**Market segmentation analysis**

**Steps in Market segmentation**

Step 1: Deciding not to segment

Implications of the market segmentation analysis:

User are bound to commit to the segmentation strategy. They should use the strategy for a long term. Segmentation scheme should be more profitable than marketing without it and net of the expenses spent to develop it. Organisations should organise their segments rather than the products to maximise the benefits of market segmentation.

Implementation barriers:

The first group of barriers relate to senior management. Senior management plays a vital role in market segmentation. It will not be successful if the senior management do not provide resources either in initial market segmentation or long-term implementation of strategy. If the senior management or team are unaware of the consequences of perusing market segmentation strategies it is more likely to fail. The second group of barriers relates to organisational culture. Lack of strategy, bad communication, lack of creative thinking and organisation structure may affect market segmentation. Another obstacle can be objective restrictions faced by the organisation. This may include lack of resources of inability to make the required changes. Management is more likely to avoid strategies that are complex to understand. To counteract this problem, make sure the market strategy is easy to understand. All these should be considered to implement a good market strategy.

The first check list includes not only tasks, but also a series of questions which if not answered is affirmative, serves as knock-out criteria.

**Step 2 Specifying the Ideal Target Segment**

Segment evaluation criteria:

In the step 2 the organisation must determine two sets of segment evaluation criteria. One set of evaluation criteria is known as knockout criteria. The second set of evaluation criteria is called as attractiveness criteria. Knock-out criteria are non-negotiable, essential features of segments that organisations would consider targeting whereas attractiveness criteria are used to evaluate relative attractiveness of remaining market segments. The shorter set of knock out criteria is essential. The longer set of attractiveness criteria can be selected by the segmentation team based on how attractive the potential target segments are. The team should also need to assess the relative importance of each attractiveness criteria.

Knock-out criteria:

Knock out criteria is used to determine which segment is qualified to be used by using segment attractiveness criteria. Kotler suggested the first criteria which includes sustainability, measurability and accessibility. Then a few other segment criteria are added like- The segments must be homogenous, distinct, large, Identifiable reachable and must be matching strength of the organisation. Knock-out criteria must be understood by the senior management market segmentation team and the advisory committee.

Attractiveness criteria:

In addition to knock-out criteria there are other market segments available to market segmentation team when deciding which segment is most useful foe their specific situation. Attractiveness criteria are not binary in nature. They are neither assessed as complying or non-complying with attractiveness criteria. Each market segment is rated with respect to the situation. The attractiveness of all the segment is considered to evaluate the target segment in market segmentation analysis.

Implementing a structured process

The most popular way of implementing market segmentation evaluation is use of evaluation plot. It shows plot of segment attractiveness on one axis and organisational competitive on the other axis. Factors that affect segment attractiveness and organisational competitiveness needs to be considered. This step lays the groundwork of step 8 while selecting the target segments. At the end of this process the market segmentation team should have at least 6 attractiveness criteria.

**Step 3 Collecting data**

3.1 Segmentation variable:

Empirical data is used to identify create market segments. Empirical data is used in commonsense segmentation to spilt sample into market segments. Descriptive variables are used to describe the segments in detail. It includes information about socio-demographics and information about media. Data driven market segmentation is based on multiple market segmentations. Qualifying the empirical data is critical for developing a valid segmentation solution. Good market segmentation analysis requires good empirical data. Survey should not be seen as default data for market segmentation studies. There are other sources of data for market segmentation that can be considered like scanner data history etc. The source that delivers the data that closely reflects the consumer behaviour is preferable.

3.2 Segmentation criteria:

The term segmentation criteria relate to the nature of the information used for market segmentation. The decision of which segmentation criteria to use cannot be outsourced easily by the consultant or data analyst because it needs prior knowledge about the market. The most common segmentation criteria are geographic socio-demographic, psycho graphic and behavioural.

Geographic segmentation:

Geographic segmentation is seen as original segmentation criteria. It uses the customer location for the market segmentation. The main advantage of using geographic segmentation is each consumer can easily be assigned to a geographical unit. The main disadvantage is all the consumers living is same area need not prefer same product.

Socio-demographic segmentation:

Socio demographics typically include age gender income education etc. It can easily be assigned to all the customers and it provide a explanation for buying a specific product.

Psychographic segmentation:

When people are grouped according to the psychological behaviour such as interests, preferences or beliefs etc. psychographic segmentation is more complex than geographic or socio-demographic segmentation as it is complex to understand the behaviour of people. It is generally more reflective of the underlying reasons for different consumer behaviour.

Behavioural segmentation:

This approach searches similarities in behaviour of consumers or reported behaviour. The main advantage of behavioural segmentation is it analyses the actual behaviour of the users rather than the predicted behaviour of the users. This includes the frequency, pattern of buying etc. It is complicated to collect the behavioural data especially for the consumers who did not any products prior.

3.3 Data from survey studies:

Most market segmentation analysis is based on survey data. It is cheap and easy to collect and feasible for any organisation. A few key aspects that should be considered are

Choice of variable:

In data driven segmentation all the variables related to the construct captured by the segmentation criteria need to be included. At the same time unnecessary variables must be avoided. They are called as noisy variables or masking variables. Noisy variables do not contribute in improving market segmentation. In addition to that it affects the algorithm to extract the consumer behaviour. It negatively affects the segmentation analysis so they should be avoided. Redundant question should be avoided as they affect the substantiality with most segment extraction algorithm’s ability to identify the correct market segmentation solution.

Response options:

Most of the data analytics uses matrices for analysing the data so not all the survey options are equally compatible for the algorithm. Binary or dichotomous data is considered widely for this process. Other matrices like age etc are also used. Metric data can also be used to analyse the market data in the survey. Preferably either metric or binary data should be provided to the respondents to get a meaningful data for the analysis.

Response style:

Survey data is prone to capturing the biases. If bias is displayed by the respondent independent of the questions asked then it makes a response style. Responses style affects the segmentation results as commonly used segmentation algorithm cannot differentiate between the data entry based on the beliefs and data entry based on the beliefs and respondent’s style. Such segments can be misinterpreted.

Sample style:

The sample size should be at least ten times the number of segmentation variables times the number of segments in the data in the simple case of equal cluster size. If samples are unequally sized the smallest segment must contain at least samples of 10.p. Increase in sample size improves the correctness of extracted segments.

3.4 Data from Internal sources:

Organisations have access to large internal data like scanner data of grocery store, purchase history, loyalty programs etc that can be used to determine the actual behaviour of the users. If organisations can store that data, the time spent to extract the data can be reduced and easily accessed by the organisation for market analysis.

3.5 Data from experimental studies:

Experimental data can result from field or lab experiments. Example response to advertisements can be used as segmentation criterion. It can also result from choice experiments or conjoint analyses. Conjoint analyses and choice experiments results in information about the extent to which each attribute and attribute level affects the choice.

**Step 4 – Exploring Data:**

4.1 A first glimpse at data:

Explanatory data analysis id used to clean and preprocess the data. Th is segment can also be used to guide the best algorithm that fits the data. This segment mainly helps in:

1. Identify the measurement levels of variable
2. Investigate the univariate distribution of each variable
3. Assess the dependency structures between variables

It provides insights about suitability of different segmentation methods. Missing variables are coded as NULL or NA.

4.2 Data Cleaning:

Before analysing the data, it should be cleaned. This includes checking if the data is correct. Levels of categorical variables should be checked to ensure they can contain only permissible values. R functions like read\_csv or read\_table converts columns containing info other than numbers into factors. Factors are default format for storing categorical values in python. Reproducibility enables other analysts to replicate analysis. After cleaning the dataset use save() function to save the data. Use load() function to load the data.

4.3 Descriptive analysis:

Descriptive numeric and graphic representation provide insights into data. There are wide range of tools for descriptive analysis. Helpful graphical methods are histogram, boxplot, line chart etc. Plotting density estimates allows us to superimpose density probability function of parametric distribution.

4.4 Pre-processing:

4.4.1 Categorical Variable:

Two preprocessing procedures are often used for categorical variables. They are merging level of categorical variable ang converting categorical variables into numeric ones.

Merging level of categorical variable is used if original variables are too differentiated. In the other method the categorical variables can be converted into numeric values.

4.4.2 Numeric Variables:

The range of values of segmentation value affects its relative influence in distance-based methods of segment extraction. To balance the influence of segmentation variable on segmentation results, variable can be standardised. Standardising the variable means transforming them in a way that puts them on scale. The default standardisation method in statistics subtracts the empirical means x and divides by empirical standard deviation s. Alternative standardisation methods may be required if the data contains observations located very far away from most of the data. In such situations robust estimates for location and spread such as the median and the inter quartile range are preferable.

4.4 Principal components analysis:

Principal component analysis keeps the data space unchanged but looks at it from a different angle. Principal component analysis works off the covariance or correlation matrix of several numeric variables. If the data ranges are different the correlation matrix must be used. While using a subset of principal components as segmentation variables is not recommended. It is safe to use principal components indicating redundancy in the information captured by them. Information gained from them can be used to remove some of the original redundant variables from the segmentation base.

**Step 9 – Customising the marketing mix**

Implications for marketing mix decisions:

The 4Ps method is the most widely used marketing mix method. Market segmentation is seen as segment targeting positioning approach. It is a sequential process. The process starts with market segmentation, followed by targeting and finally positioning. The four Ps model of marketing mix include Product, Price, Place and Promotion. The selection of one or more specific target segments may require the design of new or the modification or re-branding the existing products, change to price or discount structures, the selection of suitable distribution channels, and development of new communication messages and promotion strategies that are attractive to target segment.

Product:

Organisations must specify the production in view of customer needs. This do not imply designing entirely new product, but modifying an existing one. Other marketing mix decisions that fall under the product dimension are naming the product, packaging etc.

Price:

Another decision the organisation need to make when developing a product is price determination. Price dimensions of the marketing mix include setting the price for a product and deciding on discounts to be offered.

Place:

The key decision relating to the place dimension of the marketing mix is how to distribute the product to customers. This includes products availability both online and offline, should manufacturer sell directly to customers, should retailers or wholesalers or both be used.

Promotion:

Promotion decisions that need to be made in marketing mix include developing and advertising message that will resonate with the target market, and identifying the most effective way of communicating this message. Other tools in the promotion category of the marketing mix include public relations, persona; selling and sponsorship.