

Study Task Report

Market Segmentation Analysis : Steps – 1, 2, 3 & 4

Submitted by :

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Step 1 : Deciding (not) to Segment

Understanding the ramifications of following a market segmentation strategy is crucial before devoting time and resources to a market segmentation analysis. It is a long-term commitment. There are costs of performing the research, fielding surveys, and focus groups, designing multiple packages, and designing multiple advertisements and communication messages. Market Segmentation Strategy scheme has to be more profitable than marketing without it. Barriers relating to Lack of leadership, pro-active involvement or undermining the process by the Senior Management, or those relating to Organisational culture have to be identified and overcome for a successful implementation of Market Segmentation Strategies.

Step 2 : Specifying the Ideal Target Segment

The organisation must significantly contribute to market segmentation analysis in Step 2 after committing to researching the usefulness of a segmentation strategy in Step 1. Two sets of segment evaluation standards must be decided by the organisation. *Knock-out criteria* are a particular set of evaluation standards. These requirements are the fundamental, non-negotiable characteristics of the segments that the organisation would think about focusing on. The *attractiveness criteria* make up the second set of evaluation criteria. These standards are used to assess the relative attractiveness of the market segments that remain and meet the knock-out standards.

The knock-out criteria segments must be homogeneous, distinct, large enough and identifiable in the market place. The attractiveness across all criteria determines whether a market segment is selected as a target segment in Step 8 of market segmentation analysis.

Step 3 : Collecting Data

The *segmentation variable* is typically one single characteristic of the consumers in the sample. An entry of 1 in the data set indicates that the consumer has that characteristic. An entry of 0 indicates that the consumer does not have that characteristic. All the other personal characteristics available in the data are said to be *descriptor variables*.

Data-driven market segmentation is based not on one, but on multiple segmentation variables. These segmentation variables serve as the starting point for identifying naturally existing, or artificially creating market segments useful to the organisation. The correct description, in turn, makes it possible to develop a customised product, determine the most appropriate pricing strategy, select the best distribution channel, and the most effective communication channel for advertising and promotion.

Various segmentation criteria include:

Geographic segmentation such as geographic information of place of living which serves as a criterion for differentiating market consumers into different segments.

Socio-demographic segmentation include age, gender, income, education, etc which can easily explain preference for specific products by customers.

Psychographic segmentation is when people are grouped based on their beliefs, preferences, interests or benefits. This criterion is quite complex in nature to perceive as no single characteristic of consumers exists that can provide insights into psychographic dimension of interest. One such characteristic might be the travel motives of people, taste reflective of restaurant, etc. It is generally more reflective of the underlying reasons for differences in consumer behaviour.

Wide range of data collection sources exist. Data sourced from surveys to internal sources or experimental studies are used for market segmentation analysis. Survey data is cheap and easy to collect, making it a viable approach for any organization. Some factors which affect the quality of market segmentation solution include choice of segmentation variables, response options provided in the surveys, response styles and the sample size to name a few.

Data from internal sources represent actual behaviour of consumers, rather than statements of consumers about their behaviour or intentions, known to be affected by imperfect memory and response biases. Typical examples are scanner data available to grocery stores, booking data available through airline loyalty programs, and online purchase data. These can be automatically generated and requires no extra effort to collect, but it misses information on the other customers the organization might want to win over.

Step 4 : Exploring data

From this segment, McDonald's Case Study has been used as our reference and python has been used for implementation.

The dataset is loaded and inspected. The perception of McDonald's with respect to consumers include *YUMMY, CONVENIENT, SPICY, FATTENING, GREASY, FAST, CHEAP, TASTY, EXPENSIVE, HEALTHY, and DISGUSTING*.

	yummy	convenient	spicy	fattening	greasy	fast	cheap	tasty	expensive	healthy	disgusting	Like	Age	VisitFrequency	Gender
0	No	Yes	No	Yes	No	Yes	Yes	No	Yes	No	No	-3	61	Every three months	Female
1	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	No	No	+2	51	Every three months	Female
2	No	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	No	+1	62	Every three months	Female
3	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	No	No	Yes	+4	69	Once a week	Female
4	No	Yes	No	Yes	Yes	Yes	Yes	No	No	Yes	No	+2	49	Once a month	Male

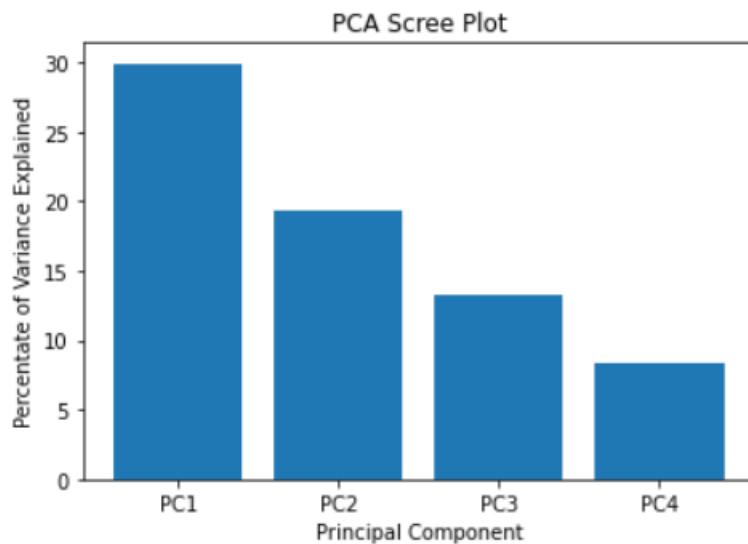
The sample size is found to be 1453×15. Other variables include Age, Like, Visit Frequency and Gender. The segmentation variables are coded in levels and not numeric. To transform them so as to make them compatible for further analysis, we use *Label Encoder*.

Detailed description of each variable is sought. The average values of the transformed binary numeric segmentation variables indicate the percentage of customers who perceive the McDonald's as that characteristic.

yummy	convenient	spicy	fattening	greasy	fast	cheap	tasty	expensive	healthy	disgusting
0.552650	0.907777	0.093599	0.867171	0.526497	0.900206	0.598761	0.644184	0.357880	0.198899	0.242946

From this, we can infer that 55% of the respondents perceive McDonald's as *Yummy*, 91% perceive it to be *Convenient* but only 9% believe the food to be *Spicy*.

Furthermore, Principal Component Analysis is implemented not to reduce the number of variables but to understand the responses in-depth and for factor cluster analysis.



The first principal component explains about 29.94% of the variance and the second principal component explains about 19.28% of the variance, both together accounting for 50% of the variance in the information in the 11 segmentation variables.

Implementation :

https://github.com/AnishD642/FeynnLabs/blob/main/StudyTask_Market_Segmentation.ipynb
