Competitive Market Signaling
A Behavioral Approach to Manage Competitive Interaction

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The concept and sequence of competitive market signaling is introduced, motivated and discussed. A signal-based sequential model of competitive interaction is described and various properties of competitive market signals are introduced. Furthermore, several signal categories are discussed. Next, market moves in form of market actions and preannouncements are conceptualized and contrasted. The benefits and risks of employing the signaling concept by the practicing manager are delineated. Suggestions for future research conclude the manuscript.

Keywords
Competitive market signaling, competitor reaction and interaction, communication

1. Introduction and Basics of Competitive Market Signaling

Competitors and customers are regarded as pillars of the marketing discipline. These pillars suggest that the integration of both the competitor and the customer/consumer into marketing strategy is essential for a firm’s success in the market place.

Classic work on the complexity of competitive behavior and strategy (Porter 1980) has led to a comprehensive analysis of the behavior of competitors. So far, however, the emphasis and focus of research on competition was to describe competitor behavior via competitor reactions, where the observable market action was typically considered the explanatory variable for the competitor’s reaction. More precisely, numerous papers provided techniques and models which allowed a detailed description of competitor reactions, e.g., reaction functions, reaction elasticities and reaction matrices (Gatignon 1984; Hanssens 1980; Lambin/Naert/Bultez 1975; Leeflang/Wittink 1996; Naik/Raman/Winer 2005; Robinson 1988; Wildt 1974). In his editorial of the “Journal of Marketing Research”, Weitz comments on the limits of that research paradigm: “Besides the mere description of the “historical nature” of competitor reactions research should develop and provide a deeper understanding of competitor behavior and competitor reaction.” In this context it should be in particular explained “how and why firms perceive, interpret, and react to competitive activity” and “why (...) some actions trigger a vigorous response and other actions result in no response” (Weitz 1985).

One way to better understand competitive behavior and competitive interaction is offered by the concept of competitive market signaling. It provides new insights on market moves, competitor reactions, and competitive interactions (Heil 1989; Heil/Day/Reibstein 1997; Heil/Robertson 1991; Heil/Weitz 1985; Nomani 1989; Prabhu/Stewart 2001; Schelling 1960; Shannon/Weaver 1949). Key aspects of competitive market signaling entail the generation of market signals, the factors that affect the composition of a competitive market signal, and how competitive market signals affect competitive reactions.

One fundamental assumption of competitive market signaling is that competitor reactions are shaped – at least in part – by the motives and intentions a reacting manager assumes “behind” the market move of an acting firm. This suggests that the reacting manager should try to interpret and evaluate his/her potential market move from the perspective of the acting manager and, in doing so, try to infer the motives and intentions of the acting manager. Naturally, this interpreting and evaluating is aimed toward the making of a “better” reaction decision.

The result of this inference making – or, more generally speaking – interpretative process by the reacting manager is called a competitive market signal. It is argued that this signal significantly affects a competitive reaction. Thus, managers should not just try to think in the head of the customer but also in the head of the competitor.

This article is composed of seven sections. The introduction is followed by a discussion of the underpinnings of
competitive market signaling and related research. It is explained how the concept of competitive market signaling can help a marketing manager to understand, evaluate, and, most importantly, to better manage a competitive interaction in a market place. After that, a typology of signals is provided to reduce confusion by distinguishing different ways of interpretations and subsequent strategic consequences. Also, a signal-based sequential model of competition interaction is derived based on the concept of competitive market signaling. Subsequently, the two forms of a market move, i.e., an action and a pre-announcement are explained, contrasted, and linked to signaling. Section six analyzes the costs and risks of carrying out signaling strategies. Finally, the seventh section suggests implications of this research for marketing researchers as well as marketing managers.

2. Competitive Market Signaling: The Concept

The concept of competitive market signaling suggests that a reacting manager should try to view an acting firm’s market move through the eyes of the acting firm. That is, the reacting manager should interpret the move as to what the move signals about the acting firm’s motives and intentions – which are unobservable to the reacting manager. Naturally, a manager should adopt such a signaling perspective before a reaction is selected. This perspective implies that the manager draws inferences about e.g., the motives and intentions of the acting firm, which are unknown to the reacting manager – yet provide drivers of the acting managers’ behavior.

The result of this process, i.e., the interpretation of the market move, constitutes the competitive market signal. In other words, the interpretation provides an estimate as to the motives and intention causing the market move. A basis for this estimate is the information a market move may provide or signal to the reacting manager by its configuration. By configuration we mean the move’s timing, size, scope, fit with firm or industry practice, its competitive context, the industry’s competitive history, etc. Importantly, the interpretation amounts, also due to anti-trust provisions, to an unilateral estimate.

A competitive signal is, thus, neither the initial market move of the acting firm nor the information intentionally revealed by that firm (which would simply reiterate traditional signaling notions). Instead, it is the result of an interpretation process on the side of the reacting manager or firm. This new and different notion of a signal is motivated by the mere fact that it is, at the end, the reacting firm that makes the reaction-decision and will be responsible for that decision’s consequences.

In other words, a move’s signal is what the reacting firm derives as motives and intentions and not what the “true” motives and intentions might be. This is since, simply put, the derived/estimated motives and intentions are the ones that enter and drive reaction decisions.

It is the locus of decision and consequences that dictates this core difference between the concept of competitive market signaling and the traditional notion from information economics. In general, one might add that the concept of competitive market signaling combines aspects from both approaches (the intentional aspect from game theory, and the interpretation and – consequently – the random aspect from communication theory) and relates them to behavior of firms in economic competition.

The concept of competitive market signaling is particularly relevant for the competitor’s response strategy. There, the concept may provide answers to the following questions:

a. How can a firm improve its reaction choice by deriving information from the observed moves of the acting firm?

b. How can a firm actively affect, even “manipulate” or, at least, manage a competitor’s behavior (possibly even to their mutual benefit)?

c. Can firms improve their interaction (in a pareto-optimal sense) by the use of signals?

As detailed above, the general concept at work here is that a firm’s reactions to a competitor’s moves are strongly affected by their interpretation of the competitor’s move. Empirical support for this notion has been provided repeatedly (e.g., Heil/Walters 1993; Mullins/Walker 1996; Prabhu/Stewart 2001; Robertson/Eliashberg/Rymon 1995).

However, it should be noted that the relation between the effects of a move and its subsequent interpretation may very well be biased and/or may possess a random element. Hence, unless no commonly accepted indicator exists, every signal may be seen as a “random” element since – even if a certain signal is indeed be intended by an acting firm – the reacting firm’s final signal (interpretation) is beyond the control of the acting firm and may therefore differ form the intended signal.

A distinct literature on competitive market signaling exists. Such research covers a range of methodological and substantial questions, which are presented and discussed briefly in the following. Subsequent to the development of the conceptual and theoretical basics of competitive signaling (Heil/Robertson 1991; Heil/Weitz 1985; Jervis 1970), preannouncement signals, price reduction signals, and new product introduction signals have been assessed and analyzed (Heil/Morrison/Walters 1998; Heil/Walters 1993; Nnmani 1991; Robertson/Eliashberg/Rymon 1995). Signaling experiments have been designed (Moore 1992; Moore/Moore/Morgan 1994), and interviews on the signaling effect of competitor reputation have been carried out. Additionally, the clarity of signals, the effects of bluffing efforts (Eliashberg/Robertson/Rymon 1995), the speed of competitor reaction, and the optimal points in time for signaling (Kohl 1995; Prabhu 1995) have been analyzed on the theoreti-
2.1. A Signaling-based Sequential Model of Competitive Interaction

The concept of competitive market signaling implies a four-step model of incremental competitive interaction (Figure 1). At the beginning, the acting firm’s motives or intended messages lead to a market move of that firm. Subsequently, this market move is interpreted by the reacting firm. At this point the signal is generated. In the last step, the interpretation of the move will lead to a firm’s reaction.

It becomes apparent that the observed marketing move is an important interface between the competing firms. These reflections allow the suggestion that market moves are not just components of the marketing-mix to pursue certain marketing goals, but also instruments to “communicate” with the competitor in order to direct competitive interaction into a desirable direction (Moore 1992; Heil/Langvardt 1994; Soberman/Gatignon 2005).

It has to be emphasized again that the modeling of the components of the signaling sequence chain allows for communication risks, which do typically not occur the same way in conventional verbal communication (with inquiry possibilities). These risks consist in particular in the misinterpretation or ambiguous interpretation of an acting firm’s marketing move by the reacting manager.

The aforementioned may also explain why managers may react differently to identical moves: their interpretations of that move may differ. Also, obviously, bluffs become a distinct possibility.

2.2. Characteristics of Signals

The competitive signals resulting from a market move may also be characterized by a number of dimensions. These may be applied to both the sender (initiator) and the receiver (generator) of the signal. The most important characteristics are signal consequences, signal aggressiveness, signal clarity, signal consistency, signal commitment, and signal credibility (Heil/Robertson 1991; Heil/Day/Reibstein 1997; Robertson/Elishashberg/Ry non 1995).

2.2.1. Signal Consequences

This dimension of signals results from the assessment of the effects of the market move by the observing firm on performance measures like market share or profits, i.e., the tangible effects of a market move (Heil/Robertson 1991; Milewics/Herbig 1997; Shannon/Weaver 1949). The consequences of a move may range from considerable to irrelevant. Studies show a significant positive relation between signal consequences and competitor reaction (Heil/Walters 1993). As stronger effects of the market move are expected by the observing manager, faster and stronger competitor reactions – even overreaction – may occur (Leeftang/Wittink 1996). E.g., if an incumbent firm interprets the actions of an entrant in a way that the entrant aims to gain substantial market share, the incumbent’s price reaction will typically be much stronger (e.g., a massive price cut).

2.2.2. Signal aggressiveness

A signal is attributed with aggressiveness when the move is assumed to threaten the competitor’s performance or even the existence of the company, e.g., when the core business is hit substantially by the move (Robertson/Elishashberg/Ry non 1995). Analyzing competitor reactions to new product preannouncements, Heil/Walters (1993) found perceived aggressiveness of the move to be the driving force behind the subsequently observed strength of a competitive reaction – notably even stronger than the assumed consequences of the move. It seems worth noting that impression/assessment of this attribute by the reacting firm can be more important than the move’s actual consequences.

2.2.3. Signal Clarity and Signal Noise

According to Heil/Day/Reibstein (1997), a move that has a clear cause to the reacting manager, can allow a straightforward interpretation leading, next, to a fast reaction. Thus, clarity could be described as the reason behind low variance of interpretations among firms and small differences between intended and de facto interpretations. A signal with these properties can be called a clear signal. Reduction of interpretational ambiguity can be achieved by considering the number of attributes of the move that are observable precisely and/or the degree to which the move can be linked to a precise competitive
challenge. Conversely, a ‘noisy signal’ leaves room for alternative explanations and creates uncertainty about the correct way to interpret the signal. It can be assumed that a clear signal may also affect reactions more strongly, i.e., it can be assumed that the likelihood of a certain reaction increases with the clarity of the signal.

An example for signal ambiguity would be an extensive ad campaign by the acting firm, which may be interpreted by the reacting firm in several ways. For example, interpretation could include that the campaign is intended (a) as a means to establish a premium product, (b) a message to switch to non-price competition, (c) a device to incur artificial switching cost, thus leading to the inference that a firm wants to keep its market share and make a stand in the market, (d) an insurance against losses when the competitor is pricing low, (e) possessing (financial) strength (Bungert 2003). Notably, market moves that allow for such a variety of different interpretations/signals should be considered rare.

2.2.4. Signal Consistency

When more than one competitive move is considered by the reacting firm, the generation of a signal can be carried out using the moves as a series. To generate consistency of interpretation, moves which do not have an immediate meaning for an observing firm may need to be considered as well. The signals generated from these moves may be used to fine-tune the reacting firm’s interpretation of a recent move of the acting firm. Thus, the reacting firm can use moves of the other firm, which do not entail an obvious relation, to cross-validate a competitive signal (Montgomery/Moore/Urbanby 2005). In the context of signaling and competitive pricing, Nagle notes: “Signals must also be consistent. Meeting only some opportunistic price cuts undermines credibility. Competitors then suspect that the firm’s commitment or ability to defend its share is weaker than its stated intentions and are more likely to test it” (Nagle 1987, p. 101).

The integration of simultaneous moves to enhance the competitor’s interpretation provides an extension of the options to ‘design’ signals/interpretations: That is, a firm selects a combination of moves that generates the intended or desired interpretation with higher probability compared to other moves or a single move only. Similarly, this suggests that undesirable interpretations arising from the ambiguity of a single move could be weakened by certain accompanying moves.

2.2.5. Signal Commitment and Signal Credibility

Commitment reflects the perceived willingness of the acting firm to stick to its market move, as perceived by the competitor observing that move. In game theory (e.g., Schelling 1960), the degree of commitment can be linked to the cost of the move itself (e.g., ad expenditures or customer refunding) and the cost or (mere) possibility of a reversal of the move. Consequently, commitments are decisions that intentionally limit the options of a manager after the signal-initiating move is carried out, making it more likely that the firm will act in a desired fashion (Heil/Day/Reibstein 1997).

In a preliminary research effort (Herbig/Milewicz/Golden 1994, p. 23 f.), credibility has been defined in the context of signaling as “… the believability of an entity’s intentions at a particular moment in time.” Alternatively, signaling credibility may also be a consequence of the historical background of the interaction, which is labeled signaling reputation (Porter 1980; Heil/Robertson 1991). In repeated preannouncement-action dyads, a new preannouncement will gain credibility when past preannouncements have been fulfilled. Preliminary empirical evidence (Milewicz/Herbig 1997) suggests a significant impact of signal credibility on competitor reaction.

2.2.6. Signal Deception (Signal Bluffing)

Deceptive or “bluffing” signals are misinterpretations that are intended as such, i.e., the acting firm’s move does not reflect its true motives or attributes, which often leads to a misinterpretation on the side of the reacting firm. By designing the move in a way that the true state of nature (motives, intentions) is concealed, the acting firm is intentionally trying to manipulate the adversary’s inferences to its own benefit (Gatignon/Anderson/Helsen 1989; Heil/Robertson 1991; Porter 1980).

Typically, bluffs aim to lead to a suboptimal tactical or strategic choice by the reacting firm, opening additional opportunities to the acting firm. In business reality, price announcements amount rather often to mere bluffing (Heil/Robertson 1991; Robertson/Eliasberg/Rymon 1995), i.e., up to one third of pricing activities are classified as a bluff by acting managers. Interestingly, other research (Prabhu 1995) suggests that firms which are intentionally bluffing show a high degree of competitor orientation and sensitivity. It is worth mentioning that signal-bluffing provides an important facet for strategic interaction, which has yet to be explained sufficiently, especially using the traditional signaling concepts from economics.

2.2.7. Similarity of the Signal Initiator and the Signal Generator

Heil/Day/Reibstein (1997) argue that the accuracy of the generation of signals increases with the similarity of the sender and the receiver. Note that this concept is, on one hand, closely linked to the concept of signal clarity. On the other hand, when competitors (managers) follow similar strategies, use similar structures, have similar backgrounds (education, industry experience) they are likely to have a better understanding of each other. Traditionally, these companies have been regarded as members of strategic groups. As a result, as firms join strategic groups, signals are likely to grow in clarity and a better interpretation and attribution of opponents’ moves is likely to occur.
In sum, signal attributes and characteristics provide approaches to enhance or weaken the precision of the interpretation. They are important for the signaling process, and managers should be aware that a successful consideration of these characteristics is essential yet requires effort and sensitivity.

3. A brief Overview of Literatures Related to Signaling

Next, we briefly comment on literatures related to signaling, such as game-theoretic/information economics, the stimulus-response model, communication, and social psychology.

The concept of competitive market signaling relates to work on the so-called *new institutional economy* (NIE) and the area of information economics. This research views signals to be largely costless observations of random variables, which are not independent of a non-observable, payoff-relevant state of nature. As the consequences of a decision/selection from a set of alternatives depends on the non-observable random variable, i.e., the state of nature, the non-independent variable will be termed a signal for the choice of the payoff-optimizing decision. For a player/firm, a signal is a piece of information capable to enhance the expected utility in a given choice situation, typically concerning a competitive reaction – as a consequence signals may also be means to manipulate the expected utility of a certain reaction alternative.

The assumption of asymmetric information often triggers information search and information transmission ("signaling"). One precondition due to this perspective is that there exists a broadly accepted indicator of the non-observable random variable, i.e., the "true" state of nature. Examples are observable education certificates and academic grades that are viewed as a signal for the (non-observable) qualification or work productivity in the classic signaling model (*Spence* 1974), or the price level as an indicator of quality (*Milgrom/Roberts* 1986).

From a game-theoretic/information economics perspective, a firm intentionally/consciously signals to coordinate competitive behavior according to the plans and goals of the signal-sending firm. The signal-receiving firm "understands the message behind" the move – which can be inferred, say, from the motive for the move – and acts rationally due to having received the necessary information. The consequence is the establishment of "pooling" or "separating" equilibria (*Fudenberg/Tirole* 1991). A problem in this context may be that intended signaling can only work in case the firm that observes the signal understands it exactly in the way it was intended by the signal sending firm – which, in turn, requires the aforementioned commonly understood indicator. Thus, the model is limited in its scope as no asymmetries in perception are allowed.

Naturally, work in social psychology and communications relates to signaling (e.g., *Areni* 2002; *Shannon/Weaver* 1949). In this context, it is argued that every move of a player (person, company) is potentially monitored and interpreted by other, related, interdependent players (persons, companies, competitors) that are interested to gather information in general or on the actor in particular. Players carrying out such moves can hardly avoid their revealing of information as "one cannot not communicate" (*Watzlawick/Bavelas/Jackson* 1967). The interpretation of the move and its result is viewed to be somewhat random and often not intended by the, say, company carrying out the initial move.

4. Categories of Signals

The business and economics literature offers a variety of notions as to “what” can be signaled. In this literature, often rather general concepts, such as “intent”, “strength or weakness” etc. are mentioned to qualify as an interpretation of a move. To increase precision, we suggest three distinct categories of interpretations/competitive market signals. Also, it should be noted that these categories may provide hints as to what motives and intentions may be signaled via a marketing move. The suggested categories of signals are discussed below.

4.1. Technical Interpretations

Through technical interpretations, a firm may infer the unilateral “technical” or “tangible” motivation for the move. Examples include gaining additional market share in order to reduce cost, clearing overcapacities, immunizing against the other firms pricing, and so on. In a sense, technical interpretations equal an observing firm’s inference(s) about tangible intentions the other firm is pursuing with its move. Thus, the term “technical” refers to the market’s most likely reaction to a firm’s move as intended by the acting firm.

As a result, the assessment of the technical interpretation-based effectiveness of the move will play an important role in the reaction (please refer to the section above on “signal consequences”). In game-theoretic terms, motives of that kind can be inferred from the competitor’s choice of strategy in relation to the strategy options that were not chosen (*Rabin* 1993).

4.2. Assessment of Meaning (Expression) of the Move

This category of signals refers to an assessment of the meaning “behind” a move and/or “expression” of a move. More precisely these include the kind of message the reacting firm derives from the move. Typical examples of such derived messages are that the firm aims to stay in the market, e.g., when a sizeable investment into a production plant is observed. Or an aim to occupy a market niche or territory exclusively, e.g., due to heavy ad spending. Other examples include a signal to cooperate, e.g., when a price increase is matched, or, simply, the desire to exit a market, e.g., with pricing to get rid of...
inventory. Hence, the move is seen as having a strategic informative content that addresses the interpreter/reacting firm.

4.3. Interpretation as an Impression of Attributes of the Signal Initiator ("Indicator Signals")

The interpretation of initiator attributes typically refers to the inference of a material or mental state of the signal initiator due to the initiator’s moves. Signal types of this category include e.g., signals of aggressiveness, signals of hostility (Heil/Walters 1993), signals of weakness, but also impressions of (un-)trustworthiness (Lindskold 1978). Signals of that kind may provide information on the adversaries likely reaction(s). According to Prabhu (1995), context may also affect attribution: A price cut when demand is rising may be interpreted as more aggressive than a price cut when demand is falling (Steenkamp et al. 2005). On this issue, Robertson/Eliashberg (1995) found that impressions of hostility increase the probability of a reaction, even though these reactions are not necessarily aggressive.

It should, however, be noted that a move by a competitive firm can stimulate different categories of interpretations. Importantly, the categories may end up being somewhat contradictory in their effects on a competitor reaction (Bungert 2003, p. 181). Competitive misunderstanding is likely to erupt as a result.

5. Two Kinds of Market Moves as Bases of Competitive Market Signals: Contrasting Market Actions and Preannouncements

Market moves may be divided into two categories (Heil Robertson 1991; Porter 1980; Robertson/Eliashberg/Rymon 1995; see Figure 2): The first category are actions, which are typically carried out in context with the marketing-mix, but also include legal steps or production capacity extensions. The second category are preannouncements, e.g., verbal announcements that may even be cryptic (Moore 1992) and that may entail threats or promises. Also, such unilateral verbal communication often occurs through press releases or other PR-type activities.

Actions and preannouncements may vary considerably concerning their signaling-properties and their signaling-potential. Managers should therefore gauge carefully before choosing one option. Basically, managers have the choice between a fast, less costly preannouncement versus a rather slow, expensive (Eliashberg/Robertson 1988) action. On the other hand, preannouncements are typically less credible (sometimes even called “cheap talk”; Schelling 1960). Thus, preannouncement may end up becoming misleading and bluffing (Robertson/Eliashberg/Rymon 1995). In Table 1, the comparison between actions and preannouncements underlines the signaling-properties of the different types of market moves.

Based on Table 1, one can argue that, depending on a particular signaling situation, an action may be a preferred signal-base and vice versa. To illustrate: In case a firm preannounces a price increase for its products for the upcoming year, it aims to generate messages on the side of its competitors – who may react with similar preannouncements themselves. The price finally realized after the firm’s adaptation to the competitor’s price preannouncements is often different from the initial preannounced price, and will (typically) be accepted by the competing firms. During this signaling interaction, industry prices have established at fast speed, at low cost and without participation of the consumer – solely using preannouncements or announcements. However, it should be noted that a mix of coordinated actions and preannouncements may be optimal when complex and credible messages are to be transmitted.

5.1. Enhancing the Signaling-Process: Attributes of Market Moves

In general, the signaling process faces the peril of misinterpretation, i.e., the generation of a signal that corresponds very little or not at all to the underlying state of nature (motive, or message). The discussion above demonstrates that a firm interpreting a competitive move, or, conversely, considering initiating a signaling process, needs to be aware of certain caveats. These caveats include the various competitive company backgrounds such as completeness of competitor and market information, receiver attributes, and structural market conditions (Prabhu/Stewart 2001), which affect interpretations and, consequently, competitor reactions.

Another factor that may affect interpretation is the acting firm’s spectrum of alternative moves that remain unexe-

<table>
<thead>
<tr>
<th>Action</th>
<th>Variable of comparison</th>
<th>Preannouncement</th>
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<tbody>
<tr>
<td>high</td>
<td>COST</td>
<td>Low</td>
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<tr>
<td>slow</td>
<td>VELOCITY</td>
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<td>high</td>
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<td>medium</td>
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Table 1: Comparison of the signaling properties of actions and preannouncements
5.2. Dimensions of Moves

To be able to obtain a precise estimate of the motives and messages based on a competitive marketing move, a firm observing the move should examine as many attributes of the move as possible. This can be done by splitting up the move into several attributes and attribute-levels (Nagle 1987). Using the example of a price reduction, it can be shown that a market move is a complex entity which can be split up into the following dimensions:

a. The scale (absolute/relative size of the price reduction)
b. The scope of the price reduction (geographic scope, consumer segments)
c. The timing of the price reduction (e.g., month, season, etc.)
d. The duration of the price reduction (is the duration of the price reduction announced or otherwise limited?)
e. The reversibility of the reaction (does the price reduction affect consumer loyalty?)
f. The ability of the competitors to react to the price reduction (To what degree can competitors monitor the price reduction? Are competitors locked into a certain price structure, e.g., through a catalogue?)

For example, if a firm observes a price reduction move by a competitor and has little possibility of reacting immediately (e.g., by also cutting its price), the interpretation of the intention of the move will typically be that the other firm wants to steal market share, and stronger impressions of attributes of aggressiveness or hostility may arise. The number of attributes and the attribute-levels may of course vary among the marketing-mix variables.

6. Possible Costs and Risks of Signaling

As considerations of commitment and credibility show, the costs of signaling can be one decisive factor for the signaling process to work. Actions typically imply higher a priori costs than preannouncements. Typical costs of “initiating” signals on the side of the acting firm are the changing of price tags, ad expenditures, and reimbursements to customers, e.g., when a low price guarantee has been given.

Eliashberg/Robertson (1988) suggest that firms only have an incentive to initiate signals “intentionally” or “consciously” when the benefit-cost ratio related to the signaling process is acceptable. A favorable benefit-cost ratio can be established through signaling-strategies to prevent market entry, or the generation of competitive norms through a punishment of defectors. Another perspective on the benefit-cost ratio of signaling could include that the cost of an action is somewhat compensated through an increase of the clarity and the credibility of the signal the move is intended to generate. Also, the generation of desirable attributes (e.g., of financial strength) could possibly be linked to the amount of resources spent on the move.

The cost of signaling does not just involve the risk of an “undesirable” signal. Especially in the case of preannouncement-based competitive market signals, the overarching risk is that strategic intentions may unintentionally be revealed to competitors (Heil/Robertson 1991). In yet another context, i.e., the context of new product introduction announcements, signaling may be disadvantageous if competitors can shorten lead times or initiate spoiling tactics.

Notably, the competitive signal that a reacting firm has distilled based on an acting firm’s competitive move may lead the firm to increase the speed and seemingly the “quality” of its own market activity (Eliashberg/Robertson 1988). As a result, a rival’s competitive advantage may be diminished and, moreover, competitors may be able to initiate destructive counter-measures (Areni 2002). Further, costs of new product preannouncements may occur, as is well noted in the literature, by consumers delaying their purchase of an existing product and/or losses in image/brand equity. The latter effect may also harm the preannouncer if the preannounced products will not be made available as promised.

Generally, costs of observing and “assembling” a competitive market signal are likely to be sizeable, e.g., in form of establishing marketing intelligence. Thus, it is safe to state that a reacting firm should weigh the cost and benefits of observing and interpreting competitors’ marketing moves. Currently, most Fortune 500 companies possess staff dealing with competitor intelligence. Globally, however, such efforts are often not common practice. Such asymmetries in competitive sensitivity and attention paid to competitive market signaling may have interesting effects. On the one hand, such attention will most often enhance market performance. However, if a rival simply does not know better than paying attention to competitive interaction, another rival’s attention may be rendered less effective (Heil/Robertson 1991) – leading to asymmetric competition and, most often, competitive misunderstandings. An unfortunate issue that sometimes preempts managers from reaping signaling-based benefits refers to the unwarranted fear that any type of signaling may violate antitrust provisions (Heil/Robertson 1991).

7. Summary and Implications for Further Research

This manuscript looked at the signaling phenomenon from different perspectives that may be relevant in a
marketing context. We suggest that management should consider incorporating the concept of competitive market signaling into their managerial routine in order to improve competitive interaction.

Managers who want to include the concept in their daily routine will have to face the inherent uncertainties of interpreting a move and having own moves being interpreted. On the other hand, human behavior is strongly guided by information that is somewhat ambiguous. Interpreting the actions of others – the core idea of the concept of competitive market signaling – provides a fundamental way of “producing” information.

Managers should be aware that any of their visible market moves may be observed and interpreted by their competitors. These interpretations may provide information to these firms, some of it false. As many real-life examples demonstrate, misunderstandings in the interpretation of competitor’s moves can lead to undesirable and destructive forms of competition, e.g., the triggering of price wars through an unexplained price cut. Managers should therefore act in a way that a misunderstanding that may lead to undesirable competitive interaction becomes less likely.

To “design” signals, i.e., arrive at desired interpretation and reactions – managers should consciously choose between actions and preannouncements. In case particular signals are intended, the ease of interpretation of the acting firm’s market move should be taken into account. Noteworthy in this context are “noise” and “signal clarity.” Obviously, the possible range of interpretations that seem possible as well as the various subsequent reactions should be taken into account. During tense competitive situations, an interpretation may be enhanced through a number of consistent moves. That is, by carefully shaping their market moves managers may influence – at least to a certain extent – competitor-reaction and as well the entire competitive interaction.

Before deciding on a competitive reaction, managers should try and take the perspective of the competitor. One way to do so is to try to interpret the preceding moves of the acting competitor, e.g., along the categories of signals suggested in this paper. A further step to accomplish this is to dissect the competitor’s move into several attributes and corresponding attribute-levels each. To enhance the quality of the interpretation, facets of signals like signal-consequences, signal-consistency, signaling-reputation, and signal-credibility should be taken into account and cross-referenced. One goal often underestimated in this context is that managers should try to avoid over-reacting to a misinterpreted move of the competitor.

Also, managers should consider the possibility of a bluff. If a signal-bluff is likely, especially in situations during which a signal is apparently lacking signal credibility and the signal’s base is in the form of a preannouncement, then a reacting manager should check signal consistency by regarding former moves of the competitor or the structural conditions of the market.

The insights provided by the aforementioned research provide a first step toward the understanding of signals and the signaling process. These contributions are, so far, focused on particular signaling-contexts such as new product introductions or price changes. To gain a deeper understanding of the concept of competitive market signaling, the precise design of a move and a more detailed analysis of its context, its attribute-levels and the emergence of competitive signals need to be researched. Furthermore, questions as to which competitive signals have the strongest impact on the probability of certain types of competitive interactions remain unanswered.

Additional research questions refer to the development of a measure of the quality of the signaling-estimate: How reliably and validly can the reacting manager infer the motives, messages and attributes of the acting firm/manager? What heuristics do marketing managers use when generating signals? How do these heuristics change with the increase of (signaling-) experience? Through which filters does the signal pass in the process of the move’s interpretation? Finally, do signals share properties of the so-called “priors” in Bayesian decision situations?

References


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