

FINAL REPORT

Task 2

Date: 28th March 2023

Abhishek Anand(Team Lead), Ashwani Kumar, Abdul Khader, Nandraj, Ashish Sadan, Ajay Singh

Some Basic Introduction:

Market planning is the process of creating a roadmap for a company's marketing activities. It involves analyzing market trends, identifying target audiences, and developing strategies to reach and engage those audiences.

A marketing plan consists of two components:

1. Strategic
2. Tactical

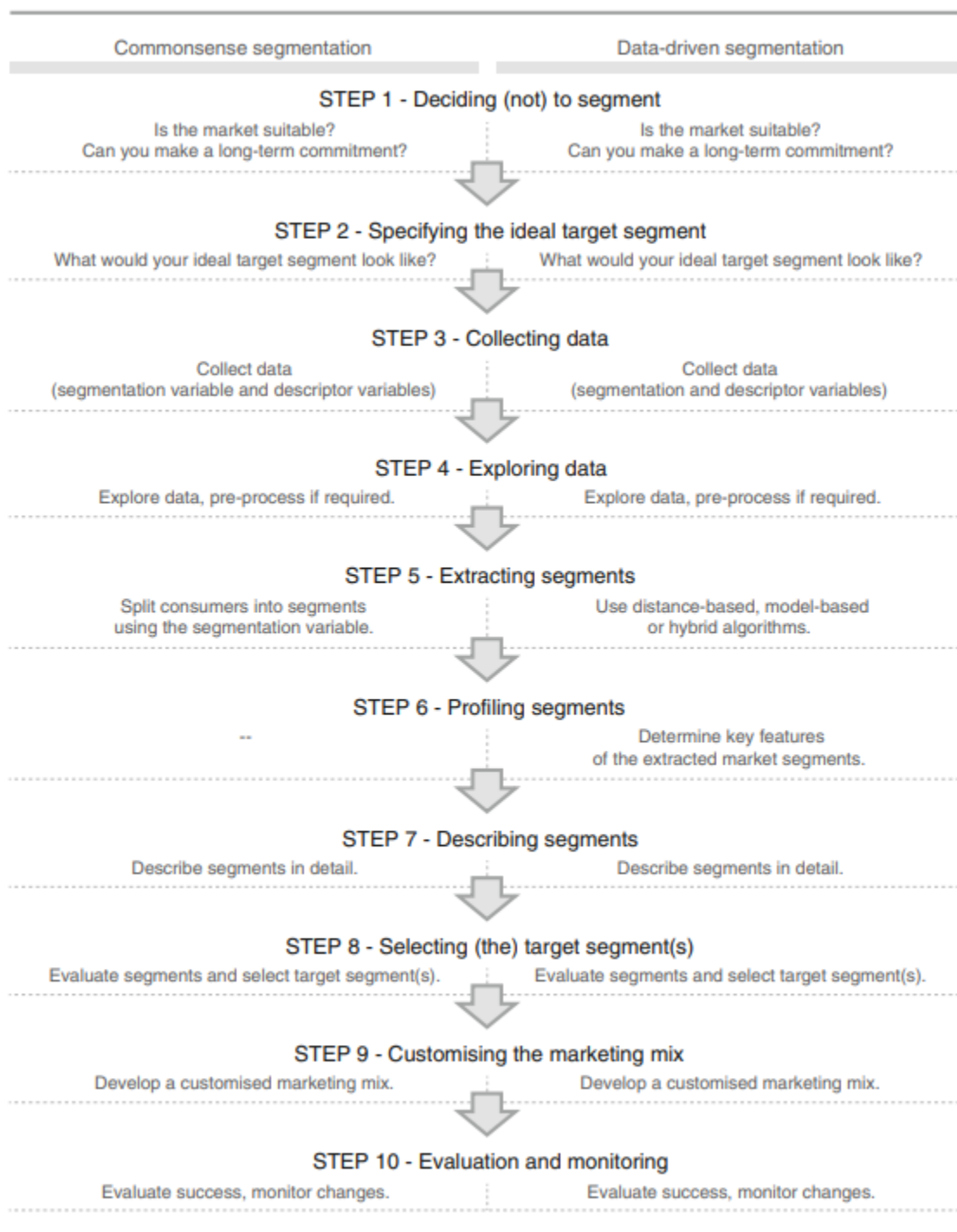
The strategic plan outlines the long-term direction of an organization, but does not provide much detail on short-term marketing action required to move in this long-term direction. The tactical marketing plan does the opposite. It translates the long-term strategic plan into detailed instructions for short-term marketing action.

To conclude: the importance of strategic and tactical marketing for organizational success is asymmetric. Good tactical marketing can never compensate for bad strategic marketing. Strategic marketing is the foundation of organizational success.

Definitions of Market Segmentation:

Market segmentation is the process of dividing a larger market into smaller, more specific groups of consumers who share similar characteristics and needs. This helps companies better understand and target their ideal customers, and tailor their marketing efforts to meet their specific needs. Market segmentation is one of the key building blocks of strategic marketing.

Market Segmentation Analysis Step-by-Step:



Step 1: Deciding (not) to Segment:

Implications of Committing to Market Segmentation

This step emphasizes that while market segmentation is an important marketing strategy used by many organizations, it is not always the best decision to pursue such a strategy. Before investing time and resources into a market segmentation analysis, it is crucial to understand the implications of pursuing a segmentation strategy. One of the most important implications is the long-term commitment required by the organization to make substantial changes and investments. This can include the development of new products, modifying existing products, changing pricing and distribution channels, and adjusting the organization's internal structure. As such, the decision to pursue market segmentation must be made at the highest executive level and systematically and continuously communicated and reinforced at all organizational levels and across all organizational units. It highlights that the costs associated with market segmentation should be justified by the expected increase in sales, and the benefits of market segmentation can be maximized by organizing the organization around market segments rather than products. By doing so, strategic business units can be established to ensure ongoing focus on the changing needs of market segments. Overall, this emphasizes that the decision to pursue a market segmentation strategy requires careful consideration, planning, and ongoing commitment at all levels of the organization.

Implementation Barriers:

The article discusses various barriers that can hinder the successful implementation of a market segmentation strategy in organizations. These barriers can be grouped into five categories: senior management, organizational culture, lack of training, objective restrictions, and process-related barriers. Senior management can hinder the success of market segmentation by not providing enough resources or showing enough leadership, commitment, and involvement in the process. Organizational culture can also present barriers, such as a lack of market or consumer orientation, resistance to change, lack of creative thinking, bad communication, and office politics. Lack of training and expertise in market segmentation and a lack of a formal marketing function or qualified data manager and analyst can also pose problems. Objective restrictions,

such as limited financial resources or inability to make structural changes, can also be barriers, as well as process-related barriers such as a lack of clarity in objectives, bad planning, lack of structured processes, and time pressure. To counteract these challenges, it is important to make market segmentation analysis easy to understand and present results in a way that facilitates interpretation by managers, such as through the use of graphical visualizations. Overall, these barriers can be identified proactively and removed or considered when deciding whether to pursue a market segmentation strategy. A resolute sense of purpose, dedication, patience, and a willingness to appreciate inevitable problems are necessary for successfully implementing market segmentation.

Step 2: Specifying the Ideal Target Segment :

The third layer of market segmentation analysis is dependent on user input, which should be involved in most stages of the process for the analysis to be useful. The organization must determine two sets of segment evaluation criteria in step 2: knock-out criteria and attractiveness criteria. Knock-out criteria are essential and non-negotiable features that must be met, while attractiveness criteria are used to evaluate the remaining segments. The segmentation team needs to select which attractiveness criteria to use and assess their relative importance. Knock-out criteria eliminate some segments automatically, while attractiveness criteria are negotiated by the team and used to determine the overall relative attractiveness of each market segment in step 8. The knock-out criteria used in market segmentation analysis to determine if market segments are eligible for assessment using segment attractiveness criteria. These criteria include substantiality, measurability, accessibility, homogeneity, distinctness, size, matching organization strengths, identifiability, and reachability. These criteria help to identify viable market segments for customization of the marketing mix. While some of the criteria do not require further specification, some need to be specified, such as the minimum viable target segment size. A wide range of segment attractiveness criteria available to the segmentation team, in addition to the knock-out criteria, which are useful for deciding which market segments are most attractive. The attractiveness criteria are not binary; instead, each market segment is rated as more or less attractive based on specific criteria. The overall attractiveness of a segment, based on all criteria, determines whether it is selected as a target segment in the market segmentation analysis. The segmentation literature suggests following a structured process for evaluating market segments,

and the use of a segment evaluation plot is a popular approach. This involves assessing segment attractiveness and organizational competitiveness on two axes, with values determined by the segmentation team based on negotiated and agreed-upon criteria. It is recommended to use no more than six factors for these criteria and to involve representatives from various organizational units in the process. The team should have a list of approximately six weighted segment attractiveness criteria at the end of this step, which will make the task of selecting a target segment in Step 8 easier.

Step 3: Collecting Data:

In commonsense segmentation, the segmentation variable is typically one single characteristic of the consumers in the sample. Describing segments is critical to being able to develop an effective marketing mix targeting the segment. Typical descriptor variables include socio-demographics, but also information about media behavior. The correct description, in turn, makes it possible to develop a customized product, determine the most appropriate pricing strategy, select the best distribution channel, and the most effective communication channel for advertising and promotion.

Geographic Segmentation

Geographic information is a segmentation criterion used for the purpose of market segmentation. when geographic segmentation is used – the consumer's location is considered.

Socio-Demographic Segmentation

Typical socio-demographic segmentation criteria include age, gender, income and education. Sociodemographic segments can be very useful in some industries.

Psychographic Segmentation

When people are grouped according to psychological criteria, such as their beliefs, interests, preferences, aspirations, or benefits sought when purchasing a product, the term psychographic segmentation is used. Psychographic criteria are, by nature, more complex than geographic or socio-demographic criteria because it is difficult to find a single characteristic of a person that will provide insight into the psychographic dimension of interest.

Behavioral Segmentation

Another approach to segment extraction is to search directly for similarities in behavior or reported behavior. A wide range of possible behaviors can be used for this purpose, including

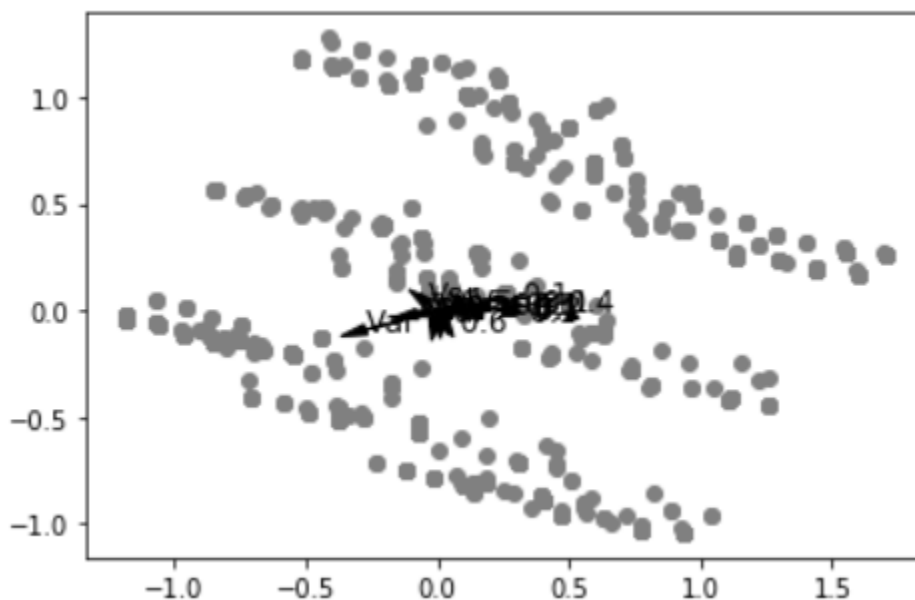
prior experience with the product, frequency of purchase, amount spent on purchasing the product on each occasion (or across multiple purchase occasions), and information search behavior. Survey data is cheap and easy to collect. But survey data can be contaminated by a wide range of biases. Such biases can, in turn, negatively affect the quality of solutions derived from market segmentation analysis. Carefully selecting the variables that are included as segmentation variables in common sense segmentation, or as segmentation variables in data-driven segmentation, is critical to the quality of the market segmentation solution. Developing a good questionnaire typically requires conducting exploratory or qualitative research. Answer options provided to respondents in surveys determine the scale of the data available for subsequent analyses. Survey data is prone to capturing biases. A response bias is a systematic tendency to respond to a range of questionnaire items on some basis other than the specific item content. Increasingly organizations have access to substantial amounts of internal data that can be harvested for the purpose of market segmentation analysis. Typical examples are scanner data available to grocery stores, booking data available through airline loyalty programs, and online purchase data. The strength of such data lies in the fact that they represent actual behavior of consumers, rather than statements of consumers about their behavior or intentions, known to be affected by imperfect memory. The danger of using internal data is that it may be systematically biased by over-representing existing customers. What is missing is information about other consumers the organization may want to win as customers in future, which may differ systematically from current customers in their consumption patterns.

Step 4: Exploring Data: *(by Ashwani Kumar)*

In this section, the importance of exploratory data analysis (EDA) in market segmentation is highlighted. EDA involves cleaning and preprocessing the data and identifying the measurement levels of the variables. It also involves investigating the distribution of each variable and assessing the dependency structures between variables. The results from EDA provide insights into the most suitable segmentation methods for extracting market segments. To illustrate EDA using real data, the authors use a travel motives dataset that contains 20 travel motives reported by 1000 Australian residents in relation to their last vacation. The data is available in a CSV file, which can be accessed through the R package MSA or downloaded from the book's website. The CSV file can be explored using a spreadsheet program before commencing analyses in R. In addition, missing

values need to be handled appropriately. Missing values can occur for a variety of reasons, including non-response, respondents not providing a valid answer, or technical problems during data collection. The most common approach to handling missing values is to impute them, which means replacing the missing values with plausible estimates based on the available data. There are several techniques for imputing missing values, including mean imputation, hot deck imputation, and multiple imputation. Overall, data cleaning is a crucial step in preparing data for analysis, as it ensures that the data is accurate, complete, and consistent. Without proper data cleaning, analysis results may be unreliable and misleading, which can have serious consequences for decision making.

Exploring data Result:



Code Implementation Link:

<https://github.com/Ashwani015/CV/blob/7ab7d8e78a855da959cobb0509d2224b6cbcc190/MCDONALD's.ipynb>

Step 5: Extracting Segments : (by Abdul Khader)

Extracting Segments, the report emphasizes the importance of exploring market segmentation solutions derived from a range of different clustering methods. The report suggests that market segmentation aims at grouping consumers into groups with similar needs or behavior, and then

various clustering algorithms like Kmeans, DBScan, Hierarchical, mean-shift, etc., can be applied to check the results. In contrast, it highlights several important concepts related to segment extraction, including choosing the right segmentation technique, validating segments, developing customer personas, and designing marketing campaigns tailored to each segment's needs and preferences. It emphasizes the importance of accurately extracting segments to develop effective marketing campaigns.

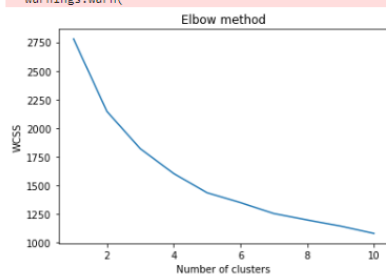
Some of the great insight by Abdul Khader:

```
In [20]: from sklearn.cluster import KMeans

wcss=[]
for i in range(1, 11):
    kmeans = KMeans(n_clusters=i, init='k-means++', random_state=42)
    kmeans.fit(pf)
    wcss.append(kmeans.inertia_)

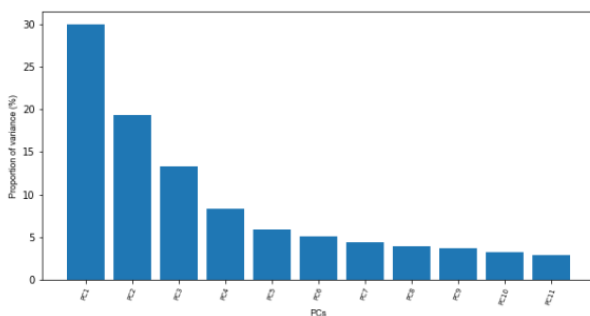
plt.plot(range(1, 11), wcss)
plt.title("Elbow method")
plt.xlabel("Number of clusters")
plt.ylabel("WCSS")
plt.show()
```

C:\ProgramData\Anaconda3\lib\site-packages\sklearn\cluster_kmeans.py:881: UserWarning: KMeans is known to have a memory leak on Windows with MKL, when there are less chunks than available threads. You can avoid it by setting the environment variable OMP_NUM_THREADS=6.
warnings.warn(



```
In [24]: #Scree plot (Elbow test)- PCA
from bioinfokit.vizuz import cluster
cluster.screeplot(obj=[pc_list, pca.explained_variance_ratio_], show=True, dim=(10,5))# get PC scores
pca_scores = PCA().fit_transform(x)

# get 2D biplot
cluster.biplot(cscore=pca_scores, loadings=loadings, labels=dataset.columns.values, var1=round(pca.explained_variance_ratio_[0]*100, 2),
var2=round(pca.explained_variance_ratio_[1]*100, 2), show=True, dim=(10,5))
```



Code Implementation Link:

https://github.com/khaderather/Mcdonalds_Marketsegmentation/blob/6fe8b4df2c02a8b3b33e31333e25f3741288ad1d/Mcdonalds_abdulkhader.ipynb

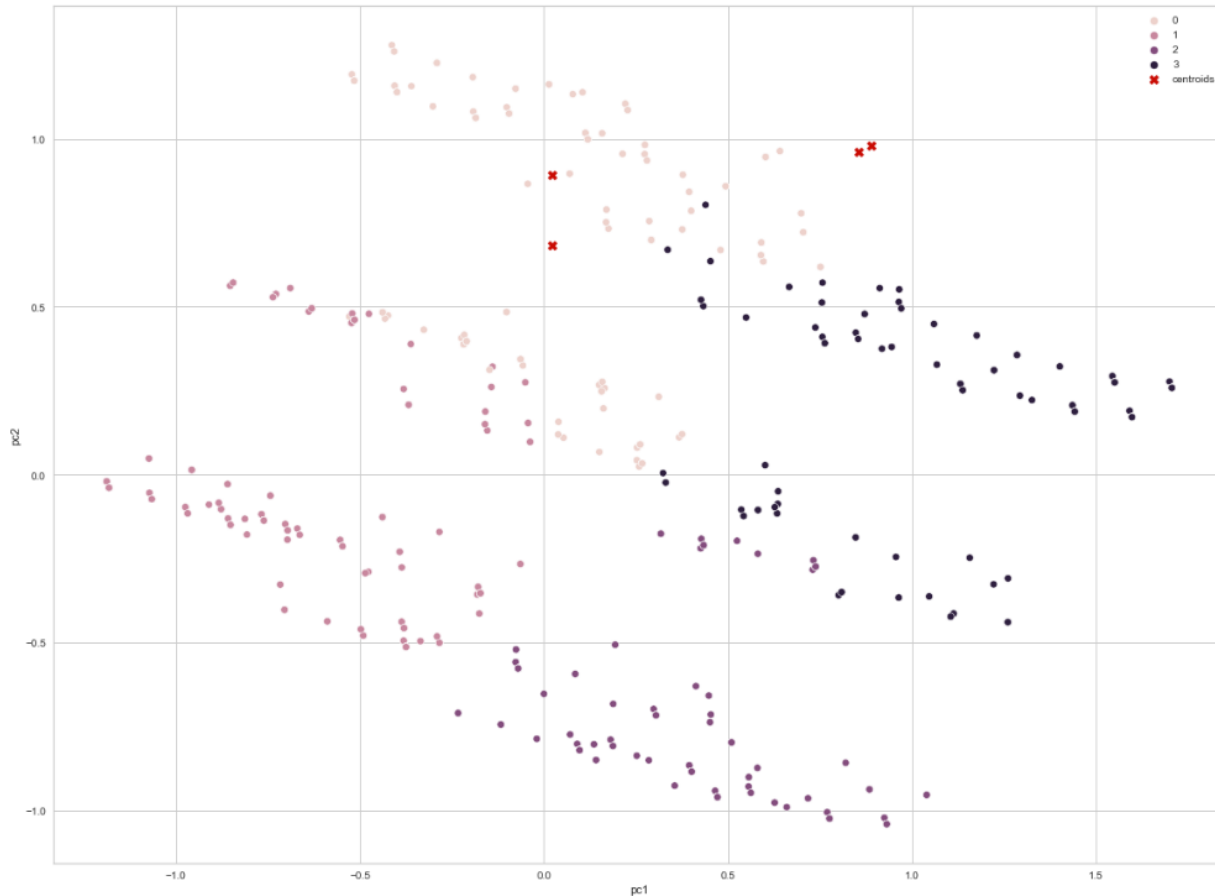
Step 6: Profiling Segments: *(by Nandraj)*

The four market segments were profiled using a segment profile plot and a segment separation plot as the main components of the market segmentation analysis. The segment profile plot, which highlights marker variables to reveal substantial differences between the segment and the entire sample, displays the percentage of respondents within each segment that associate particular attributes with McDonald's. With observations coloured according to segment membership, the segment separation plot displays the centers of each market segment in a two-dimensional space produced by principal components analysis. McDonald's management may compare the characteristics connected with each segment to the entire market using these visualizations and can pinpoint the main distinctions between segments. For example,

- Segment 1 views McDonald's as cheap and greasy, while
- Segment 2 views it as disgusting and expensive.
- Segment 3 believes McDonald's is expensive but also views the food as tasty and yummy, while
- Segment 4 associates McDonald's with positive attributes such as tasty, yummy, and cheap, as well as to some extent healthy. The segment separation plot also shows how the segments differ in their perception of McDonald's price and other attributes.

Segments 1 and 4 view McDonald's as cheap, but segment 4 has more positive beliefs than segment 1. Segments 2 and 3 both agree that McDonald's is not cheap, but differ in their perception of other attributes, with segment 2 holding a less positive view than segment 3. Overall, Step 6 gives McDonald's management a strong knowledge of the nature of the four market groups based on the data utilized to establish these segments. Step 7 involves learning more about the segments in order to design efficient marketing strategies.

End Result:



Code Implementation Link:

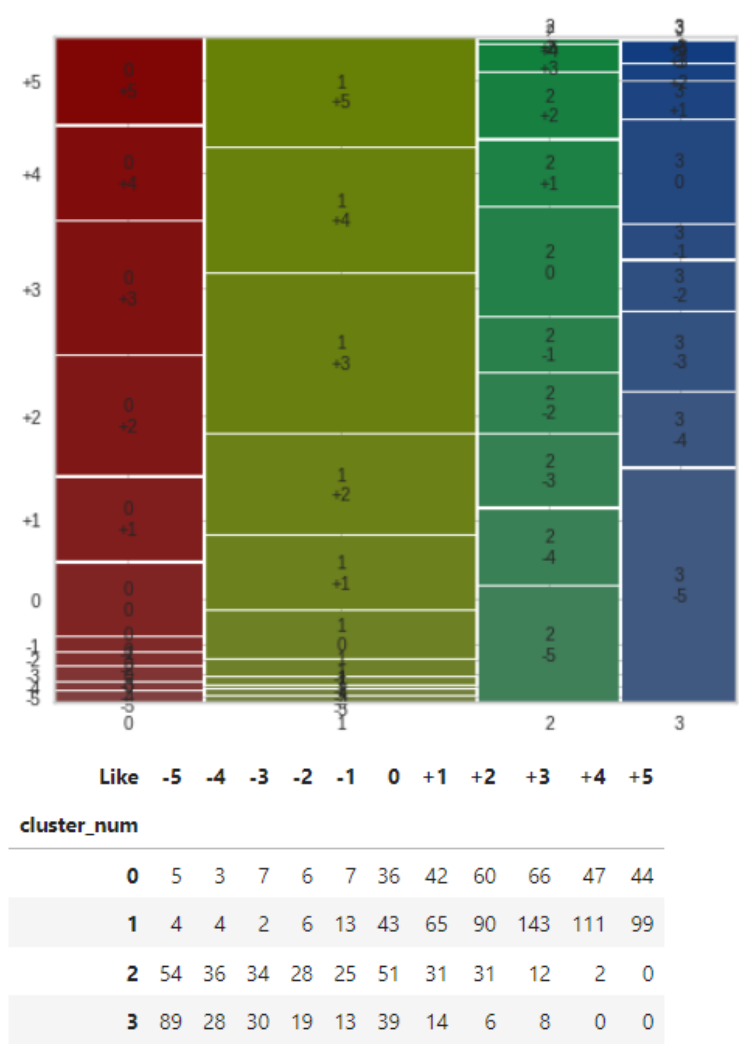
[https://github.com/Nandaraj-m/feynnlabs/blob/main/fast_food_case_study_mcdonalds_\(upto%20step%206%20-%20Nandaraj%20M\).ipynb](https://github.com/Nandaraj-m/feynnlabs/blob/main/fast_food_case_study_mcdonalds_(upto%20step%206%20-%20Nandaraj%20M).ipynb)

Step 7: Describing Segments: *(by Ashish Sadan)*

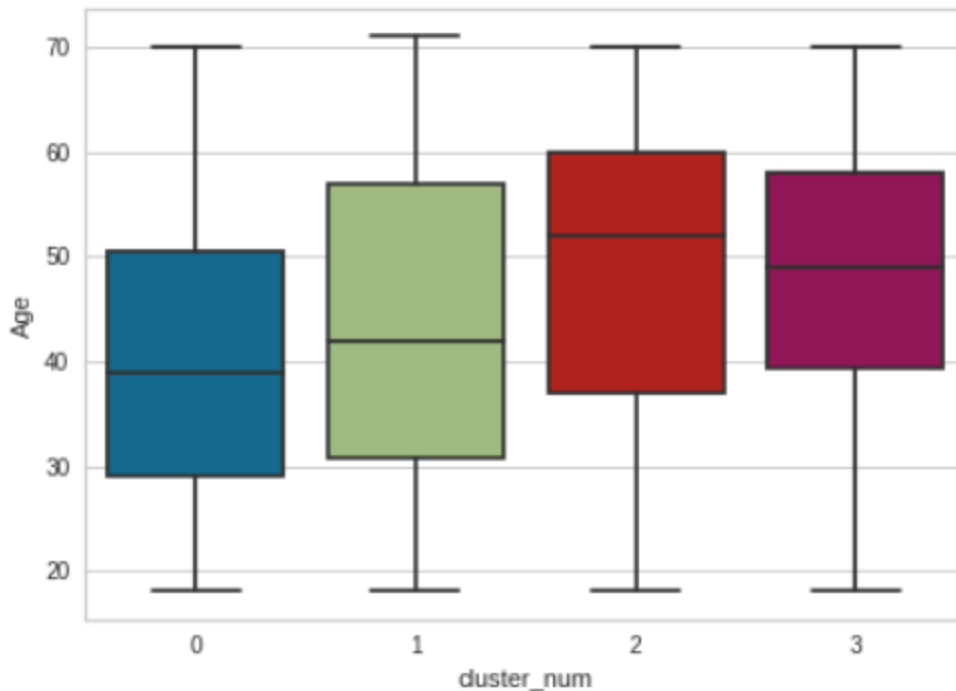
Segment profiling is about understanding differences in segmentation variables across market segments. Segmentation variables are chosen early in the market segmentation analysis process: conceptually in Step 2 (specifying the ideal target segment), and empirically in Step 3 (collecting data). Segmentation variables form the basis for extracting market segments from empirical data.

End Result:

Shaded mosaic plot for cross-tabulation of segment membership and I LIKE IT for the fast food data set



Parallel box-and-whisker plot of age by segment for the fast food data set:



Code Implementation Link:

https://github.com/ashish-sadan/McDonalds_Market_Segmentation/blob/main/market_segmentation_mcdonalds.ipynb

Step 8: Selecting the Target segments: (by Ajay Singh)

This segment discusses the importance of selecting one or more target segments for an organization, which is a long-term decision that significantly affects future performance. After a global market segmentation solution is chosen, a number of segments are available for detailed inspection. In this step one or more of those market segments need to be selected for targeting. The first task to ensure that all the market segments still under consideration to be selected as target markets have passed the knock-out criteria test. Once this is done, the attractiveness of the remaining segments and the relative organizational competitiveness for these segments needs to be evaluated. The page also discusses different decision matrices that can be used to visualize relative segment attractiveness and relative organizational competitiveness for each market segment. The two criteria plotted along the axes cover two dimensions: segment attractiveness and relative organizational competitiveness specific to each of the segments.

Code not submitted by Ajay Singh

Step 9: Customizing the Marketing Mix: *(by Abhishek Anand [Team Lead])*

In the early days of marketing, Borden (1964) postulated that marketers have at their disposal 12 ingredients: product planning, packaging, physical handling, distribution channels, pricing, personal selling, branding, display, advertising, promotions, servicing, fact finding and analysis. Many versions of this marketing mix have since been proposed, but most commonly the marketing mix is understood as consisting of the 4Ps: Product, Price, Promotion and Place. To best ensure maximizing the benefits of a market segmentation strategy, it is important to customize the marketing mix to the target segment. The selection of one or more specific target segments may require the design of new, or the modification or re-branding of existing products (Product), changes to prices or discount structures (Price), the selection of suitable distribution channels (Place), and the development of new communication messages and promotion strategies that are attractive to the target segment (Promotion). One of the key decisions an organization needs to make when developing the product dimension of the marketing mix, is to specify the product in view of customer needs. Often this does not imply designing an entirely new product, but rather modifying an existing one. Other marketing mix decisions that fall under the product dimension are: naming the product, packaging it, offering or not offering warranties, and after sales support services. Typical decisions an organization needs to make when developing the price dimension of the marketing mix include setting the price for a product, and deciding on discounts to be offered. The price dimension can be used to best possibly harvest the targeted marketing approach. The key decision relating to the place dimension of the marketing mix is how to distribute the product to the customers. This includes answering questions such as: should the product be made available for purchase online or offline only or both; should the manufacturer sell directly to customers; or should a wholesaler or a retailer or both be used. Typical promotion decisions that need to be made when designing a marketing mix include: developing an advertising message that will resonate with the target market, and identifying the most effective way of communicating this message. Other tools in the promotion category of the marketing mix include public relations, personal selling, and sponsorship.

Here is the conclusion for Step 9:

The marketing mix is designed in Step 9, which involves focusing on a specific target market segment and catering to their specific needs. For instance, McDonald's may choose to target

segment 3, consisting of young customers who perceive their food as pricey but yummy. To serve this segment, McDonald's could introduce the MCSUPERBUDGET line, with distinct features to differentiate it from the main range of products (**Product**). By identifying communication channels that segment 3 members frequently use, McDonald's can promote the availability of the new product line (**Promotion**). Distribution channels (**Place**) remain the same, as all products are sold in McDonald's outlets. However, McDonald's could create a separate lane for the MCSUPERBUDGET line to avoid cannibalizing sales of the main product line. Finally, the price of the new line should be adjusted to cater to the target segment's price expectations (**Price**). This approach could lead to increased customer loyalty as the segment matures and can afford the regular McDonald's range of products.

There is no code implementation for this Step 9. But Here I've tried to implement some of the codes in python. Hence attaching me github link:

[https://github.com/anandabhi2910/Market-Segmentation_Feynn-Labs-Intern/blob/main/Market_segmentation%20\(1\).ipynb](https://github.com/anandabhi2910/Market-Segmentation_Feynn-Labs-Intern/blob/main/Market_segmentation%20(1).ipynb)

Final Conclusion:

The success of a market segmentation strategy cannot be determined solely by completing a market segmentation analysis and implementing strategic and tactical marketing activities. Continuous evaluation and monitoring of the market is necessary. Existing market segments can change due to various reasons, such as changes in their financial status or preferences. Moreover, changes can also occur in the larger marketplace, such as new competitors entering the market. Thus, it is essential to monitor all potential sources of change in order to identify any changes that require McDonald's management to adjust their marketing strategies and tactics to adapt to new market circumstances.

Thank You

