

Impact of Marketing and Advertising Expenses on Profitability of Pharmaceutical Industry

(A case study of leading pharmaceutical companies of Pakistan)

Sameen Hassan, Tahir Ali

University of Karachi, Pakistan

sameenhassan347@gmail.com, tahirali@uok.edu.pk

Abstract

The research study discusses the detailed discussion on the impact of marketing and advertising expenses on the profitability of pharmaceutical industry of Pakistan. There is a well-known fact that marketing and advertising plays a prominent role in generating product and service awareness in the market. (Mehmood, A., & Ali, T. -2020). This research uses the secondary data that is collected through random sampling from the five firms that are listed under pharmaceutical sector of the Pakistan Stock Exchange at 31st December 2021. For primary data collection the sources selected are doctors and marketing department employees from the pharmaceutical companies. Questionnaire is used to obtain data from doctors from different districts of Karachi and interview is conducted from the marketing manager to get the insight of the company's marketing and advertising. The data collected for this study is then analyzed and is concluded that there is a positive impact of marketing and advertising expenses on the profitability of pharmaceutical industry of Pakistan.

Keywords: Marketing and advertising expenses, profitability, pharmaceutical industry of Pakistan.

Introduction

The research study discusses the detail discussion on the impact of marketing and advertising

expenses on the profitability of pharmaceutical industry. Before the early 1970s, the Pakistani pharmaceutical industry was almost nonexistent; today, it is a significant supplier of medical supplies, providing about 95% of the nation's pharmaceutical requirements. The pharmaceutical business in Pakistan is now one of the sectors with the fastest growth rates in the whole globe. Comparatively to global corporations, which saw a CAGR of 9.34 percent over the past four years, Pakistani pharmaceutical firms have seen cumulative average growth rates of 13.1 percent (MNCs). Empirical studies have proven that generally in a competitive business scenario, those companies that are expanding more on marketing and advertisement are getting more sales revenue and more profit. That is why companies depend more on advertisement and marketing to create a brand in customers' minds. Specifically, in the pharmaceutical sector of Pakistan, there is little information available to know if there is a relationship between marketing and advertisement expense on a company's sales revenue and profitability. Hence, this study aims to research the impact of marketing and advertisement expense on sales revenue and profitability, in the context of pharmaceutical companies in Pakistan.

History of Pharmaceutical Industry

From its beginnings in 19th-century pharmacy, the pharmaceutical and biotech industries have gone a long way in the twenty-first century. The background of the pharmaceutical business may be drawn to the apothecaries and drugstores of the Middle Ages, which providing a hit-and-miss assortment of therapies centered on centuries of legends. Before the early 1970s, the Pakistani pharmaceutical industry was almost nonexistent; today, it is a significant supplier of medical supplies, providing about 95% of the nation's pharmaceutical requirements.

In terms of scientific research-based industries in Pakistan, the industry now holds the first spot because to its extensive skills in the intricate world of medication manufacture and technology. In terms of technology, product quality, and variety of produced medications, it is ranked extremely well in the third world. Almost all medications are now produced domestically, from simple painkillers to sophisticated antibiotics and complicated cardiac chemicals. In Pakistan, there are about 9,000 currently marketed medications available on prescription from approved pharmacies.

Research Methodology

There is a well-known fact that marketing and advertising plays a prominent role in generating product and service awareness in the market.

Statement of Problem

Marketing along with other components of business is an important vehicle. Each year companies spend millions on their marketing expense. Marketing and advertising are key elements to help companies to achieve their goals such as; to increase the company's profitability. (Agarwal et al., 2003). Empirical studies have proven that generally in a competitive business scenario, those companies that are expanding more on marketing and advertisement are getting more profit. Specifically, in the pharmaceutical sector of Pakistan, there is little information available to know if there is a relationship between marketing and advertisement expense on a company's profitability. Hence, this study aims to research the impact of marketing and advertisement expense on profitability, in the context of pharmaceutical companies in Pakistan.

Review of literature

According to the research conducted by Humayoon Arshad Warraich, Tahir Ali of Karachi university business school, Pakistan in 2020, on FMCG's; personal care sector of Pakistan,

discussed the influence of advertising and promotion on purchase decision, sales and profitability of the sector. The primary data of this research which was collected from questionnaires was investigated by the central tendency test of arithmetic mean and average value is analyzed. The result shows that television advertisement have larger impact on the customer purchase decision which ultimately impact on the company's sales and profitability. Print advertisement have very little impact. Whereas, social media advertisement impact has increased in a positive way. In short, the summary of the research is that advertising and sales promotion have positive impact on customer purchase decision, sales and profitability. (Warraich, H. A., & Ali, T. -2020).

Hypothesis

H_A: High investment on marketing and advertisement results in greater profitability in pharmaceutical sector of Pakistan for the last ten years.

H₀: High investment on marketing and advertisement does not result in greater profitability in pharmaceutical sector of Pakistan for the last ten years.

While analyzing the hypothesis statement it is defined that the independent variable for the research is marketing and advertising expenses whereas, the dependent variable is the profitability of pharmaceutical sector of Pakistan.

Sampling and Research Instrument

This research uses the secondary data. Data for the study is collected through random sampling from the five firms that are listed under pharmaceutical sector of the Pakistan Stock Exchange at 31st December 2021. This is quantitative research which is based upon the financial data (2012-2021) of ten years, available in the annual reports of the listed (SECP registered) Pharmaceutical companies regarding the Marketing & advertising expense, & Profitability.

S.no.	PRIMARY SOURCES	POPULATION	SAMPLE METHOD	SAMPLE SIZE	RESEARCH INSTRUMENT
1.	Doctors	Pakistan = 245,987 Karachi = 5000+	Stratified Sampling (District wise)	Karachi = 100	Questionnaires
2.	Marketing Manager	5 Companies	Random Sampling	N/A	Interview

Table 1: Primary Sources

For primary data collection the sources selected are doctors and marketing department employees from the pharmaceutical companies. It is presumed that answers will vary from one area to another, so it is decided the gather information from different areas for this stratified random sampling to be applied and the population of doctors of Karachi is divided into six different strata on the basis of district. The sample size for this primary source is calculate by online sample calculator and it is calculated as 100 doctors only for Karachi. And the instrument that will be used for the study is questionnaire. The second source for the study is marketing managers of pharmaceutical companies. The research instrument for this source is interview, for this purpose five interview questions are developed while keeping the aspect of marketing and advertising expenses and profitability.

Variable Details

The variables used in this study are as follows.

Independent Variable: Marketing & Advertising expense

Marketing plays a vital role in the performance of a company. It is considered to be one of the basic functions of the business. It is the art of adding value to the product by making a good marketing mix for impressing/convincing the target market to buy that certain product/service.

Dependent Variables: Profitability

Profitability is ability of a company to use its capitals to the fullest to produce revenues in excess of its expenses.

Findings and Analysis

This research uses the secondary data. Data for the study is collected through random sampling from the five firms that are listed under pharmaceutical sector of the Pakistan Stock Exchange at 31st December 2021.

Ten Year Data Analysis of Pharmaceutical Companies

Abbott Laboratories (Pakistan) Limited

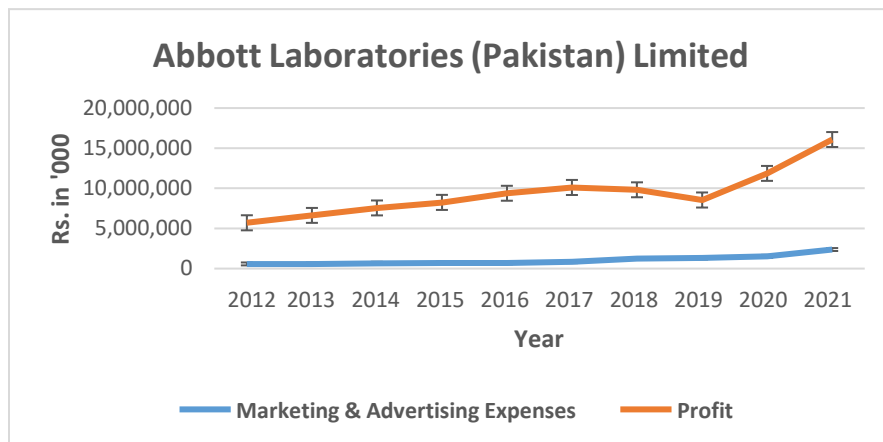


Figure 1: Abbott Laboratories (Pakistan) Limited 10-year data

From the financial reports of Abbott Laboratories (Pakistan) Limited 10 years data from 2012-2021 of marketing and advertising expenses and profitability is collected to analyze the relationship between the variables. This line graph explains the relationship between marketing and advertising expense and profitability. The marketing and advertising expense are increasing at a very low rate while the profitability is increasing at the high rate. This graph shows that there

is a positive and direct relationship of independent variable that is marketing and advertising expense and dependent variable that is profitability.

Ferozsons Laboratories Limited

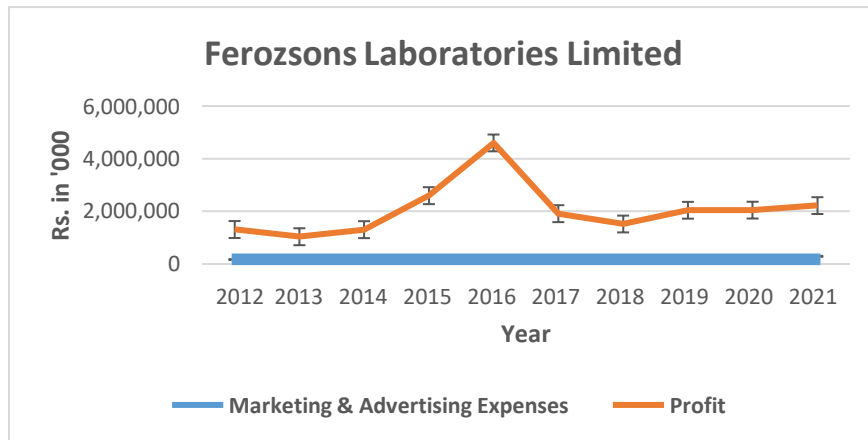


Figure 2: Ferozsons Laboratories Limited 10-year data

This line graph explains the relationship between marketing and advertising expense and profitability of the Ferozsons Laboratories Limited over the ten years. The marketing and advertising expense are increasing at a very low rate while the profitability is impacted with a slight change in marketing and advertising expenses. This graph shows that there is a positive and direct relationship of independent variable that is marketing and advertising expense and dependent variable that is profitability.

Otsuka Pakistan Limited

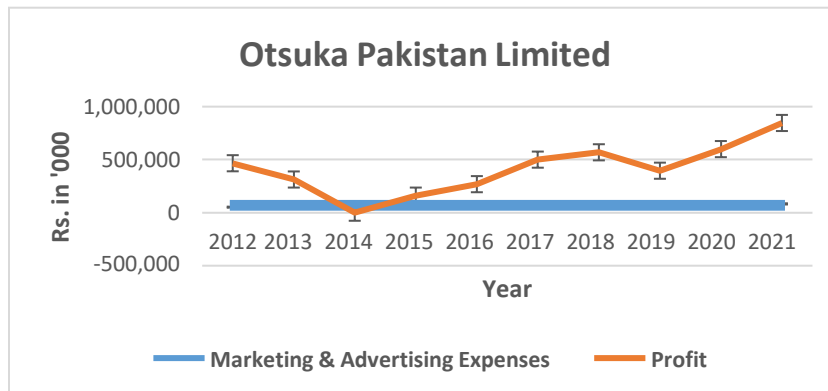


Figure 3: Otsuka Pakistan Limited 10-year data

This line graph explains the relationship between the independent variable that is marketing and advertising expense and profitability of the Otsuka Pakistan Limited over the ten years. The blue line for marketing and advertising expenses shows a slight increasing trend while the orange line for profitability shows that there is a decrease in profitability in 2014, but the company then started to grow again but in 2019 again there is a decrease in profitability. This graph shows that there is a positive and direct relationship of independent variable that is marketing and advertising expense and dependent variable that is profitability.

GlaxoSmithKline Pakistan Limited

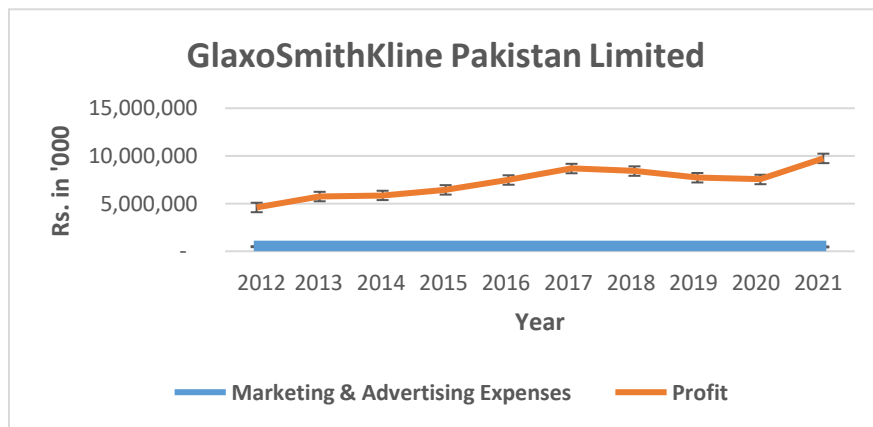
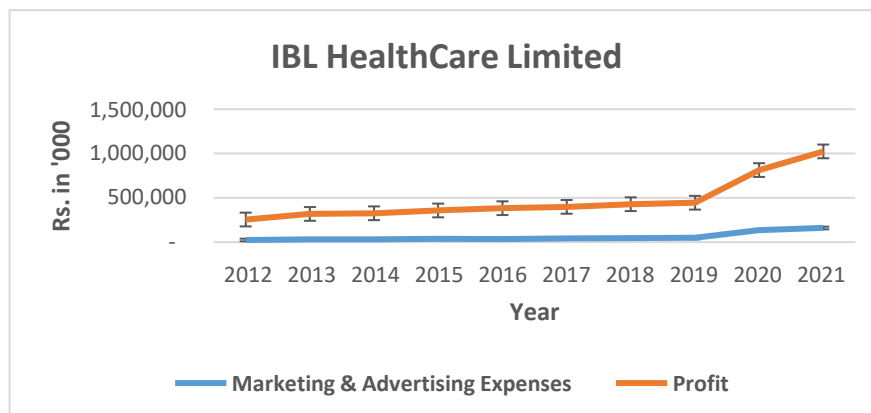


Figure 4: GlaxoSmithKline Pakistan Limited 10-year data

This line graph explains the relationship between the independent variable that is marketing and advertising expense and profitability of the Otsuka Pakistan Limited over the ten years. The blue line for marketing and advertising expenses shows an increasing trend over the last ten years, while the orange line for profitability shows an increasing trend over the last ten years of GlaxoSmithKline Pakistan Limited. This graph shows that there is a positive and direct relationship of independent variable that is marketing and advertising expense and dependent variable that is profitability in GlaxoSmithKline Pakistan Limited over the last ten years.

IBL HealthCare Limited**Figure 5: IBL HealthCare Limited 10-year data**

This line graph explains the relationship between marketing and advertising expense and profitability of the IBL HealthCare Limited over the ten years. The blue line for marketing and advertising expenses shows an increasing trend. While the orange line shows an increasing trend but in recent two years there is a great change in values of profitability of IBL HealthCare Limited over the last ten years. This graph shows that there is a positive and direct relationship of marketing and advertising expense and profitability of IBL HealthCare Limited over the last ten years.

After the analysis of the financial statements of selected five pharmaceutical companies, it is concluded that marketing and advertising expenses have a positive relationship with the profitability of pharmaceutical companies of Pakistan.

Doctor's Opinion

For primary data collection the sources selected are doctors after collecting data from 100 participant, Statistical Project of Social Science (SPSS) a computer software is used to analyze the results of the study.

Correlation

Correlations			
		Mkt & Ad mean	Profit mean
Mkt & Ad mean	Pearson Correlation	1	.661**
	Sig. (2-tailed)		<.001
	N	100	100
Profit mean	Pearson Correlation	.661**	1
	Sig. (2-tailed)	<.001	
	N	100	100

** . Correlation is significant at the 0.01 level (2-tailed).

Table2: Correlation

The Pearson Correlation value of between -1 and 1 justifies the existence of relation among the variable and the value beyond this range represents that no relation exists. Since the value of correlation between marketing and advertising expenses and profitability is 0.66, thus it shows that relation between independent variables and dependent variable exists.

Regression Analysis

SPSS is used to analyze linear regression.

Model Summary^b									
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	Change Statistics			Sig. F Change
						F Change	df1	df2	
1	.661 ^a	.437	.431	.309	.437	76.134	1	98	<.001

a. Predictors: (Constant), Mkt & Ad mean

b. Dependent Variable: Profit mean

Table3: Model Summary

The above table shows the model summary and overall fit statistics. It is found that the adjusted R2 of our model is 0.431 with the R2 = 0.437 that means that the linear regression explains 43.1% of the variance in the data.

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	7.279	1	7.279	76.134	<.001 ^b
	Residual	9.369	98	.096		
	Total	16.648	99			

a. Dependent Variable: Profit mean

b. Predictors: (Constant), Mkt & Ad mean

Table4: ANOVA Analysis

ANOVA Analysis perform F-test and significance value, the strength and weakness depend on the significance value and the F value. Significance value should be less than 0.05 and the F value should be greater than 3.75. With F=76.134 and Sig. = 0.001, the test is highly significant, thus we can assume that there is a linear relationship between the variables in our model.

Coefficients ^a								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	1.666	.305		5.455	<.001		
	Mkt & Ad mean	.610	.070	.661	8.725	<.001	1.000	1.000

a. Dependent Variable: Profit mean

Table5: Coefficient statistics

Coefficient statistics shows the significance of the variables. A significance value of less than 0.05 indicates that the alternative hypothesis should be accepted. The significance value of Marketing and advertising expenses is 0.001 thus, the null hypothesis has been rejected and alternate hypothesis is accepted, there is indeed a relationship between the marketing and advertising expense and profitability.

Marketing Manager Opinion

The interview for this research is conducted with Mr. Nisar ul Haq, who is a Marketing Manager at Novartis Pharma, and he is working over there since last 3 years. During the past background study, it is observed the pharmaceutical companies are investing more on marketing and advertising expenses, and Mr. Nisar ul Haq confirms that investing more on marketing and advertising expenses is justified because it helps to increase the sales which ultimately increases the profit margins for the company. All the pharmaceutical companies are investing more on marketing and advertising expenses and trying their best to competitive with other companies. Personal selling is a promotional technique that is mostly used by pharmaceutical medical representatives. 50% of the revenue in pharmaceutical companies is generated through personal selling. Therefore, more importance given to personal selling helps the company to achieve higher profit margins. The conclusion of this interview is that the more you invest in marketing and advertising, more will be the sales that ultimately generates high profit margins. In pharmaceutical sector of Pakistan, there is a positive impact of marketing and advertising expenses on the profitability of the company. However, there should be an alignment to invest innovatively.

Conclusion

The marketing and advertising have been a great tool for the better profitability of the company. This has been proven in this research that the impact of the marketing and advertising expense is positive because it does impact the profitability of the pharmaceutical firms in Pakistan. This research has proven that the variables both dependent and independent, are linked together, the independent variable drives the dependent variables. This research has proven positive, those two basic objectives that were made to justify if the marketing and advertising expense impacts the

profitability or not. The hypothesis of the research was to know whether the marketing and advertising expense impacts the profitability positively or negatively in the pharmaceutical sector of Pakistan. The results were proven positive because the data collected of the last ten years from the annual reports of the five PSX listed pharmaceutical firms were in the favor of the research. And the primary data that was collected from the doctors also prove that marketing and advertising expenses are in direct and positive relation with profitability of the company.

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Appendix A

Questionnaire For Doctors

Dear Respondents,

I am a student of MBA program at KUBS, University of Karachi. I am conducting research on “Impact of marketing and advertising expenses on profitability of Pharmaceutical Industry of Pakistan”. I have developed the following questions. You are requested to fill out this questionnaire. I assure you that the information provided will be used only for academic purposes.

Thank you for your cooperation.

Respondent Profile:

Name: _____

District:

Central South East West Malir Korangi

Q: How do you rate the impact of the following factors on the Profitability and sales of the pharmaceutical sector in Pakistan?

S no.	Characteristics	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1.	High sales commission influence sales					
2.	Effective marketing helps better memorability					
3.	Sales promotion helps more recommendation					
4.	Competitive price gives more edge					
5.	High marketing expenses impacts sales					
6.	Trained Representatives influence sales					
7.	Effective advertising campaign increases sales					
8.	High quality of Advertising Literature influence profitability					
9.	Personal Selling help more sales					
10.	Product availability impacts sales					

11.	Sales Promotion influence sales					
12.	Good relationship with sales representatives influence sales					

Appendix B

Interview Questions for Manager

Dear Interviewee,

I am a student of MBA program at KUBS, University of Karachi. I am conducting research on **“Impact of marketing and advertising expenses on profitability of Pharmaceutical Industry of Pakistan”**. I have developed the following questions. You are requested to fill out the interview questions. I assure you that the information provided will be used only for academic purposes.

Thank you for your cooperation.

Name: _____

Company Name: _____

Designation: _____

Q1. What is the impact of marketing and advertising expenses on sales and profitability of pharmaceutical company?

Answer: _____

Q2. In all the marketing and advertising expenses, how much is the influence of personal selling?

Answer: _____

Q3. What is the impact of trained medical representatives on sales revenue and profitability because they are the one who do personal selling for the company?

Answer: _____

Q4. Product availability is a factor that is presumed, as it helps to achieve sales targets and profitability of the company. In your opinion is this factor actually help in sales to increase profitability or not?

Answer: _____

Q5. How much your company is investing on marketing and advertising and how it impacts on the overall profitability of the company?

Answer: _____