

FACTORS INFLUENCING THE REACH OF TELEVISION COMMERCIALS: VALIDATION THROUGH KMO AND BARTLETT'S TEST

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Abstract:

In this swiftly changing world, effective marketing of products and services consistently occupies a significant space in determining the success, existence and future of a business venture, company or an industry. One of the very significant aspects that contribute to the success of the marketing process is advertising and how the organizations depicts themselves through advertisements decides how strongly and profitably they will make their impact on the market. Among the different avenues of advertisement, television commercials have always an influence on the consumers belonging to any market segment. This research paper is an attempt to study the critical factors that influence the reach of the television commercials.

Keywords: Television Commercials, Critical factors, Creativity, Animations

1) INTRODUCTION

Television commercials are popular throughout the world today. Based on the tradition, culture and other conditions, the focus and features of the television commercials vary across the nations. The television commercials have come across a complete transformation in terms of technology and creativity, in the new millennium. Application of the latest technologies, animation, creative thinking in presentation and like these, many changes has taken place in the television advertisements. In this context, the question is how successful these television commercials are, in reaching the target customers. How these ads are perceived by the viewers/consumers? Which are the factors that determine the success of the TV commercials or influence the positive reach of the TV commercials? These questions have led to this particular research work and writing of this article.

2) THE SAMPLING TECHNIQUE

The population considered for this study is not finite and therefore the researcher could not go for exact randomization of sample. But, for ensuring the accuracy of results, the researcher wanted to formulate a sampling plan which is a combination of two sampling techniques - Purposive sampling and Quota sampling. The researcher selected four districts Chennai, Madurai, Coimbatore and Erode for the purpose of this study. As the 'Quota Sampling' method was opted for, it was decided to make some strata which would be appropriate for the purpose of the study. According to the decision, the following strata were constituted. Totally 800 respondents were selected as per the plan evolved.

S. No.	Name of the Stratum	Number of Respondents drawn
1.	Public Sector employees	150
2.	Employees from private sector	150
3.	College students representing the youth segment	150
4.	House-wives	150
5.	Business people and Professionals	100
6.	Senior Citizens	100
Total		800

3) ANALYSIS AND DISCUSSION

Cronbach's Alpha Testing

For testing the internal consistency and reliability of the data, Cronbach's alpha Test has been applied. Cronbach's alpha will generally increase when the correlations between the items increase. Cronbach's alpha measures how well a set of items (or variables) measures a single uni-dimensional latent construct.

Case Processing Summary			
		N	%
Cases	Valid	800	100.0
	Excluded ^a	0	.0
	Total	800	100.0
a. List-wise deletion based on all variables in the procedure.			

Reliability Statistics	
Cronbach's Alpha	N of Items
.759	101

As shown above, one hundred and one variables were taken for the Cronbach's Alpha Testing. If the Cronbach's alpha value is 0.7 and above, it will indicate a good amount of internal consistency and reliability of data. Here, the alpha is showing a highly positive and encouraging value of "0.759". It shows that the internal consistency and reliability of data are good. If some of the items are reduced, the alpha value may further go higher.

Table-1: Gender					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	351	43.9	43.9	43.9
	Female	449	56.1	56.1	100.0
	Total	800	100.0	100.0	

[Source: Primary Data]

Among the respondents, number of female is nearly 13% more than the male. It is because of the inclusion of 150 female members in the exclusive 'house-wives' category, taken up for the study.

Table-2: Age					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Below 25	260	32.5	32.5	32.5
	25 to 35	177	22.1	22.1	54.6
	35 to 45	132	16.5	16.5	71.1
	45 to 60	131	16.4	16.4	87.5
	Above 60	100	12.5	12.5	100.0
	Total	800	100.0	100.0	

In case of age of the respondents, 100 members were purposively selected from the 'above 60 years' category. Out of the remaining 700 respondents, 437 belong to 'young people' category ranging upto 35 years of age.

Table-3: Educational Qualification					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Below SSLC	197	24.6	24.6	24.6
	SSLC	43	5.4	5.4	30.0
	PUC/HSc/Diploma	126	15.8	15.8	45.8
	Degree	191	23.9	23.9	69.7
	PG	105	13.1	13.1	82.8
	Professional Degree	99	12.4	12.4	95.2
	M.Phil./Ph.D.	39	4.8	4.8	100.0
	Total	800	100.0	100.0	

Though the respondents have been grouped into seven categories based on their educational qualification, it is significant to note that nearly half of the strength has been occupied by two categories. They are below-SSLC category and the degree-holders category, each consisting of one-fourth of the total strength.

Table-4: Present Status					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Government Employee	150	18.8	18.8	18.8
	Private Employee	150	18.8	18.8	37.5
	Business	68	8.5	8.5	46.0
	Profession	32	4.0	4.0	50.0
	College Student	150	18.8	18.8	68.8
	Retired Govt. employee	47	5.9	5.9	74.6
	Retired Pvt employee	27	3.4	3.4	78.0
	House-Wife	150	18.8	18.8	96.8
	Others	26	3.2	3.2	100.0
	Total	800	100.0	100.0	

The strata government employees, private employees, college students and house-wives are consisting of 150 respondents each. Respondents in the business and profession category are 100, whereas the another 100 respondents in the senior citizens category are have been divided into retired government employees, retired private employees and others.

FACTOR ANALYSIS

Principal Component Analysis

There are several components and attributes of the advertisements. The researcher wanted to test “what influences the viewers/consumers to like or to be impressed by an advertisement?”. He selected the components of the advertisements – information, animation, celebrities’ appeal, music, punch-lines and the attributes – creativity, social values, cultural values and reliability. Then the Data reduction option was used in the SPSS software for analysing the factors.

Table-5: Correlation Matrix

The above table shows how the selected components and attributes of the advertisements are correlating among themselves. The variables which do not correlate with other variables are to be normally deleted before going for PCA. But, here the researcher has shown all the variables, for an understanding of the level and degree of correlation, though a few are not correlating. The KMO test given below is also supporting the inclusion of all variables for PCA.

	Information	Creativity	Animations	Social Values	Ethical Codes	Persuasion	Cultural Values	Celebrities' Appeal	Music	Punch-lines	Reliability
Information	1.000	.206	.198	.163	.172	.162	.064	.040	.258	.211	.107
Creativity	.206	1.000	.187	.123	.015	.228	.141	.107	.238	.142	.056
Animations	.198	.187	1.000	-.009	.046	.245	.055	.321	.313	.281	-.152
Social Values	.163	.123	-.009	1.000	.478	.108	.599	-.046	.197	.115	.415
Ethical Codes	.172	.015	.046	.478	1.000	.160	.388	-.046	.116	.162	.205
Persuasion	.162	.228	.245	.108	.160	1.000	.122	.274	.082	.188	.046
Cultural Values	.064	.141	.055	.599	.388	.122	1.000	-.003	.124	.121	.394
Celebrities' Appeal	.040	.107	.321	-.046	-.046	.274	-.003	1.000	.254	.267	.051
Music	.258	.238	.313	.197	.116	.082	.124	.254	1.000	.377	.046
Punch-lines	.211	.142	.281	.115	.162	.188	.121	.267	.377	1.000	-.025
Reliability	.107	.056	-.152	.415	.205	.046	.394	.051	.046	-.025	1.000

Kaiser's Measure of Sampling Adequacy

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy [MSA].		.713
Bartlett's Test of Sphericity	Approx. Chi-Square	1.595E3
	df	55
	Sig.	.000

When the MSA value is above .9 it is considered to be marvellous; if it is above .8 it will be seen as meritorious, above .7 as middling, above .6 as mediocre, above .5 as miserable, and below .5 as unacceptable. Here the MSA is .713. It is not marvellous. It is middling. But it is not considerably low. So, no variable need to be dropped before going for PCA.

Communalities		
	Initial	Extraction
Information	1.000	.482
Creativity	1.000	.228
Animations	1.000	.499
Social Values	1.000	.726
Ethical Codes	1.000	.462
Persuasion	1.000	.529
Cultural Values	1.000	.649
Celebrities' Appeal	1.000	.642
Music	1.000	.546
Punch-lines	1.000	.445
Reliability	1.000	.495

The above table shows the Sums of Squared Loadings [SSL] for each variable across factors. Such an SSL is called communality. This is the amount of the variable's variance that is accounted for by the components. The loadings are correlations between variables and components and the components are orthogonal, a variable's communality represents the R^2 of the variable predicted from the components. For our data the communalities are Information .48, Creativity .23, Animations .499, Social Values .73, Ethical Codes .46, Persuasion .53, Cultural Values .65, Celebrities' Appeal .64, Music .55, Punch-lines .45 and Reliability .495.

Deciding the Components to Retain

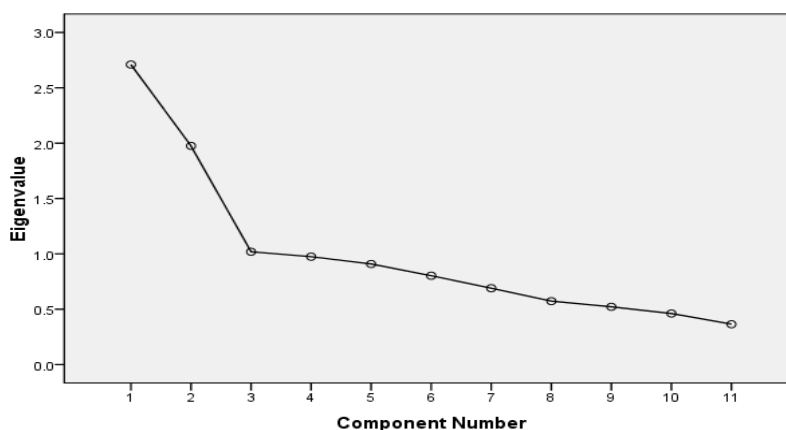
After the above steps, the researcher got into the process of deciding what components are to be retained. The thumb here is to retain only the components with **Eigen values** of one or more. Another method to decide the number of components to be retained is the **Scree test**. This is a plot with Eigen values on the ordinate and component number on the abscissa. Scree

is the rubble at the base of a sloping cliff. In a scree plot, scree is those components that are at the bottom of the sloping plot of Eigen values versus component number.

Table-6

Total Variance Explained									
Component	Initial Eigen values			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.710	24.636	24.636	2.710	24.636	24.636	2.295	20.866	20.866
2	1.975	17.957	42.592	1.975	17.957	42.592	1.922	17.472	38.338
3	1.019	9.263	51.855	1.019	9.263	51.855	1.487	13.518	51.855
4	.975	8.860	60.715						
5	.909	8.259	68.975						
6	.803	7.296	76.270						
7	.690	6.270	82.540						
8	.573	5.210	87.750						
9	.522	4.743	92.493						
10	.461	4.194	96.686						
11	.364	3.314	100.000						

Scree Plot



Out of the 11 components taken up for this analysis, only the first three components have Eigen values greater than 1. There is a big drop in Eigen value between component 2 and component 3. On a Scree plot, component 3 through 11 would appear as Scree at the base of the cliff composed of components 1 and 2. The components 1, 2 and 3 approximately account for 52% of the total variance. So, the researcher shall retain only the first three components.

4) CONCLUSION

After having analysed the data with the aid of “Factor Analysis” and KMO & Bartlett’s Test, the researcher concludes that out of eleven factors taken up for this study, the information/content delivered by the advertisement, creativity of the ads and the animations used in the ads are the three significant factors that influence the reach of the television commercials as far as this study is concerned.

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