

## Investigating the Impact of Marketing Mix Strategies on Physicians' Satisfaction in the Yemeni Pharmaceutical Industry

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### ABSTRACT

*Previous studies have paid much attention on marketing mix strategy and customer satisfaction, but none has explored in pharmaceutical industry. This study fills this research gap. The main purpose of this study is to investigate the impact of marketing mix strategies employed by local pharmaceutical companies on physicians' satisfaction with locally manufactured drugs in Yemen. Therefore, this study proposes the rare and novel constructs respectively marketing mix and physician satisfaction and provides a research framework to explore the relationships among product, price, promotion and place of local drug and physician satisfaction. The data for this study was collected by of self-administrated questionnaire from sample of 300 specialist physicians in Sana'a city. Out of 300 questionnaires, 192 were returned by the end of September, 2013. Data were analyzed by using software SPSS-19 version by adopting the statistical techniques regression. The results of the study showed that four marketing mix strategies were significant and have positive impact on physicians' satisfaction. The results of this study can be used as guideline for marketing management in Yemeni pharmaceutical industry to be more successful in planning their marketing strategies and programs.*

**Keywords:** pharmaceutical industry, marketing mix strategy, physicians' satisfaction.

### 1. INTRODUCTION

In the last few years, marketing has become the backbone of all industries even in the medicinal and pharmaceutical industries. Although the pharmaceutical industry produces life-saving drugs, marketing is also a crucial aspect to look into (Anamul, 2011). In addition, the pharmaceutical industry has become an example of business to consumer marketing and has attracted the attention of marketing academics (Joseph et al., 2004). In the practical side, the basic R&D together with the sales and marketing activities are two of the most important operative and even more strategic priorities of the world pharmaceutical industry

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(Kestic, 2009). The practice also shows that the main goal for pharmaceutical firms is to achieve customer satisfaction (Anita, 2009; Charles et al., 2012; Prashant et al., 2012). Furthermore, every matured and highly competitive “pharmaceutical industry” requires the satisfaction of customers as a sign of customers’ retention (Oliver, 1999; Pizam & Ellis, 1999; Cronin & Taylor 1992). Physicians’ satisfaction is one of the most important factor that effect on their loyalty towards the firm (Hani et al., 2012) that leads towards the an increase in market share (Morgan et al. 2005) also leads to increase in word of mouth (Guo et al. 2009). Therefore, satisfaction is an issue that cannot be overlooked in marketing strategy, since it provides foundation for a pharmaceutical firm to build their marketing strategy and value creation program (Yang and Peterson, 2004).

Nowadays, physicians are the imdividual that make a decision of the drug to be prescribed to their consumers and recommend the drug to be chosen for their consumers (Hani et al., 2012; Prashant et al., 2012). Thus, physicians are seen as powerful controlling the access to the final consumers. In a competitive situation, pharmaceutical manufacturers should focus all marketing strategy to meet the needs of their customers and to achieve maximum satisfaction (Anita Mishra, 2009; Charles et al., 2012). In addition, empirical studies showed that if the aim of the marketing mix strategies is to satisfy the physicians, the marketing mix strategy need to pay more attention to the satisfaction of physicians (Prashant et al., 2012). Therefore, understanding the relationship between marketing mix and achieving a high level of physician satisfaction is the most important issues for many pharmaceutical manufacturers. Addressing these issues represents the primary focus of this study.

The pharmaceutical industry in Yemen is considered one of the most important strategic industries in the manufacturing sector and it plays an important role in economy and labor market. It can be regarded as one of the most important industries in the manufacturing sector. The number of local pharmaceutical manufacturers increase from one to nine (increase = 800%). Local pharmaceutical companies cover a small percentage of the total market need (6.85% in 2006, 10.8% in 2010), whereas imported medicines via private sector agents cover most of the needs of the country (around 85%) (Adnan et al., 2012).

Recently, there are many problems faced by the pharmaceutical industry in Yemen that need to be addressed within local drugs companies to meet customers’ expectations. The competition is the one major problem faced by the national pharmaceutical manufacturers (Mahmud et al., 2012). The report of the Ministry of health (2011) showed that the Yemeni market is become more open to foreign pharmaceutical companies, where many global pharmaceutical companies have entered to market with strong brands and focused on building the relationship with physicians. The customer satisfaction is crucial in such

business. That is an additional problem to develop a model of satisfaction. Thus, this is an opportunity to develop a study in a competitive market as the Yemeni market.

In addition, there are the belief inherited in Yemen on appreciation and admiration of foreign made products and a negative view toward locally made products including drugs (Khalid, 2010). These issues may lead to the failure of local pharmaceutical manufacturers, in playing an important role in economy and labor market (Hani et al., 2012).

In the pharmaceutical industry, empirical research showed that the aim of marketing mix strategy related to (4P's) is to satisfy the consumers needs, the marketing mix strategy need to pay more attention of pharmaceutical companies to achieve physician's satisfaction (Prashant et al., 2012). The framework of marketing mix (4P's) (product, price, promotion and place) has become acceptable marketing model in the all industries including pharmaceutical industry, because of the extraordinary effect on marketing practices (Grönroos, 1997; Kotler, 2005). In this research, the strategies of market mix include product, price, promotion and place. The selection of these strategies was based on the previous studies. However, to our knowledge; there are no previous studies on the effect of MM strategies on physician satisfaction in the pharmaceutical companies.

This study intends to contribute to the development of a conceptual framework that integrates marketing mix strategies, product, price, promotion and place and satisfaction in pharmaceutical industry. Specifically, the study investigates the relation between differences in marketing mix strategy perceptions offered by pharmaceutical companies and physician satisfaction. It reviews the literature on these two constructs and outlines the expected relationships. Appropriate measures are identified and research is carried out among drug consumers. Implications for theory development and marketing are discussed, limitations of the research are noted and possible areas for further research are indicated.

## **2. LITERATURE REVIEW**

Marketing exists because of unfulfilled needs and wants of customer (Kotler, 2005). In pharmaceutical industry; marketing is the backbone of pharmaceutical companies. Although the pharmaceutical industry produces life-saving drugs, they also need marketing (Anamul, 2011). According to Kotler (2005), marketing as "the science and art of exploring, creating and delivering value to satisfy the needs of a target market at a profit". In competition situation, companies should forward their activities to meet customer needs and achieve customer satisfaction (Jain, 2000; Cant et al., 2006; John, Joby, 2003). Therefore, customer satisfaction

is the focus rather than customer acquisition (Kotler, 2005). Kotler (1994) importantly stated that “the key to customer retention is customer satisfaction”.

According to (Kotler & Armstrong, 2006) the marketing mix is defined as 4P's namely the product, price, place and promotion. They are designed to influence physician decision-making and lead to profitable exchanges. In the pharmaceutical industry, empirical research showed that the aim of marketing mix strategy related to (4P's) product, price, promotion and place are to satisfy the consumers needs, the marketing mix strategy need to pay more attention to pharmaceutical companies in achieving physician's satisfaction (Prashant et al., 2012). Therefore, given the importance and complexity of the relationship between customers (physicians) and pharmaceutical manufacturers/suppliers, marketing mix strategy can be considered powerful tools in this context especially to develop and improve the physician's satisfaction. In this paper, the 4P's considered as pharmaceutical marketing mix strategies which are discussed below:

## **2.1 Product Strategy**

According to Kotler and Armstrong (2006), a product is "anything that can be offered to a market for attention, acquisition, use or consumption that might satisfy a want or need". Drug product is any substance produces a physical or psychological change in the body' (Campbell, 2005, p. 18) that can be offered by pharmaceutical companies for use or consumption that might satisfy needs and wants of customer.

Many attributes of a company's drug products, including brand name, quality, effectiveness and complexity can affect physician behavior. The physical appearance of the drug product and labelling information and packaging could influence the consumers to notice a product in- realities stores, examine and purchase it. One of the key tasks of the drug marketers is to differentiate their drug products from those of their competitors and create physician perceptions that the product is worth purchasing (Peter and Donnally, 2007).

According to Kotler (2002), a product manufacturer needs to think about the product in three levels namely core product, actual and augmented product. Thus, that drug marketers must first identify the core needs of consumers to be satisfied by a drug product and second they must design the actual drug product in terms of the brand names, quality, features and packaging and finally find ways to increase it as a bundle that best satisfies the customer needs.

## **2.2 Price Strategy**

Price is one of the 4 P's elements in the marketing mix strategy of a firm. The price of drug products often influences consumers. Thus, the customer is ready to pay a higher price to get a better medicine (Shaker, 2012). David (1981) defined the price as the amount of money charged for a product or service or the sum of the values that consumers exchange for the benefits of having or using the product or service. Thomas et al (1995), stated that marketing mix- strategy is one of the factors affecting price decisions. The price structure must be in synergism with the other strategies of the marketing mix, i.e. promotion and place and people. If a company is to conduct an intensive promotional campaign, price structure must be structures to achieve a reasonable return on investment.

## **2.3 Place (Distribution) Strategy**

A distribution channel is “sets of independent organizations involved in the process of making a product or service available for use or consumption” (Armstrong & Kotler, 2006). The purpose of a distribution channels is to make the right quantities of the right (drug) product available at the right place, at the right time. Distribution strategy unique via other marketing mix decisions is that it depends almost entirely on physical location. In addition, companies can adopt several channels to get consumers to their products; these channels can be direct and indirect to customers (Kotler, et al., 2002). Choice of channel distribution has strong affect on sales and satisfaction of customer (Keller, K.L 1998).

There are a number of aspects of distribution strategy in pharmaceutical industry which is important apart from competitive products pricing, including the frequency, reliability of deliveries especially to remote areas, the convenience of delivery times and stock availability. The relative importance of these competitive factors is likely to vary between pharmaceutical manufacturers and/or wholesalers as distributors (Ang Hoo, 2011). Therefore, pharmaceutical firms should pay more attention to the decisions of the distribution, because of the importance of the product and consumption occurring at the same time and at the same place. In addition, it should pay attention to how it can deliver the product at the right time and at the right place and which channel will be used to deliver the product to customers (Copley, 2004).

## **2.4 Promotion Strategy**

The modern promotion strategy consists of a mix of promotion tools widely known as the promotion mix. Promotion mix strategies which are the advertisement, sales promotion, public relationship development and sales force, are one of the most important components of the drug product marketing mix programs. According to Kotler and Keller (2009), pharmaceutical companies

must allocate the marketing promotion budget over the eight major modes of communication-advertising, public relations and publicity, sales promotion, sales force, events and experiences, interactive marketing, direct marketing and word-of-mouth marketing. These tools the companies use to pursue its promotion and marketing objectives (Kotler, 2002). Therefore, in the pharmaceutical industry, a successful promotion mix strategy can make use of all the elements of the promotion mix.

Personal selling is the promotional tool heavily used by the pharmaceutical companies; each pharmaceutical company has sales and medical representatives' teams. Their tasks are to promote the products of the company to physicians and pharmacists, to make sales and to build customer relations. Sales promotion is also used by the pharmaceutical companies in terms of structural bonus schemes on sales or discounts. These incentives are widely used to encourage the pharmacies and drug stores to purchase their products and give them the priority in selling to customers. Public relations used by pharmaceutical companies usually strengthen their relations with their physicians through workshops, symposiums and table meetings (Massaod, 2007).

## **2.5 Physician Satisfaction**

As concluded by the literature review, customer satisfaction is a summary emotional or cognitive response of varying intensity (Oliver, 1997; Kotler, 2006) with a time-specific point of determinate and limited duration, directed (Oliver, 1997; Wilson, et al., 1995; Anderson, 1993) toward focal aspects of product use and/or consumption.

Empirically, customer satisfaction has been defined in two ways; namely transaction specific satisfaction and cumulative/overall satisfaction (Boulding, 1993). However, the concept that appears to have achieved the widest acceptance among researchers especially after 1990's, is that satisfaction is an overall evaluative judgment of a product after purchase or consumption. Johnson (2002) suggested that there a need to adopt the cumulative overall definition of satisfaction as an important indicator of the markets or firm's past, present and future performance and motivates firm's investment in customer satisfaction.

For the antecedents of the customer satisfaction is marketing mix strategies (Wang et al., 2012; Hani et al., 2012; ALMuala et al., 2012). They had found that marketing mix (product, price place and promotion) is best specified as a function of customer satisfaction. More important, Prashant et al. (2012) found that marketing mix strategy related to (4P's) product, price, promotion and place provided pharmaceutical companies has a greater impact on satisfaction and behavior physician towards the drugs. Marketing mix strategy needs to pay more attention of pharmaceutical companies to achieve physician's satisfaction.

Today, pharmaceutical marketers seek to understand the prescribers and influencers (physicians) of their products through better understanding of their needs and the factors that influence their satisfaction (Prasanta et al., 2008). Customer satisfaction with a drug product can create long term benefits for pharmaceutical companies including positive word-of-mouth, cross-publicity and customer loyalty (Anderson et al., 1994; Fornell, 1992; Palmatier et al., 2006). To lower customer defection rates and increase customer loyalty, both academicians and practitioners have acknowledged that customer satisfaction is a key element in any customer retention strategy (Kotler, 2000; Cronin et al., 2000; Cronin & Taylor, 1992; Oliver, 1999). Moreover, increased customer satisfaction may also reduce the overall costs of a company while increasing the base profit of the business (Reichheld et al., 1990). According to Clottey et al. (2008), the benefits of customer satisfaction to a firm include lower acquisition costs of attracting new customers (Kotler, 2000).

## **2.6 Relations between the Marketing Mix Strategies and Physician Satisfaction**

The relationship between marketing mix strategy and satisfaction has been observed in several studies. AlMuala et al. (2012) have found strong correlations between elements of marketing mix and satisfaction Curative Tourism. The relationship between marketing mix and satisfaction is expected to be dependent on the product, price, promotion and place of the local product drug. The research examining the effects of marketing mix on customer satisfaction responses has received very limited attention in the marketing industrial (Me – line et al., 2011). Mohammed et al. (2012) found strong and positive causal paths between overall marketing mix and satisfaction. A considerable number of researches have argued that marketing mix strategy is an important determinant of satisfaction (Cengiz & Yayla, 2007; Hani et al., 2012; Wang et al., 2012 and Semeer, 2009), but its exact relationship has remained unclear in pharmaceutical industry. One gap that is not sufficiently explored is the relationship between strategies of marketing mix and satisfaction of customers' in particular pharmaceutical industry (Cengiz et al., 2007). It has remained unclear whether or not, there is a direct relationship between marketing mix strategy and satisfaction in pharmaceutical industry. Therefore, this study wanted to fill this research gap.

### 3. CONCEPTUAL FRAMEWORK

This study is focusing on how marketing mix strategy offered by the local pharmaceutical companies can achieve and improve physician satisfaction. This research also focused on the relationships between marketing mix strategies with physician satisfaction and how much each strategy affects on the physician. The independent variables are; product, price, promotion and place, while the depended variable is physician satisfaction.

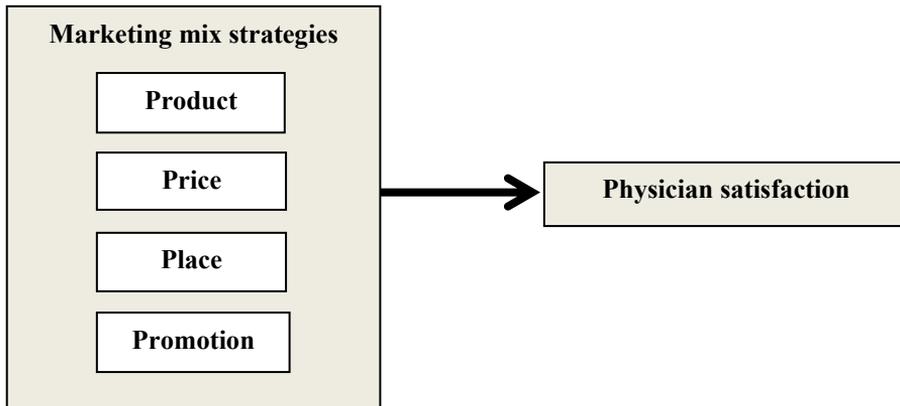


Figure 1: Conceptual Model of Research

### 4. RESEARCH HYPOTHESES

Based on the preceding literature review and previous studies, the conceptual framework of the present research can be shown in Figure 1. It includes one main hypothesis, has four sub-main hypotheses which are tested.

- H1 : There is a significant relationship between marketing mix and physician satisfaction
- H1a : There is a significant relationship between Product and Physicians' satisfaction
- H1b : There is a significant relationship between Price and Physician' satisfaction
- H1c : There is a significant relationship between Place and Physicians' satisfaction
- H1d : There is a significant relationship between Promotion and Physicians' satisfaction

## **5. METHODOLOGY**

The interviews were made with two of marketing managers and physicians. They function as a particular view contributor of the marketing mix strategies provided by local pharmaceutical companies. Measures of the variables were pretested with 30 physicians before inclusion in the final data collection forms.

Based on the nature of research objectives and research questions, this study was of a survey design. A sample of 300 specialists' physicians was surveyed from the list of 492 specialists physicians listed by the ministry of health and population in Yemen. Out of 300 questionnaires, 192 were returned by the end of September, 2013. The criterion is to choose the physicians as class A and B physicians in terms of potentiality, experience. They were from different specialties and genders.

There are many excuses and obstacles faced by the researcher during data collection. For example, most respondents (physicians) were busy with treatment or patients in clinics and do not have time to answer the questionnaire and it was difficult to reach them by clinics. However, only 170 questionnaires were usable for the final analysis with 56.67% usable response rate. The questionnaire was developed with eight sections in order to make instructions understandable and clear. The cover letter begun with the goal of this study, questionnaire sections and estimated time it would take to answer the questions and the five likert scales that used in this questionnaire.

The brief demographics of respondents were showed below. In the gender aspect, 82.9 % of the respondents were male. In the age aspect, 41.8% were between 35 and 45 years old. In the majors' aspect, 47% were surgery. In the qualification aspect, 47.6% were master level. In the work experience aspect, 35.3% were between 5 and 10 years.

To test the validity of the instruments, this study used reliability analysis and the factor analysis (FA). The level significance at 0.05 used in this study used in order to for deciding the acceptance or rejection of the hypothesis.

## **6. DATA ANALYSIS AND RESULTS**

### **6.1 Reliability**

To ensure the quality of the results and conclusions of this study, both validity and reliability are assessed. Table 1 showed the values of Cronbach's alpha which represent the reliability result of this study.

Table 1: The Reliability Analysis Results for All Variables

Variable	Number of Items	Cronbach's Alpha
Product	6	0.850
Price	3	0.798
Place	5	0.816
Promotion	5	0.809
Overall Marketing Mix Strategy	19	0.867
Physician satisfaction	5	0.935

According to (Nunnally, 1978; Hair et al., 1998), the minimum requirement of Cronbach's alpha should be greater than 0.7. In this research, Cronbach's alpha coefficient of each constructs was greater than 0.70 (Table I). Therefore, it is clear that the questionnaire utilized in this study had strong internal reliability and it could be used for the application of next statistical analysis.

### 6.2 Normality Test

According to Hair et al. (1998), the assessment normality of the data is checked as a basic step before analysis of the regression. The researcher has conducted the assessment normality using the statistic values of kurtosis and skewness techniques for all variables as shown in table 2.

Table 2: Statistic Values of Skewness and Kurtosis (Descriptive Statistics) (n =107)

Variables	Skewness		Kurtosis	
	Statistic	Std. Error	Statistic	Std. Error
Product (P)	.102	.186	-.283	.370
Price (PRI)	-.170	.186	-.113	.370
Place (PL)	-.360	.186	-.299	.370
Promotion (PROM)	.068	.186	-.189	.370
Physician Satisfaction (PHS)	-.108	.186	-.309	.370

As presented in table 2, the values of the kurtosis and skewness statistics for all the variables' were between the normal distribution +/- 2 standard deviations (Hair et al., 1998). In addition, the distributions of all variables were normal because of the absolute values statistics of the skewness and kurtosis were less than one (Morgan et al., 2011). Thus, the normality assessment test was met and the collected data was valid for regression analysis.

## 7. REGRESSION ANALYSIS

To test the research hypotheses, the linear regression analysis test were used. Regression analysis examines the impact of each independent variables on dependent variable at a significant level  $P < 0.05$ .

### 7.1 Hypothesis 1

The hypothesis assumes that there is a significant relationship between marketing mix strategy offered by the local pharmaceutical companies and physicians' satisfaction.

*H1: There is a significant relationship between all strategies of marketing mix and physicians' satisfaction*

To test the hypothesis, a regression analysis was conducted. Table 3 shows the results of multiple regression analysis of marketing mix with physician satisfaction.

Table 3: Regression Result of Marketing Mix with Physician Satisfaction

<b>R<sup>2</sup> = 0.557    Adjusted R<sup>2</sup> = 0.554    Standard Error = 0.5815    F = 208.547 Sig.(p)=.000</b>					
Variable	B	SE	$\beta$	t	Sig.(P)
(Constant)	-.882	0.275		-3.203	.002
Marketing Mix	1.275	.0888	0.746	14.441	.000

As shown in Table 3, 55.4% variance in physicians' satisfaction is explained by marketing mix strategy is a composite of the product, price, promotion and place, which is evident by the value of  $R = 0.554$ ,  $F = 208.547$  at  $P = 0.000$  explains the models goodness of fit. The value of  $\beta = 0.746$ ,  $t = 14.441$ , at the significance of  $p < 0.05$  is the evident of significant positive relationship between marketing mix strategy and physicians' satisfaction. Thus, based on these results, it can be inferred that hypothesis 1 was accepted.

### 7.2 Hypothesis 2

Hypothesis postulates that drugs products offered by the local pharmaceutical companies contribute to physicians' satisfaction.

*H1a: There is a significant relationship between product strategy and physician' satisfaction*

Table 4 shows the results of regression analysis of product with physician satisfaction

Table 4: Regression Result of Product Strategy of Marketing Mix with Physician Satisfaction

<b>R<sup>2</sup> = 0.291      Adjusted R<sup>2</sup> = 0.287      Standard Error = .7355      F = 68.123</b>					
<b>Sig.(p)=.000</b>					
<b>Variable</b>	<b>B</b>	<b>SE</b>	<b>β</b>	<b>t</b>	<b>Sig.(P)</b>
(Constant)	1.037	.250		4.154	.000
Product	0.669	.081	0.539	8.254	.000

As presented in Table 4, the product strategy of marketing mix significantly (F = 68.123, p<.005) predicted physician satisfaction and explained 28.7% of the variance which indicates that 28.7% of physician satisfaction explained by product variable. Based on the coefficient value, the results shows that the product strategy with β = 0.539, t = 8.254, p<.005 tested has a strong and unique significant relationship with physician satisfaction. Thus, the H1a was accepted

### 7.3 Hypothesis 3

Hypothesis assumes that the price of local drug contribute to physicians' satisfaction

*H1b: There is a significant relationship between price strategy and physician' satisfaction*

Table 5 shows the results of regression analysis for price strategy and physician satisfaction.

Table 5: Regression Result of Price Strategy of Marketing Mix with Physician Satisfaction

<b>R<sup>2</sup> = 0.364      Adjusted R<sup>2</sup> = 0.360      Standard Error = .6964      F = 95.126</b>					
<b>Sig.(p)=.000</b>					
<b>Variable</b>	<b>B</b>	<b>SE</b>	<b>β</b>	<b>t</b>	<b>Sig.(P)</b>
(Constant)	0.781	0.238		3.282	.001
Price	0.683	0.070	0.604	9.753	.000

As represented in Table 5, the results shows that the price strategy of marketing mix significantly ( $F = 95.126$ ,  $p < .005$ ) predicted physician satisfaction with the locally manufactured drug and explained 36% of the variance. The result also shown that there was a strong, positive and significant relationship between price strategy and physician satisfaction with  $\beta = 0.604$ ,  $t = 9.753$  at the significance level of  $p < .05$ . Thus, H1b was accepted

#### 7.4 Hypothesis 4

Hypothesis postulates that distribution strategy (place) of the local drug contributes physicians' satisfaction

*H1c: There is a significant relationship between distribution strategy and physician' satisfaction*

Table 6 shows the results of regression analysis of distribution strategy and physician satisfaction.

Table 6: Regression Result of Distribution Strategy of Marketing Mix with Physician Satisfaction

<b><math>R^2 = 0.324</math> Adjusted <math>R^2 = 0.320</math> Standard Error = .7184 <math>F = 79.428</math> Sig.(p)=.000</b>					
<b>Variable</b>	<b>B</b>	<b>SE</b>	<b><math>\beta</math></b>	<b>t</b>	<b>Sig.(P)</b>
(Constant)	0.753	0.263		2.863	.005
Place	0.716	0.080	0.569	8.912	.000

Based on the Table 6, the results indicates the place strategy of marketing mix significantly ( $F = 79.428$ ,  $p < .005$ ) predicted physician satisfaction and explained 32% of the variance. This means, the variable of place was responsible with 32% of the variance in physician satisfaction. The result also shown that there is a strong, significant and positive relationship between place strategy of marketing mix and physician satisfaction with  $\beta = 0.569$ ,  $t = 8.912$  at the significance level of  $p < .05$ . Therefore, the H1c was accepted.

#### 7.5 Hypothesis 5

Hypothesis postulates that promotion program practiced by the local pharmaceutical companies contributes physicians' satisfaction.

*H4: There is a significant relationship between promotion strategy and physician' satisfaction*

Table 7: Regression Result of Promotion Strategy of Marketing Mix with Physician Satisfaction

$R^2 = 0.190$ Adjusted $R^2 = 0.186$ Standard Error = 0.7859 $F = 30.042$ Sig.(p)=.000					
Variable	B	SE	$\beta$	t	Sig.(P)
(Constant)	1.527	0.250		6.104	.001
Promotion	0.515	0.082	0.436	6.248	.000

As depicted in Table 7, the promotion strategy of marketing mix significantly ( $F = 30.042$ ,  $p < .005$ ) predicted physician satisfaction with locally manufactured drug and explained 18.6% of the variance which indicates that 18.6% of physician satisfaction will be explained by this variable. The results revealed that there was a significant and positive relation between promotion strategy of marketing mix and physician satisfaction with  $\beta = 0.436$ ,  $t = 6.248$  at the significance level of  $p < .05$ . Thus, the H1d was accepted.

## 8. DISCUSSION

The main objective of the study was to investigate the impact of marketing mix strategy namely product, price, place and promotion, physicians' overall satisfaction. This investigation confirmed previous findings on the important role of marketing mix strategy on consumer behavior in pharmaceutical industry and lead to the identification of the effects that different strategies of marketing mix have on physician overall satisfaction.

The results showed that the marketing mix (product, price, place and promotion) has a significant effect on physicians' satisfaction. This finding was supported by many previous findings (Wang et al., 2012; Frederick, 2012; Hani et al., 2012; Al Muala et al., 2012; Smear et al., 2009; Cengiz et al., 2007; Huddleston et al., 2009). Also this finding supported the proposition of kotler (2003) and McCarthy (1971), that all the elements of marketing mix 4Ps (product, price, place and promotion) are integrated, interrelated and equally important should be considered at the same time to achieve successful strategies and objectives marketing. In pharmaceutical industry, the findings was supported by a empirical recent study by Prashant et al. (2012), that found the marketing mix strategy related product, place, price and promotion had significant influence on the physicians' behavior with strong suggestions to further research explore related MM strategies that would assist in achieving the physicians satisfaction.

The first strategy of the marketing mix which we study is the product has a significant and positive relationship with physician' satisfaction. The finding of this study was also consistent with Al Muala et al. (2012) research. Al Muala et

al. (2012) proved that product has a significant relationship with tourist satisfaction in Jordan curative tourism. Furthermore, researchers including Churchill (1982), Oliver (1993), Zeithaml et al. (1994), found that product positively impacts customer satisfaction. Another possible explanation for this positive result could be that drug products of Yemen are technically sounds as they use continuous development and the latest technology in manufacturing and physician satisfaction.

Price is the second most significant strategy positive impact on physician satisfaction. That means that the physicians show their satisfaction with the prices of Yemeni drugs manufactured. The results are supported by other research such as Nguyen (2011), Dodaz et al. (1991), Cingiz et al. (2007), who found that price had a significant impact on satisfaction. Another possible explanation for this result is that drug products of Yemen are affordable and comfortable. National pharmaceutical strategy investigates the appropriate pricing conditions, so that it can increase the drug market share.

The third most influencing element is location, which has significant relationship with physicians' satisfaction. This result was consistent with of many researchers' findings who had examined the impact of location variable on customer satisfaction (Wang et al., 2012; Yelkur, 2000; Frederick, 2012; Hani et al., 2012; Al Muala et al., 2012). The fourth most influencing variable is promotion, which has significant relationship with physician's satisfaction. In pharmaceutical industry, the finding was supported by pervious findings (Prashant et al., 2012; Allan et al., 2003). An empirical study by Shahu and Amol (2010) investigated the influence of promotion tools on physician's drug prescribing. The findings indicated that the promotion tools (gifts and sales representatives) influenced on physician's drug prescribing. The results of this study enhanced the understanding and knowledge of the antecedents of physician satisfaction.

## **9. CONCLUSION**

The uniqueness of pharmaceutical industry provides ample opportunity to study a number of important and interesting marketing phenomena. The present study revealed a number of important insights as to the role of various strategies of marketing mix on physician satisfaction in pharmaceutical industry.

This study has brought together many areas such as marketing, relationship marketing, medicinal marketing and industrial marketing. Marketing mix strategy namely product, price, promotion and place, were all empirically examined and found to be the antecedents of physician satisfaction.

In a competitive pharmaceutical world, pharmaceutical firms expect to increase the quality of drug and customer satisfaction and improve marketing strategies. These are keys to lead the market. The understanding of what drives the physician to be more satisfaction is the crucial element of all companies. The objective of this study is to clarify relationships between marketing mix strategies and customer satisfaction. The customer decision-making process for drug products and especially with drugs that are linked to health is modeled as a complex system that incorporates direct and/or indirect effects on satisfaction. The presented results, supports this position. Moreover, this is a quasi-beginning study in the pharmaceuticals that is not explored in the analysis of marketing mix strategy and satisfaction. Therefore, this appears to be a worthy area to pursuit.

In this research, we provide evidence that elements of marketing mix direct affect satisfaction (H1, H1a, H1b, H1c and H1d). Based on the research findings, marketing mix strategies (product, price, promotion and place), have strong impact on physician satisfaction. The order of strength relationship on physician satisfaction was price construct and the place construct of marketing mix strategy. It means that physicians became satisfied by experiencing the quality of drug, price, promotion and delivery of drug products of Yemen and it increased their satisfaction.

## **10. THEORETICAL CONTRIBUTIONS AND MANAGERIAL IMPLICATIONS**

There are many theoretical and managerial implications. First, the main theoretical contribution of this study was to propose the rare and novel constructs respectively marketing mix strategy offered by pharmaceutical companies and physician satisfaction and extend the research about these constructs into the pharmaceutical industry context. Secondly, another theoretical contribution of this study was to develop a research framework to explore the relationships among marketing mix of drug namely, product, price, promotion and place and physician satisfaction and then further undertake an empirical test to verify these relationships. Therefore, this study successfully filled the research gap of relationship between marketing mix and customer satisfaction in the pharmaceutical industry.

**For Marketing Implementations.** The main goal of implementation the marketing mix strategies is knows how to keep customer satisfaction of physicians toward the Yemeni drugs. Keeping customers satisfied is cost effective since attracting new customer's costs the marketing more than maintaining existing ones since (Kotler, 2000). It was found that a small increase in satisfaction customers results in great increases in profitability. The marketing management in pharmaceutical companies and practitioners take into

consideration the important role of these strategies in improving the physician's satisfaction with locally manufactured drugs. Moreover, the study concluded that some of the marketing strategies did not meet physician's expectation such product and promotion. Thus, the marketing managers can improve satisfaction by improving of the quality drugs and it technically sound and as they get to use the latest technology in manufactures of drug, affordable price and improve and extend promotion might enhance physicians' satisfaction.

## 11. LIMITATIONS

This current study has focused to test the hypothesized model that can explain the effect of MM strategies on physician's satisfaction and the related variables. The model of satisfaction is not complete. There are factors that are not captured for this model. However, given the continuous developing strategies of marketing mix, the present identified variables and measurement scales such as product, price, promotion, place and customer satisfaction could change over time and also vary across different companies as well as different countries. Thus, this study cannot generalize its results in all the constructs of hypothesized model of physician satisfaction and across countries. Despite the importance of the contribution of this study to know the impact of marketing mix strategies on physicians' satisfaction, it has sample limitations. The sample size could be higher to make it more representative.

## REFERENCE

- Adnan Al-Hamdi, Mohamed Hassali, & Mohamed Izham. (2012). Impact of pharmaceutical promotion on healthcare professional's practices and behavior views from general practitioners, medicine dispensers and medical representatives in Yemen. *Journal of Medical Marketing: Device, Diagnostic and Pharmaceutical Marketing published online.*
- Al Muala, & Majed Al Qurneh. (2012). Assessing the Relationship between Marketing Mix and Loyalty through Tourists Satisfaction in Jordan Curative Tourism. *American Academic & Scholarly Research Journal*, 4(2).
- Anita Mishra. (2009). Problems and prospects of sales promotion in pharmaceutical marketing communication, by. Allan S. Brett, Wyane Burr and Jamaluddin Moloo, Published in Arch internal medicines, Are gifts from pharmaceutical companies ethically problematic. *A Survey of Physicians*, 163, 2212-2218.

- Anamul, Zahedul. (2011). Business Analysis of Pharmaceutical Firms in Bangladesh: Problems and Prospects. *Journal of Business and Technology (Dhaka)*, 6(1).
- Annual statistical health report 2011 & 2012. Ministry of Public Health & Population of Yemen.
- Ang Hoo. (2011). *Market Share Strategies in the Pharmaceutical Industry Unitar E-Journal*, 5(1).
- Boulding, W., Kalrs, A., Staelin, R., & Zeithaml, V. A. (1993). A Dynamic Process Model of Service Quality: From Expectations to Behavioral Intentions. *Journal of Marketing Research*, 30(1), 7-27.
- Campbell, E., Gruen, R., Mountford, J., Miller, L., Cleary, P., & Blumentahl, M. (2007). A National Survey of Physician-Industry Relationships. *N. Engl. J. Med.* 356(17).
- Cengiz, E., & Yayla, H. E. (2007). The effect of marketing mix on positive word of mouth communication: Evidence from accounting offices in Turkey. *Innovative Marketing*, 3(4), 73-86.
- Clottey, T., Collier, D., & Stodnick, M. (2008). Drivers of customer loyalty in a retail store environment. *J. Serv. Sci.*, 1(1), 35-48.
- Copley, P. (2004). *Marketing communications management: Concepts and theories, cases and practices*. Oxford: Butterworth-Heinemann.
- Charles, Bernard, Patrick, Beatrice, Samson & Fredrick. (2012). The Relationship between Customer Service Quality and Customer Loyalty among Retail Pharmacies in Western Kenya. *Business and Management Review*, 2(3), 11–21.
- David, J. (1981). *Marketing Today: A basic approach*. (3rd ed.). Harcourt Brace Jovanovich: New York.
- Dodds, W. B., Monroe, K. B., & Grewal, D. (1991). Effects of price, brand and store information on buyers' product evaluations. *Journal of Marketing Research*, 28(3), 307-319.
- Farinoosh Ketabi. (2012). The Effect of the Marketing Mix of Services to Attract Customers, Banks (Case Study Tejarat Bank, Branches of Kermanshah Province). *J. Basic. Appl. Sci. Res.*, 2(9), 8632-8639.

- Fornell, C. (1992). A national satisfaction barometer: The Swedish experience. *J. Mark.*, 56(1), 6-21.
- Frederick R. Mpambar. (2012). The impact marketing-mix on customer satisfaction in MTN Rwanda.
- Hani Jazza. (2012). The Influences of Applying Elements of E-Marketing Mix on customer satisfaction a Case Study on Jordan Telecom Companies. *International Research Journal of Finance and Economics*, 95.
- Hani, Ghada M. F. (2012). The Effect of Relationship Marketing on Customer Loyalty in the Jordanian Pharmaceutical Industry. *European Journal of Economics, Finance and Administrative Sciences*, 53(September).
- Huddleston, P., Whipple, J., Mattick, R. N., & Lee, S. J. (2009). Customer satisfaction in food retailing: Comparing specialty and conventional grocery stores. *International Journal of Retail & Distribution Management*, 57(1), 63-80.
- Hair J. F., Anderson R. E., Tatham R. L., & Black W. C. (1998). Multivariate data analysis. New Jersey: Prentice-Hall.
- Johnson, Michael D., Andreas Herrmann B., & Anders Gustafsson (2002). Comparing customer satisfaction across industries and countries. *Journal of Economic Psychology*, 23, 749-769.
- Khaled Al-Tahami. (2010). Acomparative Quality Study of Selected Locally Manufactured and Imported Medicines in Yemeni Market. *Yemeni Journal For Medical Sciences*, 4.
- Kesic. (2009). Strategic analysis of the world pharmaceutical industry. *Management*, 14(1), 59-76.
- Kotler, Philip, & Amstrong, Gary. (2006). Principles of marketing (11th ed.). New York: Pearson International.
- Kotler, P. (2000). Marketing management. Upper Saddle River, New Jersey: Prentice Hall.
- Kotler, P., & Keller, K. L. (2009). Marketing Management (13th ed.), Upper Saddle River, NJ: Pearson Prentice Hall.
- Kotler, Philip & Al. (2002). Principles of Marketing. 3rd European edn. Prentice Hall. London.

- Kotler, P., Ang, S. H., Leong, S. M., & Tan, C. T. (2003). *Marketing management: An Asian perspective*. Singapore: Pearson Education Asia.
- Nagle, Thomas. T., & Holden, Reed. K. (1995). *The Strategy and Tactics of Pricing* (2nd ed). Prentice Hall. Englewood Cliffs.
- Kotler Philip, & Keller Kevin. (2009). *Marketing Management* 13th edition. New Jersey: Speirman Education Inc.
- Masood, I., & Anwar, M. (2007). Common Promotional Materials and Medical Representatives: Are they really useful for doctors? Pharmacy in new era, 1st national conference on pharmaceutical sciences. 2-4 March; Bahawalpur, Pakistan.
- McCarthy, E. J. (1971). *Basic Marketing: A Managerial Approach* (4th ed.). Homewood, 111., R.D. Irwin
- Mei-Lien Li, & Robert D. Green (2011). A mediating influence on customer loyalty: The role of perceived value. *Journal of Management and Marketing Research*.
- Nguyen Minh Tuan. (2012). Effects of Service Quality and Price Fairness on Student Satisfaction. *International Journal of Business and Social Science*, 3(19).
- Nunnally, J. O. (1978). *Psychometric theory*. New York: McGraw-Hill.
- Oliver, Richard L. (1993). Cognitive, Affective and Attribute Bases of the Satisfaction Response. *Journal of Consumer Research*, 20(3), 418-430.
- Oliver, R. (1997). *Satisfaction: A Behavioral Perspective on the Consumer*. McGraw-Hill, Boston.
- Oliver, R. L. (1999). Whence consumer loyalty? *Journal of Marketing*, 63(Special issue), 33-44.
- Peter, P. J., & Donnelly, J. H. (2007). *Marketing management: Knowledge and skills* (8th ed.). New York: McGraw-Hill.
- Prashant B. Kalaskar, & Dr. P. N. (2012). Sager Factors influencing prescription behavior of physicians A study with reference to Marathwada Regio: *Indian Streams Research Journal*, (May).

- Prasanta K. Padhy, & Suresh Patnaik. (2008). Implementation of Right CRM Strategy for Pharmaceutical Industry. *Delhi Business Review X*, 9(2).
- Palmatier, R. W., Dant, R. P., Grewal, D., & Evans, K. R., (2006). Factors influencing the effectiveness of relationship marketing: A meta analysis. *Journal of Marketing*, 70(3), 136–153.
- Parasuraman, A., Zeithaml, V. A. and Berry, L. L. (1994). Reassessment of expectations as a comparison standard in measuring service quality: implications for further research. *Journal of Marketing*, 58(1), 111-24.
- Reichheld, F. F., & Sasser, W.E. (1990). Zero defections: Quality comes to services. *Harv. Bus. Rev.*, 68(5):105-111.
- Shaker. (2012). The attitudes of patients who are treated in the public sector hospitals in Irbid governorate towards Jordanian drugs and imported drugs from well-known European companies. *Al-Quds Open University Journal for Research and Studies*, 26.
- Smeer, Shady. (2009). The impact marketing mix on customer satisfaction. *Journal Al-Aqsa University (series Humanities)*, 13(1).
- Shahu Ingole, Amol Dube. (2010). Influence of drug promotion by medical representatives on physicians prescribing pattern. *Indian Journal of Public Health Research and Development*, 1(2), 46-60.
- Wang, Mohammad, & Sumayya. (2012 ). Investigating the Impact of Marketing Mix Elements on tourist ‘Satisfaction: An Empirical Study on East Lake. *European Journal of Business and Management*, 4(7).
- Yelkur, R. (2000). Customer satisfaction and the services marketing mix. *Journal of Professional Service Marketing*, 21(1).
- Yang, Z., & R. T. (2004). Peterson, Customer Perceived Value, Satisfaction, and Loyalty: The Role of Switching Costs. *Psychology and Marketing*, 21(10), 799-822.