



# Project-2

## **McDonalds Case Study**

(MARKET SEGMENTATION ANALYSIS)

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## Step 1: Deciding (not) to Segment

Market segmentation is a long-term strategy that requires a significant commitment from an organization. The first step is to decide whether or not to segment the market at all. This decision should be based on a number of factors, including the organization's culture, willingness to change, long-term perspective, openness to new ideas, communication across organizational units, ability to make significant changes, and financial resources.

If the organization decides to proceed with market segmentation, the next step is to secure visible commitment from senior management, active involvement of senior management in the analysis, required financial commitment, and understanding of the market segmentation concept and its implications. The organization should then put together a team of 2-3 people to conduct the analysis. The team should include a

marketing expert, a data expert, and a data analysis expert. The team should also set up an advisory committee representing all affected organizational units.

Once the team is in place, the next step is to define the objectives of the market segmentation analysis. The team should then develop a structured process to follow during the analysis and assign responsibilities to team members using the structured process. Finally, the team should ensure that there is enough time to conduct the analysis without time pressure.

By following this checklist, organizations can increase their chances of successfully implementing a market segmentation strategy.

Here are some additional tips for implementing a successful market segmentation strategy:

- Use a variety of data sources to gather information about your target market.

- Use statistical analysis to identify meaningful segments.
- Develop a marketing mix that is tailored to each segment.
- Monitor the effectiveness of your segmentation strategy and make adjustments as needed.

## Step 2: Specifying the Ideal Target Segment

In this step, the organization must determine two sets of criteria for evaluating market segments:

- Knock-out criteria are essential, non-negotiable features of segments that the organization would consider targeting.
- Attractiveness criteria are used to evaluate the relative attractiveness of the remaining market segments.

The organization must also decide how to weight each of the attractiveness criteria.

### Knock-Out Criteria

The following are some examples of knock-out criteria:

- The segment must be large enough.
- The segment must be growing.
- The segment must be profitable.
- The segment must be accessible.

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The segment must be compatible with the organization's strengths and resources.

## Attractiveness Criteria

The following are some examples of attractiveness criteria:

- The segment's size.
- The segment's growth rate.
- The segment's profitability.
- The segment's accessibility.
- The segment's compatibility with the organization's strengths and resources.
- The segment's competitive intensity.
- The segment's technological change.
- The segment's regulatory environment.
- The segment's social and cultural trends.

## Implementing a Structured Process

There are a number of different ways to implement a structured process for evaluating market segments. One common approach is to use a segment evaluation plot. A segment evaluation plot is a two-dimensional graph that shows the segment attractiveness and organizational competitiveness of each market segment.

The organization can use the segment evaluation plot to identify the market segments that are most attractive and that it is most likely to be competitive in. The organization can then select one or more of these market segments as target markets.

# Selecting Target Markets

The organization should select target markets that are:

- Attractive.
- Competitive.
- Compatible with the organization's strengths and resources.

The organization should also consider the following factors when selecting target markets:

- The organization's mission and goals.
- The organization's current market position.
- The organization's financial resources.
- The organization's management team's experience and expertise.
- The organization's marketing mix.

## Step 3: Collecting Data

In this step, the organization must collect data on the market segments that it has identified. This data can be collected from a variety of sources, including:

- Surveys
- Observations
- Experimental studies

The data should be collected in a way that allows the organization to:

- Describe the segments in detail
- Compare the segments to each other

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Evaluate the segments' attractiveness

## Segmentation Variables

The segmentation variables are the characteristics of the market segments that the organization will use to describe and compare them. Some common segmentation variables include:

- Demographics (age, gender, income, education)
- Psychographics (values, lifestyles, attitudes)
- Behavior (purchase behavior, media habits)

## Data Quality

The quality of the data is critical to the success of the market segmentation process. The data should be accurate, reliable, and representative of the market.

## Data Analysis

The data collected in Step 3 will be analyzed to identify the market segments. This analysis can be done using a variety of statistical techniques, such as cluster analysis and discriminant analysis.

## Market Segmentation Report

The results of the market segmentation analysis will be summarized in a report. The report should include the following information:

- A description of the market segments
- A comparison of the market segments
- An evaluation of the market segments' attractiveness

The market segmentation report will be used by the organization to make decisions about its marketing strategy.

## Step 4: Exploring Data

In this step, we will explore the data that we have collected. This will help us to understand the data better and to identify any potential problems.

We will use a variety of methods to explore the data, including:

- **Histograms:** Histograms are a way of visualizing the distribution of data. They can help us to see if the data is normally distributed, or if it is skewed.
- **Boxplots:** Boxplots are another way of visualizing the distribution of data. They can help us to see the median, quartiles, and outliers of the data.
- **Scatterplots:** Scatterplots are a way of visualizing the relationship between two variables. They can help us to see if there is a correlation between the variables.
- **Correlation matrices:** Correlation matrices are a way of summarizing the correlations between all of the variables in the data set. They can help us to identify which variables are correlated with each other.

## Data Cleaning

Before we can start exploring the data, we need to make sure that it is clean. This means that we need to identify and correct any errors in the data.

Some common errors in data include:

- **Missing values:** Missing values are values that are not present in the data.
- **Outliers:** Outliers are values that are very different from the rest of the data.
- **Duplicate values:** Duplicate values are values that appear multiple times in the data.

We can use a variety of methods to clean the data, including:

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Imputation: Imputation is a way of filling in missing values.

- Outlier detection: Outlier detection is a way of identifying outliers.
- Duplicate removal: Duplicate removal is a way of removing duplicate values.

## Data Exploration

Once the data is clean, we can start exploring it. We will use the methods described above to get a better understanding of the data.

Some of the things that we will look for when exploring the data include:

- The distribution of the data: We will look at the histograms and boxplots to see how the data is distributed.
- The relationships between the variables: We will look at the scatterplots and correlation matrices to see how the variables are related to each other.
- Outliers: We will look for outliers in the data.
- Missing values: We will look for missing values in the data.

## Data Visualization

Data visualization is a powerful tool that can help us to understand the data better. We can use a variety of methods to visualize the data, including:

- Histograms
- Boxplots
- Scatterplots
- Correlation matrices
- Heatmaps
- Treemaps



- Bubble charts
- Line charts
- Bar charts
- Pie charts

We will use these methods to create visualizations that help us to understand the data better.

## Step 5: Extracting Segments

This step involves extracting market segments from the data. This can be done using a variety of methods, but the most common are distance-based methods, model-based methods, and algorithms integrating variable selection with the task of extracting market segments.

Distance-based methods use a distance measure to group consumers who are similar to each other. The most common distance measure is Euclidean distance, which measures the distance between two points in Euclidean space. Other distance measures include Manhattan distance, Hamming distance, and Jaccard distance.

Model-based methods use statistical models to group consumers. The most common model-based method is cluster analysis. Cluster analysis uses a variety of algorithms to group consumers into clusters. The most common cluster analysis algorithms are k-means clustering, hierarchical clustering, and densitybased clustering.

Algorithms integrating variable selection with the task of extracting market segments use a combination of distance-based methods and model-based methods to extract market segments. These algorithms are typically used when the number of variables is large.

The choice of which method to use depends on the data and the desired characteristics of the segments. For example, if the data is well-structured and the desired segments are compact, then k-means clustering may be a good choice. If the data is not well-structured and the desired segments are heterogeneous, then hierarchical clustering may be a better choice.

Once the segments have been extracted, they need to be evaluated. This can be done by examining the characteristics of the segments and by comparing the segments to the ideal target segment. If the segments are not satisfactory, then the segmentation process may need to be repeated.

## **STEP 6: PROFILING SEGMENTS**

This step involves profiling the identified market segments to get a better understanding of their defining characteristics. This step is necessary for datadriven segmentation solutions and not required for common sense segmentation. In this step, traditional approaches to profiling market segments are discussed, and segment profiling with visualizations is explained.

Data-driven market segmentation solutions can be difficult to interpret, and many marketing managers struggle with understanding them. This can lead to difficulties in correctly interpreting segmentation results, which can ultimately affect the effectiveness of marketing strategies. Therefore, good profiling is critical to correctly interpreting and utilizing data-driven market segmentation solutions.

### **IDENTIFYING KEY CHARACTERISTICS**

Identifying key characteristics of market segments is crucial for accurate interpretation of the resulting segments. This can be done by inspecting a number of alternative market segmentation solutions and comparing the segments to each other. Segment separation can also be assessed to ensure that the identified segments are distinct from each other.

## **CASE STUDY USED**

In this step, the authors use an example of tourists in Australia and ask them about their vacation activities. The majority of tourists state that they are being motivated by rest and relaxation. However, this may not differentiate a segment from other market segments. Therefore, at the profiling stage, the authors inspect a number of alternative market segmentation solutions. This is particularly important if no natural segments exist in the data, and either a reproducible or a constructive market segmentation approach has to be taken. The aim of profiling is to identify the defining characteristics of market segments with respect to the segmentation variables. Profiling consists of characterizing the market segments individually but also in comparison to the other market segments. Good profiling is the basis for correct interpretation of the resulting segments, which is critical to making good strategic marketing decisions.

## **VISUALIZATION IN PROFILING**

Visualizations can aid in segment profiling by presenting data in an easily interpretable format. Various types of visualizations are discussed in this step, such as

- Scatterplots
- Radar charts
- Heatmaps

A checklist is provided for this 6<sup>th</sup> step to guide marketers through the profiling process, which includes identifying key characteristics, assessing segment separation, and using visualizations to describe the market segments.

Proper profiling is important for correct interpretation of the resulting segments and making informed strategic marketing decisions.

## STEP 7: DESCRIBING SEGMENTS

This step focuses on describing the segments identified in the previous step. The goal is to develop a complete picture of each segment, including their demographic, psychographic, behavioural, and consumption characteristics.

### VISUALIZATION IN DESCRIBING MARKET SEGMENTS

Visualizations are an effective way to communicate the results of this analysis. The type of visualization used will depend on the type of descriptor variables used in the segmentation analysis.

For nominal and ordinal descriptor variables,

- bar charts
- pie charts are used

While for metric descriptor variables,

- histograms
- box plots
- scatter plots are used

### TESTING FOR SEGMENT DIFFERENCES

Descriptor variables are characteristics that are used to describe the segments, such as demographics, psychographics, and behaviour.

To test for segment differences, the authors recommend using statistical methods such as ANOVA or chi-square tests. These tests can determine if there are significant differences between the segments on the descriptor variables. If there are significant differences, this can provide important insights into what distinguishes the segments from each other.

They caution against drawing conclusions based on small sample sizes or on statistical significance alone, without considering practical significance or effect size. They also recommend using multiple tests and considering the results in conjunction with other data and insights.

## **PREDICTING SEGMENTS FROM DESCRIPTOR VARIABLES**

Two types of regression methods commonly used for this purpose:

- Binary logistic regression
- Multinomial logistic regression

Binary logistic regression is used when the dependent variable has only two categories, while multinomial logistic regression is used when there are three or more categories.

The steps involved in using these regression methods for segment prediction are also explained. These steps include

- Selecting the appropriate independent variables
- Specifying the model
- Estimating the coefficients
- Evaluating the model's goodness of fit

The book provides examples of how to perform these steps using software such as SPSS and R.

The use of tree-based methods for predicting market segments are also discussed. Tree-based methods involve creating a decision tree that splits the data into increasingly homogeneous groups based on the values of the independent variables.

## **STEP 8:- SELECTING THE TARGET SEGMENTS**

In Step the big decisions are made. Informed by all the insights gained during the entire market segmentation analysis, the time has come to commit. Of the many available market segments, one or a small number have to be chosen and declared target segments.

This critical step builds on the segments extracted in Step [5](#), profiled in Step [6](#), and described in Step [7](#), as well as on the segment attractiveness criteria

selected and weighted in Step [2](#). The process requires the involvement of the segmentation team and the advisory committee because decisions made at this point will result in a long-term organisational commitment affecting all organisational units.

Imagine, for example, that the BIG SPENDING CITY TOURIST emerged as one of the very distinct and attractive segments from a market segmentation analysis, but the destination conducting the analysis is a nature based destination in outback Australia. The chances of this destination meeting the needs of the highly attractive segment of BIG SPENDING CITY TOURIST are rather slim. Optimally, therefore, all the market segments under consideration in Step 8 should already comply with the knock-out criteria.

In other words, the segmentation team has to ask a number of questions which fall into two broad categories:

- 1) Which of the market segments would the organisation most like to target? Which segment would the organisation like to commit to?
- 2) Which of the organisations offering the same product would each of the segments most like to buy from? How likely is it that our organisation would be chosen? How likely is it that each segment would commit to us?

Answering these two questions forms the basis of the target segment decision.

#### • **Market Segment Evaluation**

Most books that discuss target market selection (e.g., McDonald and Dunbar [1995](#); Lilien and Rangaswamy [2003](#)), recommend the use of a decision matrix to visualise relative segment attractiveness and relative organisational competitiveness for each market segment.

Many versions of decision matrices have been proposed in the past, and many names are used to describe them, including: Boston matrix (McDonald and Dunbar [1995](#); Dibb and Simkin [2008](#)) because this type of matrix was first proposed by the Boston Consulting Group; General Electric / McKinsey matrix (McDonald and Dunbar [1995](#)) because this extended version of the matrix was developed jointly by General Electric and McKinsey; directional

policy matrix (McDonald and Dunbar [1995](#); Dibb and Simkin [2008](#)) ; McDonald four-box directional policy matrix (McDonald and Dunbar [1995](#)) ; and market attractiveness-business strength matrix (Dibb and Simkin [2008](#)) .

The aim of all these decision matrices along with their visualisations is to make it easier for the organisation to evaluate alternative market segments, and select one or a small number for targeting. It is up to the market segmentation team to decide which variation of the decision matrix offers the most useful framework to assist with decision making.

Whichever variation is chosen, the two criteria plotted along the axes cover two dimensions: segment attractiveness, and relative organisational competitiveness specific to each of the segments. Using the analogy of finding a partner for life: segment attractiveness is like the question Would you like to marry this person? Given all the other people in the world you could marry. Relative organisational competitiveness is like the question. Would this person marry you? Given all the other people in the world they could marry.

In this example, we use a generic segment evaluation plot that can easily be produced in R. To keep segment evaluation as intuitive as possible, we label the two axes How attractive is the segment to us? and How attractive are we to the segment? We plot segment attractiveness along the x-axis, and relative organisational competitiveness along the y-axis. Segments appear as circles. The size of the circles reflects another criterion of choice that is relevant to segment selection, such as contribution to turnover or loyalty.

Target segment is a crucial step in market segmentation analysis, and it requires careful evaluation and consideration of various factors to identify the segments that offer the greatest potential for the company's success.

The target segments in Market Segmentation Analysis consists of:

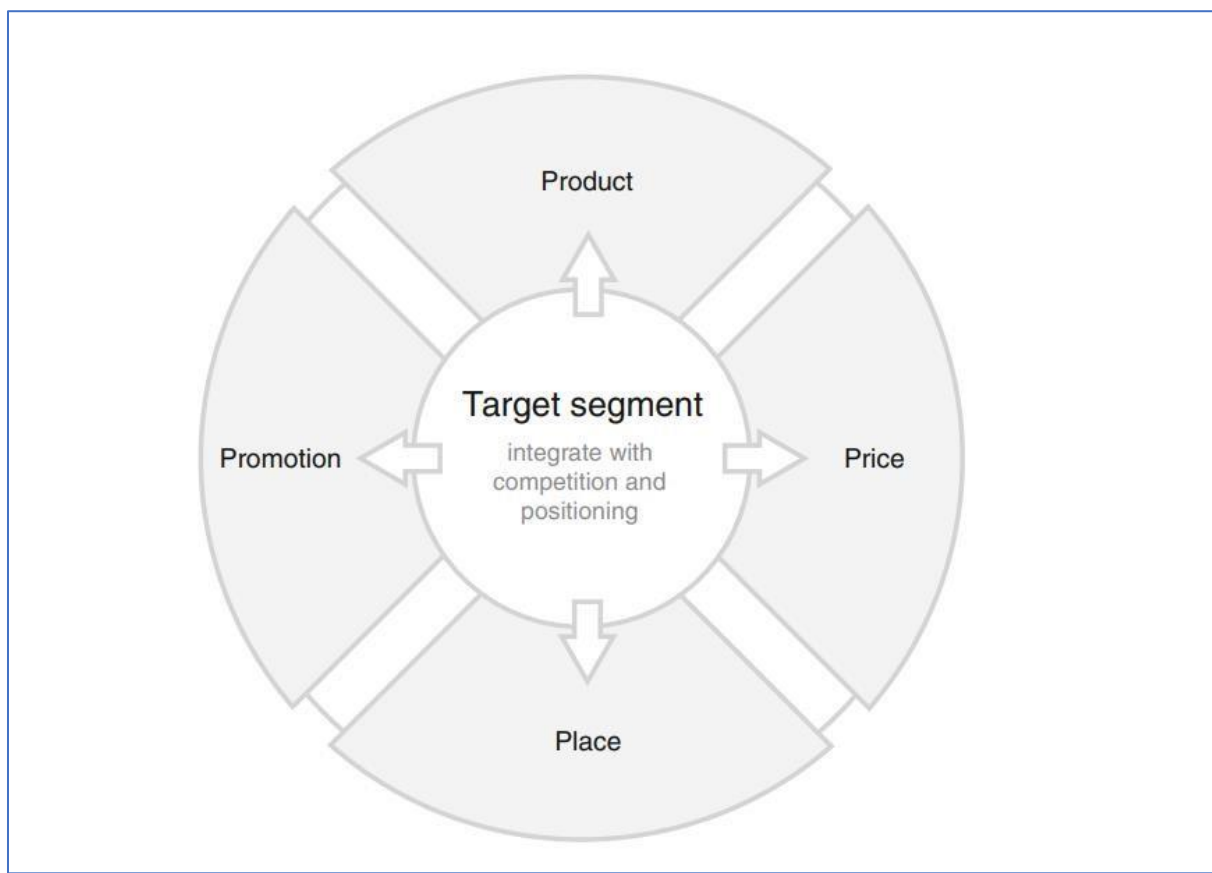
- 1) Evaluate the potential of each segment based on criteria such as market size, growth potential, profitability, competition, and fit with company objectives and resources.
- 2) Identify the segments that are most attractive and align with the company's goals and capabilities.
- 3) Assess the company's strengths and weaknesses and determine if it has the resources and capabilities to compete effectively in the chosen segments.
- 4) Develop a marketing mix strategy that addresses the needs and preferences of each target segment.
- 5) Tailor the product , price , promotion and distribution to each segment.
- 6) Monitor and evaluate the performance of each segment regularly and adjust the marketing mix strategy as necessary.
- 7) Be open to changes in the target segments over time based on the changes in the market or the company's objectives and capabilities.

## **STEP 9:- CUSTOMIZING THE MARKETING MIX**

### **Implication for Marketing Mix Decisions:**

Market segmentation is an important component of strategic marketing and is often part of the segmentation-targeting-positioning (STP) approach. The STP approach involves a sequential process, starting with market segmentation, followed by targeting, and finally positioning. However, it is important not to adhere too strictly to the sequential nature of the process, as it may be necessary to move back and forth between segmentation and targeting. The selection of one or more target segments may require customization of the marketing mix, including the design of new products, changes to pricing, selection of distribution channels, and development of new communication and promotion strategies. Market segmentation analysis can be conducted to inform decisions about one of the 4Ps (product, price, place, and promotion), with different segmentation variables being useful for each.





### **Product:**

The product dimension of the marketing mix involves specifying the product based on customer needs, which can involve modifying existing products. Other marketing mix decisions include naming the product, packaging, offering warranties, and after-sales support services. Using biclustering, market segments can be identified to guide product design or modification. For example, targeting segment 3 of the Australian vacation activities data set, which is characterized by their interest in visiting museums, monuments, and gardens, can be accomplished by developing new products, such as a MUSEUMS, MONUMENTS & MUCH, MUCH MORE product, or by proactively making gardens an attraction.

### **Price:**

The authors use biclustering to identify a segment of tourists (segment 3) in the Australian vacation activities data set. They then construct a binary vector containing segment membership for each consumer and create a binary variable indicating if a consumer is assigned to segment 3 or not. The authors use this information to analyze consumer spending on vacation activities by segment, focusing on the price dimension of the marketing mix. They find that members of segment 3 have higher vacation expenditures per person per day than other tourists, suggesting that there may be potential to attach a premium price to certain products.

### **Place:**

The passage discusses the importance of the place dimension in the marketing mix, which includes deciding how to distribute the product to customers. This decision involves considering whether the product should be available online, offline, or both, and whether the manufacturer should sell directly to customers or use intermediaries such as wholesalers or retailers. To make informed decisions about distribution channels, it is useful to gather data on customer booking preferences. In the example given in the book, the survey data from market segmentation analysis is used to determine the booking preferences of a specific segment of customers, which is then used to ensure that the product is bookable through those distribution channels. The `propBarchart` function from the `flexclust` package is used to visualize the stated booking behavior, with specific arguments used to specify the data, segment membership, and columns to be used in the plot

### **Promotion:**

The promotion component of the marketing mix involves developing an advertising message and identifying the most effective way of communicating it, such as through public relations, personal selling, and sponsorship. To determine the best information sources for reaching members of a specific market segment, the use of different information sources and preferred TV stations can be

compared. For example, members of segment 3 in the example rely more frequently on information provided by tourist centres and have a TV channel preference for Channel 7. This information can be used to design the promotion component of the marketing mix, such as by making specific information packs available both in hard copy and online and developing a media plan for maximum exposure to a targeted communication. Visualizations such as propBarchart and mosaic plot can be used to present the data.

### **GitHub Links:**

Vamshi Sudula: <https://github.com/vamshichintu002/fastfoodcasestudy>

Gyanaballav Sahoo: <https://github.com/Gyanaballav/McDonaldsCaseStudy>

Kavin Kumar: <https://github.com/KAVINKUMAR1102/DATA-INVESTIGATION/blob/main/McDonald's%20dataset.ipynb>

Prashanth: <https://github.com/MAntapurkar/McDonaldCaseStudy.git>