maximized. Maximization of the income of the company requires only the assessment of sales function. The objective of performance management is to predict the behavior of customers and rivals in order to maximize company's income (Dulgui & Proth, 2010). Therefore the objective of maximizing company income is greatly affected by strategy selection and pricing objectives. Most managers believe that maximization of current incomes will result in maximum long-term profit and increase in market share. Geographical location of the company - especially availability of the exporting ports in the producing country - is highly important.

Table 1
The Primary Variables

Creation of prestige image for the company (Pollock,.Chen ,Jackson, Hambrick,2010)	Survival
Currency of target market	Interaction between producers
Technology in target market	Product Associated with the global economy
High and low price strategies (Dulgui&Proth, 2010)	Sales Maximization (Transchel, Minner ,2009)
Price higher than Competitors	Access to resources
Price lower than Competitors	Access to spare parts (polo 2011)
Price Discrimination (polo 2011)	Access to Investment (Lancioni,Schau, Smith 2005)
Discount strategy (Dulgui&Proth, 2010)	Access to Human resources (Lancioni,Schau, Smith 2005)
Price skimming (Dulgui&Proth, 2010)	Market Structure (Lancioni,Schau, Smith 2005)
Penetration pricing (Dulgui&Proth, 2010)	Monopolistic (Dulgui&Proth, 2010)
Cost-plus method (Chen ,Sang Chin .Wang,2011)	Monopoly (Wei 2011)
Price testing (Dulgui&Proth, 2010)	Oligopolistic
Estimation made by experts (Dulgui&Proth, 2010)	Brand (Lancioni,Schau, Smith 2005)
Historical Market Analysis (Dulgui&Proth, 2010)	Product line(Wanmei Soon,2011)
Customer surveying (Dulgui&Proth, 2010)	Geographical location of Company
Oligopoly (Hendel and Lizzeri (2002))	Product life cycle (Lancioni,Schau, Smith 2005)

To be continued

Continued

Creation of prestige image for the company (Pollock,.Chen ,Jackson, Hambrick,2010)	Survival
Perfect information (Wei, 2011)	New product pricing) Wanmei Soon 2011)
Homogeneous (Hendel and Lizzeri (2002))	Environmental Impact (Lancioni,Schau, Smith 2005)
Equal access to resources	Impact of Shareholders (Lancioni,Schau, Smith 2005)
Predicting the performance of competitors' prices (Dulgui&Proth, 2010)	Impact of political power (Lancioni,Schau, Smith 2005)
Cost-plus (Indounas,Avlonitis,2005)	Political conflicts
Return on Investment (Indounas,Avlonitis,2005)	Political Cooperation
Break even point(Channon, 1986; Lovelock, 1996).	Marketing Strategy of Company
Marginal pricing	Target Market
Pricing based on market leaders	Brand image (Lancioni,Schau, Smith 2005)
Pricing as same as market competitors (Indounas,Avlonitis,2005)	Promotional strategies (Lancioni,Schau, Smith 2005)
Yield management (revenue management)(Dulgui&Proth, 2010)	Perspective of the marketing department (purchasing managers, marketing managers, sales managers) (Lancioni,Schau, Smith 2005)
Cost of raw materials (Chen ,Sang Chin .Wang,2011)	Transfer pricing (Borkowski ,1996)
Production costs (Chen ,Sang Chin .Wang,2011)	Taxes in target market
Marketing Cost (Chen ,Sang Chin .Wang,2011)	Tariff in target market
Current profit maximization	Customs of the host country (Borkowski ,1996)
Sales maximization	Price war avoidance (Dulgui&Proth, 2010) (Benoit & Krishna, 1987)
Minimize production costs	Price Drop (polo 2011)
Current revenue maximization	Surplus production capacity (Dulgui&Proth, 2010)
Access to critical resources (Lancioni,Schau, Smith 2005)	Gain market share
Market development (Transchel, Minner(2009))	Attraction of new customers
Maintenance of existing customers	Environment of the target market (Borkowski ,1996)
Customer Satisfaction (Transchel, Minner ,2009)	Price stability in the market

RESEARCH METHODOLOGY

At first, by studying various articles in the field of pricing, 76 initial variables were extracted and after performing overlap analysis and going through professional questionnaire, the number of variables was decreased to 37 and was presented to responders in the form of main questionnaire.

Research methodology of this article is based on designing the questionnaire for petrochemical companies and the exporters of these goods. This method was consisted of 250 questionnaires based on Likert's spectrum. From the total 250 distributed questionnaires, 203 questionnaires were returned and analyzed. Factor analysis was used in this article in order to study behaviors. Calculated KMO coefficient in this test is 754 and calculated Cronbach's alpha for this article is 0.717 which is considered good sustainability for research questionnaire.

Table 2
KMO and Bartlett's Test

Validitiy & Reliability Test	
Kaiser-Meyer-Olkin Measure of Sampling Adequacy	.754
Bartlett's Test of Sphericity Approx. Chi-Square	439.742
df	153
Sig.	.000

Table 3
Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
0.717	.723	37

Because factor analysis is sensitive to skewness coefficient, questions 4, 5, 6, 9, 11, 16, 20, 21, 22, 25, 29, 30, 34, 35, 37, 07, 10, 24, 28 were omitted from the questionnaire. From total of 37 variables analyzed by factor analysis, 4 main factors were identified.

Following table shows general results of statistical test. For example, question 1 was about survival and based on Likert's spectrum the minimum value assigned to this question was 3 and the maximum value was 9.

Table 4
Descriptive Statistics

	N	Range	Minimum	Maximum	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
A1	203	6	3	9	-.571	.231	-.078	.459
A2	203	8	1	9	-.139	.231	.442	.459
A3	203	4	5	9	.059	.231	-1.176	.459
A4	203	6	3	9	-.821	.231	.246	.459
A5	203	6	3	9	-.464	.231	-.555	.459
A6	203	8	1	9	-.364	.231	.265	.459
A7	203	6	3	9	.072	.231	-.369	.459
A8	203	8	1	9	-.202	.231	.373	.459
A9	203	6	3	9	.008	.231	-.235	.450
A10	203	6	3	9	.262	.231	-.551	.459
A11	203	8	1	9	-.333	.231	.242	.459
A12	203	8	1	9	-.393	.231	.373	.459
A13	203	8	1	9	-.720	.231	1.122	.459
A14	203	8	1	9	-.408	.231	.339	.459
A15	203	8	1	9	-.451	.231	.450	.459
A16	203	6	3	9	-.631	.231	-.269	.459
A17	203	6	3	9	-.654	.231	.095	.459
A18	203	8	1	9	-.189	.231	.717	.459
A19	203	6	3	9	-.068	.231	-.228	.459
A20	203	4	5	9	-.265	.231	-.906	.459
A21	203	8	1	9	.094	.231	.649	.459
A22	203	6	3	9	.285	.231	-.482	.459
A23	203	6	3	9	-.205	.231	-.304	.459
A25	203	6	3	9	-.274	.231	-.289	.459
A26	203	4	5	9	-.226	.231	-.862	.459
A27	203	8	1	9	-.468	.231	.340	.459
A29	203	6	3	9	.353	.231	-.384	.459
A30	203	6	3	9	-.369	.231	-.727	.459
A31	203	6	3	9	-.069	.231	-.122	.459
A32	203	8	1	9	-.184	.231	.528	.459
A33	203	8	1	9	-.356	.231	.133	.459
A34	203	8	1	9	.009	.231	.291	.459
A35	203	6	3	9	.019	.231	-.580	.459
A36	203	8	1	9	-.570	.231	1.427	.459
A37	203	4	5	9	-.676	.231	-.775	.459
Valid N (listwise)	203							

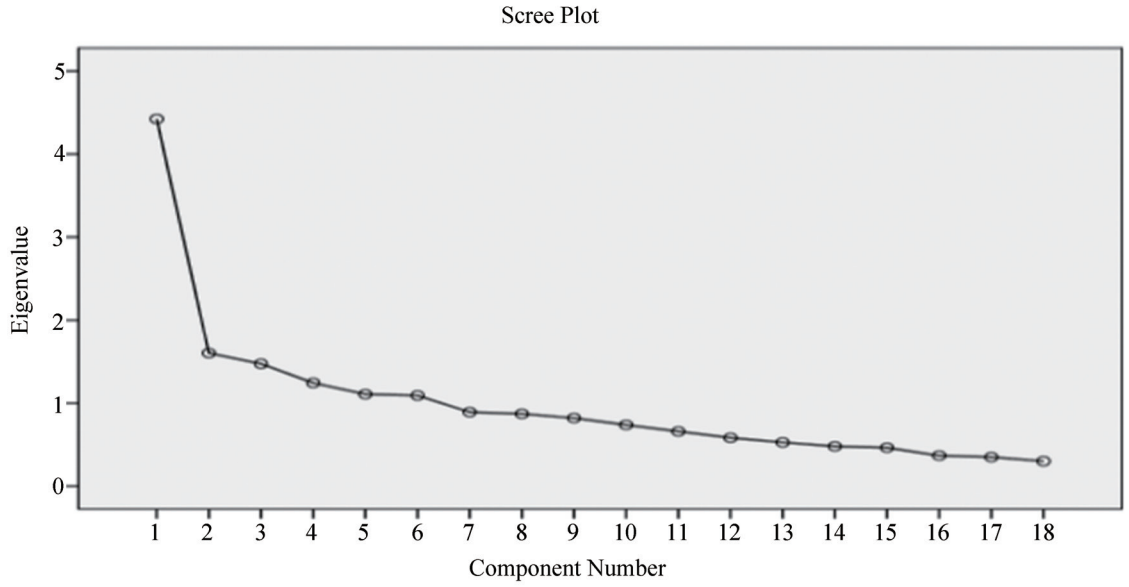

Figure 1
Details of Factor Analysis

Table 5
Rotated Component Matrix

	Component					
	1	2	3	4	5	6
A17	.713					
A15	.673					
A18	.663				.360	
A13	.583					
A1	.569	.747				
A32		.576				
A33		.518				
A12		.502	.357	.390		
A31		.420	.367			
A27						
A3				.717		
A36				.653		
A23					.812	
A8		-.501		.575		
A19					.758	
A26			.469		.507	
A2						.846
A14	.334	.333				.600

In this table, A1: survival, A2: interaction with other companies, A3: connection between the product and world economy, A8: geographical location of the company, A15: maximization of current profit, A14: tax in the host country, A17: tariffs in host country, A18: technology in host country, A19: market divisions, A23: maximization of company's current income, A26: market leaders' pricings, A27: customer satisfaction, A31: price stability in market, A32: attraction of new customers, A33: gaining market share, A36: product market development. Consequently we will analyze the main factors in independent tables.

Table 6
Factor Analysis for Limitations on Entering into the Export Market
Component Matrix

	Component
	1
A17	.754
A15	.744
A18	.700
A13	.709
A1	.582

Component	Initial Elgenvalues			Extraction sums of squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.454	49.071	49.071	2.454	49.071	49.071
2	.807	16.145	65.215			
3	.669	13.375	78.590			
4	.620	12.401	90.991			
5	.450	9.009	100.000			

Cronbach's Alpha	N of Items
.737	5

Limitations on entering into the export market include the following variables: tariffs in importing country, tax in host country, technology in host country, target market, and survival. Calculated Cronbach's alpha is 0.737.

Table 7
Factor Analysis for Penetration Strategy
Component Matrix

	Component
	1
A32	.771
A33	.681
A12	.712
A31	.337
A27	.688

Cronbach's Alpha	N of Items
.661	5

Penetration Strategy includes: attraction of new customers, gaining market share, marketing strategy of the company, price stability in the market, and customer satisfaction. Calculated Cronbach's alpha is 0.661.

Table 8
Factor Analysis for Market Development Strategy
Component Matrix

	Component
	1
A3	.807
A36	.807

Component	Initial Elgenvalues			Extraction sums of squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.304	65.188	65.188	1.304	65.188	65.188
2	.696	34.812	100.000			

Cronbach's Alpha	N of Items
.465	2

As shown in Table 8, penetration strategy includes the following variables: connection between the product and world economy, and product market development. Cronbach's alpha is 0.465.

Table 9
Factor Analysis for Opportunity Creation
Component Matrix

	Component
	1
A23	.805
A8	.805

Component	Initial Elgenvalues			Extraction sums of squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.297	64.865	64.865	1.297	64.865	64.865
2	.703	35.135	100.000			

Cronbach's Alpha	N of Items
.454	2

Opportunity creation is include maximization of current income of the company, and company's geographical location. Cronbach's alpha is 0.454.

CONCLUSION

In this article, factor analysis was implemented to determine pricing objective for petrochemical products. A number of petrochemical plants and petrochemical exporters were identified and the designed questionnaire was randomly distributed among 250 sales employees and 203 valid filled questionnaires were received back. After revising the 76 statistical variables, 48 variables were selected and distributed again in the form of a questionnaire. Using Skewness output of SPSS software, 37 questions were chosen for determination of components. Four components were extracted from 37 variables and they were named and described. These 4 components are: limitations over entering into export market, penetration strategy, market development strategy, and opportunity creation that these factor as mentioned in above were divided to variables: survival, interaction with other companies, connection between the product and world economy, geographical location of the company, maximization of current profit, tax in the host country, tariffs in host country, technology in host country, market divisions, maximization of company's current income, market leaders pricings, customer satisfaction, price stability in market, attraction of new customers, gaining market share, product market development. Pricing objective varies depending on these factors resulting in change of selected prices for petrochemical products. Because this results received from Iranian Petrochemical Companies it seems that special situation for Iranian Exporter like international sanctions leads them to specified these variables affective on their pricing objectives however it needs more studies & survey.

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