



Market Segmentation Research: Beyond Within and Across Group Differences

GREG ALLENBY*

Ohio State University

**Co-chairs, authors are listed alphabetically*

GERALDINE FENNELL*

Consultant

**Co-chairs, authors are listed alphabetically*

ALBERT BEMMAOR

ESSEC

VIJAY BHARGAVA

Elan Consulting Group

FRANCOIS CHRISTEN

Wells Fargo Bank

JACKIE DAWLEY

Insight Analysis

PETER DICKSON

Florida International University

YANCY EDWARDS

University of Delaware

MARK GARRATT

Miller Brewing Company

JIM GINTER

Ohio State University

ALAN SAWYER

University of Florida

RICK STAELIN

Duke University

SHA YANG

New York University

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Abstract

Market segmentation research is currently focused too narrowly on the task of segment identification as opposed to its strategic relevance within a firm. In this paper we distinguish an *ex ante* approach to market segmentation research, which begins with studying the motivating conditions that lead people to the tasks and interests in their lives, from an *ex post* approach which begins with an individual's reaction to marketplace offerings. We argue that the marketing task of guiding managements to 'make what people will want to buy' will be more successful in light of a deep understanding of behavior in the context of everyday life and work, rather than a detailed understanding of preferences in the marketplace. Directions for future research are discussed.

Key words: market segmentation, market definition, motivation, occasion for action

1. Introduction

Market segmentation research is a process that goes on longer than the data collection and analysis. The output is not just segments. It involves obtaining behavioral information that is useful in guiding managerial choices among options for strategic action. The outcome of market segmentation research is part of corporate culture, providing discrete labels for groupings, which organize managerial thinking and facilitate communication by providing concrete characterizations of consumer wants within a market.

In this paper, we examine the current state of market segmentation research and identify avenues for development. Although research on the topic of segmentation has a long history in marketing, recent work is too narrowly focused on the task of segment identification as opposed to the broader issue of the informational content obtained and segments' strategic relevance. Market segmentation is a conceptually rich area of research that touches on issues such as market definition, the unit of analysis, type of consumer behavior to be explained, appropriateness of basis variables, and the relation of all of these considerations to managerial tasks.

The organization of this paper is as follows. Section 2 reviews the evolution of market segmentation research, introducing alternative perspectives and critical dimensions. Section 3 introduces a stylized model of consumer behavior that helps to organize the alternative perspectives and key elements of market segmentation analysis—the universe being segmented, dependent variable, independent variable, and managerial task. Section 4 provides a discussion of topics for further research.

2. The Evolution of Market Segmentation Research

The original paper on market segmentation discussed two distinct orientations to product policy, i.e., market segmentation and product differentiation (Smith 1956). Market segmentation referred to making product decisions after studying and characterizing the diversity of wants that individuals bring to a market, while, for Smith, product differentiation referred to product decisions taken relative only to a firm's competitors. Since this original article, *market* segmentation and *market* segmentation research/analysis, while still retained in the title of articles and books, is often replaced by a discussion of segmentation research, which concerns a search for groups of consumers from the general

population, and sometimes even customers, with similar within-group and different across-group response (see Frank, Massy and Wind 1972, Wedel and Kamakura 2000). Oversimplifying the differences, such an orientation takes us from the search for variables that describe behavioral wants among prospects, i.e., conditions allocating people's resources to specific tasks and interest of everyday life, to characterizing how individuals vary in their reactions to a range of marketing variables. Examples of behavioral wants are being thirsty, the desire to live up to one's image as a health conscious adult, to satisfy one's curiosity, and to enjoy sensory pleasure.

This shift in focus over the years has important implications. While both orientations (*market* segmentation and segmentation) are concerned with explaining some type of consumer behavior, the original focus on product strategy was associated with conditions and activities outside the marketplace. Individuals engaged in oral hygiene activities, for example, experience a variety of conditions ranging from concern for particular aspects of teeth care (cavity prevention, gum disease, teeth whiteness) to social expectations about the sort of person they would be if they didn't brush regularly. Such orientations exist in the context of everyday life, regardless of whether or not marketers notice. The goal of market segmentation analysis is to describe such within-product category conditions that point to valued attributes and benefits.

In contrast to *market* segmentation research, segmentation research is an approach aimed at characterizing across group differences in domains other than product strategy. In instances where it is conducted among members of the general (adult) population, it implicitly addresses issues of market definition (e.g., where and how consumers shop, are exposed to marketing communications, broad price level preference—premium, discount). In other cases, where only a firm's current customers are studied, a typical goal is exploring how to generate additional business with existing offerings within that universe. Moreover, the focus shifts from identifying wants in the conditions that prompt prospects to pursue their tasks and interests, to identifying differences in consumer reaction to a range of marketing variables such as price and channel of distribution. In the discussion below we focus on *market* segmentation research. We consider, first, approaches aimed at understanding behavioral wants as they arise in the conditions of people lives outside the marketplace. We then turn our attention to attempts to read wants from prospects' reactions to marketplace offerings.

3. A Framework for Market Segmentation

For close to a century, authors are on record as appreciating the complexity of delivering production's obligation to respond to human wants, given the diversity of wants (Shaw 1912, Smith 1956). Market segmentation research has been industry's practical approach to finding guidance for this task. Consider what is at issue. Regarding any one offering, management has resources to invest in responding to a finite set of human wants. Within a product category, it considers the diverse nature of wants, current state of want satisfaction—reflecting its own and competitive response—and its likely ability to obtain a satisfactory return from supporting or continuing to support an offering. Providing information about wants within a market is the task of market segmentation research.

Comprehensive models of consumer behavior have appeared in the marketing literature for more than 30 years and describe a complex, multi-event behavioral process (Nicosia 1966; Engel, Kollat, and Blackwell 1968; Howard and Sheth 1969; Dickson 1982; McFadden 1986; Fennell 1988; Ben-Akiva et al. 1999). An abbreviated model of brand choice based on Fennell (1988, 1980; cf. Dickson 1982) that focuses attention on variables of interest is displayed in Figure 1. Personal and environmental systems intersect to form motivating conditions, or wants, allocating an individual's resources to a domain of action, within a situation as perceived. For example, an individual eating spicy food at a party becomes concerned about an upset stomach or bad breath; considers spending his or her resources to use some version of a product likely to provide benefits that address the motivating conditions; searches for a vending machine.

Viewed from left to right, the model represents a behavioral process that allocates an individual's resources to a substantive domain (e.g., stomach condition), and desired state (e.g., not feeling upset), and directs how the individual deploys those resources within that domain—favoring actions and objects (consuming brand of stomach remedy, retail outlet)

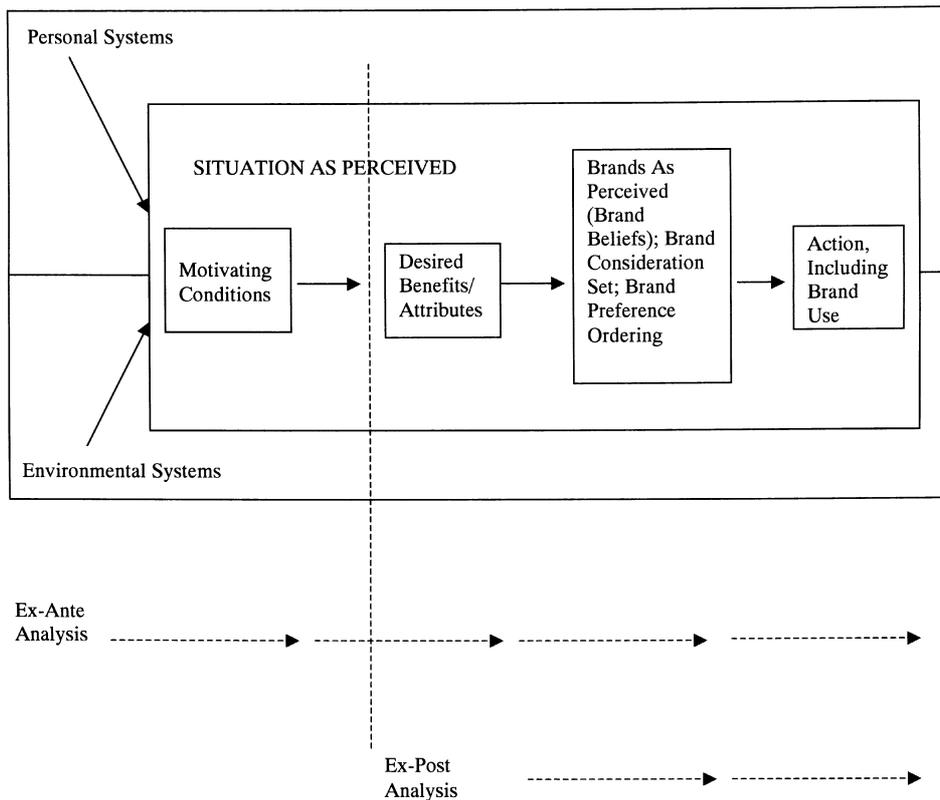


Figure 1. Model of Action and Brand Use.

likely to bring about an improved state of being. Management's advertising promises that its brand offers certain attributes and benefits, which management has arranged to deliver via the brand's physical and psychological formulation. For benefits to exist, there must be brand triers and users who value the outcome that the brand's attributes can deliver, find and select the brand, and use it with satisfaction. The presence of motivating conditions without corresponding marketplace offerings can be regarded as unmet demand. Similarly, the presence of offerings without corresponding motivating conditions likely leads to insufficient sales for satisfactory return on management's investment.

There are two approaches to market segmentation research—*ex ante* and *ex post*. An *ex ante* approach begins by studying the motivating conditions that lead people to the tasks and interests in their lives. Such an analysis provides guidance for product strategy as implemented in brand positioning—physical and psychological formulation—and marketing communications. It is through a deep understanding of the conditions that give rise to action within its product domain that management learns the attributes that people value in brand offerings, and the conditions to portray to gain targets' attention via advertising. In principle, if manufacturers had accurate information on all motivating conditions within the focal behavioral domain, and the ability to produce and deliver unique product offerings at low cost, then even individual customization of offerings would be a viable product strategy. As more data are collected from multiple "touch-points" such as the Internet, point-of-purchase and direct marketing, and were cost of customization to decline, does market segmentation research become obsolete? We return to this topic later.

An *ex post* approach to market segmentation research begins with an individual's reaction to marketplace offerings. This may take the form of ratings of product attributes/benefits (e.g., benefit segmentation, Haley 1968; part-worths of conjoint analysis). By focusing on what people must choose among, rather than what the conditions they experience call for, *ex post* market segmentation research changes from a task of identifying motivating conditions to guide product strategy, to trying to read wants from reactions to product attributes and benefits as found in existing offerings.

Finding an appropriate way to measure wants is a central issue in market segmentation research and affects the likely amount of achieved understanding available to guide strategic action. However, the nature of the explanatory variables used in the analysis is but one of a number of key aspects in need of clarification and development. Among such issues are the other elements present in an analysis, including the universe being segmented and the behavior to be explained. These issues are discussed next.

3.1. Ex Ante Market Segmentation Research

Market segmentation research starts by specifying membership qualification for the market in which the diverse nature of demand is to be described. Since this demand exists in the form of motivating conditions, it is necessary to map from the product class under consideration (e.g., shampoo) to a corresponding range of behavior (e.g., hair care). In an *ex ante* analysis, the behavior of interest exists outside of the marketplace. If the product category is shampoo, for example, market membership consists of individuals who qualify

as likely to spend on buying shampoo, e.g., people who wash their hair at least once a week.

Qualitative research among market members to investigate motivating conditions (relevant to hair care) starts with the broader domain of personal grooming, and within that domain, narrows down through personal hygiene routines, to hair washing. The unit of analysis, then, for describing human behavior is the context for engaging in individual instances of activity, and the relevant universe is enumerated in person-activity occasions (e.g., individuals who shampoo their hair at least once a week, multiplied by the number of occasions per person in an appropriate time period such as a calendar year). For some activities, such as doing the family laundry, however, the occasions may typically occur in a relatively unchanging objective environment, and the unit of analysis could be person-activity (e.g., people who do family laundry). For other activities, such as snacking or drinking beer, the activity can occur in distinct kinds of objective environment. In these instances, it is essential to bear in mind that the universe is enumerated in person-activity occasions (e.g., beer drinkers times occasions per person for drinking beer) rather than only in qualified respondents across all occasions, since what consumers want may vary intraindividually (Belk 1975, Dickson 1982, Miller and Ginter 1979). For example, consider someone contemplating a beer to sip in an up-scale, pricey bar after work vs. a nightcap in the neighborhood tavern vs. after Sunday morning mixed doubles tennis. Motivations are heterogeneous within objective environment. As shown in Figure 1, motivating conditions arise from intersecting personal and environmental systems, and can change within and across individuals, as personal and environmental conditions change. As illustrated by Yang, Allenby and Fennell (2002), motivating conditions can also be strongly related to brand preference and the importance of attribute-levels.

The motivating conditions are the independent, or basis, variables in market segmentation research. In an *ex ante* analysis, they can be operationalized as concerns and interests relevant to an activity (e.g., Fennell 1997). We note that our use of the word "motivation" refers to a qualitative variable that selects a domain (oiliness of hair on head) and direction of adjustment (e.g. more/less) believed likely to improve one's state of being. In contrast to the term, "motive," which refers to a trait-like variable intended to apply across activity and over time (e.g. high need for cleanliness), motivation refers to a variable whose scope is appropriate to a single occasion of an activity (e.g., my hair looks dull and oily). We reject "motive" for the purpose of market segmentation because the scope of a trait-like term is unnecessarily broad in the context of marketing where goods/services are developed and supported, one at a time, each within its own substantive and competitive universe. Examples of items written to reflect motivating conditions for darkening the edges of one's eyelids as found through qualitative research include "my appearance is weak and nondescript," "I look too pale around my eyes," and "it makes me look sophisticated" (see Fennell, Saegert and Hoover 1997).

Compared with the general content of demographic and general psychographic variables, the content of motivational variables reflects diverse contexts *within* product category. Demographic and general psychographic variables are trait-like descriptors of individuals that are presumed to hold across activity and context within activity. Similarly, environment-descriptive (e.g., geographic region) variables refer to location variables that are context free.

While these variables do provide information about likely users of products and the activities in which they engage (e.g., young people drink more beer than old people and participate in more strenuous exercise; old compared with young people are more likely to wear dentures and use related products), they lack content relevant to the specific personal and environmental elements present in the context for action and relevant to the attributes and benefits that market members likely find valuable in brands (Fennell and Allenby 2002; cf. Kennedy and Ehrenberg 2001). This is because motivating conditions arise from intersecting personal and environmental elements, and not from either in isolation.

Ex ante analysis provides insights into the conditions prompting individuals to pursue their tasks and interests. Such an analysis guides management regarding the nature of benefits for which individuals may consider spending resources. Strategic considerations such as positioning (physical and psychological formulation), writing selling propositions, and choosing executional elements to engage targets' attention are better crafted in light of motivating conditions as understood from an ex ante perspective.

3.2. Ex Post Market Segmentation Research

In ex post market segmentation research, researchers seek information about wants through respondents' reaction to product attributes and benefits (e.g., ratings of attributes/benefits; conjoint analysis). A limitation of this approach is that it fails to shed light on the motivating conditions that ultimately determine the kinds of benefits and attributes that prospects will value. For example, dog owners who give a high rating to "good canine nutrition," may do so because their dog is experiencing poor health, they want to nurture a pampered pet, or ensure that a working watchdog is properly nourished. Accordingly, not only guidance on brand formulation but advertising execution is indeterminate from information obtained in the form of reactions to product attributes/benefits, e.g., high ratings of "good canine nutrition." Moreover, if motivating conditions are not fully reflected in the current set of product attributes and benefits, then wants will be less than optimally served and an ex post analysis will again provide an incomplete view of the sources of human action. Finally, the real world facts concerning the unit of analysis (i.e., an occasion for engaging in the focal activity), as well as how the market is properly enumerated (i.e., qualified individuals times occasion per person for engaging in the focal activity), are not accessible in an ex post view, which as noted lacks variables to represent conditions upstream from the marketplace.

The limitations of marketplace data in not revealing the environments in which brands are consumed, nor the motivating conditions of the current and potential customers within these environments, is not resolved by obtaining, integrating and analyzing data from multiple "touch-points." All marketplace data suffer from these same limitations, which are not resolved by pooling information across different transactions and/or consumers. As McFadden notes (1986, p. 275) "revealed market data" are inadequate in describing the underlying mechanisms that govern behavior. Manufacturers therefore do not have access to sufficiently accurate information to execute mass-customization strategies without substantial participation, or co-production, by consumers. While co-production

strategies can result in a proliferation of offerings when component-based manufacturing is employed (e.g., personal computers, personalized music CD's), manufacturers will still need to strategically determine the components made available for assembly. Such considerations along with the obviously troubling sampling issues, including self-selection mean that market segmentation research/analysis will continue to play its essential role in guiding product investment decisions.

Another problem with ex post segmentation is that the co-evolution of supply and demand creates *evolving* peaks in the preference space around the successful extended product or service, including the distribution/service channel (see Dickson 1992; Arthur 1994; Dickson, Farris and Verbeke 2000). This evolution in the cumulative design of products and the marketing mix that builds incrementally on past actions can develop technological, asset and learning path dependencies that blind the firm to other ex ante segment opportunities and create severe barriers to mobility (i.e., through the redeployment of resources). Ex ante research that starts from understanding the conditions that give rise to a person's activity, rather than how a specific product category satisfies, is likely to spot new market growth opportunities as it is somewhat (but not totally) freed from the influence of current and feasible technological approaches.

Finally, there exists a recent literature on statistical techniques for market segmentation that uses sales scanner data to make inferences about brand preference and attribute importance (Kamakura and Russell 1989; Fader and Hardie 1996). A potential advantage of this approach is that it results in groupings that are more directly linked to actual marketplace preferences and behaviors. However, when these approaches are viewed in light of an extended model of behavior that includes variables such as motivating conditions, product benefit/attribute importances, consideration set, and brand beliefs, they are seen to be under-specified. These approaches suffer from the same limitations discussed above that are associated with all ex post approaches for understanding human wants. In addition, to the extent that management uses such data for strategic guidance, it should bear in mind that, obtained from a universe of customers, the data do not reflect the full range of market response, omitting as they do information from prospects who are not customers.

4. Discussion

Marketing success, just as business success, depends on the return from management's investment in designing, producing, promoting, and selling an offering. The offering that is the object of marketplace exchange is a brand. Brand purchase/use, repeat purchase/use are prime measures of marketing and business success. Such measures are central to marketing as a managerial function and disciplinary domain. Correspondingly, the essential focus for research and conceptual development in marketing is the *intra* product level of analysis, which includes all the variables that are relevant to brand use, as outlined, for example in Figure 1.

From the start, market segmentation research has had the clear, strategically essential objective of providing a description of the diverse nature of demand and state of want-

satisfaction within management's product market. Huge consumer data-bases (that must deliver more "confidence"?) and highly sophisticated tools (that must deliver more "insight" and "rigor"?) when used to analyze the ex post behavior of consumers, cannot retrieve crucial analytic distinctions and relevant data pertaining to the conditions that prospects experience outside the marketplace, which are accessible only via an ex ante approach. Much of the current research on heterogeneity (Allenby and Rossi 1999; Wedel et al. 1999), for example, lacks the substantive focus needed to guide strategic decisions, including how best to deploy its resources in a particular product market by responding to some subset of behavioral wants as found.

Additional research is needed on the key elements of market segmentation analysis—the universe being segmented, dependent variable, independent variable and managerial task. As noted, market segmentation starts by specifying membership qualification for the market in which the diverse nature of demand is to be described. As this demand exists in the form of motivating conditions, it is necessary to map from the product class under consideration to a corresponding range of behavior. Since the universe is properly enumerated in person-activity occasions, the sampling plan should consider such occasions over time and geographic space. When values of personal and environmental variables are stable, intraindividually, across occasions, it is likely possible to cut corners by asking respondents to reply by summarizing over occasions. Research is needed to investigate the extent to which such an approach leads to misleading results.

Numerous variables exist in market segmentation research, including the personal relevance of motivating conditions and the frequency with which qualitatively distinct conditions occur, the part-worths of attribute-levels, brand beliefs, consideration sets and actual brand use. Methods are needed for studying marketplace variables (e.g., part-worths) for strategically interesting groups based on the motivating conditions. Such analysis is at the core of market segmentation research, as managements attempt to understand how prospects with a particular kind of behavioral demand view existing offerings.

The relationship between market segmentation research and the managerial task is the final area where we discuss opportunities for research. Once management learns of the diverse nature of wants through market segmentation research, it also considers the current state of want satisfaction, reflecting its own and competitive responses, and its own abilities, in deciding whether or not to continue to support in same or altered form, to withdraw its offering, or design a new entry. Methods of taking account of the various considerations, possibly with the use of statistical decision theory, are needed.

To some practitioners and scholars our lack of emphasis here on "segmenting" consumers by their shopping behavior or responsiveness to marketing mix elements may seem out of touch with the potential for mining today's data-bases. Understanding where and how prospects shop is one facet of the task of market definition, but not market segmentation. Studying choice among currently available alternatives is important for cross-selling and tactical price management, but these data lack information about the upstream conditions that lead to a deep understanding of consumer preference for a specific brand. The search for useful ways to describe human "wants" and "prospect requirements" is ongoing. We hope that the spotlight we have shone on market

segmentation research will help to bring it back to center stage to receive the research resources its strategic relevance warrants.

References

- Allenby, Greg M., and Peter E. Rossi. (1999). "Marketing Models of Consumer Heterogeneity," *Journal of Econometrics*, 89, 57–78.
- Arthur, W. Brian. (1994). *Increasing Returns and Path Dependency in the Economy*. Ann Arbor: The University of Michigan Press.
- Belk, Russell. (1975). "Situational Variables and Consumer Behavior," *Journal of Consumer Research*, 2 (December), 157–164.
- Ben-Akiva, Moshe et al. (1999). "Extended Framework for Modeling Choice Behavior," *Marketing Letters*, 10(3), 187–203.
- Dickson, Peter R. (1982). "Person-Situation: Segmentation's Missing Link," *Journal of Marketing*, 46 (Fall), 56–64.
- Dickson, Peter R. (1992). "Toward a General Theory of Competitive Rationality," *Journal of Marketing*, 56, 1–10.
- Dickson, Peter R., Paul W. Farris, and Willem J. M. I. Verbeke. (2000). "Dynamic Strategic Thinking," *Journal of the Academy of Marketing Science*, 29(3), 216–237.
- Engel, James F., David T. Kollat, and Roger D. Blackwell. (1968). *Consumer Behavior*. New York: Holt, Rinehart and Winston.
- Fader, Peter S., and Bruce G. S. Hardie. (1996). "Modeling Consumer Choice Among SKUs," *Journal of Marketing Research*, 33 (November), 442–452.
- Fennell, Geraldine. (1980). "The Situation," *Motivation and Emotion*, 4 (December), 299–322.
- Fennell, Geraldine. (1988). "Action as Counterchange: Identifying Antecedents of the Domain and Goal of Action," in *Proceedings*, Editor, L. Alwitt, Division 23, 95th Annual Convention of the American Psychological Association, 122–129.
- Fennell, Geraldine. (1997). "Value and Values: Relevance to Advertising." In L. Kahle and L. Chiagouris (eds.), *Values, Lifestyles, and Psychographics*, Hillsdale, New Jersey: Erlbaum, 83–110.
- Fennell, Geraldine, Joel Saegert, and Robert J. Hoover. (1997). "Investigating What the Customer Wants: Problems and Promises." In Connie Pechmann and S. Ratneshwar (eds.), *Proceedings of the Society for Consumer Psychology*, Washington, D.C.: Society for Consumer Psychology (Division 23), American Psychological Association, 40–51.
- Fennell, Geraldine, and Greg M. Allenby. (2002). "No Brand Level Segmentation? Let's Not Rush to Judgment," *Marketing Research*, 14, 1, 14–18.
- Frank, Ronald E., William F. Massy, and Yoram Wind. (1972). *Market Segmentation*. Englewood Cliffs, New Jersey: Prentice Hall.
- Haley, Russell I. (1968). "Benefit Segmentation: A Decision-Oriented Research Tool," *Journal of Marketing*, 32 (July), 30–35.
- Howard, John A., and Jagdish N. Sheth. (1969). *The Theory of Buyer Behavior*. New York: Wiley.
- Kamakura, Wagner A., and Gary J. Russell. (1989). "A Probabilistic Choice Model for Marketing Segmentation and Elasticity Structure," *Journal of Marketing Research*, 26 (November), 379–390.
- Kennedy, Rachel, and Andrew Ehrenberg. (2001). "There is No Brand Segmentation," *Marketing Research*, 13, 1, 4–7.
- McFadden, Daniel. (1986). "The Choice Theory Approach to Market Research," *Marketing Science*, 5 (Fall), 275–297.
- Miller, Kenneth E., and James L. Ginter. (1979). "An Investigation of Situational Variation in Brand Choice Behavior and Attitude," *Journal of Marketing Research*, 16, 111–123.
- Nicosia, F. (1966). *Consumer Decision Processes: Marketing and Advertising Implications*. Englewood Cliffs, New Jersey: Prentice-Hall.
- Shaw, Arch W. (1912). "Some Problems in Market Distribution," *Quarterly Journal of Economics*, (August), 703–765.

- Smith, Wendell. (1956). "Product Differentiation and Market Segmentation as Alternative Marketing Strategies," *Journal of Marketing*, 21 (July), 3–8.
- Wedel, Michel, and Wagner A. Kamakura. (2000). *Market Segmentation: Conceptual and Methodological Foundations*. Boston, MA: Kluwer.
- Wedel, Michel et al. (1999). "Discrete and Continuous Representations of Unobserved Heterogeneity in Choice Modeling," *Marketing Letters*, 10(3), 219–232.
- Yang, Sha, Greg M. Allenby, and Geraldine Fennell. (2001). "Modeling Variation in Brand Preference: The Roles of Objective Environment and Motivating Conditions," *Marketing Science*, 21(1) 14–31.