

The constructional model of the effects of pricing strategies on the exporting petrochemical products in Iran

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Abstract

This study presents a constructional model that explores the effects of pricing strategies on exporting petrochemical products in Iran. The model is based on a comprehensive review of existing literature and case studies and input from industry experts and stakeholders. The constructional model identifies the main pricing strategies that petrochemical companies in Iran use, such as maximizing profits, increasing market share, and maintaining a certain level of quality. The model also considers the impact of external factors such as demand elasticity, market competition, and regulatory constraints on pricing decisions. Using the constructional model, this paper analyzes the advantages and disadvantages of different pricing strategies in the Iranian petrochemical industry. The model also simulates the impact of different pricing strategies on various stakeholders, including producers, consumers, and the Iranian government. The results of the constructional model suggest that while pricing to maximize profits may lead to short-term gains, it can limit a company's ability to compete in the global market. On the other hand, pricing to increase market share can lead to long-term growth but may require significant investment in research and development. The model also highlights the importance of considering external factors such as demand elasticity and regulatory constraints when making pricing decisions. For example, demand for petrochemical products in Iran may be highly elastic, meaning that small price changes can lead to large changes in demand. Additionally, regulatory constraints such as trade agreements and environmental regulations can significantly impact pricing decisions in the Iranian petrochemical industry. Overall, this paper provides a useful constructional model for analyzing the effects of pricing strategies on exporting petrochemical products in Iran. The findings of this paper can help petrochemical companies in Iran make strategic pricing decisions that take into account both internal and external factors, to ensure their long-term success in the global market. The variables of the study are restrictions of entry into the export market, penetration strategy, market development strategy, and opportunity creation, all of which have effects on product export. Here, the following features are described, penetration strategy (importance coefficient: 0.95), market development strategy (importance coefficient: 0.94) opportunity creation (importance coefficient: 0.9), and the restrictions of entry into the export market (importance coefficient: 0.8). The Alpha Cronbach of the two questionnaires are 0.817, 0.814, in turn, that indicates the appropriate validity.

Keywords: constructional model, effects of pricing, strategies, exporting
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1 Introduction

The petrochemical industry plays a crucial role in global trade, contributing significantly to economic growth and development. As a highly competitive and dynamic sector, petrochemical companies face numerous challenges in maintaining their market share and profitability. One of the key factors that influence their success in the international market is pricing strategy.

Price is the only factor in the combination of the marketing factors that has a state of profitability, and other factors are costly. That is the most flexible factor among the marketing factors since this can change any price very soon due not to being a distribution channel. Cavusgil stated that the pricing strategies clarify the path for making decisions [16]. On the other hand, Caister suggests that the pricing strategies can be stated in three concepts, and that is to be according to the level of timing and expectation. The three concepts are worries and quantity/quality objectives that are to be examined in the organization performance framework. The quantity objective can easily be measured and is related to the interest, sale, market share, and price coverage in the organization on the other way around, the quality objective is less measurable and is about customers, opponents, distributors of the market survivors of the organization in the business, and meeting the social objectives [4]. Regarding the reliance upon degrees of the organization's objectives, the pricing strategies can be divided into some minor goals, and that can have the maximum results. Examples of that are interest, sale, or the results of satisfaction. Unfortunately, relying on all objectives by some authors and managers has been banned, and that is due to the lack of proper communication between the organizations, or preventing the public officials from playing the role and affectivity on the companies' interests [10]. Meanwhile, the pricing strategies can be divided into two goals, short-term goals, and long-term goals. The short-term goals are just for achieving those goals, and which is measured between 6 months to 1 year, and in fact; this can affect the long-term goals, as well. This sort of classifying goal, however, has some complexities over the decision-making of pricing and can define more than one strategy in a period [15]. Besides, the objectives are not on the same path, and presumably, the purpose of maximizing the sale may lead to interest [23]. Ultimately, each company should decide what it wants to do with its particular product. Thus, if the company has a good choice of the target market and the source of its product, that company would have no difficulty in defining the combinations of its marketing factors. For instance, if a manufacturer of automobiles is willing to produce luxurious cars for rich customers, he alternatively should supply higher prices, penetration strategies, and market development strategies, and establish the position has been accepted exporting Iranian petrochemical products is effective. The purpose of this paper is to examine the effects of pricing strategies on the exporting of petrochemical products. By analyzing the existing literature and drawing on reliable references, we aim to explore the impact of different pricing strategies on the export performance of petrochemical companies. Additionally, we will investigate the constructional model of the effects of pricing strategies in this industry.

2 Research literature

In this paper, we discuss the impact of price strategy assistance on export and how this impact manifests itself directly and indirectly on export performance. The analysis of the antecedents and outcomes of a pricing strategy is of particular importance as this topic tends to be ignored by international economic researchers [2]. This paper's model further considers two relevant contingent forces (management international experience/expertise and competition in the industry/commerce). Managerial experience/expertise was selected because the ultimate export pricing decision will depend on the manager as a decision-maker. The competition was selected because this is probably the most important external factor in the firm's export pricing decision [16].

A pricing strategy should take into account the differences in the politico-legal, economic, and sociocultural characteristics of the host country. However, pricing strategies may be difficult to adapt because of the need for extra financial and human resources associated with price adaptation. Naturally, firms receiving export assistance are expected to allocate more human and financial resources to the export market venture. Additionally, with external support for exporting, managers will be in a better position to search for information and develop a much more elaborate analysis of the environment that will help to exploit the existing opportunities in the foreign market. Even though new studies indicate that the marketing mix should include 12 Ps, including product, place, price, promotion, people, physical evidence, process, proof (social), portfolio, prestige, productivity, and performance packaged (bundled product), there is still only one component that actually generates revenue: "price." For petrochemical managers and businesses, price is crucial because it is the sole component of the marketing mix that creates income. The support will help companies to improve the depth of planning procedures for example in terms of market research and market analysis [12].

The price level is an important criterion used by consumers in evaluating competing products. Other criteria such as product quality and performance are important to customers. Thus, in developing a pricing strategy, firms must be

aware of foreign consumers' preferences, perceptions, and purchasing behaviours concerning various price levels [21]. Pricing has also been a significant instrument for boosting business profitability and is seen as a crucial component of marketing strategy. A variety of internal and external political and economic forces that have an impact on a company's price decisions can be seen as increasing the inherent complexity and reforming pricing tactics [18]. The aforementioned engagement with globalization is intensified when a business wishes to grow and broaden the market for its products. It is important to keep in mind that various economic elements have a significant impact on our prices when it comes to pricing in this case [5]. Specifically, price marketing reduces a consumer's motivation to exert mental effort; hence, behaviour is influenced less by in-depth information processing and more by effect, a quicker, simpler, yet potent influencer of preference. This hypothesis is supported by six tests and real-world data from a major daily deal provider, which details its consequences primarily for consumer choice, but also for willingness to pay and product ratings [20]. Pricing decisions may be impacted by the amount of taxes and tariffs imposed on imported items [17]. While other recent studies have focused mainly on differences in quality, we explore the relationship between export-pricing strategies and markups (defined as price over marginal cost). Particularly, we study variations in individual firms' export prices for products sold in different locations and examine whether the ability to set local prices, i.e. prices that are much higher in some markets, is associated with higher average markups [13].

As emphasized by [10], marketing managers have to pay substantial attention to the impact of competition on marketing decisions. For example, managers need to identify key competitors. Its influence on several aspects, including the environment, company aims, client profiles, and pricing position, is highlighted by prior studies. Different pricing tactics, such as price skimming, penetration pricing, price bundling, price marketing, and complimentary pricing, reflect these variables, in turn, [11].

The goal of the influence strategy is to make the prices appealing to consumers so that they will buy the products in addition to the ones they already do. Stabilizing the price is one of the company's goals to avoid a pricing war in the market. Managers and scholars frequently view price promotions as simple incentives that persuade customers to accept offers that they might not have even considered in the past. However, the possibility of a cheaper price deterring consideration can also "dumb down" the purchase experience by making it seem less important [3].

The strategic imperative of a firm should be to create and sustain superior performance through a competitive advantage in the marketplace [14].

Export market competition is defined in this paper as the extent to which businesses must strive to outdo each other to gain the economic rents of that industry. Competition may vary along multiple dimensions, such as the number of competitors, price competitiveness, and service/delivery. We have included this force because it must be considered as a key determinant of pricing strategy adaptation [6].

In this paper, we argue that the observed variations in prices across export destinations may be attributed to international price discrimination and geographically segmented markets. Price discrimination across markets requires both the existence of arbitrage costs and that firms exert some kind of market power [8]. The first prerequisite implies that resale is costly, which has been asserted in empirical findings on pricing-to-market. 2 These findings show that there are large deviations from the law of one price across international markets due to, e.g., transportation costs, trade barriers, and exchange rate volatility. 3 The market-power condition recognizes an imperfect competition setting and firms' ability to charge prices above their marginal costs. As consumers in segmented markets will face different prices, not all consumers will face prices that equal marginal costs (assuming the marginal cost of the good to be independent of its destination). International price discrimination thus suggests that firms' price-cost markups vary due to differences in firms' monopoly power across export markets. To see this, consider a firm that is selling its product to several destinations. Profit maximization implies that the firm equates marginal revenue from sales in each market, indexed by k , to a common marginal cost, mc . The export price on a particular market will be the product of the marginal cost and a destination-specific markup:

$$p_k = mc(\varepsilon_k/\varepsilon_{k-1}) \quad (2.1)$$

where ε_k is the price elasticity of demand on the foreign market. Hence, the export price is a decreasing function of the demand elasticity and variations in the export price across markets (that are not cost-based) will be determined by factors influencing ε such as the level of competition and consumers' valuation of the firm's good. Equation (2.1) demonstrates how export-market characteristics may influence the export price charged by the firm and suggests that firm knowledge about differences in these characteristics across markets leads to international price discrimination. Thus, for our study, if the empirically observed export-price variation is due to price discrimination of a profit-maximizing firm, we would expect this price strategy to be positively correlated with the firm's overall markup and profit margins [22].

In other words, a company's marketing strategy must be determined to realize price targets. Only pricing generates

money, not traditional marketing components [19]. As Avlonitis and Indounas [1] points out, "One of the more basic yet critical decisions facing a business is what price to charge customers for products and services." This choice is especially important in the period that The Economist (2013) refers to as the "age of austerity"—a period in which sales are stagnant, further cost reductions are unlikely, and the price is the only remaining tool. A sound pricing strategy is necessary now more than ever to promote customer value creation, structure pricing decisions, and generate a profit in this competitive climate [1]. Eaton et al. [3] also model variations in markups across firms using a Ricardian framework with Bertrand competition. Although more efficient firms will have higher markups on average, the markup is not linked to the cost efficiency of the firm. Hence, in their model, a firm's markup and price will be higher in markets where it can exert more market power. The determinants of market power are, however, outside the scope of their study. The state of the world economy has a direct impact on the price of petrochemical goods [3]. One of the factors affecting the pricing is the technology used to make the goods [23]. For instance, the target country might not yet have the technology to use the product or it might be technologically behind the rest of the globe.

Some companies set the pricing of their products to maximize their sales revenue. Only the sales function needs to be evaluated to maximize the company's revenue. Predicting consumer and competitive behaviour is the goal of performance management, which aims to increase profits for the organization [5]. The choice of strategy and price objectives, then, has a significant impact on the goal of maximizing business profits. The majority of managers think that increasing short-term profit and market share will come through maximizing present incomes. The company's geographic position, particularly its access to exporting ports in the nation that produces its products, is also crucial.

While product quality may provide a plausible explanation for variations in price across firms, the relevance of quality differences for variations in export prices within a single firm appears much more uncertain. One reason is that in the presence of scale economies, quality differentiation will be costly for the firm. Moreover, as emphasized in the trademark literature, firms are believed to care about their brand and reputation, making quality-to-market less likely. In fact, in the industrial organization literature, price dispersion within single-product lines is primarily explained by price discrimination across market segments. Under market segmentation, which may result from transaction costs or purchasing search costs, firms can charge different prices, net of trade costs, for the same product in different locations. Thus, a firm that sells a product of a particular quality may display price variation across export markets because of national differences in sales conditions [7].

3 Research methodology

In the study, to determine the validity, the questionnaires have randomly been classified amongst the statistical sample, and been distributed among the experts of the petrochemical industry, and that is measured by the Delphi method. The variables were taken out of the study by the experts' perspectives, and regulated by the combinations of the elicited variables out of relevant theses and dissertations, and finally, the expert questionnaire was distributed among the experts of the petrochemical industry, yet the petrochemical products experts who were all of top managers.

Cronbach's alpha has been used to describe the reliability of factors extracted from two-choice questions. Questions with two possible answers or multiple questionnaires or a multi-level formatted scale (such as a Likert scale). The range of Cronbach's alpha reliability coefficient is from zero (0) meaning reliability, to positive one (+1) meaning complete reliability, and the closer the value is to one, the more reliable the questionnaire is. The mentioned concept deals with how much the measurement tool gives the same results in the same conditions according to the following formula.

$$\alpha_k = \frac{k\bar{c}}{\bar{v} + (k - 1)\bar{c}} \quad (3.1)$$

In this regard, the meaning of c , average covariance values of the items (without considering the covariance of each variable with itself) and v is also the average variance of items or questions. Of course, note that we have considered questions or items in the same direction. This means that the Likert scale or spectrum for measuring each item is the same for all questions. The meaning of the same direction is that if the value of 1 means low and 5 means high in a question, the same is done in the rest of the questions and the sequence of values is the same.

$$KMO = \frac{\sum_{j \neq k} \sum r_{jk}^2}{\sum_{j \neq k} r_{jk}^2 + \sum_{j \neq k} p_{jk}^2} \quad (3.2)$$

The KMO index is a measure of "sampling adequacy". In other words, by using the KMO index, the problem is addressed that "has a proper sampling of the variables (based on the two-by-two correlation of the indicators and their partial correlation) been done or not?". The KMO formula is given.

As can be seen in the formula above, in the denominator of the sum of the non-diagonal correlations of the reagents, the sum of the non-diagonal correlations of the reagents plus the sum of the partial non-diagonal correlations of the reagents are included in the denominator. Therefore, the smaller the current correlations are, the larger the KMO index will be and vice versa. The closer the KMO index is to 1, the better "sampling adequacy" there has been in selecting the predictors (manifest variables). The cut-off point of the KMO index for "sampling adequacy" is 0.6, which means that if the KMO index is higher than 0.6, the criterion of "sampling adequacy" has been estimated, and if it is lower than 0.6, it means that the criterion of "sampling adequacy" Not estimated [9].

The primary questionnaire was provided and prepared and run among 235 participants from which a number of 212 were referred back, and then the Alpha Cronbach was calculated as 0.817. The second questionnaire was run for 250, and to calculate the validity and reliability of the questionnaire, a test was administered in the same way and finally, Alpha Cronbach was supposed to be as 0.814. The KMO value for the second questionnaire was 0.811 indicating the high validity and reliability of both questionnaires. In the following tables, we refer to the values separately.

$$r_a = \frac{j}{j-1} \left(1 - \frac{\sum s_i^2}{s^2} \right) \tag{3.3}$$

in this formula, J to be read as the number of subsets of questionnaire or test questions, s_i^2 is for variance subtest and s^2 to be read for the total variance of the test. The study sample size can be calculated based on simple random sampling using Cochran's formula

$$n = \frac{\frac{t^2 pq}{d^2}}{1 + \frac{1}{N} \left(\frac{t^2 pq}{d^2} - 1 \right)} \tag{3.4}$$

in the above-mentioned formula n is Statistical sample size, N is Statistical Society, p is the existence of the investigated attribute, q is Absence of the investigated attribute, t is 0.95 Distribution confidence level and d to be read as 0.05 accuracy level. There are also several alternative ways to determine sample size of population. The term "sample" refers to the portion of the population that enables us to draw inferences about the population. So, the sample size must be adequate to make meaningful inferences. In other words, it is the minimum size needed to estimate the true population proportion with the required margin of error and confidence level. As such, determining the appropriate sample size is one of the recurrent problems in statistical analysis. Its equation can derive using population size, the critical value of the normal distribution, sample proportion, and margin of error.

$$\text{Sample Size } n = N \times [Z^2 \times p \times (1 - p)/e^2] / [N - 1 + (Z^2 \times p \times (1 - p)/e^2)] \tag{3.5}$$

where, N = Population size, Z = Critical value of the normal distribution at the required confidence level, p = Sample proportion, e = Margin of error.

4 The interpretations of the results of factorial analysis

After determining those factors that belong in an experimental manner, it should be strived that sharing experimental variables, which are being loaded on a certain load results in eliciting the common concepts. To what extent the factors in the review literature go for which groups of questions and the factorial loads of which questions are high are as named below in the table.

According to the results achieved, the four effective factors are as, Limitations over entering the export market with five variables including Tax and tariff in the host country, survival, Technology in the host country, Homogeneous, and Market Segmentation. Penetration strategy as the second factor has four variables including Monopoly, Profit Maximization, Revenue Maximization, and Attraction of new customers. The third factor is Market development strategy which has three variables including Market development, Political Conflict, and Pricing based on market leaders. The last factor is Opportunity Creation which has three variables including Marginal pricing, Geographical location, Maximizing the present income of the company.

4.1 The hypotheses of the study

Here, the hypotheses are inferred by utilizing the model of constructional equations as below:

1. Limitations over entering the export market have an impact on the exporting of petrochemical products in Iran.
2. Penetration strategy has an impact on exporting petrochemical products in Iran.

Table 1: factors and variables of pricing strategies and factorial loads

Factors	No of var.	Variables	Factor loads
Limitations over entering the export market	X17	Tax and tariff in the host country	0.713
	X15	Survival	0.673
	X18	Tech. in the host country	0.633
	X13	Homogeneous	0.583
Penetration strategy	X1	Market Segmentation	0.569
	X32	Monopoly	0.576
	X12	Profit Maximization	0.502
	X33	Revenue Maximization	0.518
Market development strategy	X27	Attraction of new customers	0.378
	X36	Market development	0.653
	X3	Political Conflict	0.717
	X26	Pricing based on market leaders	0.469
Opportunity Creation	X31	Marginal pricing	0.42
	X8	Geographical location	0.575
	X23	Maximizing the present income of the company	0.812

3. Market development strategies have an impact on exporting petrochemical products in Iran.
4. Opportunity Creation has an impact on exporting petrochemical products in Iran.

The accuracy of the hypotheses is determined by the use of Second-order factor analysis and by the use of software AMOS.

5 Data analysis

A scientific approach to the study of the internal structure of a set of indicators and measurement validity is to be a confirmatory factor analysis and to estimate the load factor and the relationships between a set of indicators. Load factor is a measure of correlation indicating the relevant factors to be interpreted like any other relationship. Accordingly, each time an index is a bigger factor in the interpretation and that should be given more weight to the index.

Accepting or rejecting the significant factor loadings with respect to the t-value is because of significant numbers. Relationship, if the verified value is greater than 1.96 or less than -1.96 (0.05 level) in the case of factor loadings which are smaller than 0.3 and less than 2, t-statistics are removed. In connection with the review of goodness of fit for the model developed the software offers an end, the most important indicators are as follows. The ratio of chi-square degrees of freedom: one of the best indicators of goodness of fit of the model to investigate the ratio of chi-square statistic, the degrees of freedom. Many scientists believe that this index should be less than 3.

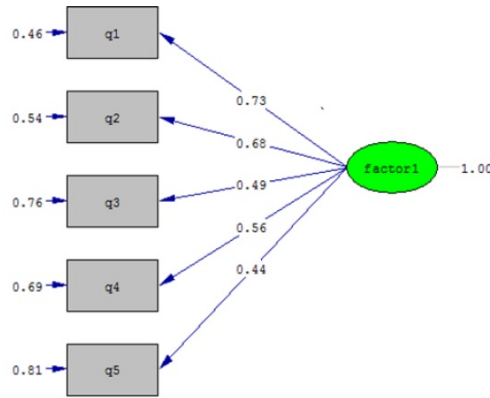
Model errors of the mean squared (RMSEA): This index is based on the model errors made, and if the value is in the range of $0.5 < RMSEA < 0.080$ is a reasonable model fit if $RMSEA < 0.05$ is a very good model fit. Indices (CFI, GFI, IFI, NFI, NNFI): These indicators measure the extent of being well above the 0.9 level models and offer the suitability of the model extracted from the data. The indices continue to export petrochemical products and are tested based on the results of factor analysis.

The significant path coefficients and t-statistics are given in Figures 1 and 2 and with respect to the model parameters in Table 2, the latent variable is to explain the limitations of export markets, and confirmed by items 1-5.

Table 2: Indices of fitting model

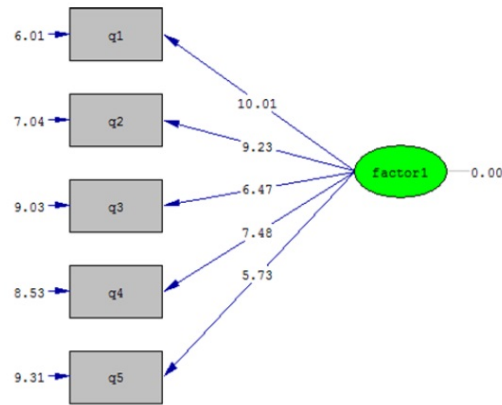
index	value	Acceptable value
RMSEA	0.07	< 0.08
Chi-square/df	1.99	< 3
CFI	0.97	> 0.9
GFI	0.97	> 0.9
IFI	0.98	> 0.9
NFI	0.95	> 0.9
NNFI	0.94	> 0.9

The significant path coefficients and t-statistics given in Figures 3 and 4, and also according to the criteria of goodness of fit of the model in Table 3 latent variable explain the strategy of penetration and is supported by the items 6-9.



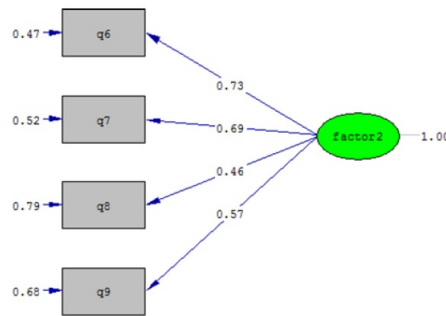
Chi-Square=9.98, df=5, P-value=0.07573, RMSEA=0.070

Figure 1: Latent variable factor loadings Limitations over entering the export market



Chi-Square=9.98, df=5, P-value=0.07573, RMSEA=0.070

Figure 2: A significant factor restriction the latent variable Penetration strategy



Chi-Square=3.72, df=2, P-value=0.15578, RMSEA=0.065

Figure 3: Latent variable factor loadings penetration strategy

According to figures 5 and 6, the standard path coefficients are greater than 0.3 and significant values (t-value) paths are greater than 1.96. The explanatory variables are significantly impacted pathways and overall market development strategy by the items 10-12 are confirmed. But given that the degrees of freedom of the model is equal to zero is not possible to calculate the goodness of fit indices, thus the model is called saturated. The fitted parameters of the saturated model has a value of CIF GIF and NIF.

Similar to the previous case, according to figures 7 and 8, the standard path coefficients are greater than 0.3 and significant values (t-value) paths are greater than 1.96. The explanatory variables are significant and generally,

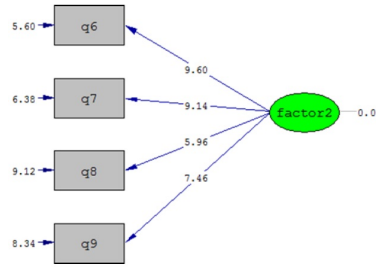
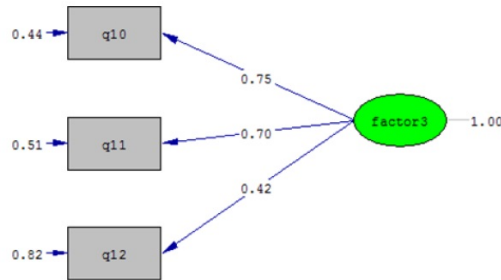


Figure 4: Coefficients between latent variables penetration strategy

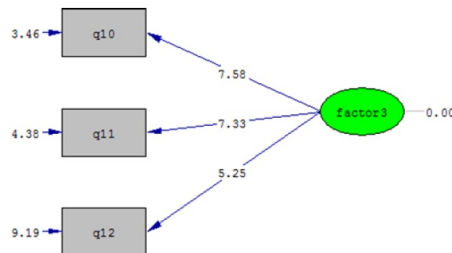
Table 3: Indicators of fitting model

index	value	Acceptable value
RMSEA	0.065	< 0.08
Chi-square/df	1.86	< 3
CFI	0.99	> 0.9
GFI	0.99	> 0.9
IFI	0.99	> 0.9
NFI	0.98	> 0.9
NNFI	0.97	> 0.9



Chi-Square=0.00, df=0, P-value=1.00000, RMSEA=0.000

Figure 5: Latent variable factor loadings market development strategy

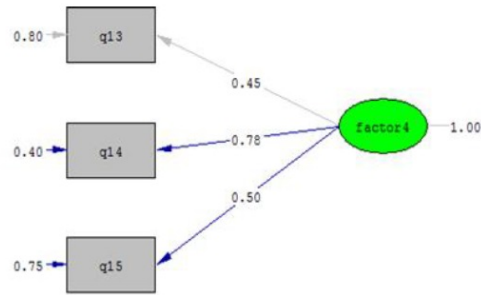


Chi-Square=0.00, df=0, P-value=1.00000, RMSEA=0.000

Figure 6: Coefficients vary significantly impacted the market development strategy

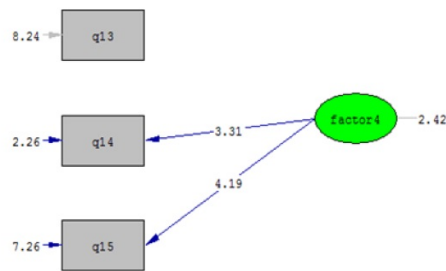
paths lies in creating positions and is approved by the items 13-15. But given that the degrees of freedom of the model is equal to zero is not possible to calculate the goodness of fit indices, the model is called saturated. The fitted parameters of the saturated model has a value of CIF GIF and NIF. As it was, the factors restricting the export market penetration strategy, market development strategy and create opportunities based on inventory items (observed variables) were defined in the definition of these variables, in turn, another factor used as petrochemical exports then go to the second-order factor analysis was used to examine the fit of the model.

As can be seen in Figures 9 and 10, all of the paths according to the standard values of the factor loadings and t values are significant. The values in Table 4 indicate adequate model fit the data. Thus, according to the second-order



Chi-Square=0.00, df=0, P-value=1.00000, RMSEA=0.000

Figure 7: Latent variable factor loadings Opportunity Creation strategy



Chi-Square=0.00, df=0, P-value=1.00000, RMSEA=0.000

Figure 8: Coefficients between latent variables Opportunity Creation strategy

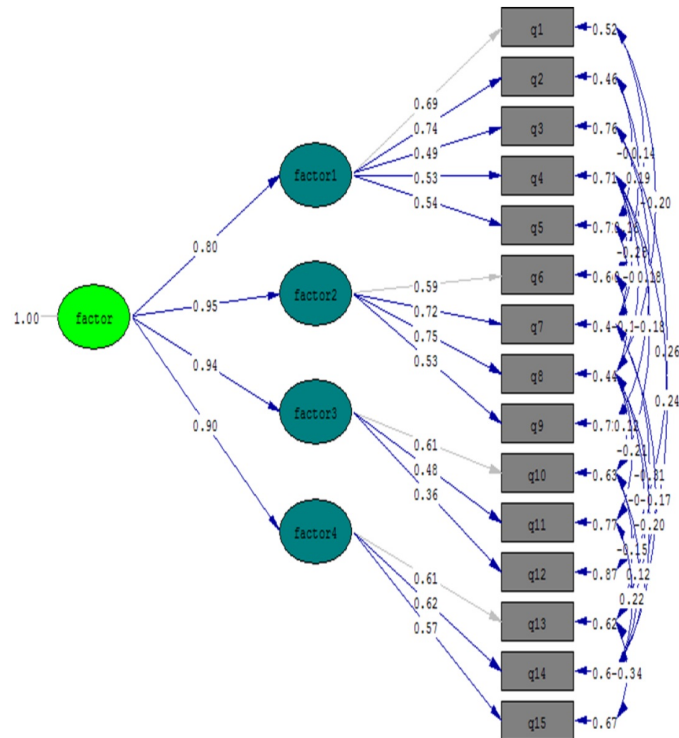
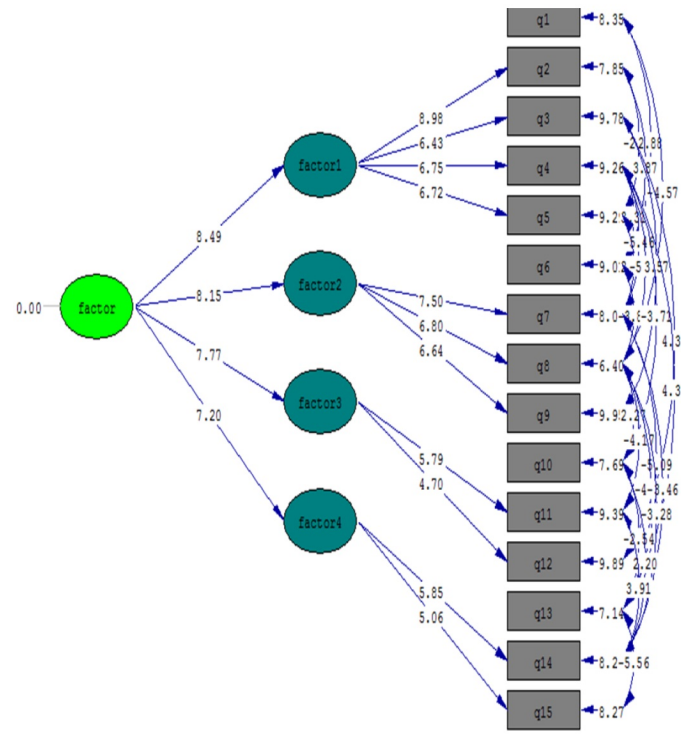


Figure 9: Second-order factor model with standardized coefficients

factor model we examine the payment of the principal assumptions.



Chi-Square=101.16, df=62, P-value=0.00124, RMSEA=0.056

Figure 10: Second-order factor model with significant coefficients

Table 4: Index of fitting model

index	value	Acceptable value
RMSEA	0.056	< 0.08
Chi-square/df	1.63	< 3
CFI	0.96	> 0.9
GFI	0.94	> 0.9
IFI	0.96	> 0.9
NFI	0.91	> 0.9
NNFI	0.93	> 0.9

According to path coefficient and t values are greater than 1.96, the explanatory variables, restricting the trade of petrochemical products on the export market penetration strategy, market development strategy and create a position is approved. In addition, the path can be achieved according to which factors explained a greater impact on trade of petrochemical products , which according to the path coefficients of the penetration strategy (0.95) Coefficient affect, market Development (0.94) and creating the position of 0.90) and restricting the export market with the highest impact factor (0.8) has a minimal impact on trade of petrochemical products.

6 Conclusion

Q1: what are the factors of pricing strategy affecting the exporting petrochemical products?

The results based on the exploratory factor analysis of the data are in table variance. As observed above, out of a total of 37 variables that were extracted and refined in the first set of questionnaires came to have four main factors restrictions on the export market entry, penetration strategies, market development strategy, and creation opportunities, and based on that the five hypotheses can be drawn out of the results of the first question as:

H_1 . Limitations over entering the export market have an impact on the exporting of petrochemical products in Iran. Based on a statistical analysis of the correlation coefficient for pure components as restrictions the export market for exporting petrochemical products with the value 8.0 and the t-value = 8.49 and is significant. In other words, the variance component restriction market entry on the size 8.0 is the change in the variance of exports.

Table 5: Results of the second-order factor analysis in explaining exports of petrochemical products

t-statistics	Standardized coefficients	Measures	variable	
–	0.69	tax and tariff in host country survival	restrictions on the export market entry	
8.98	0.74	tech. in host country target market	(0.8, t-value=8.49)	
6.43	0.49	market segmentation		
6.75	0.53			
6.72	0.54			
–7.50	0.59	Drawing customer satisfaction	Penetration strategy (0.95, t-value=8.15)	Exporting petrochemical products
6.80	0.72	Current profit maximization outcomes		
6.64	0.75	Market share		
	0.53	Drawing new costumers		
–5.79	0.61	Developing product market	Development market strategy	
4.70	0.48	Product associated with the global economy	(0.94, t-value=7.77)	
	0.36	Priced market leaders		
–	0.61	Price stability in the market	Creating position (0.90, t-value=7.20)	
5.85	0.62	The geographical location of the company		
5.06	0.57	Maximize the company's current revenue		

H_2 . Penetration strategy has an impact on exporting petrochemical products in Iran.

Based on a statistical analysis of the correlation coefficient for pure components as a penetration strategy for exporting petrochemical products with the value 0.95 and the t-value = 8.15 that is significant. In other words, the variance component penetration strategy on the size 8.0 is the change in the variance of exports.

H_3 . Market development strategy has an impact on exporting petrochemical products in Iran.

Based on statistical analysis of the correlation coefficient for pure components as a development market strategy for exporting petrochemical products with the value 0.94 and the t-value = 7.77 and that is significant. In other words, the variance component development strategy on the size 0.94 is the change in the variance of exports.

H_4 . Opportunity creation has an impact on exporting petrochemical products in Iran.

Based on a statistical analysis of the correlation coefficient for pure components as creating a position for exporting petrochemical products with the value 0.90 and the t-value = 7.20 that is significant. In other words, the variance component creating position on the size 0.90 is the change in the variance of exports.

Q2: to what extent the impacts of the critical components in the Iranian petrochemical exports to the pricing strategy is?

According to the path coefficient and t values that are greater than 1.96, the explanatory variables, restricting the trade of petrochemical products on the export market penetration strategy, market development strategy, and creating position are all approved. In addition, the path can be achieved according to which factors explained a greater impact on the trade of petrochemical products, which according to the path coefficients of the penetration strategy the (0.95) Coefficient effect, market development (0.94) and creating the position of (0.90) and restricting the export market with the highest impact factor (0.8) has a minimal impact on trade of petrochemical products.

The components of an effective and appropriate value for these variables are because the estimate is a factor that has been approved in the study. The four factors affecting pricing strategies in Iran's petrochemical products are "Limitations over entering the export market" with five variables including Tax and tariff in the host country, survival, Technology in the host country, Homogeneous, and Market Segmentation. the second approach "Penetration Strategy" consists of four variables including Monopoly, Profit Maximization, Revenue Maximization, and Attraction of new customers. The third factor "Market development strategy" has three variables including Market development, Political Conflict, and Pricing based on market leaders. The last factor "Opportunity Creation" has three variables including Marginal pricing, Geographical location, and maximizing the present income of the company. All the important factors in the table above were determined based on the amount and price targets of Iran's petrochemical products, and all are effective. Further research is recommended to identify the components of the pricing in the study of effective pricing strategies as well as imported products because of the special importance of the role of political factors in the world, particularly the Middle East.

References

- [1] G.J. Avlonitis and K.A. Indounas, *Pricing objectives and pricing methods in the services sector*, J. Serv. Market. **19** (2005), no. 1, 47–57.
- [2] I.B. Baalbaki and N.K. Malhotra, *Marketing management bases for international market segmentation: An alternate look at the standardization/customization debate*, Int. Market. Rev. **10** (1993), no. 1.
- [3] A.B. Bernard, J. Eaton, J.B. Jensen, and S. Kortum, *Plants and productivity in international trade*, American Econ. Rev. **93** (2003), no. 4, 1268–1290.
- [4] N.C. Caister, K.S. Govinder and J.G. O'Hara, *Solving a nonlinear pde that prices real options using utility based pricing methods*, Nonlinear Anal.: Real World Appl. **12** (2011), no. 4, 2408–2415.
- [5] A. Dolgui and J.-M. Proth, *Pricing strategies and models*, Ann. Rev. Control, **34** (2010), 101–110.
- [6] S.P. Douglas and C.S. Craig, *Evolution of Global Marketing Strategy: Scale, Scope, and Synergy*, Read. Int. Bus.:A Decision Approach, MIT Press, Cambridge, MA, 1993.
- [7] N.S. Economides, *The economics of trademarks*, Trademark Rep. **78** (1988), 523.
- [8] P.K. Goldberg and M.M. Knetter, *Measuring the intensity of competition in export markets*, J. Int. Econ. **47** (1999), no. 1, 27–60.
- [9] M. Hanlon and S. Heitzman, *A review of tax research*, J. Account. Econ. **50** (2010), no. 2–3, 127–178.
- [10] M. Kienzler, *Does managerial personality influence pricing practices under uncertainty?*, J. Product Brand Manag. **26** (2017), no. 7, 771–784.
- [11] M. Kienzler and C. Kowalkowski, *Pricing strategy: A review of 22 years of marketing research*, J. Bus. Res. **78** (2017), 101–110.
- [12] P. Kotler and G. Armstrong, *Principal of Marketing*, 10th Edition, Upper Saddle River, New Jersey: Prentice Hall, 2002.
- [13] J.D. Loecker and F. Warzynski, *Markups and firm-level export status*, Amer. Econ. Rev. **102** (2012), no. 6, 2437–2471.
- [14] P. Michael, *Competitive Advantage: Creating and Sustaining Superior Performance*, New York: FreePress, 1985.
- [15] M. Miraldo, *Reference pricing and firms' pricing strategies*, J. Health Econ. **28** (2009), no. 1, 176–197.
- [16] M.B. Myers and S.T. Cavusgil, *Export pricing strategy-performance relationship: A conceptual framework*, Adv. Int. Market. **8** (1996), 159–178.
- [17] E.K. Odongo, N. Agneta, and E.O. Orinda, *The impact of global cultural differences on the pricing strategies in United States of America*, Int. J. Acad. Res. Bus. Soc. Sci. **2** (2012), no. 2, 58–68.
- [18] T.G. Pollock, G. Chen, E.M. Jackson, and D.C. Hambrick, *How much prestige is enough? Assessing the value of multiple types of high-status affiliates for young firms*, J. Bus. Ventur. **25** (2010), 6–23.
- [19] D. Shipley and D. Jobber, *Integrative pricing via the pricing wheel*, Ind. Market. Manag. **30** (2001), no. 3, 301–314.
- [20] O. Somervuori, *Profiling behavioral pricing research in marketing*, J. Product Brand Manag. **23** (2014), no. 6, 462–474.
- [21] M. Theodosiou, *Factors influencing degree of international pricing strategy: An empirical investigation*, Glob. Econ. Proc. **2012** (2012), 246–253.
- [22] J.R. Tybout, *Plant and firm-level evidence on "new" trade theories*, K. Choi and J. Harrigan (eds.), Handbook of International trade, Oxford: Basil-Blackwell, 2013.
- [23] C.-H. Wu, *Product-design and pricing strategies with remanufacturing*, Eur. J. Operat. Res. **222** (2012), 204–215.