

Chapter 8

Marketing Modeling and Validation

ABSTRACT

Most existing mathematical models of consumer choice behavior assume that individuals' preferences remain invariant over time. Although the assumption of invariant preference functions may be reasonable in some choice contexts, consumer preferences are largely influenced by variety-seeking effects. This chapter presents four models on consumer choice behavior, shopping performance, marketplace advantage, and buying decisions involving several cognitive, economic, and relational determinants affecting consumer behavior. These models are based on sequential structural equations using interrelated variables and can be applied in research on consumer shopping channel choices based on cognitive characteristics and consumer risk profiles. The framework for measuring the consumer behavior discussed in this chapter provides analytical dimensions for delineating the prediction of intangible variables affecting consumer preferences in order to optimize the purchase decisions in a given marketplace.

INTRODUCTION

...today companies have unprecedented access to data and sophisticated technology that allows even the best-known experts to weigh factors and consider evidence that was unobtainable just a few years ago. This situation encourages different approaches to make predictions, the contexts in which predictions are applied and facilitate the managerial decision making...

Davenport and Harris (2009)

Many experiments were carried out in the past in developing various marketing models to fit into different business situations. However, still there exists the gap in building quantitative models with academic rigor from managerial relevance. It is evident from the review of literature that though marketing modeling as emerged has a discipline over the twentieth century; marketing is considered as science in academia. Conjoint analysis, econometric modeling, techniques derived from mathematical psychology, and many other tools and approaches have revolutionized its practice.

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These techniques were rigorous tools but addressed largely to the old problems while managers and organizations increasingly found those tools irrelevant to the new challenges they face. Many firms develop new strategies to shift from traditional management to network orchestration by changing the focus to customer managed relationships (CMR). Such companies in transition move their orientation from company-branded products to customer-branded solutions using appropriate analytics and metrics. The companies breeding in new organizational culture follow the adaptive experimentation and prepare to meet the challenge (and change) of new mind maps (Wind, 2008).

The analysis of consumer buying decisions has been a major topic in marketing of products and services. In the past several models were developed that examined consumer decision-making processes that stimulate purchase intentions and buying process in a given market environment (Brinkmann and Voeth, 2007)). Most of these models assume a two-stage decision-making process. In the first stage, consumers lay individual preferences regarding the decision and in the following stage measure the comparative advantage with peers to revise their decision. The outcome then depends on the relative bargaining power (influence) of the fellow consumers.

Among the many motivating influences on buying behavior that researchers have forwarded over the years, the notion of a desire for exploration has established as a recurring behavior. Perceptual attributes that influence the buying behavior of consumers include risk taking in making buying choices, innovativeness in the adoption of new products and retail facilities, variety seeking in purchase behavior (McAlister and Pessemier, 1982), browsing, looking at window displays and similar forms of recreational shopping (Westbrook and Black, 1985), and curiosity-motivated information acquisition evidenced in leafing through catalogues or talking to others about purchases.

Literature often focuses on buying environment per se, but to understand consumer behavior better

in a personal, social and economic context, some studies have considered cognitive variables other than the market driven factors towards stimulating buying decisions among consumers (Legohérel et al, 2009). These models discussed in the following sections can be used in determining customer choices, shopping preferences, and competitive advantage in a given marketplace as principal initiators in buying decision process of consumers.

CUSTOMER CHOICE MODELING

Consumer choice towards buying a product is determined by different variables including the perception of product value and exploratory buying behavior. Besides the effects of perceived values of consumers on products, it is observed that the group of variables associated with consumer culture is best at discriminating the buying phenomenon. However, as far as the variables are concerned, the exploratory product-acquisition factor has a more important role than some variables associated with culture (Legohérel et al, 2009). Measuring the effectiveness of consumer to a given brand can be frustrating especially if a company focuses on a long-term outcome like increasing customer equity. Though there are decision-support models to help marketers' in segmenting markets, until recently such models aimed to maximize near-term sales, which aren't always consistent with long-term brand health. Firms in order to survive market competition may be engaged in analyzing quantitative models in reference to customer equity or the lifetime value of customers. Once the firms develop the on various customer and market related variables, a model to measure the customer values can be applied by using structural equations (Hanssens et al, 2008). Most consumers exhibit variety seeking behavior and reinforce major physical and cognitive determinants in developing buying decisions. To evaluate the consumer choice in reference to a product line, in the following sec-

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