NOTES
On

Market Segmentation Analysis

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Topics Covered :

1. Deciding to Segment.
2. Specifying the Ideal target Segment.
3. Collecting Data.
4. Exploring Data.

Step 1: Deciding (not) to Segment

1. The commitment to market segmentation goes hand in hand with the willingness and ability of the organization to make substantial changes.
2. Implementation Barriers The first group of barriers relates to senior management. Lack of leadership, pro-active championing, commitment and involvement in the market segmentation process by senior leadership undermines the success of market segmentation
3. A second group of barriers relates to organizational culture. Lack of market or consumer orientation, resistance to change and new ideas, lack of creative thinking, bad communication and lack of sharing of information and insights across organizational units, short-term thinking, unwillingness to make changes and office politics have been identified as preventing the successful implementation of market segmentation
4. Another potential problem is lack of training. If senior management and the team tasked with segmentation do not understand the very foundations of market segmentation, or if they are unaware of the consequences of pursuing such a strategy, the attempt of introducing market segmentation is likely to fail.
5. The higher the market diversity and the larger the organizations, the more important is a high degree of formalization
6. Another obstacle may be objective restrictions faced by the organization, including lack of financial resources, or the inability to make the structural changes required.
7. At a more operational level, Doyle and Saunders (1985) note that management science has had a disappointing level of acceptance in industry because management will not use techniques it does not understand
8. One way of counteracting this challenge is to make market segmentation analysis easy to understand, and to present results in a way that facilitates interpretation by managers.

Step 2: Specifying the Ideal Target Segment

1. Empirical data is used to identify or create market segments and – later in the process – describe these segments in detail.
2. The shorter set of knock-out criteria is essential. It is not up to the segmentation team to negotiate the extent to which they matter in target segment selection
3. The second, much longer and much more diverse set of attractiveness criteria represents a shopping list for the segmentation team
4. Knock-out criteria are used to determine if market segments resulting from the market segmentation analysis qualify to be assessed using segment attractiveness criteria.
5. The segment must be homogeneous; members of the segment must be similar to one another.
6. The segment must be distinct; members of the segment must be distinctly different from members of other segments.
7. The segment must be large enough; the segment must contain enough consumers to make it worthwhile to spend extra money on customising the marketing mix for them.
8. The segment must be matching the strengths of the organisation; the organisation must have the capability to satisfy segment members' needs.
9. Members of the segment must be identifiable; it must be possible to spot them in the marketplace.
10. The segment must be reachable; there has to be a way to get in touch with members of the segment in order to make the customised marketing mix accessible to them.
11. Knock-out criteria must be understood by senior management, the segmentation team, and the advisory committee. Most of them do not require further specification, but some do.

12. In addition to the knock-out criteria, Table 4.1 also lists a wide range of segment attractiveness criteria available to the segmentation team to consider when deciding which attractiveness criteria are most useful to their specific situation.
13. Attractiveness criteria are not binary in nature. Segments are not assessed as either complying or not complying with attractiveness criteria.
14. The segment attractiveness and organisational competitiveness values are determined by the segmentation team. This is necessary because there is no standard set of criteria that could be used by all organisations.
15. Factors which constitute both segment attractiveness and organisational compet itiveness need to be negotiated and agreed upon. To achieve this, a large number of possible criteria has to be investigated before agreement is reached on which criteria are most important for the organisation. McDonald and Dunbar (2012) recommend to use no more than six factors as the basis for calculating these criteria.

Step 3: Collecting Data

1. Each row in this table represents one consumer, each variable represents one characteristic of that consumer
2. 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.
3. Market segments are created by simply splitting the sample using this segmentation variable into a segment of women and a segment of men
4. Describing segments is critical to being able to develop an effective marketing mix targeting the segment.
5. When commonsense segments are extracted – even if the nature of the segments is known in advance – data quality is critical to both (1) assigning each person in the sample to the correct market segment, and (2) being able to correctly describe the segments.
6. Empirical data for segmentation studies can come from a range of sources: from survey studies; from observations such as scanner data where purchases are recorded and, frequently, are linked to an individual customer's long-term purchase history via loyalty programs; or from experimental studies.
7. The term segmentation variable refers to one measured value, for example, one item in a survey, or one observed expenditure category. The term segmentation criterion relates to the nature of the information used for market segmentation. It can also relate to one specific construct, such as benefits sought.
8. The most common segmentation criteria are geographic, socio-demographic, psychographic and behavioural.
9. Typically – when geographic segmentation is used – the consumer's location of residence serves as the only criterion to form market segments. While simple, the geographic segmentation approach is often the most appropriate.
10. The key advantage of geographic segmentation is that each consumer can easily be assigned to a geographic unit. As a consequence, it is easy to target communica tion messages, and select communication channels (such as local newspapers, local radio and TV stations) to reach the selected geographic segments.

11. The key disadvantage is that living in the same country or area does not necessarily mean that people share other characteristics relevant to marketers, such as benefits they seek when purchasing a product.

12. Typical socio-demographic segmentation criteria include age, gender, income and education.

13. Yankelovich and Meer (2006) argue that socio-demographics do not represent a strong basis for market segmentation, suggesting that values, tastes and preferences are more useful because they are more influential in terms of consumers' buying decisions.

14. When people are grouped according to psychological criteria, such as their beliefs, interests, preferences, aspirations, or benefits sought when purchasing a product, the term psychographic segmentation is used

15. Psychographic criteria are, by nature, more complex than geographic or socio demographic criteria because it is difficult to find a single characteristic of a person that will provide insight into the psychographic dimension of interest. As a consequence, most psychographic segmentation studies use a number of segmentation variables, for example: a number of different travel motives, a number of perceived risks when going on vacation.

16. The psychographic approach has the advantage that it is generally more reflective of the underlying reasons for differences in consumer behaviour.

17. Another approach to segment extraction is to search directly for similarities in behaviour or reported behaviour. A wide range of possible behaviours can be used for this purpose, including prior experience with the product, frequency of purchase, amount spent on purchasing the product on each occasion (or across multiple purchase occasions), and information search behaviour.

18. The key advantage of behavioural approaches is that – if based on actual behaviour rather than stated behaviour or stated intended behaviour – the very behaviour of interest is used as the basis of segment extraction.

19. Most market segmentation analyses are based on survey data. Survey data is cheap and easy to collect, making it a feasible approach for any organisation. But survey data – as opposed to data obtained from observing actual behaviour – can be contaminated by a wide range of biases.

20. In data-driven segmentation, all variables relevant to the construct captured by the segmentation criterion need to be included. At the same time, unnecessary variables must be avoided.

21. Including unnecessary variables also increases the dimensionality of the segmentation problem without adding relevant information, making the task of extracting market segments unnecessarily difficult for any data analytic technique.

22. Noisy variables do not contribute any information necessary for the identification of the correct market segments. Instead, their presence makes it more difficult for the algorithm to extract the correct solution.

23. Answer options provided to respondents in surveys determine the scale of the data available for subsequent analyses.

24. Options allowing respondents to answer in only one of two ways, generate binary or dichotomous data. Such responses can be represented in a data set by 0s and 1s. The distance between 0 and 1 is clearly defined and, as such, poses no difficulties for subsequent segmentation analysis.

25. Options allowing respondents to indicate a number, such as age or nights stayed at a hotel, generate metric data.

26. A wide range of response styles manifest in survey answers, including respon dents' tendencies to use extreme answer options (STRONGLY AGREE, STRONGLY DISAGREE), to use the midpoint (NEITHER AGREE NOR DISAGREE), and to agree with all statements.

27. The market segmentation problem in this figure is extremely simple because only two segmentation variables are used. Yet, when the sample size is insufficient (left plot), it is impossible to determine which the correct number of market segments is. If the sample size is sufficient, however (right plot) it is very easy to determine the number and nature of segments in the data set.

28. Increasingly organisations have access to substantial amounts of internal data that can be harvested for the purpose of market segmentation analysis. Typical examples are scanner data available to grocery stores, booking data available through airline loyalty programs, and online purchase data.

29. The danger of using internal data is that it may be systematically biased by over-representing existing customers. What is missing is information about other

consumers the organisation may want to win as customers in future, which may differ systematically from current customers in their consumption patterns.

30. Another possible source of data that can form the basis of market segmentation analysis is experimental data.

31. Experimental data can also result from choice experiments or conjoint analyses. The aim of such studies is to present consumers with carefully developed stimuli consisting of specific levels of specific product attributes.

Step 4: Exploring Data

1. After data collection, exploratory data analysis cleans and – if necessary – pre-processes the data
2. At a more technical level, data exploration helps to (1) identify the measurement levels of the variables; (2) investigate the univariate distributions of each of the variables; and (3) assess dependency structures between variables.
3. The first step before commencing data analysis is to clean the data. This includes checking if all values have been recorded correctly, and if consistent labels for the levels of categorical variables have been used. For many metric variables, the range of plausible values is known in advance
4. Factors are the default format for storing categorical variables in R.
5. Descriptive numeric and graphic representations provide insights into the data
6. Two pre-processing procedures are often used for categorical variables. One is merging levels of categorical variables before further analysis, the other one is converting categorical variables to numeric ones
7. Principal components analysis (PCA) transforms a multivariate data set containing metric variables to a new data set with variables – referred to as principal components – which are uncorrelated and ordered by importance.
8. Principal components analysis basically keeps the data space unchanged, but looks at it from a different angle
9. Principal components analysis works off the covariance or correlation matrix of several numeric variables. If all variables are measured on the same scale, and have similar data ranges, it is not important which one to use.
10. In most cases, the transformation obtained from principal components analysis is used to project high-dimensional data into lower dimensions for plotting purposes.
11. We interpret the output as follows: for each principal component (PC), the matrix lists standard deviation, proportion of explained variance of the original variables, and cumulative proportion of explained variance.
12. The latter two are the most important pieces of information. Principal component 1 explains about one fifth (18%) of the variance of the original data; principal component 2 about one tenth (9%). Together, they explain 27% of the variation in the original data. Principal components 3 to 15 explain only between 8% and 3% of the original variation.

13. Highly correlated variables will display high loadings on the same principal components, indicating redundancy in the information captured by them. Insights gained from such an exploratory analysis can be used to remove some of the original – redundant – variables from the segmentation base.