



The role of industry perceptions in competitive responses

Konstantinos G. Fouskas

*Department of Technology Management, University of Macedonia,
Thessaloniki, Greece, and*

Dimitris A. Drossos

*Department of Marketing and Communication,
Athens University of Economics and Business, Athens, Greece*

The role
of industry
perceptions

477

Received 6 August 2009
Revised 29 September 2009
Accepted 14 October 2009

Abstract

Purpose – The purpose of this paper is to examine the impact of managerial perceptions of the competitive environment on shaping the way firms respond to their rivals in terms of speed, intensity, innovativeness and breadth of competitive responses.

Design/methodology/approach – The paper develops a research model based on current literature of competitive dynamics and then test this model in 174 firms selected from 22 manufacturing, trade and service sectors in Greece.

Findings – The results indicate that managerial perceptions regarding the competitive environment affect the competitive response behaviour of companies in terms of specific characteristics and thus can be used as predictors of responses to competitive actions. This is in line with recent research in competitive dynamics, arguing that managers decode cues of their competitive environment in terms of threats and opportunities and respond to them accordingly.

Research limitations/implications – This study could benefit from a larger sample and replication in more countries. Moreover, more perceptual influences on competitive response characteristics should be examined in depth in future research with a view to enhancing awareness of competitive interactions.

Practical implications – Managers will develop a better understanding of factors influencing competitive response characteristics and will be able to better predict rivals' retaliation schemes when initiating competitive actions and foresee forthcoming industry changes.

Originality/value – Previous research in competitive dynamics is associated with measuring the impact of various measurable situational and environmental characteristics, such as industry growth and organizational age, in competitive response characteristics. It instead focus on the role of managerial interpretations of the competitive environment and how they affect the way they respond to a firm's competitors.

Keywords Competitive strategy, Management strategy, Perception, Greece

Paper type Research paper

Introduction

The assessment of environmental threats and opportunities and the evaluation of organizational strengths and weaknesses have been recognised as the basis of strategic management (Schneider and de Meyer, 1991). However, although these assessments are expected to rely on an objective basis, most of the times this remains erroneous, since managers are often influenced by subjective perceptions and interpretations (Levit, 1960; Daft and Weick, 1984; Smircich and Stubbart, 1985). Hence, although we



Industrial Management & Data
Systems
Vol. 110 No. 4, 2010
pp. 477-494
© Emerald Group Publishing Limited
0263-5577
DOI 10.1108/02635571011038981

expect strategic reasoning to lead managerial actions, we often witness strategic behaviours that significantly deviate from those anticipated.

Common approaches regarding strategic management thinking often rely on principles of the game theoretic framework (Dixit and Nalebuff, 1991; Bradenburger and Nalebuff, 1996) and support that managers use strategic foresight (i.e. look ahead and reason back) and the adoption of the mindset of competitors to predict their behaviour and reactions (Urbany and Montgomery, 1998). However, these principles, albeit increasingly used in theories (D'Aveni, 1994), are not always evident in everyday competitive decisions made by companies (Urbany and Montgomery, 1998). Firms often appear to pay little consideration to the future behaviour of competitors when making competitive decisions. An increasing number of researchers support that making competitive decisions and responding to actions of competitive rivals is not based on rational strategic thinking, but is cognitively limited and does not consider the decisions of competitive others (Zajac and Bazerman, 1991; Ramaswamy *et al.*, 1994; Reibstein and Chussil, 1999), so limiting the ability of managers to predict competitive responses.

This is especially important when competitive interactions take place in turbulent or complex competitive environments where competitors' actions and reactions are not always visible (Clark and Montgomery, 1996) and strategic decisions are not often repeated. Firms may learn enough about competitors' tendencies for the market to settle down to a steady state in the long run, but by the time this occurs, most of the profits will have likely been competed away (Johnson and Russo, 1997) and the game will have probably changed. The above indicate that competitive actions and responses are not always a consequence of reasonable strategic thinking but instead managers seem to pay limited attention to the behaviour of competitive others during their decision-making process (Urbany and Montgomery, 1998). The foregoing can lead to the following question: If competitive decisions are not taken based on an objective basis, relying on analysis of the competitive environment and organizational capabilities, what is driving them and how can a firm predict the consequences of its actions and anticipate competitive reactions?

Research on competitive responses has tried to shed light on this question. By examining competitive actions and reactions, researchers have tried to develop predictive models that try to explain how competitors will react to specific competitive actions. In order to do so, they have relied on a series of factors that can affect the competitive reactions of a firm. Such factors have been actor characteristics (Bowman and Gatignon, 1995; Clark and Montgomery, 1996; Venkataraman *et al.*, 1997), action characteristics (MacMillan *et al.*, 1985; Chen *et al.*, 1992; Chen and Miller, 1994; Venkataraman *et al.*, 1997), rival characteristics (Smith *et al.*, 1989; Bowman and Gatignon, 1995; Chen, 1996; Clark and Montgomery, 1996), and characteristics of the competitive environment (Ramaswamy *et al.*, 1994; Bowman and Gatignon, 1995; Gatignon and Reibstein, 1997). This significant amount of research has enabled us to study influences on competitive responses, "the set of decisions by a company in response to an observed competitive action" (Kuester *et al.*, 1999).

Nevertheless, regarding research on the influence of the competitive environment, most researchers have focused on examining observable industry characteristics rather than measuring how these characteristics are translated into threats and opportunities by managers and accordingly shape the characteristics of their competitive decisions. Research has been widely based on industry data, such as rate of technological change

(Smith *et al.*, 1989; Bowman and Gatignon, 1995), growth (Bowman and Gatignon, 1995), and market concentration (Ramaswamy *et al.*, 1994). However, recent research challenges these approaches, since they do not shed light on the unique competitive behaviours that are associated with managerial subjective beliefs (Marcel *et al.*, 2005; Montgomery *et al.*, 2005). Managers are responsible for interpreting environmental cues and making the appropriate competitive choices of which competitors to challenge, which competitive instruments to use, and which unique propositions to offer to the selected customer (Day, 1984) and the way they do it is associated with their understanding of their competitive environment. Subsequently, in this research, we propose that the evaluation of how firms are expected to respond should preferably not be on measurement of industry and organizational characteristics, but instead on how these characteristics are translated into perceptions and influence the competitive response process in a series of dimensions.

In this line of thinking, we will examine the role of managerial perceptions of the competitive environment in shaping specific competitive response characteristics, enabling us to better understand the mindset of competitors, a significant issue related to achieving organizational success (D'Aveni, 1994). In the following sections, we select the appropriate competitive response characteristics to be studied, develop our research model and hypotheses and analyse the methods used in this research. We then discuss our results, examine how they can affect managerial decisions and identify possible limitations, as well as pathways for future research.

Choice of competitive response characteristics for current research

Clearly, individual actions (and their characteristics) serve as the building blocks of company level competitive behaviour measured at sequential and aggregate levels. However, researchers see that an approach that focuses exclusively on the individual action level of analysis has limited managerial implications, as “the pattern of competitive moves unfolds dynamically throughout a given time period” (Ferrier and Lee, 2002). In other words, in a given time period, individual competitive actions are likely to be interconnected to serve a unified strategic intent. It would be more meaningful to study company-level competitive behaviour at the aggregate level, which corresponds to the well-accepted conceptualisation of strategy as patterns or consistencies in streams of behaviours (Mintzberg and Waters, 1985) and the entire repertoire of company-level competitive moves (Miller and Chen, 1994, 1996). This research focuses on the impacts of competitive environment on the competitive behaviour of the company when confronting its rivals. Thus, constructs at the aggregate level are the most appropriate for current research purposes.

The various competitive behaviour variables at the aggregate level are placed into two categories:

- (1) the level of competitive activity; and
- (2) the variety of competitive activity.

These two categories capture the scale and scope of company-level competitive behaviour, respectively.

The level of competitive activity refers to the extent to which a company carries out a collection of vigorous competitive actions in a given time period. Traditionally, competitive dynamics research literature has employed the construct “total competitive

activity" (Young *et al.*, 1996; Ferrier *et al.*, 1999) to capture the scale of company-level competitive behaviour. This construct is typically interpreted as reflecting company-level competitive aggressiveness and has been found as the most robust construct in the competitive dynamics research literature (Ferrier and Lee, 2002). However, while speed had been typically assimilated to the aggressiveness of the reaction, along with the reaction intensity, Bowman and Gatignon (1995) recognised that speed needs an exclusive set of explanatory mechanisms, mostly based on organizational variables. Moreover, the notion of competitive aggressiveness is commonly being confused with the intensity of responses by managers. For this reason, we chose to examine both individual characteristics of competitive aggressiveness, namely speed and intensity.

The variety of competitive activity denotes the range or diversity of competitive actions (Nayyar and Bantel, 1994; Ferrier *et al.*, 1999) and its unpredictability related to previous actions of the company and industry standards (Ferrier, 2001; Ferrier and Lee, 2002). Sometimes, this construct is conceptualised – albeit in the opposite direction – as competitive simplicity (Miller and Chen, 1996; Ferrier *et al.*, 1999), which refers to the extent to which a company has carried out a concentrated repertoire of action types. This construct is related to the notion of strategic complexity, which can lead to sustainable competitive advantage (Rivkin, 2000). Empirically, Miller and Chen (1996) found that a company's increased concentration on the most numerous actions (i.e. lowering variety of competitive activity) is negatively related to company-level performance measured by per unit revenue. To capture this construct effectively, we chose to measure it by both its components. These two components are the diversity of competitive reactions used by the company, referred to as the breadth of competitive reactions, and the unpredictability of competitive responses, to which we will refer to as the innovativeness of competitive responses.

Model development

Characteristics of the environment have been previously found to affect the responses of a firm to competitive actions (Urbany and Montgomery, 1998). Competitive interactions occur within the context of a given industry structure, which influences a company's awareness, motivation and ability to carry out actions and reactions (Smith *et al.*, 1992). To this end, we seek to examine the influence of competitive forces on shaping managerial decisions that drive the competitive responses of firms, as a vehicle to defend or enhance its competitive position in a given competitive environment. The less a manager perceives a market situation as controllable, as evident in highly competitive markets, the more he appraises that situation as a threat (White *et al.*, 2003). According to the structure-conduct-performance view of industrial economics, high pressure of competitive forces, such as industry rivalry and barriers to entry, lead industry participants to intensify their competitive efforts (Scherer and Ross, 1990). Managers seem to perceive the competitive threat not in terms of market figures but, instead, in terms of competitive threat to a firm's survival and growth. Previous research on competitive responses indicates that responses to actions that are perceived as more threatening are speedier (MacMillan *et al.*, 1985; Smith *et al.*, 1989; Chen *et al.*, 1992), more aggressive (Heil and Walters, 1993; Waarts and Wierenga, 2000; Hultink and Langerak, 2002), and less innovative (Athreye, 2001).

Response speed has been found to be positively related to environmental turbulence and competitive intensity, since firms in such environments are more flexible and

prepared for response, as opposed to firms in stable environments (Smith *et al.*, 1989; Bowman and Gatignon, 1995). Additionally, reactions to new entrants tend to be stronger and more rapid in high growth markets than in low growth ones (Bowman and Gatignon, 1995). This leads us to hypothesise the following:

H1. Perceptions of intense competitive environment will be positively related to the speed of competitive responses.

More specifically, since competitive actions in such markets are more visible and threatening, firms are expected to respond aggressively in order to maintain their market share (Porter, 1980; Ramaswamy *et al.*, 1994; Gatignon and Reibstein, 1997). On the other hand, when competitive rivalry is low, firms tend to react less aggressively by adopting a “live and let live” attitude (Frey, 1988). This is also supported by findings indicating that firms competing in industries characterised by high barriers to entry, reducing the threat of new entrants, were found to be less motivated to compete aggressively (Caves *et al.*, 1984; Scherer and Ross, 1990). Additionally, high customer switching, reducing the power of buyers has been found to be negatively associated with rapid and intense responses (Bowman and Gatignon, 1995; Gatignon and Reibstein, 1997). Yet, when competitive threat starts to increase, firms are expected to react intensively in order to minimise their losses and maximise their gains from a growing market (Day, 1986). We consequently develop the following hypothesis:

H2. Perceptions of intense competitive environment will be positively related to the intensity of competitive responses.

The above do not apply to the innovativeness of competitive responses. The unpredictability of competitive actions and reactions seems to be limited in competitive intensive settings (Ferrier, 2001). Moreover, industry concentration has exhibited a negative relation to action sequence complexity and differentiation (Ferrier, 2000). Schomburg *et al.* (1994) found that as barriers to entry decreased, the perceived threat of competitive actions increased and the innovation of action decreased. This is also supported by the work of Athreye (2001), discovering a negative relationship between increased competition and innovative behaviour. This can be justified by the fact that managers tend to limit their innovative response patterns in such environments. They try to focus on confronting their rivals through tested and proven competitive actions commonly used in their competing industries. Although no previous empirical evidence supports that, we can expect competitive response decision making to share similar characteristics to any other decision making process in highly competitive environments (Judge and Miller, 1991). Thus, we hypothesise the following:

H3. Perceptions of intense competitive environment will be negatively related to the innovativeness of competitive responses.

Regarding the effects of perceptions of the competitive environment on the breadth of competitive repertoire used, they seem not to have been sufficiently investigated in previous research. However, some indications can help us develop hypotheses for these relationships. It is common for firms to respond to a competitive move by using the same element of the marketing mix as the one used in the attack. This mimetic behaviour is often attributed to the impulse responses of managers aimed at achieving a speedier response (Gatignon and Reibstein, 1997). This effect seems to be even

stronger in competitively intensive industries, for it seems to be negatively associated with the unpredictability of competitive actions and reactions (Ferrier, 2001). Managers consider speedier moves essential in such competitive environments and thus it is common not to adequately develop their response strategy but instead prefer to reply with analogous instruments to reduce the effect of competitors' actions on customers. This can also lead to preference of communication and price cutting reactions (tactical reactions), since these reactions require less time and implementation resources than product related reactions (strategic reactions) (Chen and Miller, 1994; Chen *et al.*, 1992; Smith *et al.*, 1992). Moreover, competitive reactions in such environments are expected to rely on less competitive weapons per reaction, so reducing the complexity of the reaction and the overall size of the competitive repertoire used. Since firms usually react on the marketing mix instrument with the highest elasticity (Gatignon *et al.*, 1989), and the marginal effectiveness for each additional type of reaction is considered to be minimum, firms are likely to react primarily on few dimensions, namely less than two (Gatignon *et al.*, 1997). An increased number of reactions requires increased implementation times and use of less effective competitive instruments, something that is expected to be avoided in highly threatening competitive environments, where managers tend to pursue immediate responses to rival actions. This indicates that the breadth of the competitive repertoire used will be limited in competitive environments that are perceived as threatening:

H4. Perceptions of intense competitive environment will be negatively related to the breadth of competitive responses.

The overall research model is shown in Figure 1.

Measures

The use of primary field study method was deemed necessary to measure managerial perceptions and capture the view of decision makers and the cognitive process by which competitive reactions are implemented. This type of research, based on investigating natural settings through data collected by the researcher (Scandura and

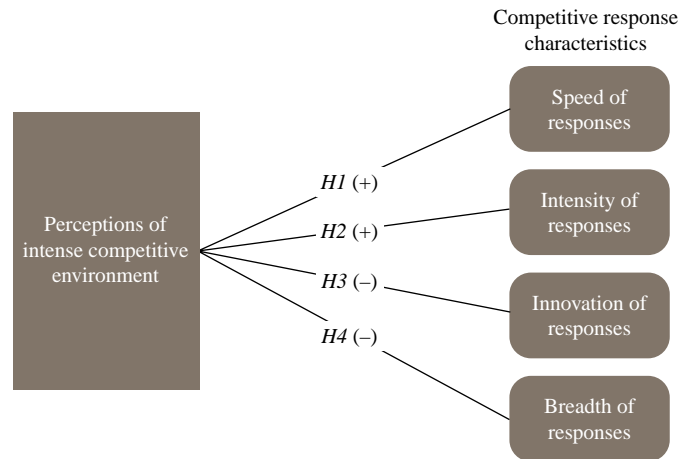


Figure 1.
Research model overview

Williams, 2000) would allow the identification of managerial perceptions and the competitive behaviour of a firm. Below we present measures for each set of constructs.

To develop an instrument that measures the competitiveness at market level we examined recent research on how firms experience their market environment (Pecotich *et al.*, 1999; Kemp and Hanemaaijer, 2004). Initially Porter (1979) mentioned a number of structural characteristics of industries that indicate intense competition, such as a high number of competitors, low entry barriers and a high market growth rate. However, those structural indicators of an industry are not enough to capture the nature of competition, since they provide information solely on the outcomes of competition and not on the competitive process. More recently, Pecotich *et al.* (1999) used a combination of structural market characteristics and indicators of the competitive process (such as the aggressiveness of advertising and the intensity of price cuttings) to describe competition. This study shows that company executives' interpretations of the competitive environment can indeed be classified by Porter's five forces, a notion further exploited in the work of Kemp and Hanemaaijer (2004). By combining these studies on the competitive environment and its relation to competition we have selected an initial number of variables for each competitive force that could describe how firms perceive their market. These variables represent the way companies perceive competition in their market. For instance, the observation that price cuts are common will be interpreted as more internal rivalry, i.e. an increase in the perceived threat of rivals (Kemp and Hanemaaijer, 2004). A total of fourteen questions measuring the perceived impact of competitive forces were used. The responses used are the five-point Likert scale ones ranging from 1 – totally disagree to 5 – totally agree.

The speed of competitive response captures the respondent's perception of a company's reaction time in responding to rival's actions. To measure the speed of competitive response, we followed Gatignon *et al.* (1997). The operationalisation of this construct consists of four items. The answers were of the five-point Likert scale type, ranging from 1 – totally disagree to 5 – totally agree. This measure allowed comparison across a wide variety of market types, unlike actual calendar time prior to reaction, since the same reaction time may be perceived as slow in fast moving consumer industries and fast in research and development intensive industries.

The intensity of competitive reactions refers to the strength of competitive reaction compared to the competitive action (Hultink and Langerak, 2002), as well as the impact of the competitive reaction to buyers compared to the competitive action (Robertson and Gatignon, 1991). In order to capture these two elements, three items were adopted, proposed by the above studies. The questions used a five-point Likert scale, ranging from 1 – totally disagree to 5 – totally agree.

The innovativeness of competitive response measures the element of differentiation of competitive reactions from both industry norms and previous competitive repertoire of the company. The operationalisation of this construct was based on two previous research streams. The former was the radicality of action (MacMillan *et al.*, 1985; Smith *et al.*, 1989; Chen and MacMillan, 1992), defined as the extent to which the action departs from industry norms. The latter was the research of competitive actions and responses in relation to preceding and subsequent competitive moves (Ferrier *et al.*, 1999; Ferrier and Lee, 2002; Ferrier, 2001), which refers to within-unit variation of competitive actions related to previously used ones. To conceptualise these aspects of

competitive reaction innovativeness three items were developed. The questions use a five-point Likert scale, ranging from 1 – totally disagree to 5 – totally agree.

The breadth of competitive response, referring to the size of the competitive repertoire used to confront rival actions (Chen and Miller, 1994), was measured by two ratio scales. A number of common competitive actions were presented to participants and we measured the average number of competitive instruments used per reaction (ranging from 1 to 7) and the overall size of the competitive repertoire used for confronting all actions (ranging from 1 to 7). By combining these two ratio scales we calculated a score for breadth of responses.

Handling of research instrument and validity issues

Initially, content validity of the instrument was assessed, employing a quantitative approach (Lawshe, 1975), commonly applied to validate management related instruments (Lewis *et al.*, 1995). The process involved identifying relevant items from the existing literature, formulating a content evaluation panel composed of experts from academia and industries related to the desired research area and finally, evaluation of each construct by the experts. In our case this panel consisted of two academics and ten senior executives with experience in competitive analysis and actions and reactions belonging to different industries of manufacturing, trade and service related firms. The items with satisfying content validity ratio following the guidelines proposed by Lawshe (1975) were retained.

An initial version of the questionnaire was developed consisting of items in the English language. To make sure the translation was accurate and that the question meanings were not altered, we used a double translation method to translate the questionnaire into the Greek language and then back into English. A comparison of the resulting questionnaires revealed considerable consistency across translation. Each questionnaire translation was performed by a different translator to ensure translation equivalence (Desarbo *et al.*, 2005). Before the execution of the field experiment, the instrument was pre-tested in a pilot trial, organized to test the questionnaire validity and make alterations on phrasing and formatting based on the feedback of the pilot trial participants. This questionnaire was administered to 21 executive MBA students and 18 usable questionnaires were acquired, not included in our final analysis.

Accordingly, in order to ensure construct validity we conducted a series of tests, namely reliability, unidimensionality and convergent validity tests. Unreliable items with Cronbach α values below 0.70 (Straub *et al.*, 2004) were removed from the respective constructs, resulting in the elimination of three items. The Cronbach's α values of our final constructs ranged from 0.72 to 0.88. In order to assess the unidimensionality of our constructs we factor analysed items regarding both the measurement of competitive environment perceptions and response characteristics. By using principal component analysis through a rotated component matrix, all items used in the final analysis, breakdown in their respective constructs by factor loadings ranging from 0.706 to 0.966. Finally, in order to examine convergent validity, although a single response was collected from each company, we used 25 additional questionnaires as a reference point for examining differences between respondents. These questionnaires were collected from firms that had already provided a completed questionnaire and were used for cross-validation reasons only. We examined the individual responses of the initial and the additional questionnaire (provided by a different respondent) for each company to

see if there were significant differences. An average of 84 percent resemblance was found for all questionnaires for perceptions of the competitive environment and competitive reaction characteristics of every company. We did not include the additional questionnaires into our final sample.

Sample selection, response rates and descriptive data

The selection of our sample was based on the examination of the *Greek National Financial Directory* (www.financial-directory.gr). In order to select our final sampling frame a number of criteria were adopted, similar to criteria used in previous research in competitive dynamics such as adequate competitive interaction activity and various types of economic activities (manufacturing, trade and service).

The research instrument developed was sent to all companies in each sector that employ at least twenty employees to ensure a minimum operating structure of each company (Spanos and Lioukas, 2001). The sample consisted of 1,194 firms. Out of those firms, 932 finally received the research questionnaire; while the remaining 262 had either ceased operation, their correspondence data was inaccurate or were unable participate in the research. We received 208 responses, from which 174 were used in our research. Some key characteristics of the responding firms are presented in Table I.

Managers in several positions co-operated in answering the questionnaire. According to their responses, 44 were general managers (25 percent), 52 were commercial managers (30 percent), 69 were marketing managers (40 percent) and nine were other top managers. To ensure the appropriateness of the respondents to fill in this questionnaire we examined both their previous experience in the specific market and company, their position and decision making power and their experience in market and competitor analysis.

Research findings

Multiple regressions were used to test the study’s hypotheses regarding the relation of perceptions of the competitive environment with speed, intensity, innovation and breadth of competitive responses. The model met the assumptions necessary for multiple regression in terms of normality, linearity and homoscedasticity. Additionally, outliers were examined for extreme score in order not to distort the statistics used in our analysis. All independent variables enter the regression equation at the same time and the extent of unique contribution of each predictor is assessed. Therefore, this method isolates the effects of each independent variable. The correlation of variables is presented in Table II and regression estimations are presented in Table III.

As seen from the regression results, the speed of competitive reactions was found to be significantly related to perceptions of the competitive environment such as the threat of new entrants, the intensity of competition and threat of buyers’ power, supporting *H1*. Threat of new entrants has been found to be the most significant threat in leading managers to respond rapidly to competitive actions. This is due to the fact

Firms’ characteristics	Mean	SD	Median
Operating years	21.5	21.35	14
Employees	426	1475	75
Industry	<i>Manufacturing</i> 54 (31%)	<i>Trading</i> 86 (49.5%)	<i>Service</i> 34 (19.5%)

Table I.
Characteristics of firms
that participated in the
study

Table II.
Correlations of variables
in regression
examinations (Pearson's
co-efficients)

	1	2	3	4	5	11	12	13
Competition intensity	1							
Threat of new entrants	0.286**	1						
Threat of substitutes	0.413**	0.141	1					
Power of buyers	0.129	0.069	-0.054	1				
Power of suppliers	-0.131	0.035	-0.141	-0.097	1			
Speed of response	0.409**	0.604**	0.175*	0.163**	0.021	1		
Intensity of response	0.244**	0.185*	0.098	0.536**	-0.077	0.229**	1	
Innovativeness of responses	0.460**	0.098	0.521**	-0.118	-0.126	0.131	0.106	1
Breadth of responses	0.087	0.101	0.067	0.087	0.027	0.181*	-0.003	0.007

Note: Correlations are significant at *0.05 and **0.01 levels (two-tailed)

Predictors	Model 1 Speed			Model 2 Intensity			Model 3 Innovativeness			Model 4 Breadth		
	B	SE	β	B	SE	β	B	SE	β	B	SE	β
Constant	-0.227	0.372		2.529	1.507		1.034**	0.418		2.423***	0.915	
Competition intensity	0.362***	0.098	0.249	0.529	0.395	0.108	0.507***	0.110	0.327	0.107	0.240	0.039
Threat of new entrants	0.571***	0.067	0.523	0.111	0.269	0.030	-0.044	0.075	-0.038	0.153	0.164	0.075
Threat of substitutes	0.010	0.061	0.011	0.312	0.248	0.098	0.381***	0.069	0.378	0.090	0.151	0.051
Power of buyers	0.090*	0.053	0.100	1.103***	0.216	0.367	-0.135**	0.060	-0.141	0.141	0.131	0.084
Power of suppliers	0.010	0.013	0.047	0.024	0.053	0.033	-0.010	0.015	-0.042	0.019	0.032	0.045
R^2	0.437			0.173			0.366			0.023		
Adjusted R^2	0.420			0.148			0.347			-0.006		
SE of estimate	0.83765			3.401			0.94409			2.06572		
F	25.887			7.033			19.367			0.785		
Sig.	0.000			0.000			0.000			0.562		
Observations	173			174			174			174		

Notes: * < 0.1; ** < 0.05; *** < 0.01

Table III.
Regression models for speed, intensity, innovation and breadth of competitive responses

that incumbents feel threatened when new adversaries enter their market and try to confront them presently. This is also evident in previous studies, indicating that firms rarely delay their responses to new entrants (Gatignon *et al.*, 1989). Moreover, response speed has been found to be positively related to competition intensity, a finding also analogous to previous studies, since firms in high competitive environments are more agile and prepared for response, as opposed to firms in less competitive ones (Smith *et al.*, 1989; Bowman and Gatignon, 1995). Finally, the buyers' bargaining power was found to be of equally high importance in leading to rapid competitive responses. Firms seem to try to react as urgently as possible to their rivals in order to eradicate the impact of their actions in buyers' preferences.

The importance of buyers' power is also evident in terms of intensity of competitive responses. More specifically, the power of buyers has been found to be the most significant threat in responding intensively to competitive reactions, indicating that managers feel the need to make their reactions more noticeable in the attention of buyers compared to their competitors. This is in line with previous research that has revealed that firms respond aggressively in order to maintain their market share (Porter, 1980; Ramaswamy *et al.*, 1994; Gatignon and Reibstein, 1997). Additionally, reduced power of buyers has been found to be negatively associated with rapid and intense responses (Bowman and Gatignon, 1995; Gatignon and Reibstein, 1997). In our study we confirmed this finding by finding that high power of buyers is positively associated with rapid and intense responses, supporting *H2* as well.

Perceptions of intense competitive environment are also positively correlated with the innovativeness of competitive reactions. This does not support our *H3*, since we expected a negative relation between intensive competition and innovation as indicated by previous findings. More specifically, competition intensity and threat of substitutes have been found to be highly associated with innovation in responding to competitive reactions. However, the power of buyers seems to be also correlated with innovation of competitive reactions but negatively. The above lead us to the indication that the intensity of competition and threat of substitutes lead managers to adaptation of more innovative ways of competitive responses. The need for new and innovative marketing ways to cope with competitors is more evident in complex competitive environments (Mason and Staude, 2009) and this may drive the competitive responses as well. Furthermore, previous research has identified a positive association of certain types of competitive behaviour (introduction of new services) for firms with increased understanding of their competitive surroundings in certain industries (Lonial *et al.*, 2008). On the other hand, the threat of bargain power of buyers reduces the reluctance of reacting in innovative ways, indicating that managers prefer tested reactions in order not to lose the loyalty of their customers. Our study produced results that are only partially in line with our hypothesised relationship *H3*, indicating that managers may chose not to deviate from previous, or industry common reaction patterns. Further research can reveal more concrete results.

Finally, we found no association of the perceptions of the competitive environment with the breadth of competitive responses used for reaction in our study. This finding leads us to the assumption that other factors determine the usage of competitive instruments in a specific market, regarding both the type and the number of instruments used for retaliation. Industry participation can be a significant factor in determining the choice of competitive instruments used. The reactions of firms can be

directly associated with the industry norms for each type of response. While certain types of actions are neglected, responding to others may be a necessity for almost all firms in an industry. However, further research is needed to evaluate these assumptions.

Speed of competitive responses is the characteristic most affected by perceptions of the competitive environment since it is affected by perceptions related to three perceived threats, namely competition, new entrants and buyers. Innovation of response is also highly affected by perceptions of the competitive environment by three perceived threats as well. Nevertheless, two of them affect it positively (competition and substitutes), while one affects it negatively, limiting the overall effect of the competitive environment. Intensity of competitive responses is also associated with perceptions of the competitive environment, but is limited compared to speed and innovation, since it is only affected by the threat of buyers' power. Finally, breadth of competitive responses was not found to be associated with perceptions of the competitive environment in our study, indicating that other factors, not studied extensively here, affect it.

Research implications, managerial implications, limitations and further research

Certain aspects of the perceived competitive environment form perceptions that influence specific characteristics of the competitive responses positively or negatively. This applies to the speed, intensity and innovation of competitive responses. Previous research examined mainly observable industry characteristics on competitive responses, such as industry growth (Ramaswamy *et al.*, 1994; Bowman and Gatignon, 1995; Gatignon and Reibstein, 1997) and market concentration (Ramaswamy *et al.*, 1994; Gatignon and Reibstein, 1997). Our research indicates that managers do not decode industry characteristics in terms of observable figures but instead react on rival actions, based on the perceptions they shape about the competitive environment and, more specifically, the threat the competitive environment poses for the survival of their company, especially if they choose not to react. This is in line with researchers in competitive dynamics, who argue that managers decode cues of their competitive environment in terms of threats and opportunities and accordingly respond (Urbany and Montgomery, 1998; Montgomery *et al.*, 2005). Our findings suggest that the recent stream of research in competitive dynamics urging for more studies on how managers are influenced during the competitive response decision process by their subjective beliefs should receive more attention.

Moreover, we have indicated that firms do not reply to their rivals' actions based solely on an evaluation of the characteristics of their opponent, their firm, the action and the observable industry characteristics, but instead evaluate their competitive environment and choose the response they believe is the most appropriate for the specific market occasion. These findings can prove valuable for practising managers. An accurate assessment of the competitive situation and expected competitive interactions is a critical factor in enhancing a business position. Through examining the key competitive forces in an industry, new entrants can anticipate the responses of incumbents and plan their approach accordingly. Current industry players can also initiate actions and anticipate competitive responses by estimating the shared perceptions of industry's competitive forces. This will enable them to take actions in

low or high competitive threatening circumstances and engage or not in competitive wars according to their competitive position and expectations (Rindova *et al.*, 2004).

Understanding of how managers evaluate the competitive environment in a specific state can expand beyond improving a firm's anticipation of its competitors' responses. Since firms' competitive interactions become building blocks of their respective competitive strategy and the overall evaluation of these strategies can lead to market evolution (Soberman and Gatignon, 2005) managers can anticipate by examining the current state of industry perceptions, the way firms in it will compete or alter their current competitive schemes and their effect on industry evolution.

Research relating competitive response characteristics with competitive environment can benefit from expanding this research. Main areas to focus are associated with limitations of this research. Specific industry settings can provide useful insight on how managers follow industry norms for each type of response and if certain types of actions are neglected or whether responding to others is a necessity for almost all firms in a certain industry. Additionally, further research can examine whether actions are confronted with the same instrument used by the competitors, and if the breadth of competitive instruments used per reaction is in most cases limited and deviations from previous reactions and industry norms are rare. Research in specific industries has revealed commonalities in various practices, such as purchasing strategies and this can also apply for competitive response strategies as well. The importance of market linkages throughout the supply chain and the potential advantages for the firms is gaining attention in recent studies (Shamsuzzoha *et al.*, 2009) and thus could also be studied under the competitive responses lens. This research was also conducted with Greek firms and may not reflect the views of managers in other countries. Thus, in order to reveal cultural differences, as managerial behaviour can vary across countries, it would be interesting to replicate this study in different countries and compare the findings. Moreover, due to limited responses from each industry we did not have the opportunity to study the effects of each respective industry in competitive response characteristics and compare the results. We anticipate following research to examine in depth the managerial perceptions of both the competitive environment and organizational capabilities and associate them with competitive response behaviour of the firms.

References

- Athreye, S. (2001), "Competition, rivalry and innovative behaviour", *Economics of Innovation and New Technology*, Vol. 10, pp. 1-21.
- Bowman, D. and Gatignon, H. (1995), "Determinants of competitor response time to a new product introduction", *Journal of Marketing Research*, Vol. 32, pp. 42-53.
- Bradenburger, A.M. and Nalebuff, B.J. (1996), *Coopetition*, Bantam Doubleday, New York, NY.
- Caves, R.E., Fortunato, M. and Ghemawat, P. (1984), "The decline of dominant companies: 1905-1929", *The Quarterly Journal of Economics*, Vol. 99 No. 3, pp. 523-46.
- Chen, M. and MacMillan, I. (1992), "Nonresponse and delayed response to competitive moves", *The Academy of Management Journal*, Vol. 35, pp. 539-70.
- Chen, M. and Miller, D. (1994), "Competitive attack, retaliation and performance: an expectancy-valence framework", *Strategic Management Journal*, Vol. 15, pp. 82-102.

- Chen, M., Smith, K. and Grimm, C. (1992), "Action characteristics as predictors of competitive responses", *Management Science*, Vol. 38, pp. 439-55.
- Chen, M.J. (1996), "Competitor analysis and intercompany rivalry: toward a theoretical integration", *The Academy of Management Review*, Vol. 21, pp. 100-34.
- Clark, B.H. and Montgomery, D.B. (1996), "Perceiving competitive reactions: the value of accuracy (and paranoia)", *Marketing Letters*, Vol. 7 No. 2, pp. 115-29.
- Daft, R.L. and Weick, K.E. (1984), "Toward a model of organizations as interpretation systems", *The Academy of Management Review*, Vol. 9 No. 2, pp. 284-95.
- D'Aveni, R. (1994), *Hypercompetition: Managing the Dynamics of Strategic Maneuvering*, Freedom Press, New York, NY.
- Day, G.S. (1984), *Strategic Market Planning: The Pursuit of Competitive Advantage*, West Publishing, St Paul, MN.
- Day, G.S. (1986), *Analysis for Strategic Market Decisions*, West Publishing, St Paul, MN.
- Desarbo, W.S., Benedetto, C.A.D. and Sinha, I. (2005), "Revisiting the miles and snow strategic framework: uncovering interrelationships between strategic types, capabilities, environmental uncertainty and company performance", *Strategic Management Journal*, Vol. 26, pp. 47-74.
- Dixit, A.K. and Nalebuff, B. (1991), *Thinking Strategically: The Competitive Edge in Business, Politics, and Everyday Life*, W.W. Norton, New York, NY.
- Ferrier, W. (2000), "Playing to win: the role of competitive disruption and aggressiveness", in Hitt, W., Bresser, R., Heuskel, D. and Nixol, R. (Eds), *Winning Strategies in a Deconstructing World*, Wiley, New York, NY, pp. 163-89.
- Ferrier, W. (2001), "Navigating the competitive landscape: the drivers and consequences of competitive aggressiveness", *The Academy of Management Journal*, Vol. 44 No. 4, pp. 858-77.
- Ferrier, W.J. and Lee, H. (2002), "Strategic aggressiveness, variation, and surprise: how the sequential pattern of competitive rivalry influences stock market returns", *Journal of Managerial Issues*, Vol. 14 No. 2, pp. 162-83.
- Ferrier, W.J., Smith, K.G. and Grimm, C. (1999), "The role of competitive action in market share erosion and industry dethronement: a study of industry leaders and challengers", *The Academy of Management Journal*, Vol. 42 No. 4, pp. 372-88.
- Frey, J. (1988), "Commentary on 'Marketing mix reactions to entry'", *Marketing Science*, Vol. 7 No. 4, pp. 386-7.
- Gatignon, H. and Reibstein, D.J. (1997), "Creative strategies for responding to competitive actions", in Day, S., Reibstein, D.J. and Gunther, R. (Eds), *Wharton on Dynamic Competitive Strategy*, Wiley, New York, NY, pp. 237-55.
- Gatignon, H., Anderson, E. and Helsen, K. (1989), "Competitive reactions to market entry: explaining intercompany differences", *Journal of Marketing Research*, Vol. 26 February, pp. 44-55.
- Gatignon, H., Robertson, T.S. and Fein, A.J. (1997), "Incumbent defense strategies against innovative entry", *International Journal of Research in Marketing*, Vol. 14 No. 2, pp. 163-76.
- Heil, O.P. and Walters, R.G. (1993), "Explaining competitive reactions to new products: an empirical signaling study", *Journal of Innovation Management*, Vol. 12, pp. 403-18.
- Hultink, E.J. and Langerak, F. (2002), "Launch decisions and competitive reactions: an exploratory market signaling study", *Journal of Product Innovation Management*, Vol. 19 No. 3, pp. 199-212.

- Johnson, E.J. and Russo, J.E. (1997), "Coevolution: toward a third frame for analyzing competitive decision making", in Day, S., Reibstein, D.J. and Gunther, R. (Eds), *Wharton on Dynamic Competitive Strategy*, Wiley, Hoboken, NJ, pp. 177-97.
- Judge, W.Q. and Miller, A. (1991), "Antecedents and outcomes of decision speed in different environmental contexts", *The Academy of Management Journal*, Vol. 34 No. 2, pp. 449-63.
- Kemp, R.G.M. and Hanemaaijer, J.J. (2004), "Perception of competition", *White Paper*, Scales, Zoetermeer.
- Kuester, S., Homburg, C. and Robertson, T.S. (1999), "Rataliatory behavior to new product entry", *Journal of Marketing*, Vol. 63, pp. 90-106.
- Lawshe, C.H. (1975), "A quantitative approach to content validity", *Personnel Psychology*, Blackwell, Oxford, pp. 563-75.
- Levitt, T. (1960), "Marketing myopia", *Harvard Business Review*, Vol. 38 No. 4, pp. 45-56.
- Lewis, B.R., Snyder, C.A. and Rainer, R.K. Jr (1995), "An empirical assessment of the information resources management construct", *Journal of Management Information Systems*, Vol. 12 No. 1, pp. 199-223.
- Lonial, S., Tarim, M., Tatoglu, E., Zaim, S. and Zaim, H. (2008), "The impact of market orientation on NSD and financial performance of hospital industry", *Industrial Management & Data Systems*, Vol. 108 No. 6, pp. 794-811.
- MacMillan, I., McCaffrey, M. and Van Wijk, G. (1985), "Competitor's responses to easily imitated new products: exploring commercial banking product introductions", *Strategic Management Journal*, Vol. 6, pp. 75-86.
- Marcel, J., Barr, P. and Duhaime, I.M. (2005), "Cognition and competitive dynamics: the influence of subjective beliefs on a company's likelihood of competitive response", paper presented at the Academy of Management Annual Meeting held in Oahu, Hawaii, 5-10 August.
- Mason, R.B. and Staude, G.E. (2009), "An exploration of marketing tactics for turbulent environments", *Industrial Management & Data Systems*, Vol. 109 No. 2, pp. 173-90.
- Miller, D. and Chen, M. (1994), "Sources and consequences of competitive inertia", *Administrative Science Quarterly*, Vol. 39, pp. 1-23.
- Miller, D. and Chen, M. (1996), "The simplicity of competitive repertoires: an empirical analysis", *Strategic Management Journal*, Vol. 17, pp. 419-40.
- Mintzberg, H. and Waters, J.A. (1985), "Of strategies, deliberate and emergent", *Strategic Management Journal*, Vol. 6 No. 3, pp. 257-72.
- Montgomery, D.B., Moore, M.C. and Urbany, J.E. (2005), "Reasoning about competitive reactions: evidence from executives", *Marketing Science*, Vol. 24 No. 1, pp. 138-49.
- Nayyar, P.R. and Bantel, K.A. (1994), "Competitive agility: a source of competitive advantage based on speed and variety", *Advances in strategic management*, Vol. 10, pp. 193-222.
- Pecotich, A., Hattie, J. and Low, L.P. (1999), "Development of industruct: a scale for the measurement of perceptions of industry structure", *Marketing Letters*, Vol. 10 No. 4, pp. 409-22.
- Porter, M. (1980), *Competitive Strategy: Techniques for Analyzing Industries and Competitors*, The Free Press, New York, NY.
- Porter, M.E. (1979), "How competitive forces shape strategy", *Harvard Business Review*, Vol. 57, pp. 137-45.
- Ramaswamy, V., Gatignon, H. and Reibstein, D.J. (1994), "Competitive marketing behavior in industrial markets", *Journal of Marketing*, Vol. 58 No. 2, pp. 45-55.

- Reibstein, D.J. and Chussil, M.J. (1999), "Putting the lesson before the test: using simulation to analyze and develop competitive strategies", *Competitive Intelligence Review*, Vol. 10 No. 1, pp. 34-48.
- Rindova, V.P., Becerra, M. and Contardo, I. (2004), "Enacting competitive wars: competitive activity, language games, and market consequences", *Academy of Management Review*, Vol. 29 No. 4, pp. 670-86.
- Rivkin, J.W. (2000), "Imitation of complex strategies", *Management Science*, Vol. 46 No. 6, pp. 824-44.
- Robertson, T.S. and Gatignon, H. (1991), "How innovators thwart new entrants into their markets", *Planning Review*, Vol. 19 No. 5, pp. 4-11.
- Scandura, T.A. and Williams, E.A. (2000), "Research methodology in management: current practices, trends, and implications for future research", *The Academy of Management Journal*, Vol. 43 No. 6, pp. 1248-64.
- Scherer, F. and Ross, D. (1990), *Industrial Market Structure and Economic Performance*, Houghton Mifflin, Boston, MA.
- Schneider, S.C. and de Meyer, A. (1991), "Interpreting and responding to strategic issues: the impact of national culture", *Strategic Management Journal*, Vol. 12 No. 4, pp. 307-20.
- Schomburg, A., Grimm, C. and Smith, K.G. (1994), "Avoiding new product warfare: the role of industry structure", in Shrivastava, P., Huff, A. and Dutton, J. (Eds), *Advances in Strategic Management*, Vol. 10, JAI Press, Greenwich, CT.
- Shamsuzzoha, A., Kyllönen, S. and Helo, P. (2009), "Collaborative customized product development framework", *Industrial Management & Data Systems*, Vol. 109 No. 5, pp. 718-35.
- Smircich, L. and Stubbart, C. (1985), "Strategic management in an enacted world", *The Academy of Management Review*, Vol. 10 No. 4, pp. 724-36.
- Smith, K.G., Grimm, C.M. and Gannon, M.J. (1992), *Dynamics of Competitive Strategy*, Sage, London.
- Smith, K.G., Grimm, C.M., Chen, M.J. and Gannon, M.J. (1989), "Predictors of response time to competitive strategic actions: preliminary theory and evidence", *Journal of Business Research*, Vol. 183, pp. 245-59.
- Soberman, D. and Gatignon, H. (2005), "Research issues at the boundary of competitive dynamics and market evolution", *Marketing Science*, Vol. 24 No. 1, pp. 165-74.
- Spanos, Y. and Lioukas, S. (2001), "An examination into the causal logic of rent generation: contrasting Porter's competitive strategy framework and the resource-based perspective", *Strategic Management Journal*, Vol. 22, pp. 907-34.
- Straub, D., Boudreau, M.C. and Gefen, D. (2004), "Validation guidelines for IS positivist research", *Communications of the Association for Information Systems*, Vol. 13, pp. 380-427.
- Urbany, J. and Montgomery, D. (1998), "Rational strategic reasoning: an unnatural act?", *Marketing Letters*, Vol. 9 No. 3, pp. 285-99.
- Venkataraman, S., Chen, M.J. and MacMillan, I. (1997), "Anticipating reactions: factors that shape competitor responses", in Day, S., Reibstein, D.J. and Gunther, R. (Eds), *Wharton on Dynamic Competitive Strategy*, Wiley, Hoboken, NJ, pp. 98-219.
- Waarts, E. and Wierenga, B. (2000), "Explaining competitors' reactions to new product introductions: the role of event characteristics, managerial interpretation and competitive context", *Marketing Letters*, Vol. 11 No. 1, pp. 67-79.
- White, J., Varadarajan, P. and Dacin, P.A. (2003), "Market situation interpretation and response: the role of cognitive style, organizational culture, and information use", *Journal of Marketing*, Vol. 67, pp. 63-79.

Young, G., Smith, K.G. and Grimm, C.M. (1996), "Austrian' and industrial organization perspectives on company-level competitive activity and performance", *Organization Science*, Vol. 73, pp. 243-54.

Zajac, E.J. and Bazerman, M.H. (1991), "Blind spots in industry and competitor analysis: implications of intercompany (mis) perceptions for strategic decisions", *The Academy of Management Review*, Vol. 16 No. 1, pp. 37-56.

Corresponding author

Konstantinos G. Fouskas can be contacted at: kfouskas@gmail.com

To purchase reprints of this article please e-mail: reprints@emeraldinsight.com
Or visit our web site for further details: www.emeraldinsight.com/reprints

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.