Team-Santosh
Market Segmentation Analysis

Step 1: Deciding (not) to Segment

1.1 Implications of Committing to Market Segmentation

Implementation of market strategy can improve business profitability and makes it easier for the company what characteristics of the product are required for successfully satisfying the customer needs. The implementation of market strategy can result in development of new products, modification of existing products as well as communications with the market. The implication can be applied keeping in mind w.r.t. customer, product or employee.

The main purpose of targeting customer is when a company realizes the target market of its customer they can provide better products than their competition which can result in gain of new customers and building a reputation through customer surveys and market studies

Once the company understands the needs of the customer and market they have to ensure that their products meet their needs or change the design to add corresponding features. A marketing strategy focused on offering products that suit your target market promotes innovation and improves product quality.

For a company to perform efficiently its parts should work efficiently i.e. an effective marketing strategy implementation means working for a more successful company. Better company performance involves better quality products. An atmosphere where employees work hassle free and in a stress free environment results in better work and overall development of the company.

1.2 Implementation Barriers

These are various groups of barriers that are involved in market segmentation and they are: -

The first group of barriers relates to senior management lack of leadership and until and unless the leader is able to understand the need of applying the market strategy and makes it believes to the chief executive that it will result in business growth it will be impossible to implement the marketing strategy.

Second group of barriers involves organizational culture. Lack of market and resistance to adapt to the changes as per the need of the company or lack of sharing information among the subunits or involvement of internal politics has been identified in preventing the successful implementation of market strategies.

Another barrier could be lack of understanding between the team to which implementation of market strategy is being assigned and senior management, which will result in failure of implementation of the strategy.

1.3 Step 1 Checklist

This first checklist includes not only tasks, but also a series of questions which, if not answered in the affirmative, serve as knock-out criteria. For example: if an organization is not market-oriented, even the finest of market segmentation analyses cannot be successfully implemented.

Step 2: Specifying the Ideal Target Segment

2.1 Segmentation Evaluation Criteria

This layer of market segmentation primarily depends on user input. The user input which can be in the form of surveys conducted or providing feedback results in the start of the process and users must be involved in other states as well.
Companies can evaluate the market segment by looking at the number of potential customers in the segment, their income and the number of people in the segment who need the kind of products the company offers. There are two types of criteria as evaluation criteria and are discussed in further steps.

2.2 Knock-Out Criteria

Knock-out criteria are used to determine if market segments resulting   from the market segmentation analysis to be assessed using segment attractiveness criteria. They are the non – negotiable features a segment must have

to make it worthwhile. This criteria must be understood by each entity from senior management to advisory committee. For example, while size is non-negotiable, the exact minimum viable target segment size needs to be specified.

2.3 Attractiveness Criteria

They are nice to have and are not binary in nature. In this each market criteria is being rated and it can be more or less attractive with respect to specific criteria. The attractiveness across all criteria determines whether a market segment is selected as a target segment analysis or not.

2.4 Implementing Structured Process

To apply market segmentation this process must involve a structured audience analysis. The more comprehensive the data is the better the company can identify their target market and plan strategy accordingly. The steps for a structured process can include defining the market, analyzing the existing customers, comparing and identifying gaps, groups and opportunities, research segments separately and then test and optimize them.

Step 3: Collecting Data

3.1 Segmentation Variables

Market Segmentation involves grouping of similar groups of people as they will be having the same needs and will be easier to target. The characteristics of people that are used to determine if people are similar or not are segmentation variables. For example if the market is based on height of the people then the segmentation of variables will be height. Demographic, psychographic, behavioral and geographic segmentation are considered the four main types of market segmentation, but there are also many other strategies you can use, including numerous variations on the four main types.

3.2 Segmentation Criteria

Segmentation involves creating homogenous groups made by individuals with identifiable common characteristics. These might be place of residence, age, lifestyle or even how they behave on a website and these are known as segmentation criteria. Below figure shows the basic four segmentation criteria and let's see about them in following steps.

3.2.1 Demographic Segmentation

Demographic based segmentation is the most common one and is done based on the observable differences between the individuals that can be age, sex, income, race and many more. Combining this segmentation with others helps to narrow down the market even more. Automotive companies often segment their audience by income and market different makes and models of cars to each segment. Collecting this data in DMP will help to organize it and use it to target marketing campaigns or content personalization efforts.

3.2.2 Behavioral Segmentation

In this the market is segmented based on the consumer's behavior especially regarding the company's product. Some behaviors that companies look into while segmenting customers are online shopping habits, action taken on a website, usage rate, and loyalty. It is very useful data and will help companies market more effectively to customers.

3.2.3 Geographical Segmentation

Segmenting the market based on geographic location is very basic yet highly useful. A customer location can help better understand the consumer's needs and provide location specific-ads to them. There are several kinds of geographic segmentation. Companies can also consider different needs in different regions. A clothing company would be showing warmer cloth ads to people living in cooler environments and showing the opposite living in the warmer environments.

3.2.4 Psychological Segmentation

Psychological segmentation is same to that of demographic segmentation nut it deals with more mental and emotional. These motives may not be easy to identify but after identifying and analysing them they can give valuable insight of audience's motives, preferences and needs and understanding their audience helps

company to feature ads that are most suitable to them. Some involves personal traits, interests, beliefs, attitudes and lifestyles.

3.3 Data from survey studies

Mostly market segmentation analysis is based on survey data. Survey data is cheap and easy to collect, making it easy for organizations to collect and analyse the data. Key points that are being seen while doing survey are discussed below: -

3.3.1 Choice of Variables

In data-driven segmentation, all variables relevant to the segmentation must be included and at the same time all the unnecessary variables must be eliminated which can create task long and tedious for respondents and the use of unnecessary variables create a distraction from segmentation without addition of any relevant information. These insights can then be categorised and included in a questionnaire as a list of answer options.

3.3.2 Response Options

Options allowing respondents selection only one option out of the available options generate binary data. Options which provide a list of uncategorized data can be termed as nominal variables. Nominal variablescan be easily transferred into binary data by introducing a binary variable in response to each option. Respondents should be provided with the binary or metric meaningful data against the question asked. In many contexts, binary response options have been shown to outperform ordinal answer options, especially when formulated in a level freeway.

3.3.3 Response Styles

Survey data that has been collected can be biased or ordinal in nature. Response styles are the range of tendencies that are displayed by the respondents to the particular set of questionnaire items. Response styles can be problematic in survey research. Once data is collected it is difficult to filter out respondents beliefs from styles. In cases where attractive market segments emerge with response patterns potentially caused by a response style, additional analyses are required to exclude this possibility. Alternatively, respondents affected by such a response style must be removed before choosing to target such a market segment.

3.4 Data from Internal Sources

Internal data from the companies can be easily harvested for a better market segmentation analysis. For example customer's online booking system through travel agency can be effectively used. The strength of such data lies in the fact that they represent the actual behaviour of the consumers and company can betterknow the customer and result in better market segmentation.

3.5 Data from Experimental Studies

Another source of data can be from labs or by doing experiments which can form the base of market segmentation and they can predict how people would react to a particular ads and it can be further used for segmentation criteria. The purpose of this study is that to provide consumer with specific ads with better reach. This information can also be used as segmentation criteria.

Step 4: Exploring Data

4.1 A First Glimpse at the Data

The first step of the exploring data must be too able to read the data the in a particular format mostly it is in comma separated format and able to write the code in the language that we are using. It also includes to analyse the data and to know how many rows and columns are present in the data. To inspect all the columns present in the data along with finding the information and description about the columns, through which certain assumptions can be made and outcomescan be achieved.

4.2 Data Cleaning

The step before processing to data analysis is data cleaning. In the real world ideal data is difficult to found out and when the data is being formed with the help of surveys it is possible that some of the rows or columns values may be missing or inappropriate data is present. In Data cleaning we check that there are no missing values and the values are in a certain range and it can also be checked that only permissible values are used. For example gender can have only two values male or female and presence of any other values apart from the other two should not appear in the data and needs to be corrected. Cleaning data using code requires time and discipline but makes all steps fully documented and reproducible, after cleaning data it needs to be saved so it cab be easily used in future.

4.3 Descriptive Analysis

Being familiar with data avoid any misinterpretation with can result in complex analysis. It involves constructing tables of mean, variance or standard deviation. Column proportions can also be examined, for example fraction of population with different levels of education. A table of means among subgroup can also be constructed to show important difference among subgroups which mostly result in interferences and conclusions can be made. Helpful graphical methods can also be used like histograms, boxplots, and scatter plots. Histogram show often how observations within a certain value range occur.

4.4 Pre-processing

4.4.1 Categorical Variables

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, if it makes sense to do so. Categorical variables take only a limited number of values and these values must be converted into numeric values for further processing. There are usually three ways of doing so dropping the categorical values, ordinal encoding and one hot encoding, depending the types of category present in the columns it can be easily converted into numeric values.

4.4.2 Numeric Variables

A numeric variable also a quantitative variable is a quantifiable character whose values are numbers. The range of values of segmentation affects its influence in distance based methods of segment extraction.

4.5 Principal Component Analysis

PCA is mainly used for dimensionality reduction. It comes under the part of feature extraction. It reduces the dimensionality of the dataset by finding the new set of variables, smaller than the original set of variables. It returns most of the information. The new variables are called principal components, which are uncorrelated and ordered by the fraction of information. Before PCM's there were n number of columns which are correlated and after PCM there are n principal components which could be weighted arrangement of original measurements. The Steps to compute PCA's are standardizing the original data, computing the co-variance matrix, computing Eigen values and Eigen vectors, computing the

principal components and reducing the dimension of data. The main motive of PCA is to project the high dimensional data into low dimension data.

Step 5:EXTRACTING SEGMENTS

Cluster analysis is a topic that has given rise to many segmentation techniques used to identify market categories. The data analytic characteristics of the resulting clustering must be matched with the researcher's desired context-dependent needs in order to choose an appropriate clustering method.

Distance-Based Methods are the most often utilised extraction techniques in market segmentation.

Distance-based approaches look for clusters of similar data using a specific idea of similarity or distance between observations (consumers) (market segments).

Hierarchical Methods - Represented by Dendrograms

Two types –

1. **Divisive hierarchical**

2. **Agglomerative hierarchical**

Partitioning Method

· K-Means and K-Centroid Clustering

5 steps are

1. Specify the number of segments k.

2. Randomly select k observations (consumers) from data set X as an initial set of centroid.

3. Assign each observation xi to the closest cluster centroid to form a partition of the data.

4. Recomputed the cluster centroids by holding the same cluster size and minimising the distance from each consumer corresponding cluster centroid.

5. Repeat from step 3 until convergence or a pre-specified maximum number of iterations are reached.

Hybrid Approaches

      1.   Two Step Clustering

2.   Bagged Clustering

Model based methods

Information criteria is used for number of segments.

All these criteria use the likelihood as a measure of goodness-of-fit of the model to the data, and penalise for the number of parameters estimated.

formulae of different kind of info criterion:

$AIC = 2df - 2\log(L)$ BIC
$= \log(n)df - 2\log(L)$

$ICL = \log(n)df - 2\log(L) + 2ent$

where df is the number of all parameters of the model,
$\log(L)$ is the maximised loglikelihood,
and n is the number of observations. ent is the mean entropy

BIC>AIC>ICL

FINITE MIXTURES OF REGRESSION:

·   Similar to distance based clustering methods.

·   Finite mixture of regression models assume the existence of a dependent target variable y that can be explained by a set of independent variables x.

·   Along with estimation of intercept for each segment and regression coefficient for each attribute, the noise standard deviation sigma requires one additional estimate.

·   Fitting mixtures with the EM algorithm is as prone to label switching as any partitioning clustering method.

·   The R2 value lies between zero and one, and indicates how much of the variance in the dependent variable is explained by the model; how close the predicted values are to the observed ones.

·   This method tells us the association or dependence between independent segment variables and dependent variable.

·   Few inferences are:

· If the slope of the plot between dependent and independent variable is steep, there is a strong association between them.

· Horizontal line indicates no association.

EXTENSIONS AND VARIATIONS

Finite mixture models, more complicated and also more flexible than distance based methods.

Finite mixture models can accommodate a wide range of different data characteristics:

- o For metric data we can use mixtures of normal distributions
- o For binary data we can use mixtures of binary distributions
- o For nominal variables, we can use mixtures of multinomial distributions or multinomial logit models
- o For ordinal variables, several models can be used as the basis of mixtures.

An extension to mixture models can reconcile these positions by acknowledging that distinct segments exist, while members of the same segment can still display variation.

This extension is referred to as mixture of mixed-effects models or heterogeneity model

If the data set contains repeated observations over time, mixture models can cluster the time series, and extract groups of similar consumers.

Mixture models also allow to simultaneously include segmentation and descriptor variables.

ALGORITHMS WITH INTEGRATED VARIABLE SELECTION:

-These algorithms assume that each of the segmentation variables makes a contribution to determining the segmentation solution.

-Variable selection for binary data is more challenging because single variables are not informative for clustering.

-Algorithms for binary segmentation variables:

*Bi clustering

*Variable selection procedure for clustering binary data

BICLUSTERING:

· Bi-clustering simultaneously clusters both consumers and variables. Bi clustering algorithms exist for any kind of data, including metric and binary.

· This algorithm focuses on the binary case where these algorithms aim at extracting market segments containing consumers who all have a value of 1 for a group of variables.

· These groups of consumers and variables together then form the bicluster.

· Each row corresponds to a consumer, each column to a segmentation variable

· Bi clustering Advantages:

No data transformation

Ability to capture niche markets.

VARIABLE SELECTION PROCEDURE FOR CLUSTERING BINARY DATA(VSBD):

· For clustering binary datasets

· Based on the k-means algorithm as clustering method

· Assumes that not all variables available are relevant to obtain a good clustering solution the performance criterion used to assess a specific subset of variables is the within-cluster sum-of squares

· After having identified this subset, the procedure adds additional variables one by one. The variable added is the one leading to the smallest increase in the within-cluster sum-of-squares criterion.

· The procedure stops when the increase in within-cluster sum-of-squares reaches a threshold.

· The variable selection procedure generates a solution that is easy to interpret because only a small set of variables serve as segmentation variables, but each of them differentiates well between segments.

VARIABLE REDUCTION: FACTOR CLUSTER ANALYSIS

1) Segmentation variables are factor analysed (the raw data, the original segmentation variables, are then discarded).

2) The factor scores resulting from the factor analysis are used to extract market segments.

-The factor scores should either be determined simultaneously when extracting the groups or be provided separately and not determined in a data-driven way from the data where the presence of groups is suspected.

DATA STRUCTURE ANALYSIS:

Provides valuable insights into the properties of the data.

Stability-based data structure analysis provides an indication of whether natural, distinct, and well-separated market segments exist in the data or not

If there is structure in the data, be it cluster structure or structure of a different kind, datastructure analysis can also help to choose a suitable number of segments to extract.

Different approaches:

Cluster indices

Cluster indices represent the most common approach to obtaining guidance to make some of the most critical decisions, such as selecting the number of market segments to extract.

Types:

Internal cluster indices:

-Internal cluster indices are calculated on the basis of one single market segmentation solution, and use information contained in this segmentation solution to offer guidance.
-An example for an internal cluster index is the sum of all distances between pairs of segment members. The lower this number, the more similar members of the same segment are.

External cluster indices:

-External cluster indices cannot be computed on the basis of one single market segmentation solution only. Rather, they require another segmentation as additional input.
- The external cluster index measures the similarity between two segmentation solutions.

-Most commonly used measures of similarity of two market segmentation solutions are the Jaccard index, the Rand index and the adjusted Rand index
• a: Both consumers are assigned to the same segment twice.

• b: The two consumers are in the same segment in P1, but not in P2.

• c: The two consumers are in the same segment in P2, but not in P1.

• d: The two consumers are assigned to different market segments twice.

Jaccard Indices:

J = a/(a + b + c)
Rand Index:

R = (a + d)/(a + b + c + d)

Adj Rand Index (independent on size of the extracted market segments: Adj Rand=(index − expected index)/(maximum index − expected index)

Gorge plots

Gorge plot contains histograms of the similarity values separately for each segment.

The x-axis plots similarity values.

The y-axis plots the frequency with which each similarity value occurs.

If the similarity values are the result of distance-based segment extraction methods,: High similarity values indicate that a consumer is very close to the centroid (the segment representative) of the market segment.
Low similarity values indicate that the consumer is far away from the centroid.

If the similarity values are the result of model-based segment extraction methods:

High similarity values indicate that a consumer has a high probability of being a member of the market segment.

Low similarity values indicate low probability of segment membership.

If natural, well-separated market segments are present in the data, we expect the gorge plotto contain many very low and many very high values

Global stability analysis

To assess the global stability of any given segmentation solution, several new data sets are generated using resampling methods, and a number of segmentation solutions are extracted. -Resampling methods – combined with many repeated calculations using the same or different algorithms – provide critical insight into the structure of the data.

Consumer data can lack distinct, well-separated natural clusters, while not being entirely unstructured. In this case, the existing structure can be leveraged to extract artificially created segments that re-emerge across repeated calculations. This case is referred to as reproducible segmentation.

Global stability analysis acknowledges that both the sample of consumers, and the algorithm used in data-driven segmentation introduce randomness into the analysis.

Therefore, conducting one single computation to extract market segments generates nothing more than one of many possible solutions

Computing the similarity between the resulting solutions for the same number of clusters provides insight into whether natural segments exist in the data , whether reproducible segments exist , or whether segments are being constructed artificially .

Segment level stability analysis.

Relying on global stability analysis could lead to selecting a segmentation solution with suitable global stability, but without a single highly stable segment.

It is recommendable, therefore, to assess not only global stability of alternative market segmentation solutions, but also segment level stability of market segments contained in those solutions to protect against discarding solutions containing interesting individual segments from being prematurely discarded.

After all, most organizations only need one single target segment.
Segment Level Stability Within Solutions

SLSw measures how often– across multiple computations of the segmentation solution with the same number of clusters– a segment with the same key characteristics is identified.

High SLSw segments are attractive because they are likely to represent natural segments. Segmentation solutions containing high SLSW segments should not be discarded

Segment Level Stability Across Solutions

The purpose of this criterion is to determine the re-occurrence of a market segment across market segmentation solutions containing different numbers of segments.

SLSa measures the persistence of a segment reoccurring across segmentation solutions with different numbers of clusters.

High values of segment level stability across solutions (SLSA) serve as indicators of market segments occurring naturally in the data, rather than being artificially created.Natural segments are more attractive to organizations because they actually exist, and no managerial judgement is needed in the artificial construction of segments.

STEP 6 – PROFILING SEGMENTS

The aim of the profiling step is to get to know the market segments resulting from the extraction step. Profiling is only required when data-driven market segmentation is used. For common-sense segmentation, the profiles of the segments are predefined. Good profiling is

the basis for correct interpretation of the resulting segments. Correct interpretation, in turn, is critical to making good strategic marketing decisions. Traditional approaches to profiling market segments include large tables that provide, for each segment, exact percentages for each segmentation variable or high level summaries simplifying segment characteristics. However, these approaches can be either misleading or hard to interpret.

To overcome these problems, visualisation techniques can be used.

Identifying Defining Characteristics of Market Segments:

A good way to understand the defining characteristics of each segment is to produce a segment profile plot. The segment profile plot shows for all segmentation variables, how each market segment differs from the overall sample. Each segment can be plotted and characteristics relevant (known as marker variables) for each segment can be shown in colour and non-relevant characteristics can be greyed out. Good visualisations facilitate interpretation by managers who make long-term strategic decisions based on segmentation results. Such long-term strategic decisions imply substantial financial commitments to the implementation of a segmentation strategy. Good visualisations, therefore, offer an excellent return on investment.

Assessing Segment Separation

Segment separation can be visualised in a segment separation plot. The segment separation plot depicts the overlap of segments. Segment separation plots are very simple if the number of segmentation variables is low, but become complex as the number of segmentation variables increases. The segment separation plot consists of (1) a scatter plot of the (projected) observations coloured by segment membership and the (projected) cluster hulls, and (2) a neighbourhood graph. Neighbourhood graphs (black lines with numbered nodes) indicate similarity between segments. The width of the black line is thicker if more observations have these two segment centres as their two closest segment centres.

Step 7: Describing segments

Segment profiling are generally carried out based on demographic, geographic , psychographic and behavioural factors. Here we are getting differences between the segments.

In **segment description step** which is similar to segment profiling ,the difference is ,profiling is carried out between the members in the segment. We are getting additional information about the members in individual segment.These additional variables are called descriptor variables.

Good description of these individual segments are critical to gain the detailed insights of nature of the segments and also it will help the development of customised marketing mix.

We can study differences between market segments with respect to descriptor variables in two ways.

· Analyse data using descriptive statistics and visualisation

· Analyse data using inferential statistics

Using visualisation to describe market data.

A wide range of charts are existed for visualizations which makes market segments more user friendly. Describing market segments using graphical statistics have two key advantages.

· It simplifies the interpretation of results.

· It intergrates information on the satistical significance of differences.

Nominal and ordinal descriptor variables

Nominal descriptor variables are categorical in nature that doesn't have any intrinsic order.

Eg: Gender, Country of origin etc.

Ordinal descriptor variables are also categorical type of data that posses certain order .

Eg: level of education, Rank etc.

Generally we use the cross tabulation method to describe the differences between market segments with one single nominal or ordinal descriptor.
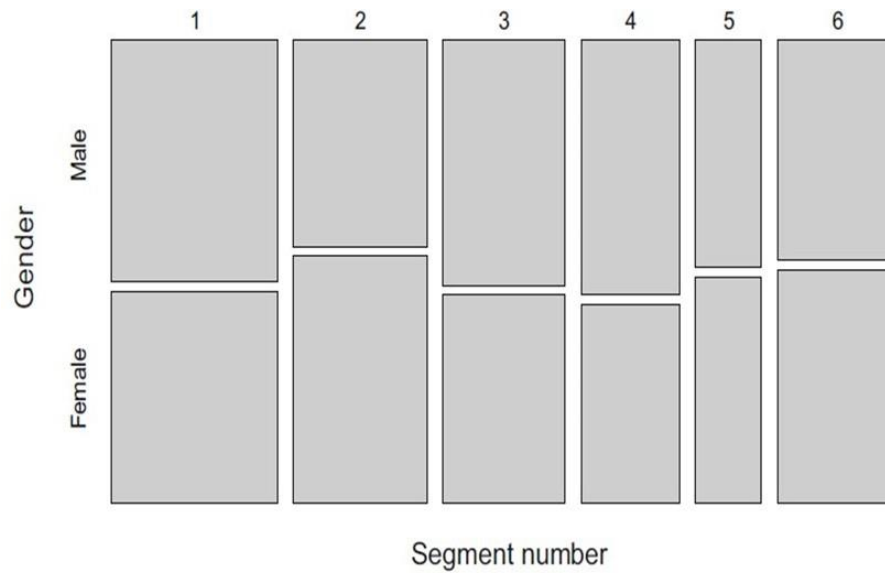
In the below example

```
                Gender
Segment number  Male  Female
            1   125      110
            2    86      103
            3    94       80
            4    78       61
            5    47       47
            6    82       87
```

It is clear from the table that, there are no huge gender differences across segments. Visualising

the table using stack bar chart
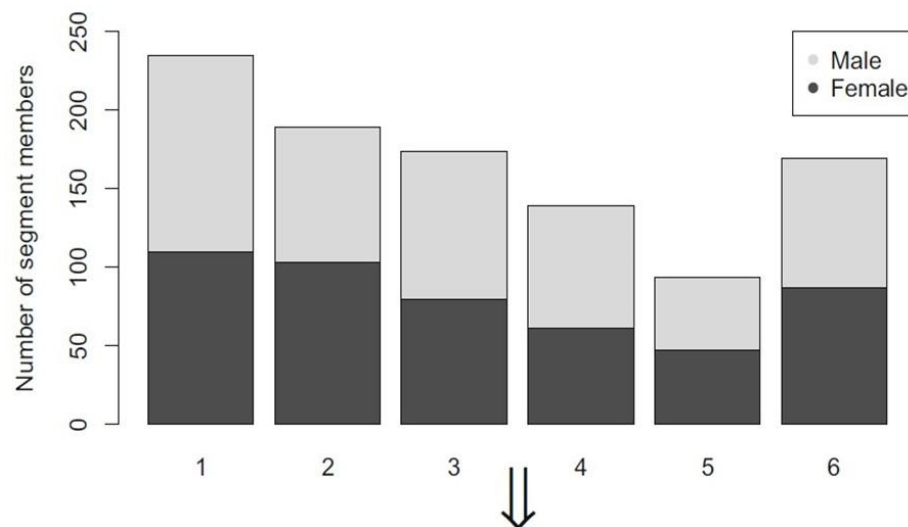
In this above graph we can't compare the proportions of male and female across the segments. The solution of this problem is **mosaic chart**

The width of the bar segment indicates the absolute size of the segment. The column for segment5 is much narrower in the bottom plot than the column for segment 1.
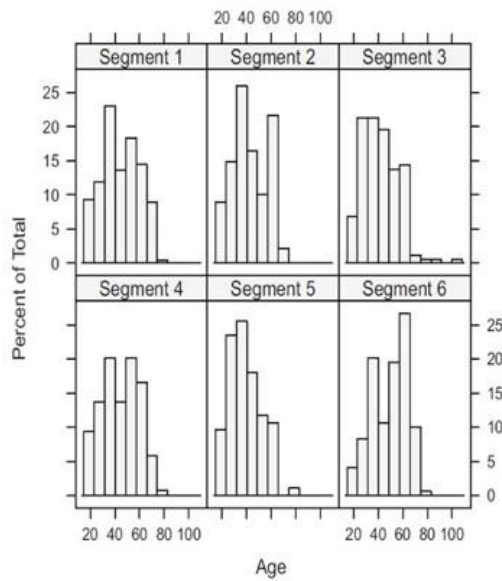
Metric descriptor variable

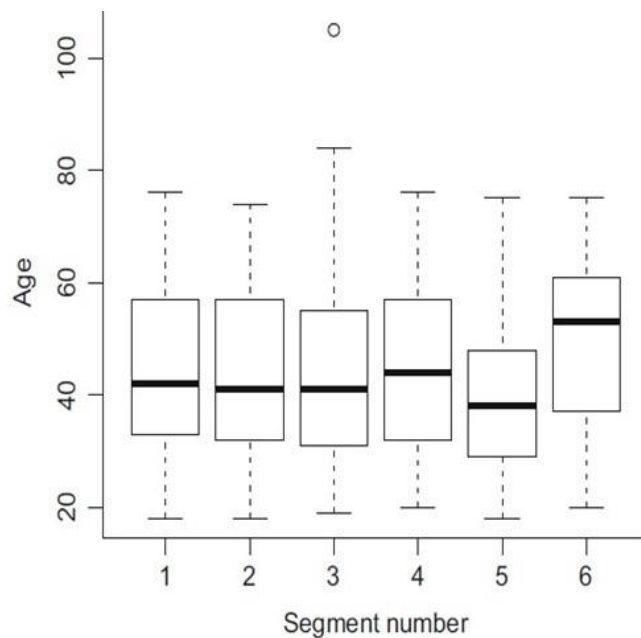A set of figures or statistics that describes the variable or measures the results.

Eg: age ,temperature,price etc

Histograms ,box and whisker plots are generally used to describe these numerical descriptors.

Histogram visualisation

Box and whisker plots

Testing for segment differences in descriptor variables.

There are different statistical tests to find the difference between descriptor variables across market segments.

χ^2 test = If compare two categorical variables

t_test = If compare the categorical with two classes with numerical variable

Anova test = If compare the categorical with more than two clasess with numerical variables

Pearson correlation = If compare the two numerical variables.

General steps for all the tests

State the null and alternative hypothesis

It is a concept in Inferential statistics that we are making inferences and drawing conclusions from the ideas and hypotheses.

Find the p_value.

P_value is the probability of rejecting null hypothesis.

Significant value ,$\alpha= 0.05$

If the $p < 0.05$ reject null hypothesis. If

$p>0.05$ fail to reject null hypothesis.

If we reject null hypothesis implies there is statistical significant difference between the concered descriptor across segments.

In ANOVA we need to find F_statistic too

$$F\_\text{statistic} = \frac{MS\ Between}{MS\ within}$$

F_statistic compare how much variation our model accounts with how much it can't. The larger the F is ,the more information our model is able to give us about our net accessibility.

If H_a is true then $F_{stat} = \frac{MS\ between}{MS\ within} > 1$

If H_o is true then $F_{stat} = \frac{MS\ between}{Ms\ within} \sim 1$

Larger our F_statistic ,more the evidence we have the alternative hypothesis is true and null hypothesis is false

$MS_{between}$ = Mean square between market segments

MS_{within} = Mean square within market segments

H_a = alternative hypothesis

H_o = null hypothesis

Predicting segments from descriptive variables.

Predicting segment membership from descriptor variables is another way of learning market segments.

We can use various regression and classification machine learning algorithms like

·   Binary Logistic regression

·   Multinomial Logistic regression

·   Tree Based Models

·   Linear regression

·   CART(classification and Linear Regression Trees)

Regression models are used for continuous outputs and classification models are used for categorical outputs .Here segment membership is independent variable and descriptors are dependent variables.

Step-8:SELECTING THE TARGET SEGMENT(s)

Step-8(Selecting the target segment) is the procedure of selecting the target segment. In step-8, one or more of market segment that were described in step-7, needs to be selected for targeting. For this, firstly the segmentation team needs to check that segmentation has passed the knock-out criteria test. After this, the second task is to evaluate the attractiveness and competitiveness of remaining segments. For this, most books suggest to use decision matrix like – Boston matrix, General Electric/MC Kinsey matrix, Directional policy matrix etc. In decision matrix two criteria are plotted along the axis that are – segment attractiveness and relative organizational competitiveness. Segment attractiveness is plotted along x-axis and relative organizational competitiveness along y-axis. To determine the attractiveness value to be used in segment evaluation plot for each segment, the segmentation team needs to assign a value for each attractiveness criterion to each segment. The value of segment attractiveness criterion for each market segment is determined by market segmentation team based on profiles and descriptions resulting from steps 6 and 7. For each segment, the rating is multiplied with the weight and all

weighted attractiveness values are added. The same procedure is followed for relative organizational competitiveness. Then in the last, the segments are plotted in form of bubbles.

Step 9: MARKETING MIX CONCEPTS

Marketing mix is one of the fundamental concepts in marketing management. It is the macro level analysis in which how the market decision affects the customer. A customer segment is mainly defined by 4 c's, they are

Customer

It defines attributes of customer,like what kind of product they are looking for, what are the geographical and psychological aspects.

Cost

Cost defines, how much cost the customer willing to bear.

Convenience

Getting products at convenient time and convenient place.

Communication

The medium which customer able to understand about the product.

For attracting consumers and providing them satisfaction ,every manufacturer has to concentration four basic elements generally called "4 p's".

· PRODUCT

· PRICING

· PROMOTION

· PLACE(DISTRIBUTION)

A fair combination of these marketing elements is called marketing mix. Each of these p's cater to each of the above mentioned c's.

Product

Anything the marketer offers in the market which can be purchased called as product. A product is the core of marketing mix. It includes tangible goods as well as intangible goods like services and ideas. Manufacturer create the **product** by thinking about the **customer**.

Price

Price is the exchange value of product i.e the amount for which the product is bought or sold. **Price** determined by the manufacturer and the **cost** which customer can be afforded should be balanced each other.

Pricing decision is mainly depend on

· Cost Of Product

· Objective Of Marketer

· Economic Condition

· Competition

Promotion

It is the persuasive communication about the product offered by the manufacturerto the prospect. **Promotion** of the product must be an understandable medium of **communication** for customers.

Promotion mix mainly includes

Advertising

Publicity

Sales

Promotion

Salesmanship

Place

Delivery of goods at right time and at right place to the consumers. Positioning orplace of the products, whether it is online store or retail store that must be a convenient mean for customer.S

Place includes

·   Types of intermediaries available for distribution.

·   Channels of distribution.

·   Transportation, warehousing and inventory control for making products available to the consumers.

Github link:

1. Salvador

   https://github.com/salvaderron/Feynn_Labs_Internship/blob/034b9c9992c3d f12975cc9a76165a87112f66450/McDoanlds_Case_Study_Task2.ipynb

2. Aanchal Gupta

https://github.com/aanchal8959/python-programming/blob/main/Untitled5.ipynb

3. Keerthana

   https://github.com/KEERTHANA-S-K/feynlabml/blob/main/McDonalds_case_study.ipynb

4. Santosh Kumar

   https://github.com/santosh-843492/Feynn-MC-Donald-case-study

5. Dhruv Gala

   https://github.com/DG2803/MACDONALD-CASE-STUDY

6. Abhishek Pal

https://github.com/abhishekpal7630/8Queens-Problem/blob/main/Step_7_of market_segmentation_R_to_Python.ipynb