Delhi Technological University
USME, East Delhi Campus
End-Term Examination 2019

Course: MBA
Subject/ Title: Marketing Research
Maximum Marks: 60

Semester: Third (3rd) Sem
Subject code: MGM-06
Maximum Time: 3 hours

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1. What is Skewness and Kurtosis ? What is the acceptable range for each? **(2+2+1 Marks)**
2. When is Cross – Tab Analysis used? **(2 Marks)**
   Consider following output of the Cross-Tab showing number of people using different devices for various activities online and answer the questions below

	Videos	Social Media	Info Search	Online Buying
Tablet	45	65	50	15
Phone	24	45	55	25
Desktop	10	25	35	55
Laptop	15	20	35	50

   a. What percentage of people use Phone for surfing Social media? **(2 Marks)**
   b. What percentage of people who access social media do it on Laptop? **(2 Marks)**
   c. What percentage of people who engage in online buying do so on Tablet? **(2 Marks)**
   d. What percentage of people use Laptop for various online activities? **(2 Marks)**

3. What are the basic assumptions/conditions for using Multi-Variate Linear Regression Analysis? **(4 Marks)**
   Following is the Model Summary output of the Multi Variate Linear Regression Analysis.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.764[a]	.584	.561	16.25	.584	25.261	1	18	.000
2	.770[b]	.592	.544	16.55	.008	.350	1	17	.562

a. Predictors: (Constant), X1
b. Predictors: (Constant), X1, X3

   a. Which regression model should be used for further analysis? **(2 Marks)**
   b. How many independent variables are there in the model to be used? **(2 Marks)**
   c. What percentage of the variance of dependent variable is explained by the independent variables? **(2 Marks)**

4. Given below is the output of the Multivariate regression analysis showing the effect of the Green price, Green Products ,Green Place and Green Promotions on Green Purchasing.

Independent Variables	Standardized Coefficients	Unstandardized Coefficients		t	p
		Beta	S. Error		
Green Price	0.45	0.23	0.234*	4536	.000*
Green Products	0.32	0.67	0.34*	3478	.000*
Green Place	0.34	0.45	0.23*	2389	.000*
Green Promotion	0.23	0.27	0.67*	3467	.021*
Constant		0.29	0.17*	3498	.000*
R-Square	0.762				
Adjusted R-Sq	0.698				
Dependent Variable : Green Purchasing, *p<.001					

Based on above table answer the following questions

a. Which variable is the most important variable to impact Green Purchasing? **(2 Marks)**
b. Which is the least important variable to affect Green Purchasing? **(2 Marks)**
c. Write the Regression Equation to predict Green Purchasing **(4 Marks)**

5. What is Factor Analysis? When to use factor analysis? **(2+2 marks)**
Following is the SPSS output of the Principal Component Analysis.

Total Variance Explained

Factor[a]	Initial Eigenvalues[b]			Extraction Sums of Squared Loadings[f]			Rotation Sums of Squared Loadings[g]		
	Total[c]	% of Variance[d]	Cumulative %[e]	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	6.249	52.076	52.076	5.851	48.759	48.759	2.950	24.583	24.583
2	1.229	10.246	62.322	.806	6.719	55.478	2.655	22.127	46.710
3	.719	5.992	68.313	.360	3.000	58.478	1.412	11.769	58.478
4	.613	5.109	73.423						
5	.561	4.676	78.099						
6	.503	4.192	82.291						
7	.471	3.927	86.218						
8	.389	3.240	89.458						
9	.368	3.066	92.524						
10	.328	2.735	95.259						
11	.317	2.645	97.904						
12	.252	2.096	100.000						

Extraction Method: Principal Axis Factoring.

Rotated Component Matrix	Component		
	1	2	3
Product is easily available	0.763	0.032	0.012
Cost of the product is appropriate	0.89	-0.09	0.12
Experience with the product is good	0.098	0.78	0.12
Product is pretty popular	0.023	0.016	0.832
Proud to own the product	-0.023	0.034	0.721
Quality of the product is good	-0.017	0.679	0.41
Performance of the product is satisfactory	0.46	0.981	0.015
Will Recommend the product to friends	0.012	-0.091	0.681
Extraction Method	Principal Component Analysis		
Rotations Method	Varimax with Kaiser Normalization		

a. Based on Eigen Values method, How many Factors are extracted? What is the cumulative % Variance explained by those factors? **(2+2 Marks)**
b. Based on Rotated Component Matrix, How many factors are there? Make a table and club the statements as per the different factors. Also, appropriately name the factors. **(2+2+2 Marks)**

6. What is Discriminant Analysis? When to use Discriminant Analysis? Discuss the appropriate marketing example where we can use Discriminant Analysis **(1+1+2) Marks.**

7. Consider yourself as the marketing manager of Luxury watch brand ZUCCI , the brand is looking for new growth areas. As a marketing manager, your task is to get the marketing research done. For this you need to give a research brief to the marketing research agency. Design a research brief with specific details on following points

   a. What are the key questions to cover in the questionnaire (Give 6 to 10 questions as guideline) to be answered on a Likert scale? **(2) Marks.**
   b. What demographics information to be collected about the respondent and why? **(2) Marks.**
   c. What are the key attributes on which you would like brand ZUCCI to be compared with competition? **(2) Marks.**
   d. Suggest the statistical tools you would like the agency to use for providing you the results. Describe which tool will help you answer which question? **(3) Marks.**