Questionnaire Reliability

Questionnaire Reliability was measured through Cronbach Alpha. Cronbach's alpha is a measure of internal consistency, that is, how closely related a set of items are as a group. It is considered to be a measure of scale reliability. A reliability coefficient of .70 or higher is considered "acceptable" in most social science research situations

Reliability Statistics

Constructs	Cronbach's Alpha	No of Items
Adoption of Social Media Marketing Strategies by Political Parties Post 2014	0.71	5
Impact on Public Perception of a political brand through social media marketing	0.76	5
Awareness of social media marketing practices in Political Parties	0.83	5
Adoption of Social Media Marketing Strategies by Political Parties Pre 2014	0.78	5

Test of Hypothesis

H1: There is no significant difference between the mean scores of social media marketing strategies of major political parties, post and pre 2014 general assembly elections in India.

As we are trying to prove here that the social media marketing strategies were adopted majorly after year 2014, the hypothesis are formed as below.

H0: $\mu pre >= \mu post$

Ha: $\mu pre < \mu post$

Descriptive Statistics for Pre 2014 and Post 2014 Social Media Marketing Strategies Scores

Pre2014		*Post2014*	
Mean	*14.45041*	*Mean*	*16.33678*
Standard Error	*0.14329*	*Standard Error*	*0.137754*
Median	*14*	*Median*	*16*
Mode	*13*	*Mode*	*17*
Standard Deviation	*3.152379*	*Standard Deviation*	*3.030591*
Sample Variance	*9.937495*	*Sample Variance*	*9.184483*

Skewness	*0.048982*	*Skewness*	*-0.00444*
Range	*17*	*Range*	*16*
Minimum	*6*	*Minimum*	*7*
Maximum	*23*	*Maximum*	*23*
Sum	*6994*	*Sum*	*7907*
Count	*484*	*Count*	*484*

The skewness values confirms that the both Pre2014 and Post2014 data can be considered as normal.

F test was performed to check the homogeneity assumption for T Test. It was found that the variances in both Pre and Post samples could be considered as same with no significant difference inferred through F Test.

Paired sample T Test was performed. A paired t-test is used to compare two population means where you have two samples in which observations in one sample can be paired with observations in the other sample. Same questions were asked from the respondents and their feedback was recorded on what they perceived about these questions for the time before and after, year 2014.

T Test Output – Two Sample T Test

Variables – Pre2014 and Post2014 scores of social media marketing strategies

T value	Df	P value	Mean Pre2014	Mean Post2014
-9.4903	966	< 2.2e -16	14.45	16.33

The p value is less than 0.05 threshold alpha level. This indicates that the null hypothesis can be rejected in favor of alternate hypothesis. This suggests that, based on the responses received, it is safe to assume that the social media strategies' scores post 2014 are higher than pre 2014 scores.

H2: Social Media marketing doesn't have any impact on Public perception of a political brand.

Social media marketing (SMM) was considered as independent variable while public perception of a political brand (PP) is considered as a dependent variable in analysis of this hypothesis. As done in most of the studies, this study also investigated the effects of predictor variables on a dependent variable by applying correlation and linear regression techniques.

Correlation Matrix

	SMS	*PPSM*
SMS	1	0.73
PPSM	0.73	1

Regression Output

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.73214
R Square	0.6879234
Adjusted R Square	0.6656782
Standard Error	3.093393939
Observations	484

ANOVA					
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	31.17159164	31.17159	23.25753	0.007172008

	Coefficients	*Standard Error*	*t Stat*	*P-value*
Intercept	16.19336145	0.658073481	24.60722	3.31E-87
SMM	0.783026965	0.043384286	15.80486	0.007172

Multiple R. This is the same Correlation Coefficient as was mentioned in one of the tables above and this measures the strength of a linear relationship between two variables.

R Square. It is the Coefficient of Determination, which is used as an indicator of the goodness of fit. It shows how many points fall on the regression line. The R2 value is calculated from the total sum of squares, more precisely, it is the sum of the squared deviations of the original data from the mean. This is around 68.7% which is considered good for a model.

Adjusted R Square. It is the R square adjusted for the number of independent variable in the model. You will want to use this value instead of R square for multiple regression analysis. This value is around 0.645 in our analysis. This means that the independent variable (SMM) explains around 66.5% variability in dependent variable (PP).

Standard Error. It is another goodness-of-fit measure that shows the precision of your regression analysis - the smaller the number, the more certain you can be about your regression equation.

The **Significance F** value gives an idea of how reliable (statistically significant) the model is. If Significance F is less than 0.05 (5%), which is true in our case, this means the model arrived at is statistically significant.

The regression equation with above output can be written as follows.

PP=0.78*SMM + 16.193

The above analysis leads to rejection of Null Hypothesis (p value of F is less than 0.05) and hence indicates that there is a significant impact of social media marketing (SMM) on public perception of political brand.

H3: Political parties' awareness on social media marketing practices doesn't have any impact on Public perception of a political brand.

Political parties' awareness about social media marketing practices (SMAPP) was considered as independent variable while Public perception of political brand (PPSM was considered as dependent variable. Similar to the previous hypothesis, correlation and regression was applied.

Correlation Matrix

	SMAPP	*PPSM*
SMAPP	1	0.68
PPSM	0.68	1

Regression Output

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.6832
R Square	0.6245
Adjusted R Square	0.59784
Standard Error	4.234459
Observations	484

ANOVA					
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	29.23587	29.23587	21.32342	0.0003542

	Coefficients	*Standard Error*	*t Stat*	*P-value*
Intercept	14.82164	0.634659	23.35371	4.21E-81
SMAPP	0.814543	0.04062	0.358026	0.0003542

Similar to previous hypothesis, the **Significance F** less than 0.05 (5%), which means the model arrived at is statistically significant.

The regression equation with above output can be written as follows.

PPSM=0.81*SMAPP + 14.82164

The above analysis leads to rejection of Null Hypothesis (p value of F is less than 0.05) and hence indicates that there is a significant impact of Political parties' awareness on social media marketing practice) on public perception of political brand.