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Market Segmentation Analysis Summary Report

Introduction

This report delineates the pivotal steps and insights gleaned from the market segmentation analysis, crucial for enhancing our strategic marketing initiatives. This analysis is vital for comprehending market dynamics and efficiently targeting specific segments.

Step 1 :- Deciding (not) to Segment

3.1 Implications of Committing to Market Segmentation

Market segmentation is a critical strategy that demands a significant, long-term organizational commitment, akin to a marriage rather than a brief encounter. McDonald and Dunbar (1995) emphasize that effective segmentation requires substantial alterations and investments in company operations. Cahill (2006) underscores that segmenting incurs notable costs, including research, surveys, focus groups, and the creation of varied marketing materials, suggesting that segmentation should only be pursued if it promises sufficient sales uplift to justify these expenses. Implementing segmentation often necessitates new product development, modification of existing products, and adjustments in pricing, distribution, and communication strategies, which can profoundly impact the company's internal structure. Croft (1994) advocates for organizing around market segments instead of products, recommending the establishment of strategic business units focused on specific segments to ensure a sustained and responsive approach. Due to the extensive implications and costs, the decision to adopt a market segmentation strategy must originate from the highest executive level and be consistently communicated and supported across the entire organization. This ensures alignment and dedication towards addressing the evolving needs of distinct market segments, making segmentation a comprehensive and enduring strategic endeavour.

3.2 Implementation Barriers

Implementing market segmentation effectively within organizations faces significant barriers, notably those related to senior management and organizational culture. Authors like Dibb and Simkin (2008), Croft (1994), and McDonald and Dunbar (1995) emphasize that the absence of leadership and proactive engagement from senior management can severely hinder the success of market segmentation strategies. Without the chief executive’s endorsement and active involvement, it becomes exceedingly challenging for marketing executives to execute segmentation insights effectively. Additionally, insufficient allocation of resources—both for the segmentation analysis and its long-term execution—can stymie the process. Cultural

impediments further complicate implementation, with issues such as a lack of market or consumer orientation, resistance to innovation, poor communication, and siloed thinking impeding progress. Organizations may also struggle due to a dearth of creative problem-solving, short-term focus, and internal politics. Croft (1994) proposed a questionnaire to gauge the extent to which organizational culture inhibits market segmentation efforts. Furthermore, a lack of training exacerbates these problems; if senior management and segmentation teams do not grasp the fundamentals of market segmentation or its strategic implications, their efforts are likely to falter, undermining the overall initiative's success. The cited barriers to effective market segmentation underscore the critical absence of a formal marketing function or qualified marketing personnel within organizations. Process-related impediments include unclear segmentation objectives, inadequate planning, and the absence of structured procedures and allocated responsibilities, compounded by time pressures. Operationally, Doyle and Saunders (1985) observe a hesitancy among managers to adopt complex management science techniques due to comprehension barriers. Simplifying market segmentation analysis and presenting results via graphical visualizations can enhance managerial understanding. Proactively identifying and addressing these barriers from the outset of a segmentation study is crucial.

Step 2 :- Specifying the Ideal Target Segment

4.1 Segment Evaluation Criteria

The third layer of market segmentation analysis emphasizes active user engagement throughout the process, not merely during initial briefings or finalizing the marketing mix. Effective segmentation requires continuous organizational input, particularly after deciding to explore segmentation in Step 1. In Step 2, organizations must significantly contribute by defining two critical sets of segment evaluation criteria: knock-out criteria, which are essential and non-negotiable characteristics that potential segments must meet, and attractiveness criteria, which assess the relative appeal of segments that pass the knock-out criteria. These criteria guide key steps, notably Step 3 (data collection) and Step 8 (selecting target segments). Unlike general literature, which often provides a diverse range of criteria without distinguishing their purpose, this approach categorizes them distinctly to enhance clarity and decision-making efficiency. Table 4.1 illustrates a selection of proposed criteria, offering a structured perspective for evaluating potential market segments. Sections 4.2 and 4.3 outline two distinct sets of criteria from Table 4.1 for market segmentation. The "knock-out" criteria, which are non-negotiable, automatically disqualify certain segments from consideration. Conversely, the "attractiveness" criteria provide a more extensive and flexible selection framework, enabling the segmentation team to evaluate and prioritize segments based on their appeal to the organization. These attractiveness criteria are collaboratively negotiated and applied in Step 8 to determine segment suitability.

4.2 Knock-Out Criteria

Knock-out criteria determines a market segment's eligibility for further evaluation using attractiveness criteria. Originating with Kotler (1994) and Tynan and Drayton (1987), these

criteria include substantiality, measurability, and accessibility. Subsequent enhancements by Kotler and others have expanded this essential framework, solidifying its role in initial segment assessment. Below are the following knockout criteria:-

1) The segment must be homogeneous;
2) The segment must be distinct;
3) The segment must be large enough;
4) The segment must be matching the strengths of the organisation.
5) Members of the segment must be identifiable.
6) The segment must be reachable.

4.3 Attractiveness Criteria

In addition to essential knock-out criteria, Table 4.1 presents a diverse array of attractiveness criteria for evaluating market segments. Unlike the binary nature of knock-out criteria, attractiveness criteria allow segments to be rated on a spectrum of appeal. This nuanced assessment determines how attractive each segment is relative to specific criteria. The cumulative attractiveness, considering all criteria, guides the selection of target segments in Step 8 of the market segmentation analysis.

4.4 Implementing a Structured Process

The segmentation literature consistently advocates for a structured approach when assessing market segments, with the segment evaluation plot emerging as the preferred method . This plot (Fig 10.1) visually represents segment attractiveness against organizational competitiveness, enabling informed target market selection. The segmentation team determines these values, as no universal set of criteria applies to all organizations. This necessitates a comprehensive examination of potential factors, culminating in a consensus on the most pertinent ones. McDonald and Dunbar (2012) advise limiting the evaluation to a maximum of six key factors to streamline the process. Ideally, a diverse team should handle this task to incorporate varying perspectives and ensure alignment across organizational units (McDonald and Dunbar 1995; Karlsson 2015). When a core team of two to three individuals conducts the initial analysis, they should present their findings to an advisory committee comprising representatives from all organizational units for further deliberation. This inclusive approach recognizes the distinct viewpoints each unit brings and acknowledges their roles as critical stakeholders, given that the chosen segmentation strategy will impact every facet of the organization. Therefore, a collaborative process is essential for achieving a well-rounded and implementable market segmentation strategy. While the segment evaluation plot cannot be finalized in Step 2 of market segmentation analysis due to the absence of defined segments, early selection of attractiveness criteria holds significant advantages. Identifying these criteria beforehand ensures that data collection in Step 3 captures all pertinent organizational preferences related to market segments. Moreover, establishing these criteria early streamlines the task of selecting a target segment in Step 8, laying a foundation before specific segments are assessed. By the end of this stage, the segmentation team aims to define approximately six key attractiveness criteria, each weighted to reflect its importance. Negotiating these weights among team members and seeking approval from the advisory

committee, which offers diverse perspectives, enhances the robustness of the segmentation strategy.

Step 3 :- Collecting Data

5.1 Segmentation Variables

Empirical data forms the basis of both commonsense and data-driven market segmentation. Empirical data is used to identify or create market segments and later in the process– describe these segments in detail. The text distinguishes between commonsense and data-driven market segmentation. Commonsense segmentation relies on a single segmentation variable, such as gender, to divide consumers into distinct market segments, as shown in Table 5.1, where each row details a consumer's characteristics with binary indicators. Descriptor variables like age, vacation habits, and sought-after benefits provide in-depth segment profiles essential for crafting targeted marketing strategies. In contrast, data-driven segmentation uses multiple variables to discover or create segments, offering a more sophisticated approach for organizations to identify and engage their target audiences effectively. The examples highlight the importance of empirical data quality in market segmentation. In data-driven segmentation, segments are defined by shared benefits, such as tourists seeking relaxation, culture, and social interactions, rather than demographic factors like gender. Descriptor variables like age and vacation frequency enrich segment profiles. Accurate data ensures correct segment assignment and effective segment descriptions, facilitating tailored products, pricing, and communication strategies. Empirical data can be sourced from surveys, observations, or experiments. While surveys are common, they may not accurately reflect actual consumer behavior, especially in socially desirable contexts. Therefore, segmentation studies should use data that best mirrors real consumer behavior, ensuring robust and actionable market segmentation analysis.

5.2 Segmentation Criteria

Before extracting segments or collecting data, organizations must decide on a segmentation criterion, which is broader than a segmentation variable. Segmentation criteria include geographic, socio-demographic, psychographic, and behavioral factors. Key consumer differences involve profitability, bargaining power, benefit preferences, and choice barriers. The optimal criterion should reflect market knowledge and simplicity. Although psychographic segmentation may seem more advanced, simpler approaches like demographic or geographic segmentation are often recommended if effective and cost-efficient. As Cahill suggests, adopt the least complex method that works for the product or service, ensuring practicality and cost-effectiveness in the segmentation process.

5.2.1 Geographic Segmentation

Geographic information is the earliest segmentation criterion, using a consumer’s residence to form segments. This method is straightforward and effective for targeting through local media and customizing language and offers, as demonstrated by companies like Amazon and IKEA. However, geographic segmentation often oversimplifies, as location rarely correlates

directly with diverse consumer preferences. People in the same area may seek different benefits, like varying holiday ideals among nationals. Despite its limitations, geographic segmentation has regained popularity in international studies, necessitating meaningful, unbiased criteria across regions, exemplified by Haverila's study on young mobile phone users across countries.

5.2.2 Socio-Demographic Segmentation

Socio-demographic segmentation, using criteria like age, gender, income, and education, is effective in industries such as luxury goods, cosmetics, baby products, and tourism. These criteria offer easy determination of segment membership and may sometimes explain product preferences, such as families choosing child-friendly resorts. However, socio-demographics often provide limited market insight, explaining only about 5% of consumer behavior variance. Haley and Yankelovich suggest values, tastes, and preferences are more influential for understanding and predicting consumer buying decisions.

5.2.3 Psychographic Segmentation

Psychographic segmentation groups consumers based on psychological factors such as beliefs, interests, and benefits sought, encompassing all measures of the mind as defined by Haley (1985). Prominent types include benefit and lifestyle segmentation, focusing on motivations and activities. This approach offers deeper insights into consumer behavior compared to geographic or socio-demographic criteria but involves greater complexity due to the multi-faceted nature of psychological attributes. For instance, cultural travel motives often drive tourism choices. However, the effectiveness of psychographic segmentation depends on the reliability and validity of the measures used, complicating the determination of segment memberships.

5.2.4 Behavioural Segmentation

Behavioral segmentation extracts segments by analyzing similarities in consumer behaviors, such as purchase frequency, spending patterns, and information search behavior. Studies, such as Moscardo et al. (2001), show behavioral criteria outperform geographic variables. Behavioral segmentation is advantageous as it uses actual behaviors, offering more relevant insights, as seen in analyses by Tsai and Chiu (2004) and Heilman and Bowman (2002). This approach circumvents the need for psychological measures, focusing on behaviors that directly impact segment formation. However, behavioral data can be limited, especially for potential customers who have not yet purchased the product, making it challenging to include them in segmentation analyses.

5.3 Data from Survey Studies

Market segmentation often relies on survey data due to its affordability and ease of collection, but such data is susceptible to biases, potentially compromising the quality of segmentation results.

5.3.1 Choice of Variables

Careful selection of segmentation variables is crucial in both commonsense and data-driven segmentation to ensure high-quality market segmentation outcomes. In data-driven approaches, relevant variables aligned with the segmentation criterion should be included, while unnecessary ones must be avoided to prevent respondent fatigue and maintain response quality. Superfluous variables increase the complexity of segmentation without adding useful information, hindering accurate segment extraction. These "noisy" variables, often stemming from poorly developed survey questions or indiscriminate variable selection, obscure meaningful segment identification. Effective questionnaire design involves qualitative exploration to ensure all essential variables are captured without redundancies, enhancing the reliability and validity of segmentation analyses.

5.3.2 Response Options

Survey response options significantly impact subsequent data analysis suitability for segmentation. Binary options, generating binary data (0s and 1s), are straightforward for distance-based techniques. Nominal variables from unordered categorical options require transformation, while metric data (e.g., age) allow robust statistical analysis. Ordinal data, common in surveys with ordered response scales (e.g., Likert scales), lack clearly defined distances between options, complicating standard distance measures unless assumptions are made. Metrics or binary options are preferred to avoid such issues in segmentation analysis. Visual analogue scales offer a metric-like approach, advantageous for capturing nuanced responses online. Binary options often outperform ordinal scales in accuracy, particularly when used flexibly (DLF IIST).

5.3.3 Response Styles

Survey data can be biased due to response styles, where respondents consistently answer based on habits rather than item content. Response styles like extreme or midpoint bias can skew segmentation results, making segments appear more favorable or distinct than they are. For instance, an acquiescence bias could falsely indicate a segment as high-spending tourists when they simply agree with all questions. To ensure accurate segmentation, it's crucial to mitigate response styles during data collection. If identified, additional analysis or exclusion of affected respondents is necessary to refine segment interpretations and avoid misleading marketing strategies based on potentially skewed data patterns.

5.3.4 Sample Size

Statistical analyses often specify sample size requirements, but market segmentation analysis differs. Figure 5.1 demonstrates the impact of sample size on segmentation accuracy. With inadequate samples (left plot), determining market segments is unreliable, whereas sufficient samples (right plot) enable clear identification of segment number and characteristics.

5.4 Data from Internal Sources

Organizations increasingly utilize internal data sources such as scanner data from grocery stores, airline booking data from loyalty programs, and online purchase records for market segmentation. These data offer the advantage of reflecting actual consumer behavior rather than relying on self-reported or biased responses. They are readily accessible and automatically generated, requiring minimal effort to collect. However, internal data may be biased towards existing customers, lacking insights into potential new customer segments with different consumption behaviors, thus posing a limitation in market expansion strategies.

5.5 Data from Experimental Studies

Experimental data, derived from field or laboratory studies like consumer response to advertisements or choice experiments, provides valuable insights for market segmentation. Such data measures consumer preferences based on specific product attributes and levels, determining how these factors influence consumer choice.

Step 4 :- Exploring Data

6.1 A First Glimpse at the Data

The Australian travel motives dataset consists of responses from 488 women and 512 men. The age of participants is represented as a metric variable, with the summary providing the minimum (Min.), first quartile (1st Qu.), median, mean, third quartile (3rd Qu.), and maximum (Max.) values. Participants range in age from 18 to 105 years old, with half of them falling between 32 and 57 years. The dataset includes two income variables: Income and Income2. Income2 has fewer categories and is derived by consolidating less frequent high-income categories from Income. Both income variables contain missing data, signified by NAs (not available), with 66 respondents not providing income details.

6.2 Data Cleaning

Before data analysis, data cleaning is crucial, involving verification of correctly recorded values and consistent labels for categorical variables. For instance, age should logically fall between 0 and 110 years, and gender should typically have values "female" and "male." Inconsistent or implausible values must be corrected. In the Australian travel motives dataset, the Age and Gender variables require no cleaning. However, the Income2 variable needs re-ordering due to the default alphabetical sorting of categorical levels in R. This can be corrected by converting the variable into an ordered factor after verifying the new ordering through cross-tabulation. The same process applies to the Income variable. Maintaining reproducible R code for data transformations is essential for documentation and allows other analysts to replicate the process. This is especially important for ongoing data monitoring. After cleaning, the dataset should be saved with save() and re-loaded in future sessions using load().

6.3 Descriptive Analysis

Familiarity with data is crucial to avoid misinterpretation in complex analyses. Descriptive numeric and graphical representations provide valuable insights. In R, the summary() command offers a numeric overview, including range, quartiles, and mean for numeric variables, and frequency counts for categorical variables, along with missing values. Graphically, histograms, boxplots, and scatter plots are effective for numeric data, while bar plots and mosaic plots aid in visualizing categorical data. Histograms display the distribution by binning data into adjacent ranges and plotting observation frequencies, revealing the data's modality and symmetry. These tools are essential for understanding and accurately interpreting the dataset.

6.4 Pre-Processing

Two pre-processing techniques for categorical variables are merging levels and converting categories to numeric values. Merging simplifies overly granular categories, while conversion suits ordinal data with equal scale intervals. Binary variables are easily numerically coded. In segmentation, balancing variable influence is crucial. Standardization adjusts variable ranges to ensure equal weight in distance-based segmentation methods, thus maintaining balance in results.

6.5 Principal Components Analysis

Principal Components Analysis (PCA) transforms multivariate metric data into new uncorrelated variables called principal components, ordered by the variance they capture. The first component explains the most variability, the second explains the next most, and so on. PCA maintains the data’s relative positions and original dimensionality but provides a new perspective. It utilizes the covariance or correlation matrix, with the latter being preferred if data ranges differ. PCA often reduces dimensionality for visualization, focusing on the first few components that capture most of the variation. Typically, the first two principal components are plotted in a scatter plot for analysis.

Step 8 :- Selecting (the) Target Segment(s)

10.1 Targeting Decision

Step 8 is pivotal in market segmentation analysis, marking the crucial decision point where the most promising segments for targeting are selected. This step transforms strategic planning into long-term commitments, significantly shaping the organization's future performance. By this stage, the segmentation journey has progressed from identifying global solutions in Step 5, to profiling segments in Step 6, and detailed descriptions in Step 7. The focus now is on choosing target segments from those scrutinized earlier. Building on Step 2’s groundwork, where knock-out and attractiveness criteria were established and weighted, Step 8 leverages this foundation. Knock-out criteria have likely been applied during profiling (Step 6) and detailed descriptions (Step 7), revealing segments that do not meet essential conditions such as size, homogeneity, distinctiveness, identifiability, and reachability. In Step

8 of market segmentation, the initial task is to verify that potential target segments have successfully met the knock-out criteria. The segmentation team then assesses the attractiveness and organizational competitiveness for these remaining segments. This evaluation involves determining which segments the organization most desires to target and assessing the likelihood that these segments would prefer the organization's offerings over competitors. These considerations guide the final decision on selecting the target segment, ensuring alignment between organizational goals and market opportunities.

10.2 Market Segment Evaluation

Books on target market selection, such as McDonald and Dunbar (1995) and Lilien and Rangaswamy (2003), advocate using a decision matrix to visualize and compare segment attractiveness against organizational competitiveness for each segment. Various matrices, including the Boston matrix, General Electric/McKinsey matrix, and directional policy matrix, serve this purpose. These tools aid in evaluating potential market segments to select the most viable ones for targeting. The choice of matrix depends on its suitability for decision-making. The axes of these matrices represent segment attractiveness and relative organizational competitiveness. Segments are depicted as circles, with their size representing additional relevant criteria like turnover contribution or loyalty. Given the absence of a universal metric, users must align their evaluations with the ideal target segment criteria and weighted attractiveness measures. In Step 8 of market segmentation analysis, selecting the target segment hinges on quantifying each segment's value for the specified attractiveness criteria. These values are derived from segment profiles and descriptions established in Steps 6 and 7. The segmentation team assigns a value for each attractiveness criterion to each segment. These values are then multiplied by the predetermined weights from Step 2, resulting in weighted attractiveness scores for each segment. These scores are aggregated to represent each segment's overall attractiveness, which is plotted on the x-axis of the segment evaluation plot. To assess segment attractiveness, each market segment is rated from 1 to 10, with 1 being the lowest and 10 the highest value. Each rating is then multiplied by the respective criterion's weight, and the results are summed to yield the segment’s overall attractiveness value. The same methodology applies to evaluating relative organizational competitiveness, considering criteria such as product appeal, pricing suitability, distribution channels, and brand awareness.

Conclusion

This report outlines the essential actions and factors for successful market segmentation. Adhering to these principles will allow us to focus our marketing initiatives more accurately, allocate resources efficiently, and bolster our strategic achievements.