Market Segmentation Analysis: An Overview

Market segmentation is an important procedure for organizations looking to customize their marketing campaign and product lines to specific groups of consumers. It consists of partitioning a general consumer or business market, often made up of present and potential customers, into smaller groups of consumers on the basis of some form of common characteristics. It assists companies in developing personalized marketing campaigns that address the distinctive needs and preferences of each subgroup.

The process of market segmentation can be broken down into several steps, each addressing specific aspects of the analysis. Steps 1, 2, and 3 comprise the core of a solid segmentation strategy, whereby the segments are both effective and implementable.

Step 1: Market Segmentation Strategy

Goal and Purpose-:

Step 1 is about establishing the worth of a segmentation strategy to an organization. It starts with knowing why segmentation is required in the market and what the larger goals that segmentation will contribute to be. An organization must understand that segmentation is not merely dividing consumers into groups; it is about developing relevant, actionable segments that result in improved marketing decisions.

Critical Actions in Step 1-:

- Commitment to Segmentation: The Company needs to first commit to discovering and making use of market segmentation approaches. This is because through effective segmentation, it can result in better targeting, greater customer satisfaction, and higher revenue.
- Setting Organizational Goals: The subsequent step is clearly determining the company objectives and goals. This encompasses realizing the organizational strength, product or service offering, and competitive edges. Segmentation must align with the company strategic objectives.
- Identifying Segmentation Variables: By this stage, the firm must begin establishing the segmentation variables through which they will segment the market (geographic, demographic, psychographic, or behaviour-related characteristics).
- Stakeholder Buy-In: Senior management and decision-makers have to be engaged in the early stages of segmentation. Their input guarantees that the segmentation aligns with overall organizational goals and allows for easier implementation within the organization.

Step 2: Specifying the Ideal Target Segment

Target Segment Specification

Step 2 extends the foundation established in Step 1 by defining the optimal target segment. This entails analysing the segments developed in Step 1 and deciding which segments are best to target. This process is assisted by two kinds of criteria:

Knock-Out Criteria: These are rigid criteria that segments must satisfy to be considered for further assessment. If a segment fails to satisfy these criteria, it is ruled out automatically.

Key knock-out criteria are:

- Homogeneity: The segment ought to possess identical characteristics or needs.
- Distinctiveness: It must be unique compared to other segments.
- Size: The segment ought to be significant enough to be worthy of attention and resources.
- Identifiability and Reachability: The segment ought to be identifiable and accessible via marketing.
- Match with Organizational Strengths: The Company needs to possess the strengths to address the segment's needs.
- Attractiveness Criteria: Once the segments that do not fit are eliminated based on knock-out criteria, the remaining segments need to be assessed in terms of their attractiveness. This involves considering the potential profitability, growth, stability, and whether the segment matches the ability of the company.

Some common attractiveness criteria include:

- Market Growth: Is the segment likely to develop over a period of time?
- Competitive Advantage: Is there a competitive advantage of the company in the segment?
- Profit Potential: Will engaging with the segment bring high payoffs?
- Sustainability: Is the segment consistent in the long run?

Introducing an Organized Process

Step 2 involves a step-by-step process to analyse the segments. A segment analysis plot is usually employed, which graphs segment attractiveness against organizational competitiveness. What the company looks for is segments that are high in growth and profitability potential and match the company's strengths.

Stakeholder Engagement is imperative during this stage. Representatives from different organizational units (marketing, finance, operations) need to be met by the segmentation team to ensure the criteria are aligned with the company's capabilities and goals.

Step 3: Collecting Data

Data Collection for Market Segmentation

Step 3 is concerned with gathering the required data to define and describe the consumer segments. The information collected in this step serves as the basis for learning about each segment's individual characteristics and behaviours.

Key Segmentation Variables

- Segmentation variables are the attributes employed to categorize consumers into different groups. Data-driven segmentation employs several variables to define segments, while common sense segmentation can be based on one characteristic, like gender.
- Socio-demographic Variables: Age, income, education, family size, etc., are employed in segmentation of consumers on the basis of their demographic characteristics.
- Psychographic Variables: Psychographic variables are consumers' values, interests, lifestyles, and motivations. They explain why consumers make particular choices and give insights into consumer behaviour beyond mere demographics.
- Behavioural Variables: These encompass real consumer actions such as purchasing rate, brand loyalty, and usage of products. This form of segmentation is very useful since it is based on real-world behaviour and preferences.

Segmentation Criteria

Organizations need to choose suitable criteria to use in data collection. Some common criteria are:

- Geographic Segmentation: Segmentation of consumers by location, e.g., region, city, or country.
- Socio-Demographic Segmentation: Segmentation of consumers along demographic attributes like age, income, education, etc.
- Psychographic Segmentation: Segmentation of consumers on the basis of personality characteristics, values, and interests.
- Behavioural Segmentation: Segmentation of consumers according to their purchasing behaviour, usage, and brand loyalty.

The selection of criteria will vary with the product or service to be offered and its applicability to the target market. The most applicable criteria must be given the highest priority so that a worthwhile segmentation exercise is carried out.

Data Collection Methods

Data for segmentation may be collected using the following methods:

- Surveys: Surveys are usually employed to gather information about consumer behaviour, attitude, and preferences. Although low-cost, surveys can be biased and proper care should be exercised while designing them to ensure credible data.
- Internal Data: Firms have rich data from in-house resources like purchase history and customer care data. The information provides insights into consumer behaviour but does not necessarily reflect would-be customers.
- Experimental Data: Data collected via controlled tests can tell us about consumer liking, product response, and buying behaviour.

Quality of Data
Data quality is most important. Good data is accurate, reliable, and representative of the target market. Organizations need to make sure they do not get biases in responses to surveys and choose the correct variables for collecting data. Using multiple sources of data, organizations can create a more complete image of the market.

Combining Data for Segmentation
a blend of experiment data, internal data, and survey data allows market segments to be appropriately delineated and close to representing genuine consumer activity. The three sources offer further details about what, why, and how consumers consume.

Step 4: Exploring Data

Main Idea:
Exploratory Data Analysis (EDA) is a critical step that helps in understanding, cleaning, and preparing the dataset before market segmentation is carried out. EDA verifies that the data is correct, consistent, and ready to be analyzed properly.

4.1 First Look at Data

Purpose of EDA:

- Prepares raw data for analysis.
- Cleans
- Helps in the choice of suitable segmentation techniques.
- Indicates the type of data, e.g., pattern of distribution and relationships between variables.

Example Dataset:
Example data set consists of 1,000 Australian citizens' responses to 20 different reasons for their previous holiday.

Access and Reading:
Data set is accessed using the R package MSA or textbook website.
Data is read into R as a data frame to explore with commands to print column labels, dimensions, and summaries.

4.2 Data Cleaning

Importance:

- Makes sure all entries in the data and marks them all the same way.
- Aids in recognizing and fixing categorical and numerical variable issues.

Typically Performed Checks:

- Numerical Ranges:
  Ages should, reasonably, have ranges between 0 and 110, etc.

- Categorical labels:
  Standard formats should be included in the values of genders, such as "Male" or "Female".
- Reordering Categories:
  Some categories of the categorical variables should sometimes be restructured to appropriately display or examine them.

4.3 Descriptive Analysis
Objective:
Establishing a detailed understanding of data in order not to misinterpret at downstream steps.

Tools Used:

- Numerical summaries: such as mean, median, standard deviation.
- Graphs: Histograms, boxplots, and dot plots are used to display distributions and detect outliers.

Examples:

1. Histograms indicate numeric value distribution.
2. Boxplots give summaries in terms of medians, quartiles, and potential outliers.

4.4 Pre-Processing
For Categorical Data:

- Merge categories if too many small categories are present.
- Convert categories into numerical codes as needed.

For Numeric Data:
Standardization is applied to ensure the variables have an equal contribution to analysis, particularly when variables are of different scales.

4.5 Principal Components Analysis (PCA)
Purpose:
PCA reduces dimensionality by transforming original variables into new, uncorrelated components that capture the majority of variation in the data.
How It Helps:

- Emerges structure in dense datasets.
- Allows visualization and leads to identification of meaningful patterns.

Interpretation of Results:

- PCA results report variance explained by each principal component.
- The first two are usually plotted to establish relationships between data points.

Step 5: Extracting Segments

Main Idea:
Here, attention is to classify consumers into productive segments from patterns among data. It is a ground-breaking process as a result of vagueness of consumer databases. Algorithm and dataset are prominent determiners of success or failure of segmentation.

Segmentation Techniques

1. Distance-Based Methods

- They partition similar individuals according to similarity among points.
- Common Distance Metrics: Euclidean, Manhattan, and binary distance.
- Hierarchical Clustering: Creates a cluster tree (dendrogram) from an array of linkages like single, complete, or average.
- K-Means Clustering: Splits data into k clusters according to centroids. Quick but initialization-sensitive and needs spherical clusters.

2. Partitioning Methods

- It positions each point in one of a fixed set of segments.
- K-Means: Very widely used, but sensitive to random initial points.
- Better Versions: Apply hard competitive learning, neural gas, and self-organizing maps that impose stability or expose underlying patterns.

3. Hybrid Approach

- Hybridize the best of several approaches for greater efficiency.
- Two-Step Clustering: Applies k-means to data reduction initially and hierarchical clustering subsequently.
- Bagged Clustering: Applies bootstrapped samples to prevent instability and expose small or unforeseen segments.

4. Model-Based Methods

- Model the data as if they were gathered from a combination of statistical models (e.g., Gaussian models).
- Finite Mixture Models: Estimates the probability that a specific consumer belongs to each segment.
- EM Algorithm: Applied for recovering the models' estimates.
- Model Selection Criteria: AIC, BIC, and ICL assist with selecting the best number of segments.
- They are generic algorithms and yield probabilistic assignment instead of hard clustering.

Step 6: Profiling Segments

Objective:
Having established segments in the market, the next step is to describe and define each segment in detail. Converting analysis findings into effective marketing action relies on this exercise.

8.1 Segment Characteristics: Knowing Why Profiling is Necessary

Why Profiling is Necessary:

- Assists marketers in familiarizing themselves with each segment's distinguishing characteristics.
- Good profiling results in effective communication and planning.

Downfalls:

- Too long or irregular reports unnecessarily.
- Unreasonable, rushed presentations.
- Unclear tables that are hard to understand.

8.2 Classic Profiling Methods

Example Data:
Australian travel reasons data, segmented using neural gas clustering.
Profiling Method:

- Usually entails displaying mean variable values per segment in long tables.
- These tables must be compared manually, and therefore it is difficult to find segment discriminating features.
- Statistical tests are sometimes abused, giving meaningless conclusions.

Downsides:

- Time-consuming to read.
- Not very visually attractive.
- Doesn't emphasize significant differences either.

8.3 Profiling With Visual Tools

Benefits of Visualization:

- Facilitates the comprehension of segment properties.
- Captures intuitive sense of segment and population differences.

Important Visual Tools:

Segment Profile Plot:

- Refers to what differentiates each segment from the whole sample.
- Hierarchical clustering is employed in grouping variables with comparable relationships, and trends become concrete.

- Marker variables are emphasized for the recognition of chief features.

Segment Separation Plot:

- Refers to the level of separation of the segments by dimensions.
- Assists in examining if segments are mutually exclusive or overlapping.
- Assists in ascertaining the quality and structure of the segmentation.

Step 7: Describing Segments

7.1 Constructing a Wider Insight into Segments

Purpose:

Identifying segments means to enhance the segmentation result by examining other, non-segmentation variables—i.e., descriptor variables. Descriptive variables inform the creation of customized marketing actions for each category.

Descriptor Variables:

Variables that are not employed in segmentation but useful for description. Examples:

- Demographics: age, sex
- Behaviour: past purchases, travel history
- Financial: money spent

Why It Matters:

Knowledge of segment profiles outside segmentation variables lies at the heart of:

- Strategic planning
- Successful marketing mix construction
- Successful communication

7.2 Visualization Tools for Describing Segments

Advantages of Visualizations:

- Make difficult data easier to understand
- Identify statistically significant differences between segments

Standard Visualization Methods:

- Mosaic Plots: Used ideally for visualizing relationships with categorical or ordinal data.
- Box-and-Whisker Plots: Used most appropriately for comparing distribution of numeric variables (e.g., income, age) across segments

Illustrations:

1. Gender distribution by segment mosaic plot
2. Age difference across segments boxplot

7.3 Statistical Testing of Segment Differences

Objective:

To examine if differences obtained between descriptor variables across segments are statistically significant.

Key Statistical Tests:

Chi-Square (χ^2) Test: Tests relations between categorical variables (e.g., gender vs. membership in a segment)

ANOVA (Analysis of Variance): Tests mean differences for numeric descriptors (e.g., age, attitudes) between segments

7.4 Predicting Segment Membership

Why Predict?

Predictive models assist in identifying the probable segment a consumer belongs to base on descriptor variables—helpful to reach new or potential customers.

Regression-Based Methods:

- Binary Logistic Regression: Two-segment issues
- Multinomial Logistic Regression: Multi-segment classification
- Visualizations (e.g., effect plots) are helpful for understanding model behaviour

Tree-Based Methods:

Classification and Regression Trees (CARTs):

- Select important predictors automatically
- Simple to interpret in terms of visual flowcharts

Example: Conditional inference tree showing which variables define membership in a specific segment

Step 8: Selecting the Target Segment(s)

Purpose of Step 8:

Step 8 is the selection of one or more target market segments out of those developed during earlier steps in segmentation. This is a marketing and business outcomes-influenced long-term strategy decision.

Things to Bear in Mind:

- Target market segments that are to be targeted must already satisfy the above knock-out criteria (e.g., homogeneity, size, distinctiveness, fit with the organization's offer, identifiability, and reachability).
- Segments that fail these tests must be eliminated from consideration.

Evaluation Framework:
Two basic questions direct segment selection:

- How appealing to our firm is the segment?
- How appealing to the segment is our firm?

These are employed to pose segment attractiveness and organizational competitiveness, respectively.

Decision Matrix Tool:

A segment screening chart is utilized to present segments graphically.

Segments are graphed on a matrix:

- X-axis: Segment attractiveness to firm.
- Y-axis: Attractiveness of the organization to the segment.
- Bubble size: Refers to other factors such as profit potential or strategic value.

Calculation Method:

- Segment attractiveness and competitiveness are measured against pre-set criteria.
- Each criterion has a weight.
- Segments are graded against each criterion.
- Weighted scores are computed by multiplying the weight by the grade.
- A total of these provides the overall attractiveness and competitiveness scores for plotting.

Decision-Making Insight:

- Upper-right quadrant segments (high on attractiveness and competitiveness) are optimal to target.
- Segments with high attractiveness and low competitiveness can, in theory, be improved upon strategically prior to targeting.
- Segments with low scores on either or both dimensions generally are not targeted.

Step 9: Customising the Marketing Mix

This chapter explains how the marketing mix (4Ps: Product, Price, Place, Promotion) should be modified according to the specific characteristics of a target market segment. It underlines that segmentation is not a standalone process but closely linked to targeting and positioning in the wider STP (Segmentation-Targeting-Positioning) framework.

9.1 Implications for Marketing Mix Decisions

- The original marketing mix (Borden's 12 ingredients → McCarthy's 4Ps) must be adapted according to the demands of the chosen segment.
- Segmentation leads to targeting (the most viable segments are chosen), and then there is positioning (differentiating the product in the mind of the buyer).

- All the components of the marketing mix must be decided upon after the process of segment selection.

9.2 Product

- Product choices mean modifying or re-designing existing products rather than manufacturing new ones.
- Illustration: For segment 3 (cultural tourists in Australia), a product like "MUSEUMS, MONUMENTS & MUCH, MUCH MORE" can be created.
- Include naming, packaging, guarantees, and after-sales service as elements of product strategy.

9.3 Price

- Segment-based pricing depends on factors like price sensitivity and spending behaviour.
- No discounting required; value-based pricing can be used instead.

9.4 Place

- Distribution strategy needs to be aligned with the way the segment prefers to buy or book.
- Segment 3 tourists prefer online booking. Thus, creating online versions of the cultural package imperative.
- Maximize and monitor all distribution channels based on consumer behaviour.

9.5 Promotion

- Segment-specific insights guide message content and media selection.
- Segment 3 tour participants utilize tourist centres and watch Channel 7.
  Promotion to target:
  - Local tourist centres (offline versions + online versions).
  - TV advertisements on preferred viewing TV channels.
  - Culturally relevant, contextual messaging that fits into their interests.

Step 10: Evaluation and Monitoring

10.1 On-going Activities in Market Segmentation

Market segmentation is not an isolated activity of choosing target segments and developing a marketing mix.

The most significant activities are:

- Check Effectiveness: Periodically check if the segmentation strategy is yielding the anticipated results, i.e., rising profits or realization of organizational objectives. If not, reassess the strategy.
- Watch for Changes in the Market: Keep an eye on changes in the behaviour of consumers, the market, and competitors. This can be done through frequent team review or data mining software.

10.2 Measuring the Success of the Segmentation Strategy

- Short-Term Goals: In corporations, the short-term objective is usually higher profits, whereas in non-profits, the objective could be numbers such as donations or volunteer involvement.
- Long-Term Orientation: Assess the organization's image and capacity to satisfy consumer requirements. An effective segmentation strategy has to create a competitive edge through the strengthening of the brand position in the marketplace.

10.3 Segment Membership Stability and Segment Hopping

- Segment Membership Changes: The memberships of consumers could change over time. The instability will then create challenges in utilizing effective marketing measures.
- Segment Hopping: Customers may change segments due to shifting needs or promotions. Awareness of this trend is important for effective targeting and realigning marketing strategies.
- Implications: Companies need to be cognizant that customer behaviour is dynamic and realign their strategies to accommodate the changes. Awareness of customers who hop between segments (segment hoppers) can lead to more effective marketing.

10.4 Segment Evolution

- Dynamic Nature of Segments: Segments change because consumer behaviour, product offerings, and competitive positions are changing. Organizations need to keep pace with such changes so that their strategies remain valid.
- Tracking Systems: Having systems for tracking changes in the market makes it possible to detect changes at an early stage and allows immediate adjustment of strategy.
- Frameworks for Change: Tools such as the MONIC framework and Oliveira and Gama's taxonomy offer ways of expressing segment change so that organizations can respond effectively to changes in the market.

Replication of McDonald's Case Study:-

https://github.com/ANIKETGUP3838/McDonald-s-Case-Study