

# The Effect of Product Mix and Price on Increasing Sales of Products Manufactured in Butane Company

Rasoul Baradaran Hassanzadeh<sup>1</sup>, Amin Boluori<sup>2</sup>, Morteza Akbari Vane abad<sup>3</sup>, Karim Abri Kheljan<sup>1</sup>

<sup>1</sup>Department of Accounting, Tabriz Branch, Islamic Azad University, Tabriz, Iran; <sup>2</sup>Department of Accounting, Payam Noor University, Iran; <sup>3</sup>Department of Management, Ahar branch, Islamic Azad University, Ahar, Iran

## Abstract

The goal of the present study is to study the effect of product mix and price on increasing sales of products manufactured in Butane Company. Thus, besides a review of the concepts of product mix and price, a main hypothesis was posed regarding the effect of product mix and price on increasing sales of products manufactured in Butane Company and two minor hypotheses were posed on the effects of each of the mixes in isolation on increasing sales of products manufactured in Butane Company in Ardebil. The statistical population for this research included all customers of Butane Company in Ardebil. The statistical sample was selected by using the table determining the volume in limited populations and they were determined to be 160 persons who were chosen by using a random rank sampling method. To collect the data, we have used a questionnaire whose validity was approved formally and its reliability was approved by using Cronbach's alpha coefficient. In order to analyze the data, we have used Kolmogorov-Smirnov's, t, and an independent population tests. Results showed that product mix and price affect the increasing sales of products manufactured in Butane Company. Also the priority of effect is for product and price, respectively.

**Keywords:** product mix, price, sales, products of Butane Company

## Introduction

In the competitive world of today, organizations need to use marketing techniques and also professional marketing researches to survive. Stud-

ies have shown that the unsuccessfulness of companies results from their inability in exploiting marketing techniques. These companies ignore market changes and changes in consumption pattern of customers and are busy with sales and prefer earnings to customers' satisfaction. Meanwhile, marketing is a war but not with weapons or guns as Albert Emery pointed out that: "Marketing is a civilized war through which mostly those companies and organizations win that use more desirable ideas and intellectual regularities. In other words, they are organized regarding to date marketing to step forward in the scene of battle (Constantinides, 2004). Kotler believed that most companies pay lots of attention to reduce costs while lack of spending on marketing will create more costs (Kotler, 2000). Marketing management is one of the macro levels of organizational management which can be studied and analyzed regarding a systemic attitude towards elements in the organization, the relations between them, the type of affecting to each other, and the internal relationship between them as an integrated and concise system. In a simpler expression, in this process, the study on internal and external factors in the organization and products is carried out by doing "marketing researches". Also it is tried to do an appropriate comparison between these factors and thus study about the most appropriate strategies and practical solutions in order to achieve organizational goals by studying and analyzing internal factors within an organization and related to the product regarding different aspects of managerial, financial, qualitative features of products, and marketing which is the effective and determinative factor.

Marketing mix represents principal activities of marketing managers. After choosing a target mar-

**Corresponding author:** Amin Boluori, Department of Accounting, Payam Noor University, Iran. E-mail: Amin\_boluori63@yahoo.com.

ket, marketing managers should devise a systematic program for sales to customers and creating long-term relationships with them (Devlin & Ennew, 1997). Marketing program is formed by decisions about product, price, promotion, and distribution. These are the most important parts for which firm's resources are appropriated by marketing managers to achieve the goals such as sales and profitability (Goldsmith, 1999).

**Table 1: The composition of marketing elements and main variables of each P regarding Phillip Kotler's viewpoint**

Product (good)	sales price	Pioneering advertisem.	Supply location
Good variety	Price list	Sales pioneering discounts	Distribution channels
Quality	Discounts	Media discounts	Comport
Design	Extraordinary discounts	Sales' staffs	Supply locations
Characteristics	Payment time (maturity)	Public relations	Inventory
Business letter	Credit conditions	Direct marketing	transportation
Packing			
Size			
Services			
Securities			
Returned			

In mix marketing, a product is something presented to the market to absorb attention, purchase, utilize, or consume and may satisfy a need or meet a tendency. Product can entail a physical object, service, location, organization, or even an idea or a thought (Mohebbali, 2002). The most important factor in selection of a good is the knowledge of customer about it. Even the distributors and delivery agents should have a professional and precise knowledge about the goods in order to sell it relying on their own information when it seems necessary or defend its quality against the other similar goods. To know goods, it is not enough to have some information only about its physical or chemical characteristics or its application, but there is lots

of other information which should be documented. Some features of commodities such as: competitive price, name of commodity, name of manufacturer, good's quality, alternative goods, similar goods produced by rivals, form, shape, design, color and packing, purchase facilities, delivery time, transportation services, warranty of good's quality, after sale services, and size of goods, are data should be investigated when a commodity is going to be studied (Blorian-e-Thrani, 2008).

In mix marketing price is the amount of money which should be paid to an individual's or an organization's account in return of a product or service. Regarding a broader perspective, price equals total values that a consumer loses exploit the advantages of having a certain product or a service (Kotler & Armstrong, 2006). Price is the amount of money spent for a commodity or a service. Meanwhile, price is the sum of values exchanged by consumers for their own personal benefits to have or use a commodity or services (Azizi, 2002). Pricing decisions of a company are affected by internal or external or environmental factors in an organization. Internal factors affecting pricing can be categorized as long-term marketing goals, mix marketing strategy, costs, and organization. External factors affecting pricing decisions are nature of the market and demand, competition, and other environmental factors (Kotler & Armstrong, 2006).

The importance of marketing has caused a lot of researches carried out in the field. However, new researches have not been carried out regarding to 4p. Some of the most recent researches about marketing are as follows:

Teerling & Pieterse (2010) paid attention to multi-channel marketing. Authors express that governments try to interact and help citizens through different methods and thus the development of communication media are among the requirement for development of countries and the development of e-commerce (electronic government) is considered as the best opportunity for the entities and individuals in order to use it in advertisement in a way that they claim the goal of their researches is to show the effect of advertisement through channels of governmental e-commerce services. Kaplan & Haenlein (2009) dealt with the importance of public marketing development. These authors noticed the role of public marketing in public places and emphasized on the importance of this part of marketing in achieving organizations' goals.

On the whole, we can conclude from the discussions above that mix marketing is specifically important in identifying the status of a company in target market and also in absorbing the attentions of customers. In fact, mix marketing is one of the important and determinative factors in maintaining or increasing sales in a company. However, in Ghaynar Khazar, the effect of utilizing the elements of mix marketing of 4p and observing its overall principles has been ignored. Now regarding the increases in competitive conditions in the market and the probability of encountering the outcomes of joining world trade organization (WTO), the main goal of this research is to study the effect of utilizing mix marketing elements (4p) on increasing sales of products manufactured in Butane Company in Ardebil and identifying the priority of effectiveness of each of the elements of mix marketing on increasing sales in this company.

## Materials and Methods

This research is applied regarding the goals but it is descriptive regarding research method. Also it is a survey study considering the control conditions in the research. Regarding the width it is a vast research and regarding the range it is a micro-level study. Thus, in this research we have used a descriptive-survey method to know the characteristics of statistical population through which we have investigated about the present nature and status.

### Statistical population and statistical sample

The statistical population for this research entails all customers of sales agencies of Butane Company products in Ardebil which was calculated to be 270 persons regarding the time limitation and location where the research has been carried out. By using the table posed by Kerjesi & Morgan and

also Cohen, the number of our sample was calculated to be 159 persons and in order to have more assurance, the number was considered to be 160 persons. A list of all representative agents of Butane throughout Ardebil was extracted and the standard questionnaire was distributed among their customers during a specific time interval. It should be noted that in order to avoid the slantwise direction and in order to present an equal chance for all individuals in statistical population in selection, we used a random rank sampling method.

### Research tools

To collect data, we used a researcher made questionnaire with a 5 alternatives Likert's continuum. The questionnaire included 16 questions which were related to first hypothesis (mix product) from question 1 to 8 and to second hypothesis (mix price) from question 6 to 16, respectively. To determine the validity of questionnaire, we used the viewpoints posed by professors and scholars in the field and in order to determine the reliability 30 questionnaires were distributed among the sample members and Cronbach's alpha coefficient was calculated for the questions. Finally the research questionnaire was approved with a validity degree of 0.89.

### Data analysis

In this research we used Kolmogorov-Smirnov's tests to test research hypotheses and used t test (average of an independent population) to test the normality of data. To test main and minor hypotheses, we used Freedman's test and in order to rank mixes (product and price).

## Results

Results of testing first and second minor hypotheses are represented in table (2).

**Table 2: Results of testing first and second minor hypotheses**

Hypothesis	t	Degree of freedom	P	Mean difference	Confidence interval for the mean difference of the two groups	
					Low limit	High limit
1	35.464	159	0.000	1.224	1.156	1.292
2	22.777	159	0.000	0.9805	0.8955	1.0655

Testing first minor hypothesis: Mix product affects increasing sales of products of Butane Com-

pany in Ardebil. To test research hypothesis we worked as follows:

H0: Mix product does not affect increasing sales of products of Butane Company in Ardebil.

H1: Mix product affects increasing sales of products of Butane Company in Ardebil

Results of data in table (2) show that the amount of t equals to 35.464 and regarding the fact that the significance level of test (sig) is less than 0.05, and confidence level for the difference between the averages shows that regarding the positive sign of low limit and high limit, the mean is greater than the amount tested. Thus, the research hypothesis is approved. Considering data in table (2) we can conclude that mix product affects increasing sales of products of Butane Company in Ardebil.

Testing second minor hypothesis: Mix price affects increasing sales of products of Butane Company in Ardebil. To test research hypothesis we worked as follows:

H0: Mix price does not affect increasing sales of products of Butane Company in Ardebil.

H1: Mix price affects increasing sales of products of Butane Company in Ardebil.

Results of data in table (2) show that the amount of t equals 22.777 and regarding the fact that the meaningfulness level of test (sig) is less than 0.05, and confidence interval for the difference between the averages shows that regarding the positive sign of low limit and high limit, the average is greater than the amount tested. Thus, the research hypothesis is approved. Considering data in table (2), we can conclude that mix price affects increasing sales of products of Butane Company in Ardebil.

#### *Importance of each of mixes (product and price) and their constituent elements*

In this part, we used Freedman's test in order to determine the importance and priority of each of mixes (product and price). Results of Freedman's test are represented in table (3) and their rankings are shown in table (4).

**Table 3: Freedman's test to rank mixes (product and price)**

Number	160
Chi Square	357.3
Degree of freedom	4
Meaningfulness level	0.000

Regarding the data in table (3), it can be observed that Chi2 is equal to 357.3. Also the meaningfulness equal is 0.000.

**Table 4: Average ranks of elements of mixes (product and price)**

Number	Marketing mixes	Rank average
1	Product	2.95
2	Price	2.17

Thus, we can conclude that there is a difference between mixes of product and price. Regarding the Freedman's test, in order to rank and determine priority for the dual constituents in sales ' amount, it can be observed that product mix with an average of 2.95 has had the highest importance in increasing sales of products in Butane Company and is placed first and the variable of price is placed in second rank due to its amount which is equal to 2.17 and this shows the less importance for comparison with the product mix in sales. In other words, we can say that the priority of the effect of 4p mixes on sales amount is product and price, respectively and it can be concluded that the buyers of the products of Butane Company in Ardebil mostly pay attention to mix product and commodity's price has a less importance in their purchasing than product.

Also in order to determine the importance and ranking of the elements constituting mixes (product and price), we have used Freedman's test.

#### *Determining the importance of constituents of mixes (product and price)*

Regarding the data in table (5), it can be observed that Chi2 gained for elements constituting product and price were equal to 69.803 and 63.801, respectively. Also the meaningfulness level for all of them is equal to 0.000. Thus, we can conclude that there is a difference between the importance of product and price mixes.

**Table 5: Meaningfulness of the difference of marketing mixes**

Marketing mixes	Product	Price
Number	160	160
Chi Square	96.803	63.801
Degree of freedom	7	7
Meaningfulness level	0.000	0.000

#### *Determining the importance of elements of product mixes*

Regarding Freedman's test, in ranking and determining priority of the effects of product mix



variables in sales, it can be observed that the variables including Quality (strength and durability and life span), after sales services and accepting any return or damaged ones, Guarantee and Warranty of the product, brand and presenting technical consultation by the company, features, dimensions and weight of product, product variety, designing (shape and apparent color), and product packing have had the highest effects on the importance of increasing products of Butane Company in Ardebil. Thus, customers believe that quality, after sales services and acceptance of return products, Guarantee and Warranty of the products of Butane Company are more effective than other product mix factors on increasing sales.

**Table 6: Mean ranks of product mix**

Rank	Variables related to product mix	Rank mean
1	Quality	5.5
2	After sales services	5.09
3	Guarantee and Warranty	5.02
4	Brand and technical consultant	4.27
5	Features, dimensions and weight	4.21
6	Variety	4.11
7	Design (shape and surface color)	4.00
8	Product packing	3.81

#### *Determining the importance of elements of price mixes*

Regarding Freedman's test, in ranking and determining priority of the effects of price mix variables in sales, it can be observed that the variables including time or period for payment (long term payment), price reduction for each additional purchase (deductions), discount amount and variety in discount, on account sales, price flexibility in paying credits, current prices compared to rivals' prices, current discount method and its amount, presenting the list of sales price, have had the highest importance in increasing the sales of products of Butane Company in Ardebil, respectively.

Thus, customers believe that time or period for payment (long-term payment), price reduction for each additional purchase (deductions), discount amount and variety in discount, and on account sales of products of Butane Company have

had more effects on price mix elements than other factors.

**Table 7: Mean ranks of price mix**

Rank	Variables related to price mix	Rank mean
1	Time or period for payment	5.06
2	Price reduction for each additional purchase	5.05
3	Discount amount and variety in discount	4.95
4	On account sales	4.59
5	Price flexibility in paying credits	4.57
6	Current prices compared to rivals' prices	4.01
7	Current discount method and its amount	3.95
8	Presenting the list of sales price	3.83

#### **Discussion and conclusion**

Mix marketing is a key concept which identifies techniques and tools through which the sellers can create value for themselves and absorb and maintain loyal customers. Regarding the fact that mix marketing is one of the important factors in devising marketing strategy and increasing sales and changing the size of market's share, it is necessary to study the amount of effectiveness and role of each of its constituents in increasing sales of companies. Thus, the thing which was investigated in this research was the effect of product and price mixes on increasing the sales of products of Butane Company in Ardebil. Finally, after testing research hypotheses finally it was shown that mixes product and price both affect the increase of sales of products in Butane Company. Also the results of Freedman's tests to rank marketing mixes and the constituents of each of mixes (product, price) in this research were as follows:

1. Product: 1- Quality (strength and durability and life span), 2- after sales services and accepting any return or damaged ones, 3- Guarantee and Warranty of the product, 4- brand and presenting technical consultation by the company, 5- features, dimensions and weight of product, 6- product variety, 7- designing (shape and apparent color), and 8- product packing

2. Price: 1- time or period for payment (long term payment), 2- price reduction for each additional purchase (deductions), 3- discount amount and variety in discount, 4- on account sales, 5- price flexibility in paying credits, 6- current prices compared to rivals' prices, 7- current discount method and its amount, 8- presenting the list of sales price

The most important limitations of this research were shortage of researches carried out in the field in Butane Company regarding marketing and thus lack of enough and concise information in this regard, lack of co-operating of authorities and lack of access to some of authorities in the company and also in active sales representatives of the products of Butane Company in Ardebil and not taking time to answer the questions and presenting information about this research due to some different reasons, shortage of scientific resources regarding marketing for appliances especially Butane Company products.

On the whole, we should consider that the competitive structure of market requires the knowledge and awareness of management of the views and demands of customers and assess how to exploit mix marketing in the market more than anything else, in order to achieve a larger amount of sales and market share size. Awareness about the amount and importance that the customers of products consider about each of the constituents of mix marketing and the variables of each of these factors can determine the strengths and weak points of the company in its activities. In this research the effect of mix product and price factors on sales of the company was determined and also product was chosen as the first priority because it had the most effect on sales' increases and price was ranked the next.

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