

K.J. Somaiya Institute of Management Studies & Research

Course: PGDM- R.M((Batch 2018-20), Tri-III

Sub: Marketing Research

(End Term Examination)

Time: 3 Hours

Marks: 50

Date of Exam: 04/04/2019

Note: Question No 1 is Compulsory, Attempt any 3 from the remaining (Each carries 12.5 Marks)

Q1.

- A. What is the application of Conjoint Analysis? How does it help the Marketing Manager?**
- B. Explain how Factor analysis is useful to a Marketing Manager.**
- C. What are the two stages for using Cluster Analysis? What do we infer from the output of each?**
- D. What does the Statistics Stress mean in the Multidimensional Scaling multivariate analysis?**
- E. To understand the reasons for not using tooth powder.**

Q2. XYZ Paint Company identifies the attributes which are important to their customers and also classified each of the attributes into their levels. Based on this, they want to use the techniques of conjoint analysis to determine from a potential customer's point of view, how important each attribute is to her. They also want to know how much utility the customer derives from a given combination of their levels of attributes. It also helps to understand the feasible offerings from the marketer's point of view. The three important attributes identified for the paint are:

- 1. Life- number of years the paint coat lasts**
- 2. Price- of one liter of paint**
- 3. Color- of the paint**

The levels of these attributes are:

- 1. Diameter of tip- 0.25mm, 0.45 mm, and 0.5 mm**
- 2. Price – Rs 50 per liter, Rs 60 per liter, and Rs 70 per liter**
- 3. Color– Green, Blue and Cream.**

Dummy variable were used for running the regression for the above

Life	var 1	var2
3	1	0
4	0	1
5	-1	-1
Price	var 3	var4
50	1	0
60	0	1
70	-1	-1
Color	var 5	var6
Green	1	0
Blue	0	1
Cream	-1	-1

The conjoint analysis is run with regression model. The following is the output

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.976a	.952	.938	1.97611

a. Predictors: (Constant), VAR00006, VAR00004, VAR00002, VAR00005, VAR00001, VAR00003

ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1559.900	6	259.983	66.577	.000b
	Residual	78.100	20	3.905		
	Total	1638.000	26			

a. Dependent Variable: VAR00007

b. Predictors: (Constant), VAR00006, VAR00004, VAR00002, VAR00005, VAR00001, VAR00003

Coefficients

Model	Unstandardized	Standardized	t	Sig.
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1		Coefficients		Coefficients		
		B	Std. Error	Beta		
	(Constant)	14.033	.381		36.857	.000
	VAR00001	-7.144	.538	-.749	-13.275	.000
	VAR00002	.078	.538	.008	.146	.886
	VAR00003	5.510	.539	.578	10.222	.000
	VAR00004	-.144	.538	-.015	-.267	.792
	VAR00005	3.109	.526	.326	5.910	.000
	VAR00006	-.885	.489	-.100	-1.810	.085

a. Dependent Variable: VAR00007

Find out the Part Utility and Range Utility of the attributes. What inference can you derive from it.

Q3. B-segment cars form the largest part of the consumer vehicle market in India. Post liberalization in 1990s a large number of consumers have graduated from two-wheelers to cars, resulting in a boom in the B- segment car market. A study to understand what factors influence the purchase of B-segment cars in India. A survey was conducted on 75 respondents in which they were asked to rate 18 attributes in terms of their importance while purchasing a B-segment car.

The factor analysis was carried out on 18 variables using a sample size of 75 respondents. The following are the results.

Factor Analysis

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.613
Bartlett's Test of Sphericity	Approx. Chi-Square	355.669
	df	153
	Sig.	.000

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.860	21.447	21.447	3.860	21.447	21.447	2.621	14.558	14.558
2	2.275	12.640	34.087	2.275	12.640	34.087	2.303	12.794	27.353
3	1.738	9.658	43.745	1.738	9.658	43.745	1.748	9.711	37.063
4	1.436	7.975	51.720	1.436	7.975	51.720	1.696	9.420	46.483
5	1.244	6.910	58.630	1.244	6.910	58.630	1.682	9.343	55.826
6	1.104	6.131	64.761	1.104	6.131	64.761	1.608	8.936	64.761
7	.952	5.289	70.050						
8	.847	4.703	74.753						
9	.777	4.316	79.069						
10	.668	3.714	82.783						
11	.620	3.442	86.225						
12	.532	2.953	89.178						
13	.491	2.727	91.904						
14	.412	2.287	94.191						
15	.312	1.735	95.926						
16	.295	1.637	97.563						
17	.259	1.439	99.002						
18	.180	.998	100.000						

Extraction Method: Principal Component Analysis.

Rotated Component Matrix^a

	Component					
	1	2	3	4	5	6
Price on Road	-.063	.143	-.229	-.149	.802	-.026
Brand Name	.278	.156	-.587	.216	.264	.459
Engine Capacity	.116	.668	-.082	-.182	.173	.346
Looks & Design	.137	.030	.060	.138	-.059	.847
Fuel Efficiency	-.081	.822	.106	.109	.037	-.049
Discount Schme	.046	-.001	.250	.369	.588	-.188
Resale Value	-.084	.203	.359	.191	.670	.095
After Sale Services	.201	.081	.687	.157	.103	-.018
Running and Maintaining Cost	.230	.677	.277	.074	.195	-.232
Convenience Features	.645	.000	.221	-.007	-.025	.163
Purpose of Purchase	-.195	.403	-.128	.675	-.108	.113
Performance Information Available	.296	.291	.614	-.062	.082	.165
Driving Pleasure	.662	.088	.161	.389	-.072	.081
Car Image & Positioning	.309	-.084	.333	.591	.127	-.033
Economical	.141	.527	.054	.287	.114	-.585
Colours Available	.754	-.083	.068	.088	.026	.082
Advertising & Marketing	.337	-.057	-.041	.557	.181	.038
Safety	.788	.280	-.036	.029	-.063	-.186

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 19 iterations.

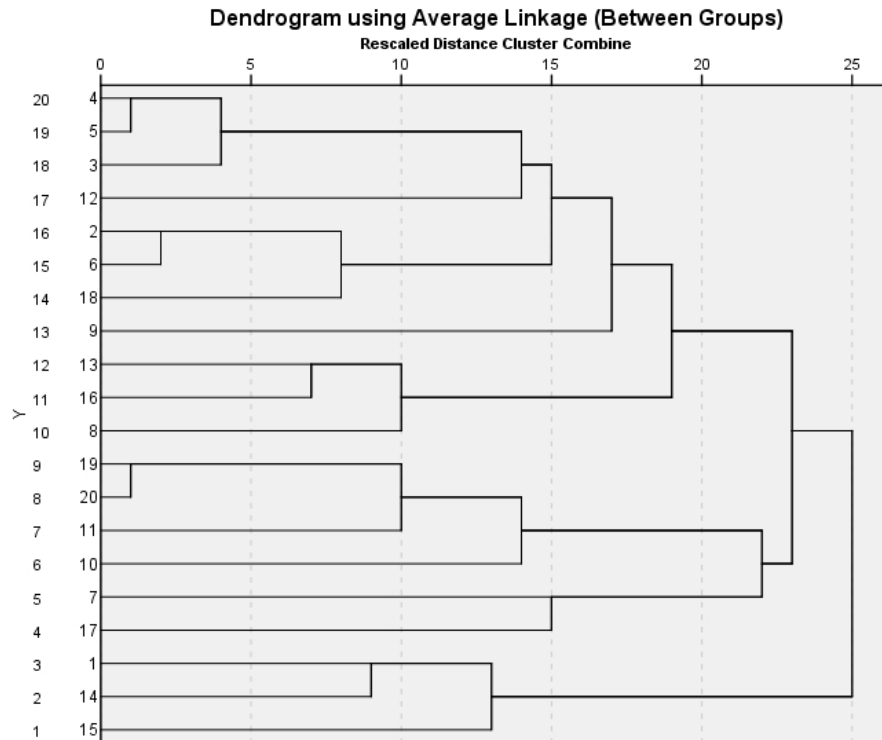
- What will you infer from the KMO statistics and Bartlett's test of sphericity?
- How many factors are extracted? How much is the total variance explained by the factors extracted?
- Which are the factors that influence the purchase of B-segment cars in India?

Q4. A major Indian FMCG company wants to map the profile of its target market in terms of lifestyle, attitudes and perceptions. The company's managers prepare, with the help of their marketing research team, a set of 15 statements, which they feel measure many of the variables of interest. These 15 statements are given below. The respondent had to agree or disagree (1 = Strongly Agree, 2 = Agree, 3 = Neither Agree nor Disagree, 4 = Disagree, 5 = Strongly Disagree) with each statement.

1. I prefer to use e-mail rather than write a letter.
2. I feel that quality products are always priced high.
3. I think twice before I buy anything.
4. Television is a major source of entertainment.
5. A car is a necessity rather than a luxury.
6. I prefer fast food and ready to use products.
7. People are more health conscious today.
8. Entry of foreign companies has increased the efficiency of Indian companies.
9. Women are active participants in purchase decisions.
10. I believe politicians can play a positive role.
11. I enjoy watching movies.
12. If I get a chance, I would like to settle abroad.
13. I always buy branded products.
14. I frequently go out on weekends.
15. I prefer to pay by credit card rather than in cash.

20 respondents answered the questionnaire

Following is the output



In stage 2, a k-means clustering is run with 3 cluster solution. The following are the final cluster centers.

Final Cluster Centers

	Cluster		
	1	2	3
VAR00001	2.00	2.80	3.43
VAR00002	2.25	2.20	3.43
VAR00003	3.63	3.20	2.43
VAR00004	2.88	2.60	3.43
VAR00005	3.13	2.60	3.71
VAR00006	4.50	3.40	3.29
VAR00007	2.50	1.40	4.14
VAR00008	2.75	4.60	1.71
VAR00009	3.63	1.80	2.43
VAR00010	3.00	3.00	3.86
VAR00011	3.63	4.20	3.29
VAR00012	2.50	3.60	3.29
VAR00013	2.75	2.40	3.86
VAR00014	2.75	2.40	3.86
VAR00015	4.13	1.80	2.57

Map the profile of cluster 3 and suggest your marketing and communication plan for this target segment.

Q5. A set of 8 brands of TV available in the Indian market are taken and multidimensional scaling is used to determine how these 8 brands are perceived by Indian consumers. Data were collected from a sample of respondents each of whom was asked to rate the dissimilarity between all pairs of TV brands on a numerical scale. If you want to launch a new brand of TV in the same market what would be your positioning strategy.

TV Brands

1. Aiwa
2. Videocon
3. LG
4. Samsung
5. Sony
6. Onida
7. Thomson
8. BPL

	Var1	Var2	Var3	Var4	Var5	Var6	Var7	Var8
Var1	.00	3.00	6.00	8.00	1.00	2.00	7.0	8.00
Var2	3.00	.00	4.00	6.00	4.00	5.00	2.00	5.00
Var3	6.00	4.00	.00	3.00	2.00	4.00	6.00	1.00
Var4	8.00	6.00	3.00	.00	3.00	5.00	4.00	7.00
Var5	1.00	4.00	2.00	3.00	.00	2.00	8.00	5.00
Var6	2.00	5.00	4.00	5.00	2.00	.00	3.00	6.00
Var7	7.00	2.00	6.00	4.00	8.00	3.00	.00	5.00
Var8	8.00	5.00	1.00	7.00	5.00	6.00	5.00	.00

The three important factors important for the customers for the choice of TV are –

Dimension 1 : Value for Money

Dimension 2 : After Sales Service

Dimension 3 : Current Brand Image

- Which solution will you consider from the following output for your inference?why?

The following is the output.

One Dimension Solution

Stress = .43158 RSQ = .35255

Stimulus Coordinates

	Dimension	
Stimulus	Stimulus	1
Number	Name	
1	VAR00001	1.6474
2	VAR00002	.4073
3	VAR00003	.0704
4	VAR00004	-1.2044
5	VAR00005	1.0409
6	VAR00006	.2644
7	VAR00007	-1.2424
8	VAR00008	-.9837

Two Dimension Solutions

Stress = .24021 RSQ = .58135

Stimulus Coordinates

	Dimension		
Stimulus	1	2	
Number	Name		
1	VAR00001	1.6156	.4725
2	VAR00002	-.2760	1.3795
3	VAR00003	-.2540	-1.0559
4	VAR00004	-1.2855	-.7792
5	VAR00005	.9600	-.9336
6	VAR00006	1.1045	.0665
7	VAR00007	-.5681	1.5126
8	VAR00008	-1.2967	-.6624

Three Dimension Solutions

Stress = .05230 RSQ = .96043

Stimulus Coordinates

	Dimension			
Stimulus	1	2	3	
Number	Name			

1	VAR00001	1.9512	.2028	.0664
2	VAR00002	-.1995	1.3140	.7743
3	VAR00003	-.6043	-1.3429	.4679
4	VAR00004	-.9038	-.2968	-1.8497
5	VAR00005	.8931	-1.0092	-.0350
6	VAR00006	1.1045	.1529	-.7070
7	VAR00007	-1.1031	1.6088	-.1289
8	VAR00008	-1.1381	-.6295	1.4121

For practical purpose interpret the 2 dimensional plots below for designing the positioning strategy for your new brand to launch in the same market.

