

## **Feynn Labs – Task 2**

# **Market Segmentation Analysis – Case Study**

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### **Steps:**

1. Deciding (not) to Segment
2. Specifying the Ideal Target Segment
3. Collecting Data
4. Exploring Data
5. Step: 9 Customising the Marketing Mix

## **Step 1: Deciding (not) to Segment**

### **1.1 Implications of Committing to Market Segmentation**

- Think of market segmentation like a long-term relationship. It's not just a short fling; it requires a serious commitment. This commitment means being ready to make big changes and investments over time.
- Cahill emphasizes that segmentation isn't free, with costs associated with research, surveys, and adjustments in product, pricing, and communication strategies.
- Pursuing market segmentation may necessitate changes in product development, pricing, distribution channels, and communication strategies, influencing the internal structure of the organization.
- Due to the significant implications, the decision to pursue market segmentation must be made at the highest executive level and communicated consistently throughout the organization to ensure alignment and commitment.

### **1.2 Implementation Barriers**

#### **Barriers:**

- Senior management
- Organisational culture
- Lack of training

#### **1.2.1 Senior management**

Lack of active leadership and commitment from senior management can hinder successful market segmentation. Without their support, it's hard for the marketing team to implement segmentation effectively.

Insufficient resources provided by senior management, both for the initial analysis and long-term implementation of segmentation, can impede progress.

### **1.2.2. Organisational culture**

Cultural factors like resistance to change, poor communication, and short-term thinking within the organization can prevent successful segmentation. When communication isn't good between different parts of the company, and when everyone is only thinking about short-term gains, it can stop market segmentation from working well. Also, if the company's culture doesn't encourage adapting to changes or if there's too much office politics, it can get in the way of successful market segmentation.

### **1.2.3. Lack of training**

Lack of understanding of segmentation concepts among senior management and the segmentation team can lead to failure. Proper training and expertise are crucial for successful implementation. If a company doesn't have someone who knows marketing well, it can make market segmentation harder, especially if the company is big or deals with a lot of different markets. Also, not having someone skilled at managing and analyzing data can be a big problem. Sometimes, a company might have limits that get in the way, like not having enough money or not being able to change the way things are set up. Like Beane and Ennis said, when a company doesn't have many resources, it has to focus on the best opportunities.

It's important to identify and proactively remove barriers to segmentation success. If barriers persist, reconsidering the feasibility of segmentation as a strategy is advisable. Implementing segmentation requires a strong sense of purpose, patience, and dedication. It's essential to anticipate and address the challenges that may arise during implementation.

## **Step 2: Specifying the Ideal Target Segment**

### **2.1 Segment Evaluation Criteria**

- User input is crucial throughout the segmentation analysis process, not just at the beginning or end. Their involvement helps shape the technical aspects of the analysis.
- After committing to segmentation in Step 1, the organization must contribute significantly in Step 2 by defining segment evaluation criteria.
- Two sets of criteria are crucial: knock-out criteria and attractiveness criteria.
- Knock-out criteria are essential features that segments must meet for consideration.
- Attractiveness criteria evaluate the relative appeal of segments complying with knock-out criteria.
- We talk about these criteria in two groups because they're different. The shorter knock-out criteria are super important. The segmentation team can't decide how much they matter; they're a must. The second group, attractiveness criteria, is longer and more varied. It's like a shopping list for the team. The team chooses which of these criteria they'll use to judge how good potential segments are. They also decide which criteria matter most. Knock-out criteria remove some segments automatically, but

attractiveness criteria are chosen by the team and used to decide how attractive each segment is in Step 8.

## **2.2. Knock-Out Criteria**

- Knock-out criteria are used to determine if market segments resulting from segmentation analysis qualify for assessment using attractiveness criteria.
- Kotler (1994) initially proposed three knock-out criteria: substantiality, measurability, and accessibility (Tynan and Drayton 1987).
- Other authors, such as Wedel and Kamakura (2000), Lilien and Rangaswamy (2003), and McDonald and Dunbar (2012), have suggested more criteria over time.
- The segment must be homogeneous, meaning members are similar to each other.
- The segment must be distinct, with members being distinctly different from members of other segments.
- The segment must be large enough to justify customizing the marketing mix.
- The segment must match the strengths of the organization in satisfying members' needs.
- Members of the segment must be identifiable and reachable in the marketplace.
- Knock-out criteria must be understood by senior management, the segmentation team, and the advisory committee.

## **2.3. Attractiveness Criteria**

- Attractiveness criteria are additional factors considered by the segmentation team when evaluating market segments.
- Unlike knock-out criteria, attractiveness criteria are not binary. Segments are not simply classified as complying or not complying with these criteria.
- The collective attractiveness across all criteria influences the selection of market segments as target segments in Step 8 of the segmentation analysis. Segments with higher overall attractiveness are more likely to be chosen as target segments.

## **2.4. Implementing a Structured Process**

- A widely adopted method for assessing market segments for target selection involves using a segment evaluation plot
- A popular method for evaluating market segments is using a segment evaluation plot, which shows segment attractiveness against organizational competitiveness.
- The segmentation team determines the values for segment attractiveness and organizational competitiveness since there is no universally applicable set of criteria for all organizations.
- By the conclusion of this step, the market segmentation team should possess a list of approximately six segment attractiveness criteria.
- Each criterion should be assigned a weight, reflecting its relative importance to the organization when compared to other criteria.

## Step 3: Collecting Data

### 3.1. Segmentation Variables

- Market segmentation relies on empirical data to identify and describe market segments.
- Segmentation variables split the sample into segments (e.g., gender), while descriptor variables describe these segments (e.g., age, vacation habits, benefits sought).
- Commonsense segmentation uses one variable, while data-driven segmentation uses multiple variables to identify or create segments.
- Segmentation studies gather empirical data from various sources, including surveys, observations like scanner data linked to individual customer purchase histories through loyalty programs, and experimental studies.

### 3.2. Segmentation Criteria

- The term "segmentation variable" pertains to a single measured value, like an item in a survey or an observed expenditure category.
- On the other hand, "segmentation criterion" refers to the nature of information employed in market segmentation, including specific constructs like benefits sought.
- The most common segmentation criteria are:
  - 1. Geographic:** Geographic segmentation is one of the earliest segmentation criterion, typically relies on the consumer's residential location as the sole basis for forming market segments.
  - 2. Socio-demographic:** Common socio-demographic segmentation criteria encompass age, gender, income, and education. These criteria prove valuable in certain industries, sometimes providing insights into specific product preferences.
  - 3. Psychographic:** Psychographic segmentation categorizes individuals based on psychological factors like beliefs, interests, preferences, aspirations, or desired product benefits. This approach is more intricate than geographic or socio-demographic criteria, often requiring multiple variables to capture the diverse psychographic dimension.
  - 4. Behavioural:** Various behaviours, such as prior product experience, purchase frequency, and amount spent per occasion, can be employed for segmentation. Behavioural approaches offer a key advantage by using actual behaviour, rather than stated or intended behaviour, as the basis for segment extraction.

### 3.3 Data from Survey Studies:

Surveys are a common and cost-effective way to collect data for market segmentation. They involve asking a set of questions to a sample of individuals to gather insights into their characteristics, preferences, behaviours, and opinions. This information is then used to create segments. Within this category, there are several key considerations:

#### 3.3.1 Choice of Variables:

When designing a survey, it's important to choose the right variables or characteristics to study. These variables should be relevant to the segmentation goals, such as demographic details (age, gender, income), psychographic traits (attitudes, lifestyle), and behavioral patterns (purchase frequency, brand loyalty).

### **3.3.2 Response Options:**

Surveys present respondents with response options, such as multiple-choice answers or rating scales. The design of these options can impact the accuracy and usefulness of the collected data. Careful consideration should be given to ensure that response options accurately capture respondents' perspectives.

### **3.3.3 Response Styles:**

Surveys are susceptible to response biases where answers reflect a respondent's style rather than the content. This can lead to misinterpretation of data, such as falsely identifying a high-value market segment. Minimizing response style biases is critical for accurate market segmentation.

### **3.3.4 Sample Size:**

The number of respondents in a survey, known as the sample size, should be large enough to provide statistically significant results. The sample should also be representative of the target population to ensure the findings can be generalized.

## **3.4 Data from Internal Sources:**

Internal data sources refer to data that an organization already possesses, such as customer databases, sales records, and transaction histories. This data can provide insights into past consumer behaviour, purchase patterns, and interactions with the company. Utilizing internal data can be advantageous as it reflects real customer interactions.

## **3.5 Data from Experimental Studies:**

Experimental studies involve manipulating certain variables to observe their impact on consumer behaviour. These studies provide insights into cause-and-effect relationships. For example, a company might test different marketing strategies to see how they influence customer preferences and buying decisions.

## **Step 4: Exploring Data**

In Step 4 of the market segmentation process, the focus shifts to exploring and understanding the collected data before proceeding to segment formation. This phase involves various techniques and analyses to make the data more manageable, meaningful, and suitable for subsequent segmentation tasks. Let's delve into the details of each sub-section:

### **4.1 A First Glimpse at the Data:**

At the outset, it's crucial to get an initial overview of the collected data. This involves examining the data's structure, format, and content. Preliminary observations help identify potential issues, such as missing values, outliers, or inconsistencies, which may require further investigation and cleaning.

## 4.2 Data Cleaning:

- Purpose: To improve data quality by removing or correcting inaccuracies.
- What It Involves: - Handling Missing Data: Deciding whether to fill in missing values (imputation), drop them, or mark them. - Removing Duplicates: Identifying and eliminating duplicate records. - Correcting Errors: Fixing data entry errors or inconsistencies. - Dealing with Outliers: Identifying and potentially removing outliers that could skew the results.
- Libraries Used: Pandas
- Processes: - Handling Missing Data: Filling (`df.fillna()`) or dropping (`df.dropna()`) missing values. - Removing Duplicates: Using `df.drop_duplicates()`. - Correcting Errors: Applying functions to columns to correct data (`df['column'].apply(lambda x: ...)`). - Outlier Handling: Identifying outliers using statistical methods and possibly removing them.

## 4.3 Descriptive Analysis:

Descriptive analysis involves summarizing and visualizing the data to gain insights into its distribution and characteristics. This step helps identify patterns, trends, and relationships among variables. Techniques such as histograms, bar charts, and scatter plots can provide a clearer understanding of the data's nature.

## 4.4 Pre-Processing:

- Purpose: To transform raw data into a format more suitable for modeling.
- What It Involves: - Feature Encoding: Converting categorical data into numerical format (e.g., one-hot encoding). - Feature Scaling/Normalization: Scaling features to a uniform range (e.g., 0-1 scaling, standardization). - Splitting Data: Dividing data into training and test sets. - Feature Engineering: Creating new features from existing ones to improve model performance.
- Libraries Used: Pandas, Scikit-learn
- Processes: - Feature Encoding: Using `pd.get_dummies()` for one-hot encoding or `LabelEncoder` and `OneHotEncoder` from Scikit-learn. - Feature Scaling/Normalization: Utilizing `StandardScaler` or `MinMaxScaler` from Scikit-learn. - Splitting Data: Employing `train_test_split` from Scikit-learn to divide the dataset. - Feature Engineering: Creating new features using Pandas operations.

## 4.5 Principal Components Analysis (PCA):

- PCA transforms a dataset containing multiple variables into a new set of variables called principal components. These components are uncorrelated and ordered by importance, with the first component capturing the most variability, followed by the second, and so on.
- PCA maintains the relative positions of observations (such as consumers) in the dataset while altering the perspective or angle from which the data is viewed. The dimensionality of the new dataset remains the same as the original, but it's seen from a different viewpoint.

- PCA operates on the covariance or correlation matrix of numeric variables. If variables have similar scales and data ranges, the covariance matrix can be used. Otherwise, the correlation matrix is preferred, which standardizes the data.
- In R, the `prcomp()` function is used to perform PCA. By default, the data is centered but not standardized, which is appropriate when variables are binary. The result of `prcomp()` provides information such as the standard deviations of principal components, indicating their importance, and the rotation matrix specifying the transformation from the original data to the principal components.

## **Step 9: Customising the Marketing Mix**

Customizing the Marketing Mix is the phase in market segmentation where tailored marketing strategies are developed to engage specific target segments effectively. This step focuses on understanding the distinct characteristics and preferences of each segment, and then adapting the product, pricing, distribution, and promotional tactics accordingly. By analyzing the data gathered in previous steps, businesses can create personalized experiences that resonate with the needs and desires of each segment. This approach enhances customer satisfaction and loyalty, ultimately driving business growth. Regular monitoring and adjustments ensure that the marketing mix remains aligned with evolving market trends and consumer preferences.

### **9.1 Implications for Marketing Mix Decisions**

- Marketing originally comprised a toolbox of strategies to enhance product sales, encompassing elements like product planning, pricing, advertising, and more. Initially proposed by Borden in 1964, this toolbox included 12 ingredients, later condensed into the famous 4Ps: Product, Price, Promotion, and Place by McCarthy in 1960.
- Market segmentation is not a standalone strategy but is closely intertwined with other marketing areas, particularly positioning and competition. It's often viewed within the Segmentation-Targeting-Positioning (STP) approach, which involves segmenting the market, targeting specific segments, and then positioning products to meet their needs.
- By tailoring each element of the marketing mix to the unique requirements of each segment, businesses can enhance customer satisfaction, build stronger relationships, and increase their competitive advantage in the marketplace.

### **9.2 Product**

- When developing the product aspect of the marketing mix, organizations need to align their offerings with customer needs. This may involve modifying existing products rather than creating entirely new ones.
- Other decisions within the product dimension include naming the product, packaging it attractively, deciding on warranties, and offering after-sales support services.
- For Segment 3, product measures could involve creating a new product tailored to their interests, like a "MUSEUMS, MONUMENTS & MUCH, MUCH MORE" package with an activities pass. Alternatively, destinations could focus on making existing attractions, like gardens, more appealing to this segment by proactively promoting them.

### 9.3 Price

- Organizations need to decide on the price of their products and whether to offer discounts. Using the example of a destination targeting segment 3 from the biclustering analysis of Australian vacation activities dataset. The segment membership is determined using the bicluster solution obtained.
- Segment 3 members tend to have higher vacation expenditures per person per day. This suggests that the destination doesn't need to offer discounts for products targeted at this segment. Instead, there may be potential to charge a premium price for specialized products tailored to this segment's interests.
- The price element of the marketing mix involves setting prices that align with the preferences and perceived value of different market segments. Strategic pricing decisions based on market segmentation insights can enhance customer satisfaction, drive sales, and contribute to the overall success of a product or service in the market.

### 9.4 Place

- Place refers to the distribution channels through which a product or service is made available to customers.
- It involves decisions related to the selection of distribution channels, logistics, inventory management, and ensuring that the product is available at the right place and time for customers to purchase.
- Place also considers factors like retail outlets, online presence, and geographic reach.

### 9.5 Promotion

- Promotion is a critical component of the marketing mix that involves communicating with target market segments to create awareness, interest, and desire for a product or service. Market segmentation guides promotional efforts by helping businesses tailor their messaging and communication channels to effectively reach and engage different customer segments.
- Furthermore, market segmentation informs the selection of communication channels, ensuring that promotional efforts are directed to the platforms and media most frequented by each segment. This could involve using social media, influencers, traditional advertising, or other channels based on segment behaviors and preferences. By customizing promotion strategies according to market segments, businesses can enhance the effectiveness of their communication efforts and establish stronger connections with their target audiences.

## Case Study – McDonald – Market Segmentation Analysis

### **GitHub Links:**

[https://github.com/Pacchu04/Feynn-Labs/blob/main/Market%20Segmentation%20using%20Machine%20Learning/Market\\_Segmentation\\_Analysis\\_McDonalds.ipynb](https://github.com/Pacchu04/Feynn-Labs/blob/main/Market%20Segmentation%20using%20Machine%20Learning/Market_Segmentation_Analysis_McDonalds.ipynb)