FEYNN LABS
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Project Report :- 2

10 Step for Market Segmentation

STEP 1 :

Market segmentation is a marketing term that refers to aggregating prospective buyers into groups or segments with common needs and who respond similarly to a marketing action. Market segmentation enables companies to target different categories of consumers who perceive the full value of certain products and services differently from one another.

KEY TAKEAWAYS

- Market segmentation seeks to identify targeted groups of consumers to tailor products and branding in a way that is attractive to the group.
- Markets can be segmented in several ways such as geographically, demographically, or behaviorally.
- Market segmentation helps companies minimize risk by figuring out which products are the most likely to earn a share of a target market and the best ways to market and deliver those products to the market.
- With risk minimized and clarity about the marketing and delivery of a product heightened, a company can then focus its resources on efforts likely to be the most profitable.
- Market segmentation can also increase a company's demographic reach and may help the company discover products or services they hadn't previously considered.

Understanding Market Segmentation

Companies can generally use three criteria to identify different market segments:

1. Homogeneity, or common needs within a segment
2. Distinction, or being unique from other groups
3. Reaction, or a similar response to the market

For example, an athletic footwear company might have market segments for basketball players and long-distance runners. As distinct groups, basketball players and long-distance runners respond to very different advertisements. Understanding these different market segments enables the athletic footwear company to market its branding appropriately.

Market segmentation is an extension of market research that seeks to identify targeted groups of consumers to tailor products and branding in a way that is attractive to the group. The objective of market segmentation is to minimize risk by determining which products have the best chances of gaining a share of a target market and determining the best way to deliver the products to the market. This allows the company to increase its overall efficiency by focusing limited resources on efforts that produce the best return on investment (ROI).

Market segmentation allows a company to increase its overall efficiency by focusing limited resources on efforts that produce the best return on investment (ROI).

Types of Market Segmentation

There are four primary types of market segmentation. However, one type can usually be split into an individual segment and an organization segment. Therefore, below are five common types of market segmentation.

Demographic Segmentation

Demographic segmentation is one of the simple, common methods of market segmentation. It involves breaking the market into customer demographics as age, income, gender, race, education, or occupation. This market segmentation strategy assumes that individuals with similar demographics will have similar needs.

Example: The market segmentation strategy for a new video game console may reveal that most users are young males with disposable income.

Firmographic Segmentation

Firmographic segmentation is the same concept as demographic segmentation. However, instead of analyzing individuals, this strategy looks at organizations and looks at a company's number of employees, number of customers, number of offices, or annual revenue.

Example: A corporate software provider may approach a multinational firm with a more diverse, customizable suite while approaching smaller companies with a fixed fee, more simple product.

Geographic Segmentation

Geographic segmentation is technically a subset of demographic segmentation. This approach groups customers by physical location, assuming that people within a given geographical area may have similar needs. This strategy is more useful for larger companies seeking to expand into different branches, offices, or locations.

Example: A clothing retailer may display more raingear in their Pacific Northwest locations compared to their Southwest locations.

Behavioral Segmentation

Behavioral segmentation relies heavily on market data, consumer actions, and decision-making patterns of customers. This approach groups consumers based on how they have previously interacted with markets and products. This approach assumes that consumers prior spending habits are an indicator of what they may buy in the future, though spending habits may change over time or in response to global events.

Example: Millennial consumers traditionally buy more craft beer, while older generations are traditionally more likely to buy national brands.

Psychographic Segmentation

Often the most difficult market segmentation approach, psychographic segmentation strives to classify consumers based on their lifestyle, personality, opinions, and interests. This may be more difficult to achieve, as these traits may change easily and may not have readily available objective data. However, this approach may yield strongest market segment results as it groups individuals based on intrinsic motivators as opposed to external data points.

Example: A fitness apparel company may target individuals based on their interest in playing or watching a variety of sports.

Other less notable examples of types of segmentation include volume (i.e. how much a consumer spends), use-related (i.e. how loyal a customer is), or other customer traits (i.e. how innovative or risk-favorable a customer is).

How to Determine Your Market Segment

There's no single universally accepted way to perform market segmentation. To determine your market segments, it's common for companies to ask themselves the following questions along their market segmentation journey.

Phase I: Setting Expectations/Objectives

- *What is the purpose or goal of performing market segmentation?*
- *What does the company hope to find out by performing marketing segmentation?*
- *Does the company have any expectations on what market segments may exist?*

Phase 2: Identify Customer Segments

- *What segments are the company's competitors selling to?*
- *What publicly available information (i.e. U.S. Census Bureau data) is relevant and available to our market?*
- *What data do we want to collect, and how can we collect it?*
- *Which of the five types of market segments do we want to segment by?*

Phase 3: Evaluate Potential Segments

- *What risks are there that our data is not representative of the true market segments?*
- *Why should we choose to cater to one type of customer over another?*
- *What is the long-term repercussion of choosing one market segment over another?*
- *What is the company's ideal customer profile, and which segments best overlap with this "perfect customer"?*

Phase 4: Develop Segment Strategy

- *How can the company test its assumptions on a sample test market?*
- *What defines a successful marketing segment strategy?*
- *How can the company measure whether the strategy is working?*

Phase 5: Launch and Monitor

- *Who are key stakeholders that can provide feedback after the market segmentation strategy has been unveiled?*
- *What barriers to execution exist, and how can they can be overcome?*
- *How should the launch of the marketing campaign be communicated internally?*

Benefits of Market Segmentation

Marketing segmentation takes effort and resources to implement. However, successful marketing segmentation campaigns can increase the long-term profitability and health of a company. Several benefits of market segmentation include;

- Increased resource efficiency. Marketing segmentation allows management to focus on certain demographics or customers. Instead of trying to promote products to the entire market, marketing segmentation allows a focused, precise approach that often costs less compared to a broad reach approach.
- Stronger brand image. Marketing segment forces management to consider how it wants to be perceived by a specific group of people. Once the market segment is identified, management must then consider what message to craft. Because this message is directed at a target audience, a company's branding and messaging is more likely to be very intentional. This may also have an indirect effect of causing better customer experiences with the company.
- Greater potential for brand loyalty. Marketing segmentation increases the opportunity for consumers to build long-term relationships with a company. More direct, personal marketing approaches may resonate with customers and foster a sense of inclusion, community, and a sense of belonging. In addition, market segmentation increases the probability that you land the right client that fits your product line and demographic.
- Stronger market differentiation. Market segmentation gives a company the opportunity to pinpoint the exact message they way to convey to the market and to competitors. This can also help create product differentiation by communicating specifically how a company is different from its competitors. Instead of a broad approach to marketing, management crafts a specific image that is more likely to be memorable and specific.
- Better targeted digital advertising. Marketing segmentation enables a company to perform better targeted advertising strategies. This includes marketing plans that direct effort towards specific ages, locations, or habits via social media.

Market segmentation exists outside of business. There has been extensive research using market segmentation strategies to promote overcoming COVID-19 vaccination hesitancy and other health initiatives.

Limitations of Market Segmentation

The benefits above can't be achieved with some potential downsides. Here are some disadvantages to consider when considering implementing market segmentation strategies.

- Higher upfront marketing expenses. Marketing segmentation has the long-term goal of being efficient. However, to capture this efficiency,

companies must often spend resources upfront to gain the insight, data, and research into their customer base and the broad markets.

- Increased product line complexity. Marketing segmentation takes a large market and attempts to break it into more specific, manageable pieces. This has the downside risk of creating an overly complex, fractionalized product line that focuses too deeply on catering to specific market segments. Instead of a company having a cohesive product line, a company's marketing mix may become too confusing and inconsistently communicate its overall brand.
- Greater risk of misassumptions. Market segmentation is rooted in the assumption that similar demographics will share common needs. This may not always be the case. By grouping a population together with the belief that they share common traits, a company may risk misidentifying the needs, values, or motivations within individuals of a given population.
- Higher reliance on reliable data. Market segmentation is only as strong as the underlying data that support the claims that are made. This means being mindful of what sources are used to pull in data. This also means being conscious of changing trends and when market segments may have shifted from prior studies.

STEP 2 : -

Specifying the ideal Target Segment

The third layer of market segmentation analysis depends primarily on user input. It is important to understand that – for a market segmentation analysis to produce results that are useful to an organization – user input cannot be limited to either a briefing at the start of the process, or the development of a marketing mix at the end. Rather, the user needs to be involved in most stages, literally wrapping around the technical aspects of market segmentation analysis.

Step 1, the organization has to make a major contribution to market segmentation analysis in Step 2. While this contribution is conceptual in nature, it guides many of the following steps, most critically Step 3 (data collection) and Step 8 (selecting one or more target segments). In Step 2 the organization must determine two sets of segment evaluation criteria. One set of evaluation criteria can be referred to as knock-out criteria. These criteria are the essential, non-negotiable

features of segments that the organization would consider targeting. The second set of evaluation criteria can be referred to as attractiveness criteria. These criteria are used to evaluate the relative attractiveness of the remaining market segments – those in compliance with the knock-out criteria. The literature does not generally distinguish between these two kinds of criteria. Instead, the literature proposes a wide array of possible segment evaluation criteria and describes them at different levels of detail.

Knock-Out Criteria

Knock-out criteria are used to determine if market segments resulting from the market segmentation analysis qualify to be assessed using segment attractiveness criteria. The first set of such criteria was suggested by Kotler (1994) and includes substantiality, measurability and accessibility (Tynan and Drayton 1987). Kotler himself and a number of other authors have since recommended additional criteria that fall into the knock-out criterion category (Wedel and Kamakura 2000; Lilien and Rangaswamy 2003; McDonald and Dunbar 2012):

• The segment must be homogeneous; members of the segment must be similar to one another.

• The segment must be distinct; members of the segment must be distinctly different from members of other segments.

• The segment must be large enough; the segment must contain enough consumers to make it worthwhile to spend extra money on customizing the marketing mix for them.

• The segment must be matching the strengths of the organization; the organization must have the capability to satisfy segment members' needs.

• Members of the segment must be identifiable; it must be possible to spot them in the marketplace.

• The segment must be reachable; there has to be a way to get in touch with members of the segment in order to make the customized

marketing mix accessible to them. Knock-out criteria must be understood by senior management, the segmentation team, and the advisory committee. Most of them do not require further specification, but some do.

For example, while size is non-negotiable, the exact minimum viable target segment size needs to be specified. Attractiveness criteria are not binary in nature. Segments are not assessed as either complying or not complying with attractiveness criteria. Rather, each market segment is rated; it can be more or less attractive with respect to a specific criterion. The attractiveness across all criteria determines whether a market segment is selected as a target segment in Step 8 of market segmentation analysis.

There is general agreement in the segmentation literature, that following a structured process when assessing market segments is beneficial (Lilien and Rangaswamy 2003; McDonald and Dunbar 2012). The most popular structured approach for evaluating market segments in view of selecting them as target markets is the use of a segment evaluation plot (Lilien and Rangaswamy 2003; McDonald and Dunbar 2012) showing segment attractiveness along one axis, and organizational competitiveness on the other axis The segment attractiveness and organizational competitiveness values are determined by the segmentation team. This is necessary because there is no standard set of criteria that could be used by all organizations. Factors which constitute both segment attractiveness and organizational competitiveness need to be negotiated and agreed upon. To achieve this, a large number of possible criteria has to be investigated before agreement is reached on which criteria are most important for the organization. McDonald and Dunbar (2012) recommend to use no more than six factors as the basis for calculating these criteria. Optimally, this task should be completed by a team of people (McDonald and Dunbar 1995; Karlsson 2015). If a core team of two to three people is primarily in charge of market segmentation analysis, this team could propose an initial solution and report their choices to the advisory committee – which consists of representatives of all organizational units – for discussion and possible modification. There are at least two good reasons to include in this process representatives from a wide range of organizational units. First, each organizational unit has a different perspective on the business of the

organization. As a consequence, members of these units bring different positions to the deliberations. Secondly, if the segmentation strategy is implemented, it will affect every single unit of the organization. Consequently, all units are key stakeholders of market segmentation analysis. Back to the segment evaluation plot. Obviously the segment evaluation plot cannot be completed in Step 2 of the market segmentation analysis because – at this point – no segments are available to assess yet. But there is a huge benefit in selecting the attractiveness criteria for market segments at this early stage in the process: knowing precisely what it is about market segments that matters to the organization ensures that all of this information is captured when collecting data .It also makes the task of selecting a target segment in Step 8 much easier because the groundwork is laid before the actual segments are on the table. At the end of this step, the market segmentation team should have a list of approximately six segment attractiveness criteria. Each of these criteria should have a weight attached to it to indicate how important it is to the organization compared to the other criteria. The typical approach to weighting (Lilien and Rangaswamy 2003; McDonald and Dunbar 2012) is to ask all team members to distribute 100 points across the segmentation criteria. These allocations then have to be negotiated until agreement is reached. Optimally, approval by the advisory committee should be sought because the advisory committee contains representatives from multiple organizational units bringing a range of different perspectives to the challenge of specifying segment attractiveness criteria.

Step 3: Collecting Data

SEGMENTATION VARIABLES

term segmentation variable to refer to the variable in the empirical data used in commonsense segmentation to split the sample into market segments. In commonsense segmentation, the segmentation variable is typically one single characteristic of the consumers in the sample. The difference between commonsense and data-driven market segmentation is that data-driven market segmentation is based not on one, but on multiple segmentation variables. These segmentation

variables serve as the starting point for identifying naturally existing, or artificially creating market segments useful to the organization.

SEGMENTATION CRITERIA

The term segmentation criterion is used here in a broader sense than the term segmentation variable. The term segmentation variable refers to one measured value, for example, one item in a survey, or one observed expenditure category. The term segmentation criterion relates to the nature of the information used for market segmentation. It can also relate to one specific construct, such as benefits sought.

GEOGRAPHIC SEGMENTATION

when geographic segmentation is used – the consumer's location of residence serves as the only criterion to form market segments. While simple, the geographic segmentation approach is often the most appropriate. The key advantage of geographic segmentation is that each consumer can easily be assigned to a geographic unit. As a consequence, it is easy to target communication messages, and select communication channels (such as local newspapers, local radio and TV stations) to reach the selected geographic segments. The key disadvantage is that living in the same country or area does not necessarily mean that people share other characteristics relevant to marketers, such as benefits they seek when purchasing a product.

SOCIO-DEMOGRAPHIC SEGMENTATION

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.

BEHAVIOURAL 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.

DATA FROM SURVEY STUDIES

Most market segmentation analyses are based on survey data. Survey data is cheap and easy to collect, making it a feasible approach for any organisation. But survey data – as opposed to data obtained from observing actual behaviour – can be contaminated by a wide range of biases

CHOICE OF VARIABLES

In data-driven segmentation, all variables relevant to the construct captured by the segmentation criterion need to be included. At the same time, unnecessary variables must be avoided. Including unnecessary variables can make questionnaires long and tedious for respondents, which, in turn, causes respondent fatigue Noisy variables do not contribute any information necessary for the identification of the correct market segments. Instead, their presence makes it more difficult for the algorithm to extract the correct solution. Noisy variables can result from not carefully developing survey questions, or from not carefully selecting segmentation variables from among the available survey items. The problem of noisy variables negatively affecting the segmentation solution can be avoided at the data collection and the variable selection stage of market segmentation analysis.

SAMPLE SIZE

Many statistical analyses are accompanied by sample size recommendations. Not so market segmentation analysis. The market segmentation problem in this figure is extremely simple because only

two segmentation variables are used. It can be concluded from the body of work studying the effects of survey data quality on the quality of market segmentation results based on such data that, optimally, data used in market segmentation analyses should • contain all necessary items; • contain no unnecessary items; • contain no correlated items; • contain high-quality responses; • be binary or metric; • be free of response styles; • include responses from a suitable sample given the aim of the segmentation study; and • include a sufficient sample size given the number of segmentation variables (100 times the number of segmentation variables).

Step 4: Specifying the Ideal Target Segment

The third layer of market segmentation analysis depends primarily on user input. It is important to understand that – for a market segmentation analysis to produce results that are useful to an organization, user input cannot be limited to either a briefing at the start of the process, or the development of a marketing mix at the end. Rather, the user needs to be involved in most stages, literally wrapping around the technical aspects of market segmentation analysis. Members of the segmentation team need to select which of these criteria they want to use to determine how attractive potential target segments are. The segmentation team also needs to assess the relative importance of each attractiveness criterion to the organization. Where knock-out criteria automatically eliminate some of the available market segments, attractiveness criteria are first negotiated by the team and then applied to determine the overall relative attractiveness of each market segment in Step 8.
KNOCK-OUT CRITERIA

Knock-out criteria are used to determine if market segments resulting from the market segmentation analysis qualify to be assessed using segment attractiveness criteria. Example – Homogenous Segments, Distinct Segments Knock-out criteria must be understood by senior management, the segmentation team, and the advisory committee. Most of them do not require further specification, but some do. For example, while size is non-negotiable, the exact minimum viable target segment size needs to be specified.

ATTRACTIVENESS CRITERIA

In addition to the knock-out criteria, also lists a wide range of segment attractiveness criteria available to the segmentation team to consider when deciding which attractiveness criteria are most useful to their specific situation. Attractiveness criteria are not binary in nature. Segments are not assessed as either complying or not complying with attractiveness criteria. Rather, each market segment is rated; it can be more or less attractive with respect to a specific criterion.

Step 5: Extracting Segments

DISTANCE- BASED METHODS: Many segmentation methods used to extract market segments are taken from the field of cluster analysis. k-means cluster analysis fails to identify the naturally existing spiral-shaped segments in the data. This is because k-means cluster analysis aims at finding compact clusters covering a similar range in all dimensions. The aim of this chapter is to provide an overview of the most popular extraction methods used in market segmentation, and point out their specific tendencies of imposing structure on the extracted segments. None of these methods outperform other methods in all situations. Rather, each method has advantages and disadvantages. So-called distance-based methods are described first. Distance-based methods use a particular notion of similarity or distance between observations (consumers), and try to find groups of similar observations (market segments). So-called model based methods are described second. These methods formulate a concise stochastic model for the market segments. In addition to those main two groups of extraction methods, a number of methods exist which try to achieve multiple aims in one step. For example, some methods perform variable selection during the extraction of market segments. A few such specialized algorithms are also discussed in this chapter. The model of independent binary distributions does not represent the data well (as indicated by the discrepancy between the observed and expected frequencies). We thus fit a mixture of binary distributions to the data. The expected frequencies of a suitable mixture model should correspond to the observed frequencies. Finite mixtures of distributions are similar to distance-based clustering methods and – in

many cases – result in similar solutions. Compared to hierarchical or partitioning clustering methods, mixture models sometimes produce more useful, and sometimes less useful solutions. Finite mixture models are more complicated than distance-based methods. The additional complexity makes finite mixture models very flexible. It allows using any statistical model to describe a market segment. As a consequence, finite mixture models can accommodate a wide range of different data characteristics: for metric data we can use mixtures of normal distributions, for binary data we can use mixtures of binary distributions. For nominal variables, we can use mixtures of multinomial distributions or multinomial logit models. To address this problem, we can use mixture models disentangling response style effects from content-specific responses while extracting market segments. Distance Measures, Hierarchical Methods, Partitioning Methods, Hybrid Approaches. ModelBased Methods, Biclustering Algorithms, Variable Selection Procedure for Clustering Binary Data(VBSD), Variable- Reduction- Factor- Cluster Analysis, Data Structure Analysis, Cluster Indices, George Plots, Global Stability Analysis, Segment Level Stability Analysis. As opposed to distance-based clustering methods, model-based segment extraction methods do not use similarities or distances to assess which consumers should be assigned to the same market segment. Instead, they are based on the assumption that the true market segmentation solution – which is unknown – has the following two general properties: (1) each market segment has a certain size, and (2) if a consumer belongs to market segment A, that consumer will have characteristics which are specific to members of market segment A. These two properties are assumed to hold, but the exact nature of these properties – the sizes of these segments, and the values of the segment-specific characteristics – is not known in advance. Model-based methods use the empirical data to find those values for segment sizes and segment-specific characteristics that best reflect the data. Model-based methods can be seen as selecting a general structure, and then fine tuning the structure based on the consumer data. The model-based methods used in this section are called finite mixture models because the number of market segments is finite, and the overall model is a mixture of segment specific models. The two properties of the finite mixture model can be written down in a more formal way. Binary Distributions: Binary (meaning that all p elements of y are either 0 or 1). The elements of y, the segmentation variables,

could be vacation activities where a value of 1 indicates that a tourist undertakes this activity, and a value of 0 indicates that they do not. Finite Mixtures of Regressions: Finite mixture of regression models assume the existence of a dependent target variable y that can be explained by a set of independent variables x. The functional relationship between the dependent and independent variables is considered different for different market segments. Extensions and Variations:Mixture models also allow to simultaneously include segmentation and descriptor variables. Segmentation variables are used for grouping, and are included in the segment-specific model as usual. Descriptor variables are used to model differences in segment sizes, assuming that segments differ in their composition with respect to the descriptor variables. If, for example, consumers in the segment interested in high-end mobile phones in the artificial mobile phone data set tend to be older and have a higher income, this is equivalent to the segment of consumers interested in high-end mobile phones being larger for older consumers and those with a higher income. The descriptor variables included to model the segment sizes are called concomitant variables. Algorithms with Integrated Variable Selection:When the segmentation variables are binary, and redundant or noisy variables can not be identified and removed during data preprocessing, suitable segmentation variables need to be identified during segment extraction. A number of algorithms extract segments while – simultaneously – selecting suitable segmentation variables. We present two such algorithms for binary segmentation variables: biclustering and the variable selection procedure for clustering binary data (VSBD). Biclustering Algorithms: Biclustering simultaneously clusters both consumers and variables. Biclustering algorithms exist for any kind of data, including metric and binary. Variable Selection Procedure for Clustering Binary Data (VSBD):VSBD method is based on the k-means algorithm as clustering method, and assumes that not all variables available are relevant to obtain a good clustering solution. In particular, the method assumes the presence of masking variables. They need to be identified and removed from the set of segmentation variables. Removing irrelevant variables helps to identify the correct segment structure, and eases interpretation. Data Structure Analysis: Data structure analysis provides valuable insights into the properties of the data. These insights guide subsequent methodological decisions. Most importantly, stability-based data structure analysis provides an indication of whether natural, distinct,

and well-separated market segments exist in the data or not. If they do, they can be revealed easily. If they do not, users and data analysts need to explore a large number of.

Step-6: Profiling Segments

The aim of the profiling step is to get to know the market segments resulting from the extraction step. Profiling is only required when data-driven market segmentation is used. For commonsense segmentation, the profiles of the segments are predefined. If, for example, age is used as the segmentation variable for the commonsense segmentation, it is obvious that the resulting segments will be age groups. Therefore, Step 6 is not necessary when commonsense segmentation is conducted. Sometimes – to deal with the size of this task – information is provided about the statistical significance of the difference between segments for each of the segmentation variables. This approach, however, is not statistically correct. Segment membership is directly derived from the segmentation variables, and segments are created in a way that makes them maximally different, thus not allowing to use of standard statistical tests to assess the significance of differences. Visualizations are useful in the data-driven market segmentation process to inspect, for each segmentation solution, one or more segments in detail. Statistical graphs facilitate the interpretation of segment profiles. They also make it easier to assess the usefulness of a market segmentation solution. The process of segmenting data always leads to a large number of alternative solutions. Selecting one of the possible solutions is a critical decision. Visualizations of solutions assist the data analyst and user with this task. A good way to understand the defining characteristics of each segment is to produce a segment profile plot. The segment profile plot shows – for all segmentation variables – how each market segment differs from the overall sample. Segment separation can be visualized in a segment separation plot. The segment separation plot depicts – for all relevant dimensions of the data space – the overlap of segments. Segment separation plots are very simple if the number of segmentation variables is low, but become complex as the number of segmentation variables increases. But even in such complex situations, segment separation plots offer data analysts and users a quick overview of the data situation, and the segmentation solution.

Step-7: Describing segments

DEVELOPING A COMPLETE PICTURE OF MARKET SEGMENTS

Segment profiling is about understanding differences in segmentation variables Segmentation variables are chosen early in the market segmentation analysis process: conceptually in Step 2, and empirically in Step 3. the basis for extracting market segments from empirical data. is that the variables being inspected have not been used to extract market segments. Rather, in Step 7 market segments are described using additional information marriage, profiling and describing market segments is like going on a number of dates to get to know the potential spouse as well as possible in an attempt to give the marriage the best possible chance, and avoid nasty surprises down the track. For example, when conducting a data-driven market segmentation analysis using the Australian travel motives data set. Profiling means investigating differences between segments with respect to the travel motives themselves. The segment description step uses additional information, such as segment members` age, gender, past travel behavior, preferred vacation activities, media use, use of information sources during vacation planning, These additional variables are Good descriptions of market segments are critical to gaining detailed insight 200 9 Step 7: Describing Segments development of a customized marketing mix. target segment 4 which emerged from extracting segments from the Australian travel which information sources they use when they plan their vacation, and how they If segment description reveals, for example, that members of this of a customized marketing mix to target segment 4.We can study differences between market segments with respect to descriptor variables in two ways: we can use descriptive statistics including visualizations

USING VISUALIZATIONS TO DESCRIBE MARKET SEGMENTS

A wide range of charts exist for the visualization of differences in descriptor descriptor variables or metric descriptor variables such as age, number of nights at the tourist destinations, money Using graphical statistics to describe market segments has two key advantages: it simplifies the interpretation of results for both the data

analyst and the user, and integrates information on the statistical significance of differences, thus avoiding the over-interpretation of insignificant differences.

NOMINAL AND ORDINAL DESCRIPTOR VARIABLES

Two major benefits of using graphical statistics to describe market segments are that it makes it easier for users and data analysts to understand results and that it incorporates information on the statistical significance of differences, preventing the over-interpretation of insignificant differences. Additionally, mosaic plots can incorporate components of inferential statistics and visualize tables with more than two descriptor variables. Cellular colors can be used to indicate areas where observed and expected frequencies diverge, if the variables are assumed to be independent. Based on the standardized difference between the expected and observed frequencies, cell colors are determined. Negative differences indicate that observed frequencies are lower than anticipated. Positive differences indicate that observed frequencies are higher than predicted. Members of this group are plot-driven and motivated by nature.

METRIC DESCRIPTOR VARIABLES

Most common R functions are available as conditional versions in the R package lattice. Package provides an alternate implementation for conditional plots. Conditional here refers to the plots being Using metric descriptor variables, conditional charts are a good tool for illustrating variations between market segments. The segment profile plot in Sect was created using the R programme lattice. We can use a modified version of the segment level stability across solutions (SLSA) plot to trace the value of a metric descriptor variable over a series of market segments. A metric descriptor variable is plotted using different colors for the nodes. In the context of segment description, this R package can display the age to have segment names displayed in the plot. The nodes of the segment level stability across solutions (SLSA) indicate each segment`s mean moral obligation to protect the environment A deep red color indicates high moral obligation. solutions – displays high moral obligation to protect the environment, followed to express agreement when asked about

their moral obligation to protect the Because the node color has a different meaning in this modified segment level stability across solutions (SLSA) plot.

TESTING FOR SEGMENT DIFFERENCES IN DESCRIPTOR VARIABLES

Formally testing for variations in descriptor variables across market groups can be done using straightforward statistical tests. Running a set of separate tests for each relevant variable is the simplest way to look for differences. Segment membership, or the assignment of each consumer to a certain market segment, is the result of the segment extraction stage. Segment membership is a nominal variable that can be handled just like any other. It serves as the segmentation variables' nominal summary statistic. Therefore, any test to determine if a nominal variable is associated with another variable is appropriate. The cross-tabulation of both variables is used as the foundation for the mosaic plot to visualise the relationship between the nominal segment membership variable and another nominal or ordinal variable. The 2-test is the proper test to determine whether a table's columns and rows are independent.

PREDICTING SEGMENTS FROM DESCRIPTOR VARIABLES

We use descriptor variables to predict segment membership by regression model with segment membership as categorical dependent variable and descriptor variables as independent. We use statistical methods for classification and Machine Learning methods for supervised learning. To test differences in descriptor variables we use 3 methods namely Binary Logistic Regression, Multinomial Logistic Regression and Tree-based methods and with these predict performance of individual descriptor variables in identifying memberships. For the dependent variable in generalized linear models we use distributions of poisson, binomial, multinomial. Binary Logistic Regression - It is simply formulation of general linear models by assuming f(y) as Bernoulli’s Distribution Multinomial Logistic Regression – Multiple segments can be fit into model simultaneously Tree-based method – An alternative for binary or categorical dependent variable such as classification and regression trees. They are supervised learning techniques in machine learning.

They are able to perform variable selection and interpretation with visuals and they work well with large no. of independent variables, but they are very unstable with small change in data

Step 8:

Selecting the Target Segment(s)

Step 8 is where the rubber hits the road. Now the big decision is made: which of the many possible market segments will be selected for targeting? Market segmentation is a strategic marketing tool. The selection of one or more target segments is a long term decision significantly affecting the future performance of an organization. This is when the flirting and dating is over; it's time to buy a ring, pop the question, and commit. After a global market segmentation solution has been chosen – typically at the end of Step 5 – a number of segments are available for detailed inspection. These segments are profiled in Step 6, and described in Step 7. In Step 8, one or more of those market segments need to be selected for targeting. The segmentation team can build on the outcome of Step 2. During Step 2, knock-out criteria for market segments have been agreed upon, and segment attractiveness criteria have been selected, and weighed to reflect the relative importance of each of the criteria to the organization. Optimally, the knock-out criteria have already been applied in previous steps. For example, in Step 6 market segments were profiled by inspecting their key characteristics in terms of the segmentation variables. It would have become obvious in Step 6 if a market segment is not large enough, not homogeneous or not distinct enough. It would have become obvious in Step 7 – in the process of detailed segment description using descriptor variables – if a market segment is not identifiable or reachable. And in both Steps 6 and 7, it would have become clear if a market segment has needs the organization cannot satisfy. 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 Nevertheless, it does not hurt to double check. The first task in Step 8, therefore, is to ensure that all the market segments that are still under consideration to be selected as target markets have well and truly 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. 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 organization most like to target? Which segment would the organization like to commit to? 2. Which of the organizations offering the same product would each of the segments most like to buy from? How likely is it that our organization 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. 10.2 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 visualize relative segment attractiveness and relative organizational 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 visualizations is to make it easier for the organization 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 organizational 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 organizational competitiveness is like the question: Would this person marry you? given all the other people in the world they could marry. In the following example, we use a generic segment evaluation plot that can easily be produced in R. To keep segment evaluation as intuitive as possible, we 10.2 Market Segment Evaluation 239 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 organizational 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. Of course, there is no single best measure of segment attractiveness or relative organizational competitiveness. It is therefore necessary for users to return to their specifications of what an ideal target segment looks like for them. The ideal target segment was specified in Step 2 of the market segmentation analysis. Step 2 resulted in a number of criteria of segment attractiveness, and weights quantifying how much impact each of these criteria has on the total value of segment attractiveness. In Step 8, the target segment selection step of market segmentation analysis, this information is critical. However, the piece of information missing to be able to select a target segment, is the actual value each market segment has for each of the criteria specified to constitute segment attractiveness. These values emerge from the grouping, profiling, and description of each market segment. To determine the attractiveness value to be used in the segment evaluation plot for each segment, the segmentation team needs to assign a value for each attractiveness criterion to each segment. The location of each market segment in the segment evaluation plot is then computed by multiplying the weight of the segment attractiveness criterion (agreed upon in Step 2) with the value of the segment attractiveness criterion for each market segment. The value of the segment attractiveness criterion for each market segment is determined by the market segmentation team based on the profiles and descriptions resulting from Steps 6 and 7. The result is a weighted value for each segment attractiveness criteria for each segment. Those values are added up, and represent a segment's overall attractiveness (plotted along the x-axis). Table 10.1 contains an example of this calculation. The value of each segment on the axis labeled How

attractive are we to the segment? is calculated in the same way as the value for the attractiveness of each segment from the organizational perspective: first, criteria are agreed upon, next they are weighted, then each segment is rated, and finally the values are multiplied and summed up. The data underlying the segment evaluation plot based on the hypothetical. The last aspect of the plot is the bubble size . Anything can be plotted onto the bubble size. Typically profit potential is plotted. Profit combines information about the size of the segment with spending and, as such, represents a critical value when target segments are selected. In other contexts, entirely different criteria may matter. For example, if a non for profit organization uses market segmentation to recruit volunteers to help with land regeneration activities, they may choose to plot the number of hours volunteered as the bubble size. Now the plot is complete and serves as a useful basis for discussions in the segmentation team. Using Fig. 10.1 As a basis, the segmentation team may, for example, eliminate from further consideration segments 3 and 7 because they are rather unattractive compared to the other available segments despite the fact that they have high profit potential (as indicated by the size of the bubbles). Segment 5 is obviously highly attractive and has high profit potential, but unfortunately the segment is not as fond of the organization as the organization is of the segment. Segment 8 is excellent because it is highly attractive to the organization, and views the organization's offer as highly attractive. A match made in heaven, except for the fact that the profit potential is not very high. It may be necessary, therefore, to consider including segment 2. Segment 2 loves the organization, has decent profit potential, and is about equally attractive to the organization as segments 1, 4 and 6 (all of which, unfortunately, are not very fond of the organization's offer).

STEP 9 :

Marketing was originally seen as a toolbox to assist in selling products, with marketers mixing the ingredients of the toolbox to achieve the best possible sales results (Dolnicar and Ring 2014). 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 (McCarthy 1960). Market segmentation does not stand independently as a marketing strategy. Rather, it goes hand in hand with the other areas of strategic marketing, most importantly: positioning and competition. In fact, the segmentation process is frequently seen as part of what is referred to as the segmentation-targeting-positioning (STP) approach (Lilien and Rangaswamy 2003). The segmentation-targeting-positioning approach postulates a sequential process. The process starts with market segmentation (the extraction, profiling and description of segments), followed by targeting (the assessment of segments and selection of a target segment), and finally positioning (the measures an organization can take to ensure that their product is perceived as distinctly different from competing products, and in line with segment needs). Viewing market segmentation as the first step in the segmentation-targeting positioning approach is useful because it ensures that segmentation is not seen as independent from other strategic decisions. It is important, however, not to adhere too strictly to the sequential nature of the segmentation-targeting-positioning process. It may well be necessary to move back and forward from the segmentation to the targeting step, before being in the position of making a long-term commitment to one or a small number of target segments. Step 9: Customizing the Marketing Mix Target segment integrated with competition and positioning Product Place Promotion Price Fig. 11.1 How the target segment decision affects marketing mix development Figure 11.1 illustrates how the target segment decision – which has to be integrated with other strategic areas such as competition and positioning – affects the development of the marketing mix. For reasons of simplicity, the traditional 4Ps model of the marketing mix

including Product, Price, Place and Promotion serves as the basis of this discussion. Be it twelve or four, each one of those aspects needs to be thoroughly reviewed once the target segment or the target segments have been selected. To best ensure maximizing the benefits of a market segmentation strategy, it is important to customize the marketing mix to the target segment (see also the layers of market segmentation in Fig. 2.1 discussed on pages 11–12). 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 option available to the organization is to structure the entire market segmentation analysis around one of the 4Ps. This affects the choice of segmentation variables. If, for example, the segmentation analysis is undertaken to inform pricing decisions, price sensitivity, deal proneness, and price sensitivity represent suitable segmentation variables (Lilien and Rangaswamy 2003). If the market segmentation analysis is conducted to inform advertising decisions, benefits sought, lifestyle segmentation variables, and psychographic segmentation variables are particularly useful, as is a combination of all of those (Lilien and Rangaswamy 2003). Price 247 If the market segmentation analysis is conducted for the purpose of informing distribution decisions, store loyalty, store patronage, and benefits sought when selecting a store may represent valuable segmentation variables (Lilien and Rangaswamy 2003). Typically, however, market segmentation analysis is not conducted in view of one of the 4Ps specifically. Rather, insights gained from the detailed description of the target segment resulting from Step 7 guide the organization in how to develop or adjust the marketing mix to best cater for the target segment chosen. 11.2 Product 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. The market segments obtained for the Australian vacation activities data set using biclustering present a good

opportunity for illustrating how product design or modification is driven by target segment selection. Imagine, for example, being a destination with a very rich cultural heritage. And imagine having chosen to target segment 3. The key characteristics of segment 3 members in terms of vacation activities are that they engage much more than the average tourist in visiting museums, monuments and gardens . They also like to do scenic walks and visit markets. They share both of these traits with some of the other market segments. Like most other segments, they like to relax, eat out, shop and engage in sightseeing. In terms of the product targeted at this market segment, possible product measures may include developing a new product. For example, a MUSEUMS, MONUMENTS & MUCH, MUCH MORE product (accompanied by an activities pass) that helps members of this segment to locate activities they are interested in, and points to the existence of these offers at the destination during the vacation planning process. Another opportunity for targeting this segment is that of proactively making gardens at the destination an attraction in their own right.

Step 10: Evaluation and Monitoring

Market segmentation analysis does not end with the selection of the target segment, and the development of a customized marketing mix. As Lilien and Rangaswamy state, segmentation must be viewed as an ongoing strategic decision process After the segmentation strategy is implemented, two additional tasks need to be performed on an ongoing basis: 1. The effectiveness of the segmentation strategy needs to be evaluated. Much effort goes into conducting the market segmentation analysis, and customizing the marketing mix to best satisfy the target segment’s needs. These efforts should result in an increase in profit, or an increase in achievement of the organizational mission. If they did not, the market segmentation strategy failed. 2. The market is not static. Consumers change, the environment, and the actions of competitors change. As a consequence, a process of ongoing monitoring of the market segmentation strategy must be devised. This monitoring process can range from a regular review by the segmentation team, to a highly automated data mining system alerting the organization to any relevant changes to the size or nature of the target segment. 12.2 Evaluating the Success of the Segmentation Strategy The aim of evaluating the effectiveness of the

market segmentation strategy is to determine whether developing a customized marketing mix for one or more segments did achieve the expected benefits for the organization. Evaluation and Monitoring the primary desired outcome for most organizations will be increased profit. For non for profit organizations it may be some other performance criterion, such as the amount of donations raised or number of volunteers recruited. These measures can be monitored continuously to allow ongoing assessment of the segmentation strategy. In addition, taking a longer term perspective, the effectiveness of targeted positioning could be measured. For example, a tracking study would provide insight about how the organization is perceived in the marketplace. If the segmentation strategy is successful, the organization should increasingly be perceived as being particularly good at satisfying certain needs. If this is the case, the organization should derive a competitive advantage from this specialized positioning because the target segment will perceive it as one of their preferred suppliers.