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A Cautious Tale of Market Segmentation:
A *Behavioral* Perspective

Traditional Approaches to Segmentation are Limited

What are the traditional approaches?

Traditional approaches to market segmentation make use of demographic information (e.g., age, gender, socioeconomic status, place of residence) and people's stated preferences to identify segments of a target market. For instance, one might use information about a population's age, gender, socioeconomic status, place of residence, and what they say about their needs and attitudes. Traditional approaches often also rely on constructed prototypes or personas based on what we think particular groups of customers like and how we expect they will behave. Segments that are derived from this information are used to develop strategies that aim to encourage particular behaviors.

Why are traditional approaches problematic?

Conducting personalized consumer targeting requires understanding market segments *at the level of behavior* in order to ensure that products, services, and messaging drive desired outcomes. Yet traditional approaches typically do not provide information about segments at the level of behavior.

Demographics, explicit attitudes, stated needs, and qualitative personas that strive to represent the typical consumer may be appealing in their descriptive simplicity, but they are poor predictors of actual behavior. They are limited because this type of segmentation often uses top-down approaches in which we create categories a priori, and then differences in behavior are tested based on these categories. This approach leads to overgeneralization and does not tap into the hidden psychological motivators that truly differentiate consumers.[1]

Although problematic, this top-down approach to segmentation is alluring because of the human tendency to categorize and overgeneralize (or "stereotype"). We are influenced by numerous biases, and these biases are one of the reasons why we find surface-level segmentation so comforting, appealing, and logical. For instance:

1. **We tend to group things into categories.** Humans have a natural tendency to categorize and group objects in their world. This is ingrained even in how our visual system works,[2] and is the reason we perceive objects as distinct entities (e.g., Dave is a person who is holding a coffee cup; we do not perceive that the coffee cup is part of Dave's hand). This tendency to group objects pervades the way our brains function. The problem, however, is that this tendency results in us forcing things that don't belong together into categories—for instance, grouping all Asians together and then applying stereotypes to them. The same thing happens with generational labels.

[1] Chapman, Christopher, & Milham, Russell. (2006). The personas' new clothes: methodological and practical arguments against a popular method. *Proceedings of the Human Factors and Ergonomics Society Annual Meeting.* 10.1177/154193120605000503.

[2] Logothetis, N. K., & Sheinberg, D. L. (1996). Visual object recognition. *Annual Review of Neuroscience, 19*(1), 577–621.

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2. **We fall prey to clustering illusion bias.** Our tendency to categorize things is amplified by our susceptibility to the clustering illusion bias. This bias causes us to imagine a simplified schema ordering things to make sense of apparent chaos.[3] We can look at a cloud and see a rabbit, but we all know it isn't there. Unfortunately, with demographic segmentation, there's no rational voice telling us that the elegant segmentation solution is inaccurate.

   The good news is that it is not hard to poke holes into our illusions about clusters. For example, BEworks recently gave a lecture about segmentation to a class of third- and fourth-year undergraduate students. Our lecturer, after having observed the students for a while, made the remark: "You are all millennials." Not surprisingly, the students agreed with that statement. But the next statement, "So you all have identical attitudes, preferences, and behaviors," drew puzzled stares as they looked at each other and realized that nothing could be further from the truth.

3. **We prefer simple solutions to complex problems.** Mental shortcuts are an evolutionary solution to the fact that our minds are constrained by energy, time, and willpower, so if we can take mental shortcuts, we will. Categorizing things is a way for our minds to deal with the complexity of the world. It may be easier for us to group people into categories than to have to analyze all the nuanced ways in which people are similar to and different from each other.

4. **Once we have initial categories in mind, we give in to confirmation bias.** Confirmation bias is the tendency to seek out and remember information that confirms our initial beliefs and ignore information that challenges them.[4] This can be problematic because it causes our initial system of categories to calcify over time.

5. **We also fall prey to the availability heuristic.[5,6]** The availability heuristic is the tendency to rely on information that comes to mind quickly and easily when making decisions, rather than information that is more difficult to remember or access. But information that is memorable may be so simply because it is extreme or confirms our beliefs, resulting in decisions being made on the basis of low-quality information. This means that when we start with shallow segments or personas, we may attend to circumstances that end up confirming our skewed beliefs.

Moreover, with traditional approaches to market segmentation, there is no effective way to test whether personas based on demographics and explicit attitudes accurately capture the population of interest.[7] It is therefore important to make use of methodologies that are both data-driven and sensitive to the psychological differences that truly drive behavior change.[8]

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[3] Gilovich, T. (2008). *How we know what isn't so: The fallibility of human reason in everyday life*. New York: Simon & Schuster.

[4] Nickerson, R. S. (1998). Confirmation bias: A ubiquitous phenomenon in many guises. *Review of General Psychology*, *2*(2), 175–220.

[5] Schwarz, N., Bless, H., Strack, F., Klumpp, G., Rittenauer-Schatka, H., & Simons, A. (1991). Ease of retrieval as information: Another look at the availability heuristic. *Journal of Personality and Social Psychology*, *61*(2), 195.

[6] Carroll, J. S. (1978). The effect of imagining an event on expectations for the event: An interpretation in terms of the availability heuristic. *Journal of Experimental Social Psychology*, *14*(1), 88–96.

[7] Chapman, Christopher, & Milham, Russell. (2006).

[8] Salminen, Joni, Jung, Soon-Gyo, & Jansen, Bernard. (2019). The future of data-driven personas: A marriage of online analytics numbers and human attributes. *Proceedings of the 21st International Conference on Enterprise Information Systems - Volume 1: ICEIS*. 608–15. 10.5220/0007744706080615.

The Alternative: Behavioral Segmentation

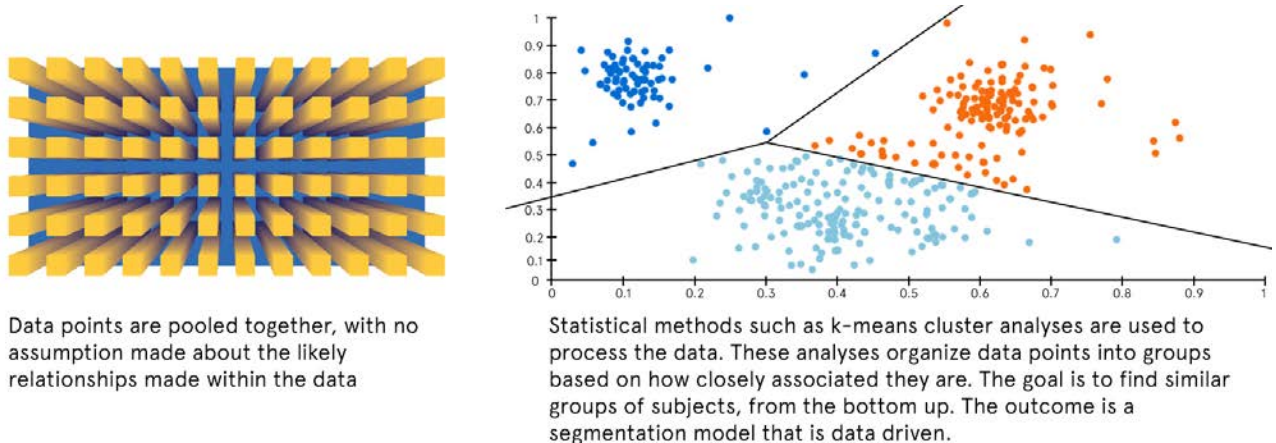## What is Behavioral Segmentation?

At BEworks, we base market segmentation on actual behavior (see Figures 1 and 2). We collect behavioral data and then create categories based on similarities in behavior. Using behavior as a basis of segmentation yields insights that are more actionable because the hypothesis that these individuals behave similarly is based on empirical evidence.

For example, rather than assume that all millennials will behave identically (which on inspection seems to be a questionable assumption), we ignore superficial characteristics and go directly to the behavior of interest. In retail banking, past behavior might include product and channel preferences that customers have already chosen.

Figure 1. A representative sample is selected from the target population, and each participant is asked to respond to a variety of behavioral indicators, as well as perception measures and intention measures. For perception and intention measures, we avoid asking people to explicitly state their preferences and intentions; rather, we rely on revealed preferences.

Figure 2. Example of how data is analyzed for behavioral segmentation. Critically, perceptual and behavioral indicators are pooled together and then are agnostically used to form clusters. The final outcome is a set of data-driven (bottom-up) clusters that form the segments within the model.

Data points are pooled together, with no assumption made about the likely relationships made within the data

Statistical methods such as k-means cluster analyses are used to process the data. These analyses organize data points into groups based on how closely associated they are. The goal is to find similar groups of subjects, from the bottom up. The outcome is a segmentation model that is data driven.

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Behavioral Segmentation in Action

Behavioral segmentation to increase bill payment: Using BE-based communications to optimize collections communications

Alectra Utilities, a Canadian electricity utility and distributor, found that some customers were not paying their electricity bills during the winter months when the utility had little recourse to collect on overdue accounts because there was a ban on disconnections. We therefore partnered with Alectra Utilities to identify behavioral characteristics of the customer population and how those characteristics affected bill payment. Using this information, we were able to develop strategic approaches to collections communication that effectively targeted different behavioral segments.

In particular, two key segments were found to be critical in the collections process: customers with a good payment history, and recurring collections customers. The key behavioral barriers to bill payment differed between these two segments and therefore warranted distinct strategies to drive payment on overdue accounts. We therefore developed novel, behaviorally informed communications to target these segments, and then tested their efficacy using a randomized controlled trial experiment that is currently in field.

The primary advantage of this approach is that designing strategies around psychological or behavioral components of customer behavior translates to a greater likelihood of achieving the desired response. And testing the strategies objectively delivers certainty that the proposed strategies will be effective before expending resources on a marketplace launch.

Clustering demographic and Behavioral Segments can reveal vital information about product or service preferences

BEworks partnered with SideWalk Labs, a Google infrastructure company, to understand the behavioral characteristics underlying motivation for car ownership and the likelihood of adopting mobility services (i.e., self-driving car services and fractional vehicle ownership). BEworks used a conjoint analysis to examine the trade-offs that customers make when choosing their ideal features in a mobility package. This led to insights about the types of behavioral motivations that cluster together to drive willingness to adopt mobility package services.

Considering both the behavior and its associated demographic characteristics provided valuable insights into consumer behavior to 1) develop the optimal product for consumers' needs and interests and 2) improve the likelihood of them adopting a new product or service given these baseline preferences. We found that some people value always having a car available, while others are comfortable with less than 100% certainty that a car will be available at any given time and instead value variety in being able to choose a different car (a two-seater sports car for weekends or a larger SUV for grocery shopping). Using the millennial example again, some millennials want to know the car is in the driveway, while others are flexible about when they use the car and enjoy variety. Knowing only that they are millennials would not have explained their preferences.

How Might Behavioral Segmentation Benefit You?

The BEworks method provides insight into distinct psychological factors that have a direct impact on behavior and enable precise identification of your target population. These psychological factors are usually hidden. Our method helps surface and quantify these factors, enabling targeted behavioral solutions.

Ultimately, applying Behavioral Segmentation lets you produce messaging, customer experiences, conversations, and overall strategies that are built for what people actually *do*.
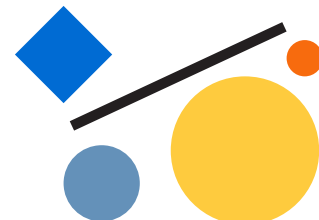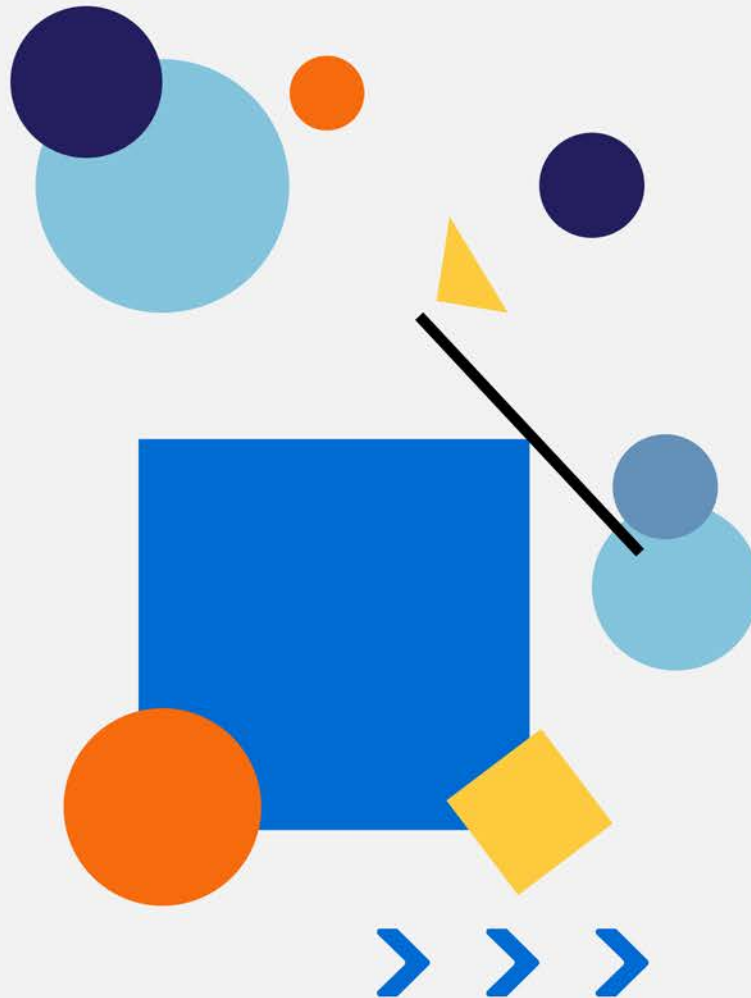
Questions to Get You Started

Your targets and goals:

1) Who is the target population? In what geographic region?

2) What are the top priority behaviors that you would like to change in the target population?

3) For your segmentation needs, what is the goal? To drive:

» Acquisition

» Cross-sell

» Pricing

» Upsell

» Product design

» Communication strategies

» Business model planning and forecasting

» Other

4) What business risks are you looking to mitigate, if any, with this work?

Building on your existing work:

5) What segmentation research, if any, have you done already with the target population?

6) What methods were used?

7) Were there any key gaps in insights in this prior research? What were the gaps or outstanding questions?

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