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Responsible Advertising and Its Effect on Sales Performance: Applying Structural Equation Model (SEM)

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Abstract: Businesses are being forced to fight for attracting and retaining customers using a variety of forms of advertising due to the intense competition and rapidly changing market conditions in the FMCG sector. The effect of advertising on sales performance is investigated in this study. The study used the Structural Equation Modelling (SEM) method based on the conceptual model, and the sample of 100 people was drawn from walk-in consumers at retail establishments in Bhubaneswar City. Informative, persuasive and reminder advertising are the forms of advertising that are strongly correlated with sales performance using confirmatory factor analysis and path analysis.

Keywords: Sales Performance, SEM, Advertising, Consumer

JEL Classification Number: L81, M31, C51

1. Introduction

The fast-moving consumer goods (FMCG) sector, currently the fourth largest in India, has been expanding steadily over the years because of several factors such as rising disposable income, a rise in the youth population, and heightened consumer brand awareness. India has a middle-class population larger than the United States, making it a market that no FMCG player can afford to ignore. Rising product costs, particularly for necessities, and consumer-driven growth contributed to the FMCG sector's expansion in India (ibef.org).

Businesses today face more competition than ever before as they all want to achieve their objectives and boost productivity, which can be translated into more sales and profits. As a result, advertising is used by the great majority of firms to boost sales (Bendixen, 1993).
According to Kotler and Armstrong (2010), advertising is any paid form of non-personal presentation and promotion of ideas, goods, or services by an identified sponsor. Advertising comes in many ways, including comparative, persuasive, educational, and reminder advertising. Advertising that educates viewers about a new good or service, its potential, or its future is known as informative advertising. It provides information

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on the goods and services that are offered, dispels myths, and enhances the company's reputation (Kotler, 2010).

This study is being done to investigate and examine the influence of advertising on sales performance by businesses. The study's focus is on the various forms of advertising focused by marketers to boost sales in addition to attracting customers' attention and promoting their brands.

2. Literature Review

Fill (1999) asserts that the goal of advertising is to give marketers access to public relations, sales promotion, and advertising as communication instruments. One unique aspect of communication is that the information must be as basic as possible for the target demographic or audience to understand it. Advertising is defined as paid, non-personal communication through various media by business firms, non-profit organisations, and individuals who are in some way identified in the advertising message and who hope to inform or persuade members of a particular audience. Dunn et al. (1987) viewed advertising from its functional perspective. According to Morden (1991), advertising serves the purpose of educating potential customers about a product or service and establishing in their minds a basic awareness of it. According to Kotler (1988), one of the instruments used by businesses to target consumers and the general public with persuasive messages is advertising.

According to Denning, 2006, advertising's main purpose is to persuade. This point of view holds that advertising boosts product distinctiveness and discourages entrance by giving marketed goods more reputation and prestige, which strengthens the market power of the companies selling them and drives up prices. Nelson (2004) emphasises the significance of advertising in disseminating information about product quality and price. Informative advertising lowers the expenses related to customer search and makes product substitution easier, which leads to reduced pricing and better market performance.

Sales performance is influenced by advertising by converting information-seeking consumers into buyers and making consumers interested in the focal product enough that they would seek information about it (Hu et al., 2014). According to Koslow et al. (2006), Kulkarni et al. (2003), and Tellis (2010), advertising enhances customer preferences, builds brand awareness, and strengthens the firm's competitive position. The creativity in advertising is highly prized for its ability to gain consumer attention and bestow value on brands (West et al., 2008), especially in marketplaces with fierce competition.

The purpose of advertising is to inform consumers that a well-known brand still exists and that it offers particular features, applications, and advantages (Pride et al., 1998). He also argued that advertising frequently increases demand, which in turn increases sales. Increasing sales revenue and thus enhancing sales performance is the fundamental goal of advertising (David and others, 1988).

3. Structural Equation Modelling

Several techniques that inspired the chosen respondents were researched to determine how sales promotion strategies in retail stores affect consumer behaviour. Price reductions, coupons, special offers, annual clearance sales, and points of sale are the available tools here. Structural equation modelling was used to study each one of them.

Using a combination of statistical information and qualitative-caused assumptions, structured equation modelling is used to test and eliminate causal relationships. Because SEM, unlike other methods, has no restriction on the number of variables, it is regarded as the best strategy. Because SEM uses a confirmatory technique rather than an exploratory approach, testing hypotheses is not difficult. Under each criterion, numerous sub-criteria are considered. All the sub-criteria receive responses from those involved in the decision-making process.

This model statistically analyses the data while simultaneously accounting for measurement error. Measurement error can be estimated or evaluated using SEM. Both latent and observable variables may be included. SEM models rely less on fundamental statistical techniques.

4. Objective of the Study

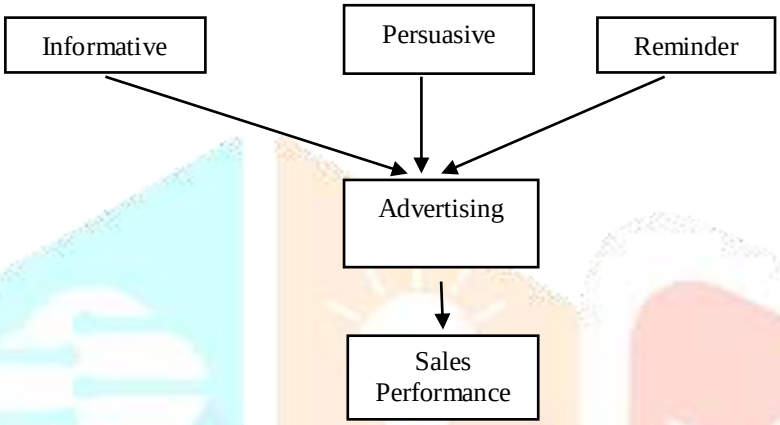
Based on the inputs from the various literature studies, a research study was carried out with the following objective:

- To determine the effect of forms of advertising, such as informative advertising, persuasive advertising and reminder advertising, on sales performance.

5. Conceptual Model and Hypothesis Formulation

The constructs mentioned below and prior research on sales performance were used to develop the research hypotheses. A graphic representation of the conceptual model is shown in Figure 1.

Figure 1: Conceptual Model of Sales Promotion Tools on Consumer Behaviour



Source: Adapted from: Pride and Ferrell (1991); Marketing: Concepts and Strategies (seventh edition), Hougton Mifflin Co.

Based on the above construct, the following hypotheses were suggested.

- Informative advertising has a significant relationship with sales performance.
- Persuasive advertising has a significant relationship with sales performance.
- Reminder advertising has a significant relationship with sales performance.

6. Research Methodology

Research design is a comprehensive plan of the sequence of operations that a researcher intends to carry out to achieve the objectives of a research study and provides the blueprint of the entire process involved in conducting research. The researcher has used different methodologies like descriptive research as well as quantitative research design. In this study, the researcher had sufficient information available on what data needed to be collected and the purpose of the study, the source from where we need to collect the information. So, it was appropriate to use a descriptive study. The study was conducted among Indian consumers in Bhubaneswar city.

Table 1: Descriptive Statistics

Demography	Frequency	Percentage
Age (Years)		
Under 15	9	9
15 – 30	54	54
30 – 45	28	28
45 and above	9	9
Total	**100**	**100**
Occupation		
Student	52	52
Self-employed	18	18
Salaried-employed	21	21
Housewife	9	9
Total	**100**	**100**
Frequency of Purchase		
Daily	13	13
2-3 times/week	57	57
4-5 times/week	17	17
Monthly	13	13
Total	**100**	**100**
Gender		
Male	61	61
Female	39	39
Total	**100**	**100**

Source: Primary Data

Because of the uniqueness of the research, the researcher collected both secondary and primary sources of data for the study.

Secondary data were collected from sources such as periodicals, journals, Internet and company websites. Primary sources of data are collected directly by the researcher for some specific purpose. The primary information was collected through means of observations, interviews, and face-to-face questioning using questionnaires. The female respondents of Bhubaneswar city were interviewed to find the various forms of advertising affecting sales performance. The data was collected as per the purpose of the study and research objectives. A structured and standardised questionnaire was used to collect data from the respondents as it is used everywhere to collect primary sources of information. The questionnaire method was used to record the information from the respondents and was prepared in such a way as to motivate the respondents to answer even difficult questions. As the total area of interest happened to be a big one, a convenient way in, which the samples could be taken, was the non-probabilistic method. Empirical research was followed based on the convenience sampling method. The sample size was determined as 100. Table 1 shows that sixty-one per cent of the respondents were male and 39% were female; 54% were between 15 and 30 years old; 52% were students; and 57% were purchasing the products 2 to 3 times in a week.

An important part of the study's function is data analysis. Data were processed using MS Excel, a programme that is a spreadsheet, after being collected. However, to compile and analyse the responses, the SPSS and AMOS application was utilised to manage the types and quantity of data. For evaluating hypotheses, the Structural Equation Model (SEM) was used.

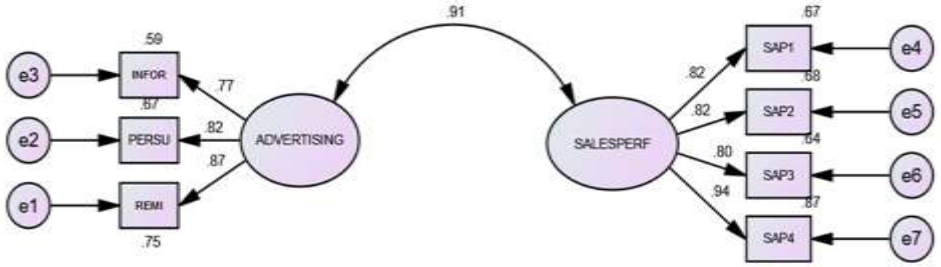
7. Data Analysis and Results

7.1 Confirmatory factor analysis of the model

To fully test the factor structure, 100 cases from the dataset were subjected to the confirmatory factor analysis. Structural equation modelling accomplishes two goals here. The first step is to estimate the model's parameters, which include the residual error variances of the observed variables and factor loadings,

variances, and covariances. The second objective is to assess the model's fit, or if the model provides a satisfactory fit to the data (see Figure 2).

Figure 2: Measurement model. Chi-square = 25.245; p = 0.021; CFI = 0.976; RMSEA = 0.098



The above model exhibited an excellent match for the analysis because the estimated value of the chi-square test in this case is 25.245 on 13 degrees of freedom, giving a p-value of 0.021; RMSEA of 0.098, CFI of 0.976, GFI of 0.933 and SRMR of 0.032.

Table 2 displays the exogenous factors' regression coefficient. It is noticed that all the variables' critical ratios are above the table value of 2.962 and are significant at the 5% level. The most important influences of sales promotion on consumer behaviour are all the variables.

Table 2: Maximum likelihood estimates

			Estimate	S.E.	C.R.	P	Label
REMI	<---	ADVERTISING	1.000				
PERSU	<---	ADVERTISING	.915	.093	9.882	***	par_1
INFOR	<---	ADVERTISING	1.054	.118	8.951	***	par_2
SAP1	<---	SALESPERF	1.000				
SAP2	<---	SALESPERF	1.085	.113	9.577	***	par_3
SAP3	<---	SALESPERF	.885	.096	9.259	***	par_4
SAP4	<---	SALESPERF	1.033	.089	11.573	***	par_5

Notes: REMI: Reminder Advertising; PERSU: Persuasive Advertising; INFOR: Informative Advertising; SAP: Sales Performance; SALESPERF: Sales Performance

7.2 Reliability and validity of the model

The regression weights are statistically significant at $p < 0.05$ level (see Table 3). This is used to test whether standardised regression coefficients are statistically significant or not.

Table 3: Standardised regression weights

			Estimate
REMI	<---	ADVERTISING	.868
PERSU	<---	ADVERTISING	.816
INFOR	<---	ADVERTISING	.768
SAP1	<---	SALESPERF	.817
SAP2	<---	SALESPERF	.822
SAP3	<---	SALESPERF	.802
SAP4	<---	SALESPERF	.935

Source: Primary Data

The degree to which a metric is free from random error determines its reliability. The study used composite reliability tests, which looked at the internal consistency of the indicators used to quantify each CFA factor, to estimate the instrument's reliability. The composite reliability (CR) for each factor was calculated. According to Table 4, the CR of both constructs were 0.859 and 0.909 respectively. As a result, it was decided that the dependability of the scale was acceptable (R.P. Bagozzi and Y. Yi, 1988).

Table 4: AVE and CR

	Advertising (Standardised Regression Weight) (λ)	Sales Performance (Standardised Regression Weight) (λ)	Item Reliability (λ^2)	AVE	Delta	CR
REMI	0.868		0.753	0.670	0.247	0.859
PERSU	0.816		0.666		0.334	
INFOR	0.768		0.590		0.410	
SAP1		0.817	0.667	0.715	0.333	0.909
SAP2		0.822	0.676		0.324	
SAP3		0.802	0.643		0.357	
SAP4		0.935	0.874		0.126	

Source: Primary Data

To establish construct validity, which refers to how well a scale measures what it is designed to assess, convergent and discriminant validity were necessary. For convergent validity, two measures were tested, such as Average Variance Extracted (AVE) and Construct Reliability (CR). CR of both the constructs are quite good and greater than the minimum acceptable limit (0.70) (Mishra, 2015). Table 4 shows the calculation of AVE for the construct. They were 0.670 and 0.715 respectively. The AVE of advertising is 0.670. It is greater than the recommended value equal to or greater than 0.5. The AVE of sales performance is 0.715 greater than the minimum acceptable limit (Fornell and Larcker, 1981). Hence, both constructs have convergent validity.

Tables 5 and 6 display discriminant validity. Forms of advertising and sales performance have an inter-construct correlation (IC) of 0.804. 0.646 was the SIC (Square Inter-Construct Correlation). If a construct is to have discriminant validity, its AVE should be greater than the equivalent SIC estimations. It is assumed that the discriminant validity was zero.

Table 5: Discriminant validity – Covariances

			Estimate	S.E.	C.R.	P	Label
ADVERTISING	<-->	SALESPERF	0.610	0.110	5.540	***	par_6

Source: Primary Data

Table 6: Discriminant validity – Correlations

	Estimate
Advertising <--> Sales Performance	0.912

Source: Primary Data

Table 7: Validity of construct and SIC

Construct	AVE	SIC
Advertising	0.670	0.831
Sales Performance	0.715	0.831

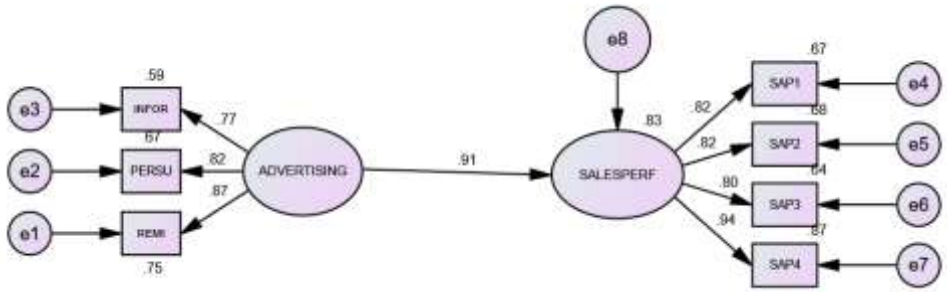
Source: Primary Data

By examining whether the correlation between the constructs in the measurement model makes sense, nomological validity is evaluated. The two constructs are favourably connected in this instance.

7.3 Structural model (Path analysis)

The structural model was tested that related advertising forms to sales performance (see Figure 3).

Figure 3: Measurement model. Chi-square = 25.24; p = 0.021; CFI = 0.976; RMSEA = 0.098



This was measured by four items: (1) ‘‘Encourage sales of the product in large quantity,’’ (2) ‘‘Generates trials among first-time users,’’ (3) “Increases profitability” and (4) “Increases product usages”. The structural model showed a good model fit, with a ratio of Chi-square to the degree of freedom of 1.942, RMSEA of 0.098, CFI of 0.976, GFI 0:933 and SRMR of 0.032. Moreover, as predicted, the regression path sales performance <--- advertising is statistically significant at $p < 0.05$. Therefore, the nomological validity of this model was demonstrated.

Table 8 shows, it is like R^2 in regression output. It shows how much variance in a dependent variable is explained by the independent variable. The table represents the result of the hypothesis. In this case, an 83.1% variance in sales performance is explained by the forms of advertising (see Table 9).

Table 8: Path analysis – Regression Weights

			Estimate	S.E.	C.R.	P	Label
SALESPERF	<---	ADVERTISING	1.129	.128	8.809	***	par_6
REMI	<---	ADVERTISING	1.000				
PERSU	<---	ADVERTISING	.915	.093	9.882	***	par_1
INFOR	<---	ADVERTISING	1.054	.118	8.951	***	par_2
SAP1	<---	SALESPERF	1.000				
SAP2	<---	SALESPERF	1.085	.113	9.577	***	par_3
SAP3	<---	SALESPERF	.885	.096	9.259	***	par_4
SAP4	<---	SALESPERF	1.033	.089	11.573	***	par_5

Source: Primary Data

Table 9: Path analysis – Squared multiple correlations

	Estimate
SALESPERF	0.832
SAP4	0.875
SAP3	0.643
SAP2	0.676
SAP1	0.667
INFOR	0.590
PERSU	0.665
REMI	0.754

5. Summary and Conclusions

In today's economy, advertising is an essential component of marketing strategy for any company. The goal of this study was to determine whether sales performance is influenced by the forms of advertising. This was accomplished by using observable variables to define the construct. The data pertaining to it indicate that the model has a good fit based on model fit. The hypothesis was tested to find out the relationship between advertising and sales performance. The regression weights are statistically significant at less than 5% level of significance. Therefore, the dependency relationship is statistically significant in the model. More than 83% of the variation in sales performance is explained by advertising.
The study has its limitations. The data was collected from users of FMCG products related to biscuits in Bhubaneswar city. Generalization still needs to be viewed with caution.

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