

The Impact of Marketing Variables on Business Performance: An Analysis of FMCG, Consumer Durables and Textile Industries

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The changes in the structure of economy have brought about a significant change in market dynamics. The increased competition from every corner of the world is forcing companies to bring changes in their marketing, human resource and operations strategies. One question that continues to dominate thinking in organizations is the impact of marketing expenditures on sales performance. This question provided the trigger to explore and analyze the impact of marketing expenditures on sales. Thirty companies were analyzed in FMCG, consumer durables and textile industries each. Separate regression analysis was done to analyze the impact of marketing expenditures on sales in all the three industries. The results showed that marketing expenditures had differential impact on the sales of the companies across the three industries.

Introduction

The Indian economy has gone through rapid changes in the last 20 years or so. There is heightened competition in every sector. Companies are vying for a share of the market by trying to outsmart each other. Global competition has added to this competitive intensity. The changes in the structure of the economy have brought about a significant change in market dynamics. Increased competition from every corner of the world has forced the companies to bring changes in their strategy regarding marketing, operations and human resources so that they can sustain the competition.

The Marketing Leadership Council (2001) reported that 70% of advertising budgets are in decline, compared with 51% and 47% of human resources and information technology. Most marketers are unable to justify the returns on their investments. Over \$245 bn was spent on advertising alone in the US in 2003 (Advertising Age, 2005), most of which was not attributable to a significant growth performance of the firms that spent this money. Marketing practitioners are under increased pressure to be accountable for and to show how marketing expenditures increase sales and add to shareholder value (Doyle, 2000). Despite enormous levels of spending, an important economic question is yet to be resolved. (1) Is there any association between sales and marketing expenditure? If yes, is this a positive association or otherwise? This question motivated the author to explore further and analyze the impact of these firm-level variables on the sales of the companies shortlisted for the study.

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Literature Review

Sales of any brand are influenced by many factors, of which brand's advertising expenditure is the most significant one. Other than brand's advertising expenditure, there are other marketing variables such as pricing, product quality, new variety introductions, distribution, and dealer activities which also affect the sales of the company. Industry factors such as the product's primary demand and competitors' activities also play an important role in influencing the sales of any brand. The first two categories consist of variables that are controllable to a great extent by the firm, whereas the third category represents factors that are not. The interaction of marketing mix variables has been studied extensively in marketing literature. The focus has been on how marketing variables affect competition, and central to this issue is the impact of advertising on price elasticity (Omstein, 1977; and Comanor *et al.*, 1979). Several studies have been done by researchers to find the relationship between the firm level variable and sales.

Stewart (1996) examined a model on the data taken from the Canadian automobile market, which used three explanatory variables to explain variation in the ratio of promotional expenditure to sales. These are market share, market growth and the interaction between both. They concluded that the expenditure on promotional activity is clearly an important element in the total marketing costs incurred by many organizations. Dekimpe and Hanssens (1995) found that marketing efforts do affect the long-term trends in sales of a firm. They had introduced persistence modeling to derive long-term marketing effectiveness from time-series observations on sales and marketing expenditures taking the example of sales and media spending for a chain of home-improvement store. A similar study was done by Bawa and Shoemaker (1987) where they analyzed the impact of sales promotion activities on customers' brand choice behavior. Their analysis showed the positive long-term and short-term effects on the brand choice behavior of customers. Later on, Jones (1989) also conducted a similar study to identify the impact of both long-term and short-term promotion activities on sales by multivariate techniques. The results showed that the impact is greater in the short term than the long term.

Butters (1977) discussed the effect of advertising expenses on sales. He used the sales density model that clearly demonstrated the effect of advertising expenses and distribution expenses on sales. Farris *et al.* (1989), using the push-pull model of distribution and market share, studied the relationship between distribution and market share. They developed an aggregate level model of distribution and market share for frequently purchased branded consumer goods. The model makes a key distinction between uncompromised and compromised demand as sources of market share. Using a variety of model assumptions, their results are consistent with longitudinal and cross-sectional evidence which prove that market share is a convex function of distribution, increasing at a rate up to 100% distribution. Ogbonna and Wilkinson (1996) conducted a survey to analyze the relationships between food manufacturers and retailers. The results showed that the relationship between the food manufacturers and retailers are more complex than the general belief of partnerships.

Horsky (1977) inferred that sales of any brand are influenced by many factors such as the brand's advertising expenditure, both present and past, the brand's other marketing activities such as pricing, product quality, new variety introductions, distribution and dealer activities and industry factors, such as the product's primary demand and competitors' activities. The first two categories consist of variables that are controllable to a great extent by the firm, whereas the third category represents factors that are not. A general model of sales response should incorporate all the factors. However, in this study, the marketing mix variables apart from advertising are assumed to remain constant.

Beckwith (1972) carried out a multivariate analysis of sales responses of competing brands to advertising. The sales responses of five competing brands to advertising were investigated with parameters of simple market response for all brands estimated jointly. The effectiveness of advertising was found to differ significantly among brands. Optimal advertising expenses implied by the model were determined for each brand. This study was aimed at the measurement of the effect upon sales of decision variables, including total advertising expenditure for a firm's brands, allocation of advertising monies between brands, introduction of new brands, and discontinuance of promotion for existing brands. A model of the market response function was formulated, tested extensively, and then extended to obtain the parameter estimates necessary for different decisions.

According to Kuvykaite *et al.* (2009), packaging performs an important role in marketing communications, especially in the point of sale and could be treated as one of the most important factors influencing consumer's purchase decision thereby affecting the sales of the product. The increased interest in packaging as a tool of sales promotion and stimulator of impulsive buying behavior is mainly due to changing lifestyles.

Oppong-Adade (2010) conducted a study on Ghana Telecommunication Company for examining the relationship between marketing expenditure and sales. Regression analysis was carried out to measure the relationship between the dependent variable (sales) and the independent variables (customer care expenditure, product development expenditures, distribution expenditure and marketing communication expenditure). The result revealed that there is a positive relationship between marketing expenditure and sales.

Objective

The main objective of this study is to assess the impact of marketing expenditures on sales performance. This impact is assessed in three different industries, i.e., FMCG, consumer durables and textile industries.

Proposed Model

Based on the extant literature, the following model was proposed to measure the impact of the firm-level variables on sales:

$$\ln S = \alpha + \beta_1 (\ln ADV) + \beta_2 (\ln DIST) + \beta_3 (\ln MKT) + \beta_4 (\ln PACK) + \varepsilon$$

where

β = Coefficients, ε = error term;

S= Sales (company-wise sales);

ADV = Advertisement expenses;

DIST = Distribution expenses;

MKT = Marketing Expenses; and

PACK= Packaging expenses.

Variables Used in the Study

- We have taken the Advertisement Expenses (ADV) that impact sales owing to the fact that Horsky (1977) found that sales of any brand are influenced by many factors, the most significant of which is the brand's advertising expenditure.
- Distribution Expenses (DIST) have been taken as one of the independent variables as we found that Horsky (1977), in the same paper mentioned above, found that distribution expenses of a company affect sales. The more the company spends money in spreading and strengthening its distribution network, the more it is expected that the sales of that company would be high.
- Marketing Expenses (MKT) are treated as an independent variable, as Stewart (1996) has examined a model on the data taken from the Canadian automotive market, which explained that promotional activities (a major component in marketing mix) shares a relationship with the sales of a firm.
- Packaging Expenses (PACK) have been included as a variable due to the fact that in FMCG sector, packaging plays a major role, as packaged foods and beverages are the core of the FMCG sector. This fact is supported by Kuvykaite *et al.*, (2009) who stated that packaging performs an important role in marketing communications, especially in the point of sale and influencing customers' buying decisions.

H₁: There is a significant difference in the impact of marketing expenditures (i.e., advertising, promotion, packaging and distribution) on the sales of select companies across the three different industries.

Database

Data for the study was collected from CMIE Prowess database, a well-known source which has information of more than 10,000 firms beginning with the year 1990. Thirty companies in FMCG, consumer durables and textile industries were shortlisted for the study. The justification for selecting these industries is given below.

FMCG Industry

The Fast Moving Consumer Goods (FMCG) market consists of companies which market regularly purchased products like tea, coffee, dry cells, greeting cards, gifts, detergents, tobacco and cigarettes, watches, soaps, etc. With a growing economy, the scope for expansion exists and investments in this industry are increasing especially in India, where FMCG industry is regarded as the fourth largest sector with a total market size of US\$13.1 bn. The FMCG sector in India was estimated to grow 60% by 2010, which would translate into an annual growth of 10% over a five-year period. It had been estimated that the FMCG sector would grow from around ₹56,500 cr in 2005 to ₹92,100 cr in 2010. Hence, making an assessment of how marketing expenditures influence performance assumes importance. The names of the 30 companies that were shortlisted for the study are given in Table 1.

Table 1: FMCG Industries						
Company	IC	Sales	P&P	A	M	D
Thiru Arooran Sugars Ltd.	1954	670.13	8.92	0.05	1.26	2.65
Glaxosmithkline Consumer Healthcare Ltd.	1958	1747.35	161.11	194.04	0.26	77.88
Procter & Gamble Hygiene & Health Care Ltd.	1964	655.57	55.01	68.84	28.81	31.07
Foods & Inns Ltd.	1967	174.9	19.14	0.02	1.96	10.95
Dabur India Ltd.	1975	2128.17	284.05	248.1	21.4	52.42
Kothari Products Ltd.	1983	201.15	16.02	3.65	3.18	2.56
Bambino Agro Inds. Ltd.	1983	191.86	12.44	0.06	4.39	11.56
Emami Ltd.	1983	583.02	27.08	102.92	27.46	14.86
Radico Khaitan Ltd.	1983	1222.14	105.96	40.51	48.35	27.52
Amar Remedies Ltd.	1984	298.38	71.16	1.33	1.52	0.08
Ruchi Soya Inds. Ltd.	1986	11014.27	221.02	9.5	30.13	273.4
Marico Ltd.	1988	1578.1	141.26	180.47	4.88	68.54
Kohinoor Foods Ltd.	1989	637.13	35.89	1.57	5.76	31.11
Indian Sucrose Ltd.	1990	115.89	2.42	0.01	0.33	0.01
ADF Foods Ltd.	1990	89.2	14.57	1.78	3.13	8.39
Murli Industries Ltd.	1991	650.93	5.25	0.06	2.71	18.42
Kwality Dairy (India) Ltd.	1992	333.05	3.69	0.01	3.65	0.37
Ajanta Soya Ltd.	1992	284.74	6.21	0.04	0.84	1.07
Freshtrop Fruits Ltd.	1992	39.16	4.63	0.03	10.10	1.40
Agro Dutch Inds. Ltd.	1992	208.41	5.49	0.16	14.40	14.39
Heritage Foods (India) Ltd.	1992	583.77	17.97	2.43	3.18	23.84

Table 1 (Cont.)

Company	IC	Sales	P&P	A	M	D
Camson Bio Technologies Ltd.	1993	41.92	0.70	0.17	9.05	0.49
Piccadily Sugar & Allied Inds. Ltd.	1993	67.66	8.82	0.01	1.05	0.81
K R B L Ltd.	1993	1006.74	50.62	4.35	14.44	34.81
Piccadily Agro Inds. Ltd.	1994	121.88	13.09	0.02	0.36	0.77
Chaman Lal Setia Exports Ltd.	1994	120.30	3.95	0.24	0.98	4.97
S K M Egg Products Export (India) Ltd.	1995	134.49	1.89	0.76	2.40	2.85
Mount Everest Mineral Water Ltd.	1996	22.88	3.31	0.84	5.45	4.08
United Spirits Ltd.	1999	9328.88	1109.79	537.85	173.17	100.88
I T C Ltd.	1910	21467.38	58.7	377.54	124.78	548.4
Note: IC = Incorporation Year; P&P = Packaging and packing expenses; A = Advertising expenses; M = Marketing expenses (including commissions, rebates, discounts, sales promotional, expenses on direct selling agents and entertainment expenses); and D = Distribution expenses (including outward freight).						

Consumer Durables Industry

Consumer durables occupy a very important space in the economy. Consumers buy durable goods such as electronic equipment, home furnishings and fixtures, photographic equipment, leisure equipment, kitchen appliances, etc. The difference between FMCG and consumer durables is in terms of the frequency of purchase. Durables are more infrequently purchased. The industry has witnessed a considerable change in the past couple of years. The changing lifestyle, higher disposable income coupled with greater affordability and a surge in advertising has brought about a sea change in the consumer behavior pattern. Apart from that steady income gains, consumer financing and hire-purchase schemes have become a major driver in the consumer durables industry. The industry has posted 30% growth in Q1 2010 against the corresponding period in 2009 (Q1 2009). The rapid growth in this industry has made it an attractive investment option as urban and rural markets in India continue to grow at an annual rate of 10 and 25%, respectively. According to a research report "Global Consumer Electronics Market Forecast to 2013", by RNCOS, the Indian consumer electronic industry represents immense growth potential for years to come. The industry was expected to grow at a CAGR of nearly 19% during 2010-2013 to US\$ 9.5 bn. There is a need to study this industry and assess how marketing expenditures influence performance. The names of the 30 companies identified for the study are given in Table 2.

Textile Industry

The Indian textile industry is one of the leading industries in the world. The opening up of economy gave the much-needed thrust to the Indian textile industry, which has now successfully become one of the largest in the world. Indian textile industry can be divided into several segments like cotton textiles, silk textiles, woolen textiles, readymade garments, hand-crafted textiles, jute, coir, etc. Indian textile industry largely depends upon textile

Table 2: Consumer Durables Companies						
Company	IC	Sales	P&P	A	M	D
Philips Electronics India Ltd.	1930	479.75	10.45	0.42	12.12	14.66
Nicco Corpn. Ltd.	1942	703.8	14.22	2.49	5.64	8.55
Industrial Cables (India) Ltd.	1955	23.82	0.32	0.01	1.73	1.13
Asian Electronics Ltd.	1964	30.44	1.61	0.01	0.52	0.08
Finolex Cables Ltd.	1967	322.59	23.58	15.97	13.49	11.21
S & S Power Switchgear Ltd.	1975	420.08	36.29	32.39	14.2	3.18
Moser Baer India Ltd.	1983	185.67	1.82	0.02	1.65	0.54
Aksh Optifibre Ltd.	1986	139.8	5.18	2.64	2.5	3.25
Jindal Worldwide Ltd.	1986	0.94	0.02	0.03	0.16	0.02
Aksh Optifibre Ltd.	1986	106.57	0.23	5.42	3.25	0.39
Sky Industries Ltd.	1989	67.7	2.74	0.2	0.43	2.41
Bilpower Ltd.	1989	482.44	0.19	0.04	0.21	2.97
Incap Ltd.	1990	13.74	0.09	0.07	0.05	0.12
R M Mohite Textiles Ltd.	1990	186.5	1.47	0.03	1.78	3.53
Uniflex Cables Ltd.	1990	195.07	4.75	0.03	1.24	5.05
Astra Microwave Products Ltd.	1991	111.96	0.21	0.27	0.55	1.13
Opto Circuits (India) Ltd.	1992	90.29	1.77	0.01	0.46	2.73
Sarla Performance Fibres Ltd.	1993	56.05	0.61	0.01	0.37	0.16
Koutons Retail India Ltd.	1994	88.37	7.03	7.04	1.43	0.53
R S W M Ltd.	1994	169.57	2.06	4.35	2.49	0.79
B A G Films & Media Ltd.	1993	66.53	1.85	0.43	35.01	1.49
Malwa Industries Ltd.	1993	191.07	1.21	0.18	3.68	3.03
Shyam Telecom Ltd.	1992	159.77	5.34	0.05	2.09	7.0
Aishwarya Telecom Ltd.	1995	43.55	0.04	0.11	0.65	0.1
Krishna Knitwear Technology Ltd.	1995	138.84	8.08	0.02	3.57	2.05
Simplex Mills Co. Ltd.	1998	596.62	16.94	0.05	3.18	17.5
Bharti Teletech Ltd.	1999	493.29	5.42	20.64	4.14	7.7
Goldstone Infratech Ltd.	2000	146.5	0.95	0.02	0.11	0.28
Sabare International Ltd.	2003	640.28	5.84	0.5	4.14	10.22
Moser Baer Photo Voltaic Ltd.	2005	962.19	8.47	0.17	5.91	8.39

manufacturing and export. It also plays a major role in the economy of the country. India earns about 27% of its total foreign exchange through textile exports. Further, the textile industry of India also contributes nearly 14% of the total industrial production of the country. It also contributes around 3% to the GDP of the country. The textile exports of the country were around US\$19.14 bn in 2006-07, which saw a stiff rise to reach US\$22.13 in 2007-08. The share of exports was also expected to increase from 4% to 7% by 2012. The names of the 30 companies are given in Table 3.

Table 3: Textile Companies						
Company	IC	Sales	P&P	A	M	D
Raymond Apparel Ltd. (Merged)	1948	376.37	10.07	32.78	32.76	6.8
J J Exporters Ltd.	1972	64.95	0.22	0.08	3.68	0.57
Vardhman Textiles Ltd.	1973	3391.39	61.66	1.64	56.74	60.22
Madura Coats Pvt. Ltd.	1974	795.88	24.99	3.36	45.3	19.34
K S L & Industries Ltd.	1975	1454.67	15.09267	3.97	10.23	2.02
Malwa Cotton Spg. Mills Ltd.	1976	479.75	10.45	0.42	12.12	14.66
Addi Industries Ltd.	1980	23.82	0.32	0.01	1.73	1.13
Raghuvir Synthetics Ltd.	1982	30.44	1.61	0.01	0.52	0.08
Zodiac Clothing Co. Ltd.	1984	322.59	23.58	15.97	13.49	11.21
Rupa & Co. Ltd.	1985	532.48	42.34	43.33	16.74	3.6
Jindal Worldwide Ltd.	1986	290.8	2.79	0.04	2.59	0.82
Ritesh Properties & Inds. Ltd.	1987	0.94	0.02	0.03	0.16	0.02
Shri Lakshmi Cotsyn Ltd.	1988	1539.38	10.89	1.02	4.49	6.86
Sky Industries Ltd.	1989	67.7	2.74	0.2	0.43	2.41
R M Mohite Inds. Ltd.	1990	186.5	1.47	0.03	1.78	3.53
Abhishek Industries Ltd.	1990	1821.95	52.16	0.41	44.93	53.35
Vanasthali Textile Inds. Ltd.	1991	90.29	1.77	0.01	0.46	2.73
Dhanlaxmi Fabrics Ltd.	1992	56.05	0.61	0.01	0.37	0.16
Kewal Kiran Clothing Ltd.	1992	88.37	7.03	7.04	1.43	0.53
Bombay Rayon Fashions Ltd.	1992	1801.45	10.18	1.54	7.27	31.15
Sarla Performance Fibres Ltd.	1993	159.77	5.34	0.05	2.09	7.0
Malwa Industries Ltd.	1993	191.07	1.21	0.18	3.68	3.03
Koutons Retail India Ltd.	1994	1203.76	26.03	28.44	158.84	9.35
R S W M Ltd.	1994	1734.2	22.57	2.31	34.72	36.58
Samtex Fashions Ltd.	1996	596.62	16.94	0.05	3.18	17.5
Provogue (India) Ltd.	1997	493.29	5.42	20.64	4.14	7.7
Welspun India Ltd.	1997	2054.73	95.11	2.74	12.05	16.17
Jindal Cotex Ltd.	1998	146.5	0.95	0.02	0.11	0.28
Indus Fila Ltd.	1999	640.28	5.84	0.5	4.14	10.22
S E L Manufacturing Co. Ltd.	2000	962.19	8.47	0.17	5.91	8.39

Methodology

Log log model is used to normalize the variable because there is a possibility of outliers in the data which need to be stabilized. Separate regression analysis is done for all the three industries. The dependent variable is sales and the independent variables are advertising expenses, marketing expenses (promotion), packaging expenses and distribution expenses. The results are then compared to assess the differential impact of marketing variables on the sales of the companies between the three industries (Table 4).

Table 4: Consolidated Results of All the Three Companies			
	Industries		
	FMCG	Consumer Durable	Textile
VIF for Log Packaging Expense	2.680	2.910	4.194
VIF for Log Advertising Expense	3.488	1.479	2.605
VIF for Log Marketing Expense	1.801	2.470	4.118
VIF for Log Distribution Expense	2.435	2.621	4.107
R ²	0.713	0.727	0.853
Adjusted R ²	0.667	0.683	0.829
β Coefficient for Log Packaging Expense	0.562*	0.213 ^(n.s)	0.585*
β Coefficient for Log Advertising Expense	0.004 ^(n.s)	0.117 ^(n.s)	-0.075 ^(n.s)
β Coefficient for Log Marketing Expense	0.098 ^(n.s)	-0.092 ^(n.s)	0.101 ^(n.s)
β Coefficient for Log Distribution Expense	0.290 ^(n.s)	0.693*	0.343*
Note: Significant level $p < 0.05^*$; and n.s = Non-significant.			

Results

Regression Results of FMCG Industry

To check for multi-collinearity and identifying the variables causing the same in the pre-liberalized set, we observed the VIF for each of the four marketing variables. After close observation, we found that the VIF for log packaging expense is 2.680, VIF for log advertising expense is 3.488, VIF for log marketing expense is 1.801 and VIF for log distribution expense is 2.435. This means that there is no major multi-collinearity problem among the independent variables since the VIF is not beyond 10.0 for all the four variables. Another way of interpreting the same is that the independent marketing variables are not perfectly co-related (neither positive nor negative) (Table 5).

The coefficient of determination (R^2) is 0.713 and the adjusted coefficient of determination (R^2) is 0.667. So, we can say that the model is a good fit and the independent variables

Table 5: Descriptive Statistics			
	Mean	Standard Deviation	N
Logsales	6.0104	1.65032	30
Logpackaging	2.9472	1.69952	30
Logadvertising	0.1838	3.58447	30
Logmarketing	1.5896	1.65734	30
Logdistribution	1.9432	2.38512	30

sufficiently explain the variation in the dependent variable. The ANOVA results showed that $F(3, 26)$ at 0.05 significant level is 15.511 with highly significant ($p < 0.000$). This means that all the coefficients of independent variables are significantly different from zero, i.e., there is a significant difference in the impact of the four marketing variables (Table 6).

Table 6: Model Summary ^(b)					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	0.844 ^(a)	0.713	0.667	0.95257	1.865
Note: a Predictors: (Constant), logdistribution, logmarketing, logpackaging, logadvertising; and b Dependent Variable: Logsales.					

Taking log packaging expenses under consideration, the standardized β coefficient is 0.562, i.e., the 1% change in log packaging expenses will lead to 0.562% change in log sales. However, β is significant ($p < 0.05$) which means that there is a significant differential impact on the sales of the company across different companies. Therefore, H_1 hypothesis is accepted (Table 7).

Table 7: Coefficients							
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
1 (Constant)	3.859	0.553		6.973	0.000		
Log P_P	0.546	0.170	0.562	3.201	0.004	0.373	2.680
Log Adv	0.002	0.092	0.004	0.019	0.985	0.287	3.488
Log Mkg	0.097	0.143	0.098	6.973	0.504	0.555	1.801
Log Distr	0.200	0.116	0.290	1.731	0.096	0.411	2.435

Taking log advertising expenses under consideration, β is not significant ($p > 0.05$). Therefore, H_1 is not accepted since log advertising expenses were not at all affecting log sales for FMCG companies (Table 7).

Taking log marketing expenses under consideration, β is not significant ($p > 0.05$). Therefore, H_1 is not accepted since log marketing expenses were not at all affecting log sales for FMCG companies (Table 7).

Taking log distribution expenses under consideration, β is not significant ($p > 0.05$). Therefore, H_1 is not accepted since log distribution expenses were not at all affecting log sales for FMCG companies (Table 7).

Regression Results of Consumer Durable Companies

To check for multi-collinearity and identifying the variables causing the same in the pre-liberalized set, we observed the VIF for each of the four marketing variables. After close observation, we found that the VIF for packaging expense is 2.910, VIF for advertising expense is 1.479, VIF for marketing expense is 2.470 and VIF for distribution expense is 2.621. This means that there is no major multi-collinearity problem among the independent variables since the VIF is not beyond 10.0 for all the four variables. Another way of interpreting the same is that the independent marketing variables are not perfectly co-related (neither positive nor negative) (Table 8).

Table 8: Descriptive Statistics			
	Mean	Standard Deviation	N
Logsales	4.8808	1.40551	30
Logpackaging	0.5915	1.88434	30
Logadvertising	-1.5764	2.52708	30
Logmarketing	0.4812	1.53296	30
Logdistribution	0.4271	1.74476	30

The coefficient of determination (R^2) is 0.727 and the adjusted coefficient of determination (R^2) is 0.683. So, we can say that the model is a good fit and the independent variables sufficiently explain variation in the dependent variable. The ANOVA results showed that F (3, 26) at 0.05 significant level is 16.637 with highly significant ($p < 0.000$). This means that all the coefficients of independent variables are significantly different from zero, i.e., there is a significant difference in the impact of the four marketing variables on the company sales across different companies in the industry (Table 9).

Table 9: Model Summary ^(b)					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	0.853 ^(a)	0.727	0.683	0.79106	2.708
Note: a Predictors: (Constant), logdistribution, logmarketing, logpackaging, logadvertising; and b Dependent Variable: Logsales.					

Taking log packaging and packing expenses under consideration, β is not significant ($p > 0.05$). Therefore, H_1 is not accepted since log packaging and packing expenses were not at all affecting log sales for consumer durable companies (Table 10).

Taking log advertising expenses under consideration, β is not significant ($p > 0.05$). Therefore, H_1 is not accepted since log advertising expenses were not at all affecting log sales for consumer durable companies (Table 10).

Table 10: Coefficients							
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
1 (Constant)	4.691	0.210		22.298	0.000		
Log P_P	0.159	0.133	0.213	1.194	0.244	0.344	2.910
Log Adv	0.065	0.071	0.117	0.918	0.367	0.676	1.479
Log Mkg	-0.084	0.151	-0.092	-0.558	0.582	0.405	2.470
Log Distr	0.559	0.136	0.693	4.098	0.000	0.381	2.621

Taking log marketing expenses under consideration, β is not significant ($p > 0.05$). Therefore, H_1 is not accepted since log marketing expenses were not at all affecting log sales for consumer durable companies (Table 10).

Taking log distribution expenses under consideration, the standardized β coefficient is 0.693, i.e., the 1% change in log distribution expenses will lead to 0.693% change in log sales. However, β is significant ($p < 0.05$) which means that there is a significant different impact on the sales of the company for consumer durable companies. Therefore, H_1 hypothesis is accepted (Table 10).

Regression Results of Textile Industry

To check for multi-collinearity and identifying the variables causing the same in the pre-liberalized set, the VIF was observed for each of the four marketing variables. After close observation, we found that the VIF for packaging expense is 4.194, VIF for advertising expense is 2.605, VIF for marketing expense is 4.118 and VIF for distribution expense is 4.107. This means that there is no major multi-collinearity problem among the independent variables since the VIF is not beyond 10.0 for all the four variables. Another way of interpreting the same is that the independent marketing variables are not perfectly co-related (neither positive nor negative) (Table 11).

The coefficient of determination (R^2) is 0.853 and the adjusted coefficient of determination (R^2) is 0.829. So, we can say that the model is a good fit and the independent variables can

Table 11: Descriptive Statistics			
	Mean	Standard Deviation	N
Logsales	5.6944	1.73184	30
Logpackaging	1.6601	1.87363	30
Logadvertising	-0.8297	2.71153	30
Logmarketing	1.4740	1.80439	30
Logdistribution	1.2920	1.94323	30

properly explain the dependent variables. The ANOVA results showed that $F(3, 26)$ at 0.05 significant level is 36.247 with highly significant ($p < 0.000$). This means that all the coefficients of independent variables are significantly different from zero, i.e., there is a significant difference in the impact of the four marketing variables on the company sales across different companies within the industry (Table 12).

Table 12: Model Summary ^(b)					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	0.924 ^(a)	0.853	0.829	0.71531	2.650
Note: a Predictors: (Constant), logdistribution, logmarketing, logpackaging, logadvertising; and b Dependent Variable: Logsales.					

Taking log packaging expenses under consideration, the standardized β coefficient is 0.585 i.e., the 1% change in log packaging expenses will lead to 0.585% change in log sales. However, β is significant ($p < 0.05$) which means that there is a significant different impact on the sales of the company for textile industry. Therefore, H_1 hypothesis is accepted (Table 13).

Table 13: Coefficients							
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
1 (Constant)	4.219	0.284		14.875	0.000		
Log P_P	0.541	0.145	0.585	3.724	0.001	0.238	4.194
Log Adv	-0.048	0.079	-0.075	-0.605	0.551	0.384	2.605
Log Mkg	0.097	0.149	0.101	0.647	0.523	0.243	4.118
Log Distr	0.306	0.139	0.343	2.208	0.037	0.243	4.107

Taking log advertising expenses under consideration, β is not significant ($p > 0.05$). Therefore, H_1 is not accepted since log advertising expenses were not at all affecting log sales for textile industry (Table 13).

Taking log marketing expenses under consideration, β is not significant ($p > 0.05$). Therefore, H_1 is not accepted since log marketing expenses were not at all affecting log sales for textile industry (Table 13).

Taking log distribution expenses under consideration, the standardized β coefficient is 0.343, i.e., the 1% change in log distribution expenses will lead to 0.343% change in log sales. However, β is significant ($p < 0.05$) which means that there is a significant different impact on the sales of the company for textile industry. Therefore, H_1 hypothesis is accepted (Table 13).

Discussion

The results indicate that there is a significant positive impact of packaging on the sales of the companies in the FMCG industry, which is similar to the findings in prior literature, whereas the other three variables, i.e., distribution, advertisement and marketing, showed no significant impact on sales performance. In textile industry, packaging and distribution showed a significant impact on sales, but marketing and advertising expenditures did not make any impact. In the consumer durable industry, only distribution showed a significant impact, whereas other three variables did not show any impact on the sales performance, which is at variance with prior results in similar studies. The reasons for these variations can be assumed that the study was conducted in a very different context. Also, the choice of sample may influence the final outcomes.

Conclusion

From the above study, we found that there are some significant differences in the impact of marketing variables on the sales of companies in the three industries. In FMCG industry, only packaging showed a significant impact on the sales of the company, whereas in consumer durables industry, distribution showed a significant impact on the sales of the companies. In textile industry, both the packaging and distribution have a significant impact on the sales of the company. Marketing and advertisement showed no significant impact on all three industries. Managers must assess how different expenditures impact sales performance and allocate suitable budgets after careful consideration. In doing such analysis, accountability of marketing expenditures can be reported and managers can be made more responsible for budgets.

Limitations and Future Research: This study has its own share of limitations. In this study, only four independent variables are taken to assess their impact on sales performance, but in reality, there could be other extraneous factors impacting sales. For instance, market share could be a significant determinant. Future studies in the area can look at including more independent variables. Studies can also be planned in services sector where marketing expenditures are increasing.✪

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