

JAIPURIA INSTITUTE OF MANAGEMENT, NOIDA

PGDM / PGDM (SM)

SIXTH TRIMESTER (Batch 2017-19)

END TERM EXAMINATIONS, MARCH 2019

Set-I

| | | | |
|-------------|--------------------------|-------------|--------|
| Course Name | Marketing Analytics (MA) | Course Code | MKT605 |
| Max. Time | 2 hours | Max. Marks | 40 MM |

INSTRUCTIONS: Attempt all questions

- Customer Demographics include “gender, race, age, income, disabilities, mobility (in terms of travel time to work or number of vehicles available), educational attainment, home ownership, employment status, and even location.” These types of classifications can help marketers in targeting the right kind of customers. The competition in Indian automobile market is getting fierce every day. Mazda is planning to enter Indian market and has hired you as a marketing consultant. You have collected and analysed data. The following table shows output from a multiple regression model for sales including gender, income, number of children, year respectively in Indian market.

Table 1

| | Coefficients | p-value (2-tailed) |
|--------------------|--------------|-----------------------|
| a (constant) | 23.67 | <.01 |
| Gender | | |
| female | -0.58 | <.01 |
| Income | | |
| low | reference | |
| middle | -0.7 | <.01 |
| high | -1.42 | <.01 |
| No. of children | | |
| no children | reference | |
| 1 child | 0.97 | <.01 |
| 2 children | 0.64 | <.01 |
| 3 children | 0.83 | <.01 |
| 4 children or more | 0.9 | |
| Year | | |
| 2000 | reference | 0.01 |
| 2010 | 0.21 | 0.16 |
| 2018 | 0.4 | 0.02 |

What recommendations would you make to Mazda for Indian market (refer table 1)? (12 marks)

2. One of the uses of conjoint analysis is being able to understand how customers make their decisions. It allows you to answer questions such as: When a customer is presented with products composed of several features, how do they prioritise? Which features do they see as the 'must haves' and which as the 'nice to haves'? Are there features they are willing to sacrifice? Which feature drives purchase and is linked to the price of the product.

A conjoint study was conducted by a firm to determine the role that five attributes play in influencing a consumer's preference for a vacuum cleaner. The five attributes and their levels are as follows:

Package design (either A, B or C)

- Brand (1,2 or3)
- Price (Rs 300, Rs 400, Rs 500)
- Did "Good Housekeeping" magazine approve product?
- Is product guaranteed?

The best prediction for the product is as follows:

$$\text{Predicted Rank} = 4.833 - 4.5*A + 3.5*B - 1.5*\text{Brand1} - 2*\text{Brand2} + 7.667*(\text{Rs 300 Price}) + 4.83*(\text{Rs 400 Price}) + 1.5*(\text{Approved?}) + 4.5*(\text{Guarantee})$$

What inferences can the firm's product manager draw from this equation for devising a pro-active marketing strategy? (12 marks)

Q.3

A forecast of total-market demand won't guarantee a successful strategy. By gauging market demand explicitly, marketing managers have a better chance of controlling their company's destiny by devising an effective strategy. Market forecasting is only the first stage in creating such strategy for Cadila. Cadila develops and manufactures a large range of pharmaceuticals as well as diagnostics, herbal products, skin care products and other OTC products. Starting from late 2015, having concluded a voluntary license agreement with Gilead, the company also produces the generics for hepatitis C treatment (i.e. sofosbuvir, distributed under the brand name SoviHep). The company makes active pharmaceutical ingredients at three sites in India:

Cadila is interested in forecasting the impact of sales representatives and territories on its sales.

| | Rep 1 | Rep 2 | Rep 3 | Rep 4 |
|--------|-------|-------|-------|-------|
| Dist 1 | 1 | 3 | 10 | 12 |
| Dist 2 | 17 | 12 | 16 | 14 |
| Dist 3 | 17 | 21 | 22 | 25 |
| Dist 4 | 20 | 10 | 17 | 23 |
| Dist 5 | 22 | 21 | 37 | 32 |

By analyzing the past data as shown above, the following results were obtained

| Source of Variation | ANOVA | | | | |
|---------------------|--------|----|----------|----------|----------|
| | SS | Df | MS | F | P-value |
| Rows | 1011.3 | 4 | 252.825 | 15.87598 | 9.74E-05 |
| Columns | 216.4 | 3 | 72.13333 | 4.529566 | 0.024095 |
| Error | 191.1 | 12 | 15.925 | | |
| Total | 1418.8 | 19 | | | |

- a) Predict the sales for representative 2 & district 4, representative 1 & district 3, representative 3 & district 1.
- b) What will be predicted sales in part a of this question, if p value of rows is 0.87
- c) What will be predicted sales in part a of this question, if p value of columns is 0.76
- d) What will be different predicted sales intervals at different levels. (4X4= 16 marks)