

“Fuzzy-Needs” Based Competitive Sets: Structure and Use

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Abstract

A framework to aid in identifying relevant competitive sets in dynamic markets is proposed. It utilizes goal-oriented consumer categorization to derive competitive sets defined by consumers' fuzzy needs-based consideration sets. Competitive sets are thus usage occasion specific, have fuzzy structures based on degree of multiple needs fulfilment, and change over time. This view differs from traditional competitive identification as the degree of competition is based on how similarly competitors are viewed as fulfilling the same multiplicity of needs and are in the same consideration sets across differing need fulfilment occasions. The framework suggests how and when competitive sets should be identified and monitored to assess structural changes.

Introduction

Competitive identification and analyses are integral parts of strategic marketing. To identify an appropriate competitive position, organisations must recognize competitors' skills and capabilities to determine opportunities for sustainable advantage (Porter, 2001). While many organisations assume competitive sets are given, determining which competitors should be considered in strategic analysis is a key first step. Competition is a matter of degree, not a yes or no question (Day, Shocker and Srivastava, 1979; Kotler, 2004), and where an organisation draws the boundaries on who to analyse can play a critical role in their success. If key competitors are left out of analyses, it could lead to poor planning. However, if boundaries are too broad, analytical tasks can be cumbersome and less relevant (Porac and Thomas, 1990). Without clear, accepted competitive sets, even simple KPI's such as market share can be arbitrary and misleading.

Accurate and diagnostic competitive definition is becoming more difficult in many industries (Hamil and Valikangas, 2003). Dynamics are making industry lines more fragmented, vague, and shifting on a more frequent basis. To do competitive analyses that properly informs competitive positioning, managers must take a more specific yet fluid view of with whom they are competing in general (Peteraf and Bergen, 2003) and on particular usage occasions. This paper proposes a framework to aid in understanding the graded and shifting nature of needs-based competitive sets. The framework uses consumer categorization to suggest how and when competitive sets should be monitored to understand changes in structures over time and usage occasions. The framework differs from traditional competitive identification in that competition is a function of the similarity of multiple needs fulfilment and how often consumers view brands in the same consideration sets across differing occasions.

Conceptual Development

From the supply-based (product-market) perspective, competition is defined by categorising organisations into “strategic groups” consisting of those that share similar attributes, resources

and capabilities, and produce similar types of products (Peteraf and Bergen, 2003; Porac and Thomas, 1990). However, such approaches fail to consider that competition occurs in the minds of consumers (DeSarbo, Grewel and Wind, 2006). In a purchase decision, if a consumer is choosing between one product and another, the firms are competitors regardless of how similar they are from a resource-based perspective. From market-based perspectives firms are considered competitors if, from the consumers' point-of-view, they can be substituted to fulfil the same benefits and needs (Peteraf and Bergen, 2003; Porac and Thomas, 1990).

A considerable amount of research examines how consumers categorize products into cognitive product categories. However, such research does not necessarily identify how consumers derive consideration sets on any particular usage/purchase occasion. Research suggests consumers hold beliefs about sets of attributes that define and are common to a category and products are categorized according to how many attributes they share with category "prototypes" (Mervis and Rosch, 1981). Thus, cognitive product categories consist of products, brands, or offers that are perceived similar to one-another and different to those outside the category. Research also suggests product categories have graded structures. Viswanathan and Childers (1999) conceptualize this structure as one of fuzzy sets wherein products vary in their degree of membership based on their ratings on key continuous attributes. Yi and Gray (1996) introduce attribute diagnosticity, the degree to which an attribute is common within a category and distinctive across categories, as a determinant of perceived typicality of products relative to a category. They show that when a product possesses a highly diagnostic attribute, it's seen as more typical of a target category and less typical of a nontarget category. Finally, research suggests cognitive product categories are hierarchical in nature in that products may be categorized at several levels with higher levels being more abstract and thus inclusive of lower levels (Burke, Milberg and Moe, 1997; Mervis and Rosch, 1981; Sujan and Bettman, 1989).

While research provides insight into how products are categorized into memory, to identify an actionable competitive set organisations must determine which competitors consumers consider and choose amongst at the time of purchase. Recent research recognizes that prior to making a purchase, consumers recall sets of products to fulfil specific usage occasion goals and choose from that consideration set (Cowley and Mitchell, 2003; Desai and Hoyer, 2000; Huffman and Houston, 1993). Membership in consideration sets is relative to the specific goals the consumer is trying to fulfil at that usage occasion. It is suggested that consumers seek features and attributes to fulfil specific goals based on feature-to-goal associations stored in memory that indicate the relevance of the feature to fulfilling the goal (Huffman and Houston, 1993). They also use brand-to-feature and brand-to-goal associations to access and select members for specific usage occasion consideration sets. Thus, a product categorized in one cognitive product category may be accessed to form goal-derived consideration sets that consist of very different members to answer specific usage requirements. For example, Starbuck's might be categorized into memory as a coffee shop. However, Starbuck's may be accessed in a number of different goal-derived consideration sets that answer different need questions such as "where to go to do some work away from the office." Importantly, this goal-derived consideration set would not likely include some other "coffee shop" product category members such as McDonalds or a takeaway coffee outlet, yet would include non-coffee shop members such as the park or the library.

While research shows goal-derived consideration sets differ from cognitive product categories, how to use that information to identify competitive sets for strategic analyses

remains unclear. Research has begun to investigate how to identify competition from the needs-based consideration set perspective (Christensen, Cook and Hall, 2005; DeSarbo, Grewel and Wind, 2006; Peteraf and Bergen, 2003). Multidimensional scaling and conjoint techniques have long been used to methodologically derive market segments and corresponding competitive sets based on consumers' perspectives of brands' strengths, weaknesses and similarities (Johnson, 1971; Green and DeSarbo, 1979). More recently, DeSarbo, Grewel and Wind (2006) present a stochastic MDS procedure that uses consumer consideration sets to determine competitive asymmetries. However, MDS methods are often descriptive and don't identify drivers of the consideration set classification but instead identify how much of unidimensional attributes brands possess. They do not define consideration sets from a needs fulfilment perspective and changes in sets across time or usage occasions cannot be anticipated, limiting their use in predicting future choice sets for strategic marketing purposes. Peteraf and Bergen (2003) agree that firms compete to the extent they attract the same customers and fulfil the same customer needs. They suggest similarities in resource functionality in terms of fulfilling needs ultimately determine rivals. This research provides guidance in assessing resource functionality as a driver of competitive sets. However, no framework is available to help managers identify their most direct competitors from a needs-based perspective.

Fuzzy Needs-Based Competitive Sets

This paper proposes such a framework to aid managers in identifying competitive sets from a "fuzzy needs" consideration set perspective. It suggests that needs-based consideration sets may be somewhat different from cognitive product or goal-derived categorizations suggested in previous research. Contrary to product categories, goal and needs-based categories may include members from several product categories and are used for instantiation rather than classification (Barsalou, 1985). Thus, they may not maximize the correlational structure of typical product categories, stand out as natural groups, or be salient or relevant other than when retrieved for instantiation of ways to fulfil pursued needs. Needs-based consideration sets may also differ in terms of the factors that drive their graded structure (Barsalou, 1985). Attribute diagnosticity drives the degree of product category membership (Mervis and Rosch 1981, Yi and Gray, 1996) and strength of the link between brand, features, and goal or benefit fulfilment drives the likelihood of membership in goal-derived consideration sets (Desai and Hoyer, 2000; Huffman and Houston, 1993). However, "total needs fulfilment diagnosticity," the degree of functionality of attribute sets in terms of fulfilling the multiplicity of needs on a given occasion, may determine likelihood of membership in usage occasion needs-based consideration sets. Many specific usage occasions are associated with complex sets of needs. The degree to which alternative brands or products fulfil the full array of needs may drive the graded structure of needs-based competitive sets. For example, the needs that a consumer may try to fulfil with the purchase of a BMW might include status, adrenalin rush, and transportation. Competitors that fulfil all of the same needs will most often be included in consideration sets with BMW over time and varying usage occasions. Thus, they can be seen as BMW's most direct competitors. Those offers that fulfil some of the same needs may sometimes be included in the same consideration sets with BMW and are more indirect competitors. Thus, the degree to which firms similarly fulfil the total need structure determines the degree of direct competitiveness and the "fuzzy-needs" based competitive set.

This perspective of "fuzzy-needs" graded structures also suggests that these competitive sets are not clearly hierarchical. For example, BMW's less direct competitors would be those offers that fulfil more fragmented, separate needs such as adrenalin rush OR status. Those

sets are separate and might include very different members from one another such as skydiving (adrenalin) and Rolex watches (status). Thus, lower levels are not clearly subsumed by singular higher levels of consideration sets. The proposed “fuzzy-needs” competitive set structure is depicted in Figure 1.

Research Proposition 1: Competitive sets are defined by consumers’ fuzzy needs-based consideration sets that are specific to a usage occasion, have a fuzzy structure based on degree of multiple needs fulfilment, and are not necessarily hierarchical.

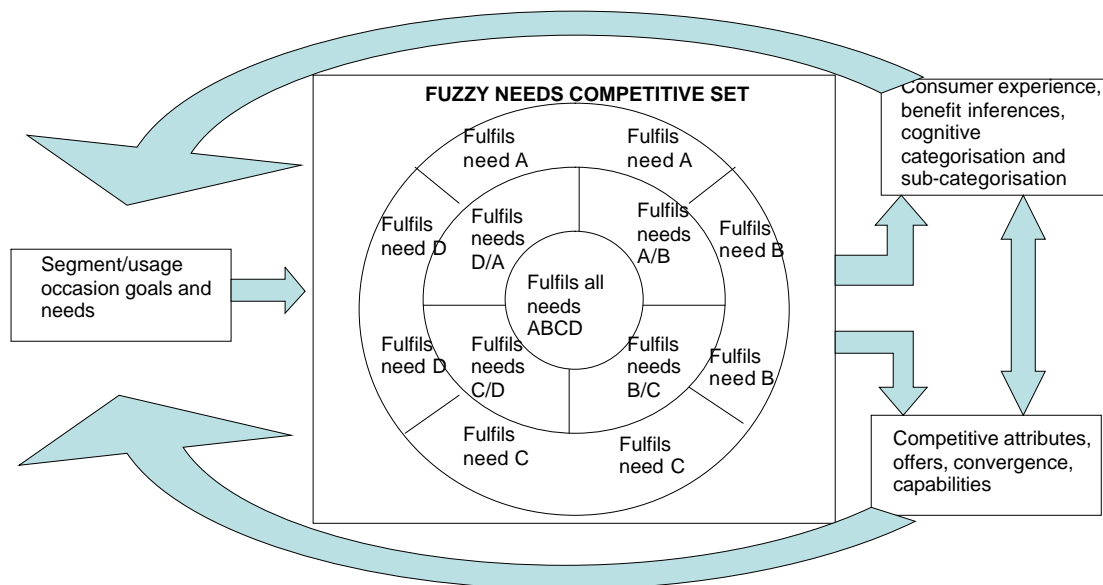


Figure 1: Fuzzy Needs-Based Consideration Set Structure and Evolution

Dynamic Consideration Sets

Competitive sets aren’t static and analyses cannot treat them as such. Industries vary in terms the pace at which competitive sets shift and how often competitive definition must be monitored. Research has only begun to investigate the dynamic nature of competitive sets. Srinivasan, Lilien, and Rangaswamy (2006) suggest that competitive sets change as dominant designs emerge. Before the emergence of the dominant design, competition is between designs. After a design achieves dominance, competition is between players within the dominant design domain. A number of studies have shown that marketers influence change in consideration sets. By emphasizing attributes that are common to a subcategory but different from a broader product category marketers can alter consumers’ perceived category structure (Broniarczyk and Gershoff, 2003; Burke, Milberg and Moe, 1997). Other research suggests that product categories are essentially socially constructed knowledge structures shared amongst producers and consumers (Rosa, Porac, Runser-Spanjol and Saxon, 1999). Thus, they go through phases of instability and stabilization as shared knowledge structures change due to social interactions and activities of market actors.

This paper suggests that fuzzy needs-based consideration sets evolve and must be monitored regularly to maintain a clear understanding of competitive sets. Research suggests that ad hoc goal-derived categories are initially formed to achieve novel goals but become more stable categories in memory with frequent use (Barsalou, 1985). Similarly, needs-based consideration sets are likely to stabilize as the same needs are addressed with frequency

(Desai and Hoyer, 2000). However, a number of factors may drive fluctuations and variation in those consideration sets. First, as described above, fuzzy needs-based consideration set membership is a function of the degree to which the complex needs of the usage occasion are met. As the usage occasion defines the associated complex needs, moving across usage occasions will result in different need sets and corresponding competitive sets to fulfil those needs. Further, consumer needs change as they gain experience in various usage occasions and their knowledge of the specific needs they strive to fulfil becomes better defined (Cowley and Mitchell 2003). Finally, competitive offers change over time in terms of how attributes and features are delivered to fulfil various needs. Importantly, the fluid nature of competitive sets means competition must be assessed based on which firms **most commonly** accompany one another in consideration sets across segments, usage occasions and time and must be redefined as needed to stay relevant.

Research Proposition 2: Competitive sets derived from fuzzy needs are dynamic and vary across usage occasions and over time as competitive activities shift and consumer knowledge evolves.

Conclusion, Managerial Implications and Future Research

Identifying accurate and diagnostic competitive sets is a critical step in strategic marketing/positioning. This task is becoming more challenging in the changing, hypercompetitive, complex environments of many modern industries. Yet, few tools are available to aid managers in this onerous task. The proposed framework fills that gap by providing a tool designed to aid managers in identifying relevant competitive sets in dynamic markets. The “fuzzy-needs” based graded structure and dynamic nature of the sets proposed in the framework have significant implications for strategic analyses. To identify relevant competitive sets, managers must access consideration set information from consumers across a number of segments and usage occasions. Those competitors most frequently and consistently included in common consideration sets are the organisation’s most direct competitors. However, the graded structure of the competitive set also identifies which and why more indirect competitors are relevant to varying degrees in specific usage occasions. Finally, managers must monitor and redefine competitive sets over time to track changes such as sub-categorisation, shifting needs and consumer experience, and changing competitive offers. Shifts in the competitive structure and changes in the degree of direct competitiveness among players are also more accurately predicted by understanding the “why” underlying the competitive set structure.

The effectiveness of the proposed framework must be empirically tested to determine whether the competitive sets derived are in fact more accurate and diagnostic than those of other competitive set models. To that end, next steps include designation of an experiment that compares competitive sets elicited using the various models such as market mapping (MDS) and fuzzy set cognitive product categorizations. The similarities, differences and diagnosticity of the sets in terms of reflecting consumer consideration sets across segments, usage occasions, and time will be evaluated.

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