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Editorial
Comments on Competitive Responsiveness

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Marketing Science features many and diverse articles that analyze competitive responsiveness. Although recent *Marketing Science* editorials (e.g., Shugan 2002) suggest that competitive responsiveness is only a part of a comprehensive competitive marketing strategy, it remains a vital part. For that reason and many others, *Marketing Science* is particularly proud of this special issue edited by David J. Reibstein and Dick R. Wittink.

Before introducing and vigorously applauding both the editors and authors of this excellent special issue, we emphasize that competitive responsiveness raises numerous issues, including whether one can forecast outcomes of new policies based on past observations made under old policies (i.e., the Lucas critique) and decisions regarding which variables should be considered endogenous (Shugan 2004), i.e., determined within the model.

Perhaps, normative models are inherently perishable—evolution in market structure requires modifications over time. Also, although complete consistency within the world of the model is aesthetically pleasing, imposing industry-specific exogenous constraints (that might appear unrelated to the modeling assumptions) is sometimes necessary.

1. Prefatory Remarks

Competitive responsiveness is the central theme of many excellent articles at *Marketing Science*. Although recent *Marketing Science* editorials (e.g., Shugan 2002) suggest that competitive responsiveness is only a part of a comprehensive competitive marketing strategy, it remains a vital part. For that reason and many others, *Marketing Science* is particularly proud of this special issue edited by David J. Reibstein and Dick R. Wittink. We also thank the INFORMS Society for Marketing Science (ISMS) for funding this issue.

Before introducing and vigorously applauding both the editors and authors of this excellent special issue, several prefatory remarks are appropriate.

1.1. Different Aspects of Competitive Response

There are obviously many very different aspects and dimensions to competitive responsiveness, and no one issue of this journal can consider every one. There is intriguing research related to prescribing appropriate responses (e.g., Lilien et al. 2004), predicting response (e.g., Sudhir 2001), the impact of competitive response on estimating models (Chintagunta 2001), the impact on model building (Shugan 2004), the ability to obtain strategic advantage, and so on. Two aspects of particular interest are the impact of strategic changes on past competitive relationships and decisions regarding endogeneity within strategic competitive models.

First, it can be perilous to forecast the impact of a new competitive strategy based on past observations. In other words, there may be defects in nonexperimental or historic data because the data might lack information about how competitors would respond to new strategies. For example, merely because past data have failed to conclusively show a competitive response to small past 2% price cuts, we are unable to conclude that a large future 20% price cut would not provoke an aggressive competitive response. Hence, we must use care when extrapolating competitive response from historic data, particularly when we assume that past data reflect an equilibrium relationship that current decisions will change. Moreover, common marketing activities such as new product development, repositioning, and offering ancillary services could easily change the nature of competition among incumbents and invalidate any relationships based on past observations. Moreover, unless all learning has already occurred (which is unlikely, given rapid advances in both information and tech-

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nology), learning might make future responses different from past responses (Kalai 2003).

Related to this problem is the well-known Lucas Critique of Monetary Policy in Macroeconomics (e.g., Lucas 1976, Linde 2001), which states that if monetary policy rules change, then historical relationship will fail to capture future reality because individual behavior will adapt to the new rules. Hence, models of competition that are estimated on historical data, no matter how successful in the short run, might be invalid for predicting the impact of any future changes in competitive strategy because these models heavily rely on only observed past behavior, as well as on past expectations. Implementing entirely new competitive strategies will inescapably change that past behavior as well as past expectations.

This reasoning has led to requirements such as rationality (i.e., rule changes are foreseeable, e.g., Modigliani and Weingartner 1958), credibility (i.e., future incentives are consistent with current commitments, e.g., Schultz 1996), and equilibrium conditions (i.e., no better unilateral strategy exists, e.g., Bloise et al. 2005). Many of these requirements provide the logical consistency to create "deep parameters" invariant to policy changes and deep underlying structural relationships (e.g., Barnett et al. 1995) that always describe market participants who consider all possible events (including new strategies—if there can be truly new strategies). Consequently, the solution has been to theoretically predict how decision makers should respond (i.e., reoptimize, form new expectations) as a way of predicting outcomes that might be absent from past data. This solution, of course, will be as good as the realism and comprehensiveness of the modeling of the decision maker's optimizing behavior (Cuthbertson and Taylor 1990). A myopic optimizer, for example, might behave very differently from a dynamic optimizer (e.g., Che and Sakovics 2004). However, the question remains as to whether the decision maker can foresee changes made by the policy maker.

Moreover, modeling the decision maker as a complete optimizer also poses problems (e.g., see Kip 1985, Oliver 1997). The required assumptions (for inferring the missing information) are often overwhelming for normative modeling, challenge the entire endeavor of normative competitive modeling, and are fundamentally inconsistent with the creation of decision-support systems (e.g., see Smith and von Winterfeldt 2004 for a discussion of normative versus descriptive). It is difficult to advise players who are endowed with perfect foresight, consider absolutely every conceivable possibility, invariably make optimal decisions, and can only take actions that are credible and foreseeable within the world of the competitive model (i.e., the model's limited set of variables and the postulated relationship between those variables). We would, instead, expect normative modeling to be perishable in the sense that normative models will inevitably lead to changes in firm behavior that will either make the models obsolete or require modifications to the original models (i.e., model evolution). A parallel argument could be made for advancing technology, because as new technology diffuses, the competitive advantage from exploiting that technology often diminishes. We are left with the obvious conclusion that different assumptions are appropriate for different research objectives.

Shugan (2004) argues that, unlike descriptive modeling, when formulating normative and decision-support models, endogenizing relationships, such as competitive response, may or may not be beneficial. Endogenizing competitive response is beneficial because it allows a more comprehensive model in which more variables are determined within the context of the model. For example, we could model a competitor's capacity constraint as endogenous and allow capacity to be optimally set within the world of the model (i.e., consistent with the model's assumptions and the decision variables included in the model). However, setting capacity constraints might involve myriad variables outside the scope of the model (e.g., zoning laws, physical limitations, the salvage value of current equipment, the need to standardize across different sites, etc.).

Similarly, making competitive response endogenous can be detrimental because it might require far more restrictive assumptions (often ignoring factors outside the model). For example, modeling competitive price response might require many assumptions concerning the type of reaction function (e.g., static) and might involve only competitive costs and demand parameters. In contrast, we could exogenously prespecify competitive response based on many variables beyond the scope of most workable models (e.g., impact on long-term reputation, legal considerations, the current political climate, labor negotiations, signals to shareholders, precommitments to suppliers, legal constraints, and so on). Explicitly recognizing exogenous constraints within the normative model also allows us to better adapt the mathematical model to different situations (e.g., different industries) and to incorporate myriad possible nonprice variables to which a competitor might respond.

Hence, although having complete consistency within the world of the model is aesthetically pleasing and quite elegant, it is sometimes desirable to impose industry-specific exogenous constraints that might appear to be unrelated to the modeling assumptions and, possibly, to be specific to a set of industries.

1.2. Recent Articles Exploring Competitive Responsiveness

Beyond emphasizing that there are many different aspects of competitive response, it is also important to mention that some time has elapsed since this special issue was conceived and organized. In the interim, several outstanding articles on related topics have appeared in *Marketing Science*. Therefore, for completeness, it is important to briefly mention just a few of these articles.

Recent articles have explored competitive response in the context of new product entry. For example, Pauwels and Srinivasan (2004) demonstrate that store brand entry strengthens a retailer's bargaining position toward national brand manufacturers. Bronnenberg and Mela (2004) find that retail chains adopt new brands based on the adoption timing of competing chains within its trade territory (competitive contagion). Related to the topic of defensive response (e.g., Hauser and Shugan 1983), Kalra et al. (1998) demonstrate that an incumbent should delay an aggressive competitive response to a new entrant when an aggressive competitive response would provide consumers with a signal concerning the worth of the new product. Narasimhan and Zhang (2000) argue that an important impetus for being the first entrant in a new market is the first entrant's ability to position in the market in a way that minimizes cannibalization with their extant products—late entrants must respond to the positioning of the first entrants.

Recent articles have also explored competitive response in the context of retailing. For example, Nijs et al. (2001) find that the dominant form of competitive reaction, either in price promotion or in advertising, is no reaction. Overall, they suggest that the power of price promotions lies primarily in the preservation of the status quo in the category. Pauwels (2004) also finds that aggressive competitive reaction is not an important factor. One reason is that different responses by different competitors might tend to diminish the net impact of overall competitive response on sales to the point at which competitive response explains less variance in sales than either consumer response or the firm's own decision dependencies (e.g., postpromotion strategy minimizes postpromotion dips). In contrast to competitive response, Shankar and Bolton (2004) find that competitor factors (e.g., deal frequency, relative price levels) explain the most variance in retailer price strategy. They also find that only in the cases of price-promotion coordination and relative brand price do category (e.g., storability) and chain factors (e.g., chain size) explain any variance in retailer pricing. For nongrocery products, Desai and Purohit (2004) find that the best competitive response to a rival's fixed-price policy is a negotiated (i.e., haggling) pricing policy when it softens competition but that a fixed-price policy is more profitable when there are many customers who want to haggle. For e-commerce retailers, Wu et al. (2004) find that, despite the possible competitive response of free riding on information, reduced search costs and competition fail to eliminate the need for sellers to provide information. Sellers still need to establish themselves as information service providers to make positive profits.

Many recent articles explore whether particular marketing policies soften or intensify competition. For example, Wang (2004) and Padmanabhan and Png (2004) examine whether retailer returns policies intensify retail competition. Fay (2004) suggests that allowing consumers to bid on products (i.e., "Name-Your-Own-Price Channel") might soften competition. Chen et al. (2002) find that referral infomediaries can soften competitive response by using lump-sum fees rather than sales-based commissions. Sun et al. (2004) demonstrate that for products with moderate network externalities, product line extension strategies produce less competition than licensing strategies for expanding the current installed base.

Of course, competitive response is important in many other contexts beyond pricing decisions. Ofek and Sarvary (2003) examine research-and-development competition. They find that both competency and market position influence competitive response. Villas-Boas (2004) finds that a large initial market share can hurt a firm's future competitive position when the distribution of consumer valuations is positively skewed. Liu et al. (2004) find that nonprice competition (on factors such as quality) can induce firms to take differentiated positions. Bergen et al. (1996) argue that nonprice competition using many variations of the basic brand can increase brand distribution, which can benefit manufacturers as well as consumers.

These examples account for only a few of the recent articles on competitive response. We now turn our attention to the current issue.

2. This Special Issue

As noted earlier, David J. Reibstein and Dick R. Wittink are the guest editors of this special issue of *Marketing Science*. David is the William Stewart Woodside Professor of Marketing at the University of Pennsylvania Wharton School of Business. Dave was Executive Director of the Marketing Science Institute when the idea of producing this issue was conceived, and he has done scholarly research of competitive marketing strategy, market segmentation, marketing models, and understanding brand choice behavior. He recently co-authored *Wharton on Dynamic Competitive Strategy* (Day et al. 1997), which offers new perspectives on competitive strategy.

Dick is the George Rogers Clark Professor of Management and Marketing at the Yale School of Management. He is a co-author of *Building Models for Marketing Decisions* (Leeflang et al. 2000), which offers a unique perspective on marketing models, the benefits from using marketing models, the elements of model building, implementation, and many other noteworthy topics. He is also among a small number of authors who have been published in the *Journal of Marketing Research* in each of four successive decades. He is the current editor of the *Journal of Marketing Research* and was previously an area editor for *Marketing Science*. Both Dave and Dick have extensive backgrounds in academic research as well as direct applications of methods and theory in industry settings.

This insightful special issue of *Marketing Science* appears at the start of my second term as editor in chief of *Marketing Science*. However, it is my predecessor as editor in chief, Brian T. Ratchford, who deserves credit for soliciting and championing this special issue. Brian, who is now the Pepsico Chair in Consumer Research and Professor of Marketing at the University of Maryland, has also done substantial work in competitive strategy. For example, one of his recent articles (Pan et al. 2002) considers Internet price dispersions and uses 6,739 price observations for 581 items in eight product categories to reveal that electronic markets are more competitive than conventional markets. In an editorial (Ratchford 2001), Brian states: "Dave Reibstein and Dick Wittink contacted me with a proposal for a special issue on competition that would publish papers from a Marketing Science Institute (MSI) conference. After considerable refinement of the original proposal, which was helped greatly by the input of the Area Editors, this idea evolved into a conference and special issue on Competitive Responsiveness."

Although the issue was originally planned as a fifth issue with outside funding (Ratchford 2001), we owe a tremendous debt of gratitude to the INFORMS Society for Marketing Science (ISMS). It was only because of last-minute substantial funding from the current president of ISMS, Joel Steckel, and the rest of the ISMS board, that this issue became possible.

This special issue contains excellent articles on numerous topics related to competitive responsiveness. Readers of *Marketing Science* should, at least, peruse the abstracts that follow and, certainly, enjoy reading as many of these excellent articles as possible.

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