

A study of Advertising Expenditure and Sales revenue with reference to Idea and Airtel

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ABSTRACT

Telecom sector is one of the fastest growing sector in Indian Economy. Companies spend a lot of money on advertising to survive in this competitive run. Today many companies are found to be continuously engaging in reviewing and revising their advertising policies in terms of budget, sales, customer liking, customer preference, advertising effectiveness, customer retention and many more. This study seeks to evaluate the effectiveness of advertisement expenses on sales of two companies mainly Idea and Airtel operating in India. To examine the sales effect of advertising over the period from 2006/07 to 2015/16. This study is descriptive and analytical in nature. With the help of different statistical tools and technique the researchers concluded that both the companies advertising expenditure lead incremental effect on sales. The Advertising expenditure is found to high positively correlated with Sales of Product and Service.

1. Introduction

In Telecommunication sector companies spend large amount of money on advertisement to generate sales. Telecommunication being second largest sector in terms of advertising spending as per Pitch Madison reports. Airtel and Idea being the dominant player in telecommunication industry therefore they become a natural choice. Advertising is a well-known feature of modern business operations. One can encounter advertising messages, while watching TV, reading magazines, listening to the radio, surfing the internet, while using mobiles or even simply while walking down the street or passing vehicle having advertisement, as it has a stimulating influence on purchasing behaviour of the customer. This mammoth surge of advertisements from every possible source is basically to fulfill the urge of marketers to reach to a large number of people so that their product may receive optimum exposure.

The role of this mass mode of communication in creating brand loyalty, deterring entry and consequently increasing sales revenue and profits of the organisation and causing impact on the business cycle has been emphasized at various points of time by different studies (Robinson, 1933; Kaldor, 1950; Nelson, 1974; Ozga, 1960; Stigler, 1961; Sundarsan, 2007). Broadly the role of advertising expenses in an economy can be classified under two heads. According to one school of thought, advertising increases profits and reduces consumer welfare by creating spurious product differentiation and barriers to entry. While the other school of thought focuses on the informative character of advertising, which makes markets more competitive and reduces profits by informing the customers about prices and quality (Greunes et al, 2000). In spite of the above mentioned segregation, one cannot deny the fact that ultimate function of advertising expenses is to promote sales revenue. That is why every organisation with the expectation of earning return is investing millions of rupees or dollars on this mode of marketing communication.

Hence, in pursuit of their ultimate objective of increasing sales, every endeavour of each marketer is to make this mode of sales generation more effective. But advertisement effectiveness conveys different meanings to different groups. To the writer or artist, effective advertising is that which communicates the desired message. While to the media buyer, effective advertising is that which reaches to prospective buyers a sufficient number of times. However to the advertising or marketing manager, effective advertising is that which, together with other marketing forces, sells his brand or product. Whereas according to the general manager, effective advertising produces a return on his firm's expenditure. Infact to be effective the advertising must achieve the goal of delivering messages to the right audience and thereby creating sales at a higher profit

The advertisement has remained a topic of debate either on one pretext or another for decades. At beginning of 19th century, though it was a subject of little interest to the major researchers, but it became a fertile topic for economic research at the turn of 19th century during which, on one side its constructive role in providing information to customers to satisfy their wants at lower cost was recognised and on the other a wasteful confrontational role by offering little information and doing redistribution of customers from one firm to another was acknowledged. Various studies have been conducted to assess the different aspects of relationship between advertisement and sales at different point of time. A brief review of the studies relating to different dimensions of interrelationship of sales and advertisement is presented in the forthcoming paragraphs.

2. Rationale of the Study

Most of the studies have used time series data to capture the long term effects of advertising on sales. However, it is important to know effects of advertising expenses on sales revenue for Indian telecom sector. With this backdrop the

present study has been designed to find out the extent to which advertisement expenses cause impact on sales revenue.

3. Objectives of Research

1. To discuss the significance of advertising effectiveness in Telecom sector.
2. To analyse the impact of advertising on sales with reference to Airtel and Idea.
3. To provide Suggestive measures to Idea and Airtel to make optimum use of their Advertising Budget.

4. Review of Literature

Verdon et al (1968) while studying the relationship between advertising and aggregate demand found that advertising have a positive relation with aggregate demand. However, **Ekelund and Gramm (1969)** analysed the relationship between advertising expenditure and aggregate consumption but could not establish any positive relationship between these two. Similarly, **Abdel-Khalik (1975)** has briefly explained the there is strong evidence that the duration of effectiveness of advertising and promotional efforts vary considerably between firms in different industries. **Jagpal (1981)** by applying the multiproduct advertising sales model to a commercial bank found that radio advertising was relatively ineffective in stimulating sales of the joint outputs. **Boi (1987)** The primary contribution of his methodology are: increased reliability in securing accurate measurement of the advertising-sales relationship; increased sensitivity that may provide investigators with insights into underlying market place dynamics that may be otherwise unobtainable; capability of being applied as a flexible, standardized approach. **Sachdeva (1988)** studying the trends in advertisement expenditure of India's large corporate bodies stated that foreign controlled companies have dominant share in advertisement expenditure. Consumer goods producing organisations controlled by foreign companies have emerged as one of the most important contributors to advertisement budgets of the corporate world. Another study by **Leong et al (1996)** using cointegration technique found a strong positive relationship between advertising expenditure and sales. Similarly, **Lee et al (1996)** found that the variables of advertising and sales are not only integrated of same order but also cointegrated. The results explicated that causal relationship between advertising expenses and sales works in both directions. Worth mentioning contribution by **Pagan et al (2001)** studied the effectiveness of advertising on sales using bivariate Vector Auto Regression model and showed that one time increase in advertising expenditure leads to increase in the sales of orange with a one month lag. It was also found that the impact of advertising expenditure on grape fruit sales is more immediate and relatively large. Similarly **Kamber (2002)** found a measurable relationship between advertising expenditure and sales, even after controlling other factors, such as, company size and past sales growth, etc. **Sundarsan (2007)** evaluated the effectiveness of advertising on sales of small and large firms, and for multinational corporations. The results showed that advertising has influenced sales, though its relative effectiveness was not the same for all the categories of firms. **Gerard (2009)** Discussed on four implication of advertising elasticity on advertiser firstly, advertising is not the variable of choice for increasing sales. Secondly there are distinct

circumstances when advertising is effective in increasing sales. For an effective advertisement its effect is visible early in life of campaign; change in media, product, target segment, scheduling and content of advertisement are more likely to cause change in sales. **Randall, and David, (2011)** Study showed that, retail advertising works as there is positive sizable and persistence effect of online retail advertisement on retail sales. Research estimate showed that retailer gained incremental revenue more than seven times of the amount spent on advertising.

5. Research Methodology

Paper is Descriptive and analytical in nature. It is based on the secondary data collected from Annual Reports of Idea Cellular and Bharti Airtel for Period 2006-16 i.e Eleven Years.

The following parameters have been used in the study to analyze the Advertising Effectiveness in Telecom Companies i.e. Idea and Airtel.

- i. Advertising Expenditure
- ii. Sales

In order to achieve the optimum utilization of advertising expenditure for generating higher sales. For the Purpose of the study Student's t-test have been applied for hypothesis testing. Hypothesis testing has been done with the help of M.S. Excel. For the Study T test is applied on the Advertising expenditure and Sales Revenue of the Selected Companies i.e. Idea cellular and Bharti Airtel.

Hypothesis of the Study

Ho1: There is no significant relationship between Advertising and Sales of product and services of Idea and Airtel.

Tools and techniques

Correlation is a statistical method that determines the degree of relationship between two different variables. It is also known as a "bivariate" statistic, with bi-meaning two and variate indicating variable or variance. Pearson correlation (r), which measures a linear dependence between two variables (x and y). It's also known as a parametric correlation test because it depends to the distribution of the data. It can be used only when x and y are from normal distribution.

$$r = \frac{\sum(x-m_x)(y-m_y)}{\sqrt{\sum(x-m_x)^2 \sum(y-m_y)^2}}$$

m_x and m_y are the means of x and y variables.

The p-value(significance level) of the correlation can be determined:

1. By using the correlation coefficient table for the degree of freedom: $df=n-1$ where n is the no of observations in x and y variable.
2. Or by calculating the t value as follow

T test formula

$$T = r\sqrt{n-r} / \sqrt{1-r^2}$$

6. Data analysis and Testing of Hypotheses

The study has one main null hypothesis H_0 which proposes the that there is no significant relation between advertising effectiveness on sales of product and services of the company.

H_{01} : There is no significant relationship between Advertising and Sales of product and services for Idea Company.

Table: 1 Advertising Expenditure and Total Sales of Idea Company

Years	Advertisin g Expenditure (RS in Millions)	Total Sales(RS in Millions)
2006	850.68	20070.68
2007	2006.2	43664
2008	3224.29	6562.9
2009	4265.71	98570.8
2010	4066.94	118502.43
2011	3848.38	153328.02
2012	4210.76	192753.18
2013	4535.61	220434.35
2014	4616.55	261794.69
2015	4929.13	312794.71
2016	4833.19	358165.45

Source: Annual Report of Idea from 2006 to 2016 from Company website

From above table it is revealed that advertising expenditure of Idea has increased from 850.68 Rs million in the year 2006 to 2006.2, 3224.29 Rs million in the year 2007 and 2008. In the last year of the study i.e. 2016 it has increased up to 4833.19 Rs million.

While for the total sales of the Product and service has in has increased from 20070.68 Rs million in the year 2006 to 43664, 6562.9 Rs million in the year 2007 and 2008. In the last year of the study i.e. 2016 it has increased up to 358165.45 Rs million.

Table: 2 Statement of Correlation and Student's t Test for Idea

N	11
Correlation (r)	0.788966664
$r\sqrt{n-2}$	2.366899991
r^2	0.622468396
$1-r^2$	0.377531604
$\sqrt{1-r^2}$	0.614436005
t test	$r\sqrt{n-2}/\sqrt{1-r^2}$
t test	3.852150545

T-value Calculation is done at 0.05 level of significance and degree of freedom is 10, for two tailed hypothesis.

Interpretation: The r-Value is 0.788966664 which denotes that there is strong positive correlation between advertising expenditure and sales of product and service for the company. T Calculated value is 3.852 more than Tabulated value i. e. 2.228 hence our null Hypothesis is reject. Thus we can conclude that Advertising Expenditure and sales revenue have positive relationship

Table:3 Advertising Expenditure and Total Sales of Airtel Company

Years	Advertising Expenditure (RS in Millions)	Total Sales (RS in Millions)
2006	4003.27	1067.152
2007	4024.67	1779.44
2008	5664.69	2570.35
2009	6228.86	3401.42
2010	5508	356095
2011	7215	380125.88
2012	5586	422222.53
2013	5993	467993.69
2014	6074	507633.66
2015	7022	606374.7
2016	7485	617709.44

Source: Annual Report of Airtel from 2006 to 2016 from Company website

From above table it is revealed that advertising expenditure of Airtel has increased from 4003.27Rs million in the year 2006 to 4024.67, 5664.69 Rs million in the year 2007 and 2008. In the last year of the study i.e. 2016 it has increased up to 7485Rs million.

While for the total sales of the Product and service has in has increased from 1067.152Rs million in the year 2006 to 1779.44, 2570.35 Rs million in the year 2007 and 2008. In the last year of the study i.e. 2016 it has increased up to 617709.44Rs million.

Table: 4 Statement of Correlation and Student's t Test for Airtel

N	11
Correlation (r)	0.703818053
$r\sqrt{n-2}$	2.111454158
r^2	0.495359851
$1-r^2$	0.504640149
$\sqrt{1-r^2}$	0.710380284
t test	$r\sqrt{n-2}/\sqrt{1-r^2}$
t test	2.972287104

T-value Calculation is done at 0.05 level of significance and degree of freedom is 10, for two tailed hypothesis.

Interpretation: The r-Value is 0.703818053 which denotes that there is strong positive correlation between advertising expenditure and sales of product and service for the company. T Calculated value is 2.972 more than Tabulated value i. e.2.228 hence our null Hypothesis is reject. Thus we can conclude that Advertising Expenditure and sales revenue have positive relationship.

7. Discussions & Findings

1. It is observed from the advertising expenditure of Idea during the study period that it has increased up to 82.39 % taking advertising expenses of 2005-06 as base year while Sale of the company has increased up to 1784.52%. (Table 1).
2. A Pearson's correlation was run to assess the relationship between advertising expenditure and sales of product and service by Idea company for Eleven year from 2005-2016. There was a strong

positive correlation between advertising expenditure and sales, $r(98) = .7889$, $p < .0005$, with advertising expenditure explaining 50.41% of the variation in sales of product and service. (Table 2)

3. The calculated value of t (3.85) at 5% level of significance at 10 degree of freedom is found to be greater than the critical value (2.28), Therefore the null hypothesis is rejected and alternate hypothesis is accepted which means that there is a significant relationship between Advertising and Sales of product and services for Idea Company. (Table 2)
4. It is observed from (Table 3) the advertising expenditure of Airtel during the study period that it has increased up to 86.97 % taking advertising expenses of 2005-06 as base year while Sale of the company has increased up to 57783.92% .
5. A Pearson's correlation was run to assess the relationship between advertising expenditure and sales of product and service by Airtel company for Eleven year from 2005-2016. There was a strong positive correlation between advertising expenditure and sales, $r(98) = .710$, $p < .0005$, with advertising expenditure explaining 62.23% of the variation in sales of product and service. (Table 4)
6. The calculated value of t (2.972) at 5% level of significance at 10 degree of freedom is found to be greater than the critical value (2.28), Therefore the null hypothesis is rejected and alternate hypothesis is accepted which means that there is a significant relationship between Advertising and Sales of product and services for Airtel Company. (Table 4)
7. For both Airtel and Idea companies it has been observed that there is phenomenal growth in sales for these companies as compared to advertising expenditure but the above research has focused only on one parameter i.e on advertising expenditure on sales but over the period of study there are many variables like government policies towards the telecommunication sector has changed, FDI investment, consumer buying behaviour, consumer media habits, consumer purchasing ability, value of money changes over the period.

8. Suggestions

1. As observed from the advertising expenditure of Idea during the study period that it has increased up to 82.39 % taking advertising expenses of 2005-06 as base year while Sale of the company has increased up to 1784.52%. (table 1) keeping this in mind company should try maintain the current trend.
2. As it been observed from the advertising expenditure of Airtel during the study period that it has increased up to 86.97 % taking advertising expenses of 2005-06 as base year while Sale of the company has increased up to 57783.92%. (table 2) Company should try to maintain current trend as far as advertising expenditure and sales of product and services.
3. As Idea and Airtel company is following an upward trend in Advertisement expenditure it should also direct it promotional strategy more towards the development of customer retention, customer loyalty programmes.
4. Idea and Airtel should focus more on delivering quality services and technology oriented offering to customers so as to become world class service provider in telecom sector.
5. As telecom companies as among second largest spender in advertising they should focus more on advertising research to analyse the effectiveness of their advertising expenditure respectively.

9. Conclusion:

This research has focused on two companies of telecom sector in India. These two companies are most prominent in terms of customer base, market share, services and advertising expenditure. Telecom services are very important for growth and development of economy as they are becoming an important platform to deliver techno- savvy product services to a large segment of the society. Thus it is imperative to know how advertising expenditure is related to sales for these companies. On the basis of the study it is concluded that advertising expenditure and sales are positively correlated.

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