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The impact of new product launch strategies on competitive reaction in industrial markets

Marion Debruyne[a,*], Rudy Moenaert[b], Abbie Griffin[c], Susan Hart[d], Erik Jan Hultink[e], Henry Robben[f]

[a]*Ghent University, Vlerick Leuven Gent Management School, Ghent, Belgium*
[b]*TIAS Business School, Nyenrode University, Breukelen, The Netherlands*
[c]*University of Illinois at Urbana, Champaign, IL, USA*
[d]*University of Strathclyde, Strathclyde, Scotland*
[e]*Delft University of Technology, Delft, The Netherlands*
[f]*Nyenrode University, Breukelen, The Netherlands*

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Abstract

The importance of successful innovation for the long-term performance of companies can hardly be exaggerated. However, we need to consider this in a dynamic setting, in which competitors do not remain passive. We find that two thirds of new product launches meet reaction by competitors after their launch. We also empirically demonstrate that the strategic launch decisions that managers take have an effect on future reaction by competitors.

Following an extensive review of the literature, a propositional model is developed. In order to test this theoretical model, an ex post facto field study was designed, in which the authors obtained comprehensive information on 509 new industrial products launched in the US, the UK and the Netherlands. Competitive reaction is diagnosed in terms of changes in the marketing instruments of the competitor. A logistic regression model is estimated on the occurrence of competitive reaction with any marketing instrument. We also look at the occurrence of individual marketing instrument reactions. The data show that competitors react primarily by means of price changes. Product assortment and promotional changes are less frequent, whereas distribution policy modifications occur very rarely.

The characteristics of the new product launch strategy were found to have a significant impact on both the occurrence and nature of competitive reactions. We claim that the competitive effect of radically new products and incrementally new products greatly differs. The results show that competitors fail to respond to radical innovations and to new products that employ a niche strategy. They do react if a new product can be assessed within an existing product category and thus represent an unambiguous attack. Both innovative and imitative new products meet reaction in this case. The results also demonstrate that competitors are more inclined to react to the introduction of new products that are supported by extensive communication by the innovating firm. The likelihood of reaction is also higher in high growth markets than in low growth markets. The article discusses theoretical and managerial implications of these results, as well as thoughts for future research that may add more insight.

1. Introduction

In the contemporary competitive context, new product development takes on a critical role [62]. New products assume a substantial share of a firm's turnover. Products introduced during the previous five years account, on average, for 30% of a firm's profit [32]. Within this context, passivity is lethal [18]. Companies that fail to react to challengers on the market consistently suffer from market share erosion [24]. Because fierce competition erodes the competitive advantage of firms [15], they must increasingly complement their traditional competitive analyses and long term strategic planning with the necessary capabilities to adapt to changing circumstances: "*If firms cannot forecast they must have the capability to respond quickly*" [6]. Being able to react quickly and insightfully to competitive moves becomes increasingly important. This is particularly true when these competitive moves represent the introduction of new products, as these really reshape the market.

However, while competitive analysis constitutes the

* Corresponding author. Tel.: +1-847-492-0617.
E-mail address: debruynm@wharton.upenn.edu (M. Debruyne).

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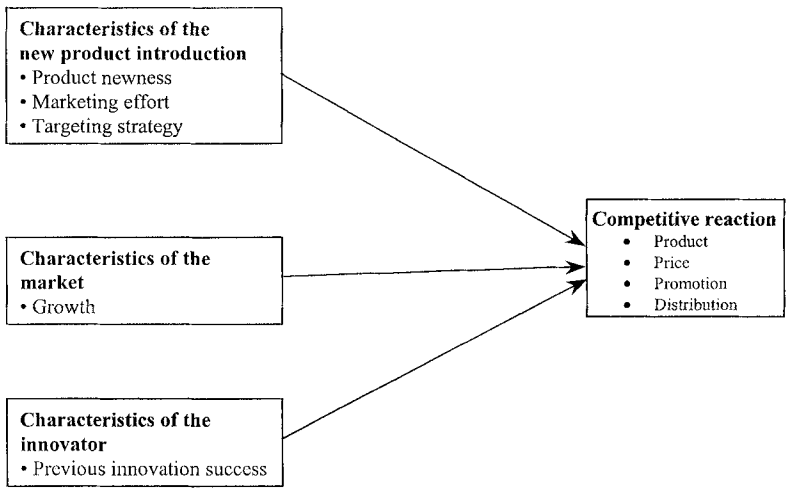

Fig. 1. Research framework.

starting point of many strategy formulation efforts within the firm [50], a recent meta-analysis of the new product success and failure literature suggests that the extant studies have largely ignored the effect of the external environment on new product performance [47]. Nevertheless, the success of a newly introduced product cannot be adequately explained without considering the competitive situation. Indeed, the success of a new product is partly determined by the reactions and moves of competitors [13]. Although empirical research on the antecedents of competitive reactions is still scarce [68], it is important to develop a profound understanding of industry dynamics in order to cope successfully with the competitive implications of market actions [6]. Previous research has demonstrated that competitive reaction to external events is based on the characteristics of that event [11,22,23]. Focusing on new product launch, we postulate that the characteristics of the new product launch influence competitive reaction. Thus, the present article investigates the influence of the launch strategy of a new product on the likelihood of competitive reaction. The research question of the present article can be stated as follows: *what are the characteristics associated with the launch of a new industrial product that trigger competitive reaction?*

On the basis of a literature review, we develop a propositional model. In order to test the hypotheses, an ex post facto field study was designed, in which we obtained comprehensive information on 509 new industrial products launched by 316 Dutch, English and American companies. The article discusses the research method, the empirical findings, and the theoretical and managerial implications.

2. Theoretical framework

Previous empirical research suggests that the occurrence of competitive reaction is influenced by characteristics of (1) the action itself [11,41,66] and also by (2) the market context [41,51,57], (3) the acting firm [7,57,66] and reacting firm [7,41,54,57]. From the innovator's perspective, an insight into the contingent reaction behavior of its competitors is important in order to develop an efficient and effective launch strategy. To date, the literature on competitive reaction still leaves a lot of unanswered questions, particularly about the influence of launch strategies. By addressing this, the main contribution of this article lies in the examination of the impact of the characteristics of the new product launch on competitive reaction, a subject matter that has been largely neglected by previous studies. We are especially interested in identifying general relationships between the new product introduction competitors are confronted with, and their subsequent reaction. Individual competitors' differences, conditioned by their market position and resource base, may influence how they react, but we are specifically interested in the overall effect of launch strategy decisions on the likelihood of competitive reaction.

Fig. 1 presents the research framework employed in this study. A wide variety of competitive reactions to new product launches are possible, ranging from internally oriented changes (i.e., actions affecting the firm's internal operations) to externally focused reactions (i.e., actions that have an impact on the market). Adopting a marketing viewpoint, we focus on changes in the competitors' marketing approach. This choice is based on the fact that is it through these outbound marketing processes that companies actually affect the marketplace [19]. The type of reaction we look at in this study thus concerns change(s) in the marketing mix of competitors in response to the introduction of a new product.

2.1. Characteristics of the new product launch

The present article focuses on the strategic decisions that characterize the market introduction of a new product. A

distinction must then be made between strategic and tactical decisions. Strategic decisions differ from tactical decisions in the sense that they are more important, involve a substantive resource commitment and are difficult to alter once a trajectory has been selected [29]. The literature suggests the following critical strategic decisions related to new product launches: product newness [38,70], marketing efforts [26,33,57,70] and targeting strategy [42,43].

2.1.1. Product newness

Empirical research suggests that the innovativeness of a new product triggers retaliatory reaction behavior [41,54]. Especially in markets characterized by a high level of competitive rivalry, innovative products are perceived as possessing a substantive competitive impact [66]. The more innovative a new product, the more it may have significant consequences for the competing firms in an industry. In addition, the introduction of a truly innovative new product also captures more attention than the launch of one more "better mousetrap." From a normative perspective then, competitors must be vigilant in their assessment and determined in their reaction in order to protect their position, and keep up with the pace of industry evolution.

We claim that a distinction must be made between *radical and incrementally new products*. A radical innovation represents a discontinuity within the industry and advances by an order of magnitude the technological state-of-the-art which characterizes an industry [4,10,28,37]. Incremental innovations are a logical extension to existing knowledge by introducing refinements or extensions of established designs that result in substantial increased value for customers [1,5, 20,37]. The distinction between radical and incremental innovation thus not implies a judgment of the level of value improvement but rather emphasizes the distinction between products that can be compared to existing products, and evaluated on the same dimensions, and products that break with core concepts of existing offers. Within the category of incremental innovations, a wide range of differences in terms of product newness can still exist among new product launches. To distinguish incremental innovations in terms of product newness we define that an *innovative incrementally new product* introduces a major functional change (and improvement) to an existing product category but does not represent a real break compared with existing products' functionality and technology [45].

We claim that the competitive effect of radically new products and incrementally new products differs greatly. Compared to innovative incremental innovations, radically new products, that is, product innovations that are not comparable to the existing spectrum of products create two types of uncertainty: [1] uncertainty concerning the success and consequences of the innovation and [2] uncertainty concerning the target market. The more the actions of the innovating firm depart from the existing business routines in the industry, the harder it is and the more time it takes for the reactor to find an appropriate response [59]. New products that are similar to existing products may be more easily framed in the existing mental models that managers hold about their markets. New products that do not match the existing offers in the marketplace, and claim to develop new markets, are much more equivocal in terms of managerial framing. Consequently, it becomes more difficult to assess the information obtained from the new product launch. Since the success of a pioneering product is difficult to predict, competing firms may adopt a "wait and see"-attitude prior to an eventual reaction. They prefer to sustain their existing market strategy, rather than drastically change their course of action [33].

Moreover, the signal that is communicated by means of the introduction is ambiguous. At first glance, it may seem that this new product does not endanger the existing activities of the competitors. Radical innovations that are oriented towards new markets may generate the impression not to target the existing market. Christensen [15] describes in great detail how incumbents failed to respond to new entries in the disk drive industry because [1] they did not recognize them as potential competitors, [2] they were overly engaged in fulfilling their customers' existing needs, and [3] they were fighting to keep up with their current competitors. While leading firms do not necessarily lack the required technological or innovative capabilities, they often hold a myopic view about the market place [14,58]. In line with these conclusions, Heil and Robertson [35] mention in their discussion of market signaling that signal interpretation is affected by the schemata of the receiver, which have mainly been developed on the basis of an examination of similar competitors in the same market using a similar strategy.

It then follows that incumbent firms will most likely respond to highly innovative incrementally new product launches because [1] they represent a clear-cut attack on the existing market and [2] they capture the market's attention. A radically new product, however, contains a more equivocal message and competitors will defect from reaction. Thus, the following hypothesis is derived

> *Hypothesis 1.* The likelihood of competitive reaction to the market introduction of an industrial new product is greatest for innovative new products but decreases for radically new products.

2.1.2. Marketing effort

The greater the amount of marketing resources a firm invests in the development and the launch of a new product, the higher its probability of success [26,30,31,61]. Marketing efforts for the new product accelerate the diffusion process, and speed up the adoption rate of the new product [25,52]. They also stimulate superior long-term market performance [31,31]. Consequently, the threat of the new product on the position of competitors is expected to increase both in magnitude as well as speed. This perception of threat on behalf of the competitors encourages them to react. Dutton and Duncan [22] claim that the importance attached to an event draws from the level of threat arising from that

event. New product launches that pose a serious threat endanger a company's existing investments in a specific market. In today's highly competitive and fragmented industrial environment [8,17] we expect this consideration to be an important one. Competitors may therefore be expected to feel a strong urge to respond.

Highly sustained new product launches also attract the market's attention. In introducing new products in the market place, innovating firms must allocate substantive resources to the communication of the product innovation [26], enhancing not only the visibility of the new product towards customers but also towards potential competitors. Action visibility is an important antecedent for competitive reaction. A greater visibility increases the likelihood of reaction [65], whereas subtle low-profile actions from innovators run a significantly smaller risk of immediate retaliation [50,63]. Highly visible new product launches will be perceived by competitors as important issues, to which they need to take immediate action [22].

The visibility of distribution and promotion investments differs. Distribution investments for new industrial products very often focus on the development of new channels [39]. As such, they do not involve an intrusion on a competitor's traditional playground. Many of these investments also happen outside the eyesight of competitors. Promotion investments on the other hand are targeted at customers, and directly intervene with the competitors' efforts to promote their products.

We therefore hypothesize:

> *Hypothesis 2:* The likelihood of competitive reaction to the market introduction of an industrial new product is positively related to the marketing effort the introducing company invests. This effect is bigger for promotion investments than for distribution investments.

2.1.3. Targeting strategy

The targeting strategy the company employs for a new product determines the number and identity of competitors that are directly affected by the new product launch. As such, it represents the scope of the competitive action [60].

If the company employs a *selective* strategy, it selects multiple market segments. For each market segment selected, the firm customizes its marketing activities and therefore clearly attacks the competitors in that segment. As a consequence, such a strategy directly threatens multiple competitors and thus has a large scope. This increases the likelihood of reaction [11].

An undifferentiated strategy targets the whole market with the same product and marketing mix. Consequently, an *undifferentiated* targeting strategy possesses a wide scope, but none of the competitors is directly affected to a very great extent. The threat that emanates from an undifferentiated launch strategy is therefore of a limited nature [60]. It can thus be expected that the likelihood of competitive reaction is smaller than is the case when a selective strategy is employed.

Finally, a *niche* strategy is specifically designed to satisfy a particular customer group whose needs may be insufficiently addressed by other competitors [50]. As such, a niche strategy deliberately selects those market segments where rivalry is low, partly because larger competitors are not interested. Therefore, the likelihood of competitive reaction is expected to be small as compared to other targeting strategies.

Thus, the following hypotheses are formulated:

> *Hypothesis 3:* Compared to a selective strategy, the likelihood of competitive reaction to the market introduction of an industrial new product using an undifferentiated strategy is lower.

> *Hypothesis 4:* Compared to a selective strategy, the likelihood of competitive reaction to the market introduction of an industrial new product using a niche strategy is lower.

2.2. Market characteristics

One might expect that companies operating in swiftly growing markets do not experience a significant impact from the actions by competing firms, since the immediate impact on sales will be modest [26]. However, previous research on industrial innovation suggests that the market growth rate considerably influences the reactive behavior of competing firms. Competing firms are more likely to react faster [7,41] and more aggressively [41,54,57] in markets that exhibit high growth rates. Competition may still be fierce and intense, even though the market is growing [17], because a high growth rate triggers great expectations and high levels of vigilance. A growing market is an attractive market, and the expected future profits increase the strategic importance [7]. Companies that have built up a large market share in an emerging market are expected to react vigorously to new competitors that attempt to enter this attractive market [50]. If a company has invested considerable resources to develop a strong market position in a growing market, it will retaliate other companies that try to acquire a share of their expected present and future rent [51].

Therefore, we hypothesize:

> *Hypothesis 5:* The likelihood of competitive reaction to the market introduction of an industrial new product relates positively to the rate of market growth.

2.3. Innovator characteristics

In developing our theoretical model on competitive reactions to new product launches, we deal with the characteristics of the new product itself and the characteristics of the innovating firm separately. The interpretation of a company's moves by its competitors depends on its reputation in the market. This reputation is based on the past actions of the company, that is, its market heritage [67]. Therefore, a critical element determining the innovative reputation of

competing firms constitutes its prior success in launching new products. An outstanding track record of successful innovations enhances a reputation of success. This influences the way competitors perceive subsequent industrial innovations from this firm, and the likelihood of responding to these new market entries. Introductions from companies that have developed an image of being successful in the development and launch of industrial innovations are watched eagerly by their competitors. Since the competitive impact of their new products is perceived as being higher [66], new product launches by companies that have an outstanding track record in introducing new products are perceived as more threatening than others. Competitors therefore more likely react.

Hypothesis 6: The likelihood of competitive reaction to the market introduction of an industrial new product relates positively to the previous innovation success the innovating firm has accomplished with its new products.

3. Research methodology

3.1. Research design

Empirical studies on competitive reactions to new product launches have employed two different research methods: one may either adopt the viewpoint of the reacting company or the viewpoint of the innovating company. The reactor's perspective [36,53,66] is based on the perception and assessment of the new product launch as reported by the reacting firm. Such studies focus on the characteristics of the signal that is transmitted by means of the industrial product launch and its consequent effects on competitive reactions. This approach provides insights into the reaction decisions and reaction processes as reported by the reacting firm. However, it may result in a myopic view. By definition, the data are limited to those new products that competitors were able or thought worthy of noticing and reacting to. This may be questionable for new competitors or for competitors belonging to a different strategic group, whose actions may go unrecognized [35]. Historical accounts of technological breakthroughs have repeatedly shown that such breakthroughs are often introduced by "industry outsiders" [14,64]. Consequently, the collection of data from the reacting companies may cause a serious sampling bias, since such reactions are biased towards major new products launched by key competitors.

In order to overcome the abovementioned methodological problem, we have adopted the innovator's perspective in studying reactive behavior to industrial innovation [7,46, 54]. This method uses data reported by the innovator. Because it provides accurate information on the product launch strategy, it is particularly suited to study the impact of the action characteristics on competitive reaction.

Table 1
Sample composition

	Number of companies		Number of products	
	#	%	#	%
U.S.A. sample	101	32	165	32
U.K. sample	138	44	223	44
Dutch sample	77	24	121	24
Total sample	316	100	509	100
Transport/Storage/Communication	107	34	170	33
Chemicals	72	23	115	23
Construction/Installation	137	43	224	44
Total sample	316	100	509	100

3.2. Data collection and measurement

The data were collected by means of a mail survey in three countries: U.S.A., U.K. and the Netherlands. The sampling frame was limited to industrial companies, within three selected industries: (1) construction and installation, (2) chemicals and (3) transport, storage and communication. Each company was notified in advance by means of telephone. This served two major purposes: to increase the response rates and to check whether the participating firms matched the conditions of our research design. These conditions were: (1) the company had developed and introduced at least one new product during the last five years; (2) the respondent was the key informant because he or she was responsible for the launch strategy of this new product; (3) the company employed more than 25 persons.

Categorical (dichotomous and multichotomous) responses were used in obtaining the descriptions of the launch decisions in order to avoid systematic bias in attributions [16]. The pretest sequence was iterated three times, involving a total of 20 managers to validate the clarity of the questions. Following each iteration, the questionnaire was adapted. The interviews with the third group of managers indicated that the wording and meanings were clear and no additional improvements were required. Managers also did not experience any difficulty describing their launch decisions by means of these categorical responses. While the questionnaire was originally developed in Dutch, it was subsequently translated and backtranslated by two native speakers for data-collection in the U.K. and the U.S.A.

Respondents provided information on their company (or business unit), the market launch strategy, and the marketing mix changes their competitors made in order to respond to this new product launch. We asked each company to provide us with information on two new products: one they regarded as being commercially successful and one they regarded as being commercially unsuccessful. This method alleviates the natural bias towards successful products. A balanced sample of a variety of projects was obtained. Data were provided by 316 companies on 509 new products: 59% successful and 41% unsuccessful. Table 1 provides an over-

Table 2
Measures

Construct	Variable		Description
Categorical variables		Frequencies	
Product newness	NEW	12%	NEW = 1: the product is more innovative and not comparable to existing competing products (= radical product)
		36%	NEW = 2: the product is more innovative than competing products in the product category
		43%	NEW = 3: the product is equally innovative as competing products in the product category
		9%	NEW = 4: the product is less innovative than competing products in the product category
Distribution effort	DEXP	16%	DEXP = 1: the company spent more on distribution compared to competitors
		66%	DEXP = 2: the company did not spend more or less on distribution compared to competitors
		18%	DEXP = 3: the company spent less on distribution compared to competitors
Targeting strategy	TAR		Indicates the targeting strategy the company followed. A niche strategy targets one specific customer segment with a product developed just for them. A selective strategy targets several distinct segments with the same product and different marketing mixes. An undifferentiated strategy targets the whole market with the same product and marketing mix.
		24%	TAR = 1: Undifferentiated strategy
		48%	TAR = 2: Selective strategy
		28%	TAR = 3: Niche strategy
Market growth	GRO		The growth rate of the total market in which the new product was introduced
		7%	GRO = 1: Less than 0%
		43%	GRO = 2: 0–5%
		30%	GRO = 3: 6–10%
		20%	GRO = 4: more than 10%
Continuous variables		Descriptives	
Promotion effort	PEXP		Two-item formative measure reflecting the number of different marketing communication instruments that were used in introducing the new product and the amount of resources spent on promotion compared to competitors
		Min = 1.52; Max = 2.16; Mean = 0.008575; Standard deviation = 0.765	
Previous innovation success	INNSUC		The percentage of company's sales coming from products introduced in the last five years
		Min = 0; Max = 100; Mean = 47.75: Standard deviation = 25.59	

view of the sample composition. The response rate on the total sample of contacted companies was 33% in the U.S.A., 30% in the U.K., and 34% in the Netherlands.

Table 2 synthesizes the description and coding of the variables that were used in the empirical part of study. The newness of the product (NEW) was measured by means of a categorical variable, that is, the relative innovativeness of the new product as compared to competing products, as indicated by the key informant. Promotion effort (PEXP) is measured by a two-item formative variable. The variables used capture both the depth and breadth of the construct. They reflect the number of communication channels employed for the product launch and the amount of promotion expenditures compared to competitors. The distribution expenditures (DEXP) of the new product launch were measured by means of the distribution expenditures in the first year following the introduction, relative to the competitors. The targeting strategy (TAR) of the new product launch was measured by means of a categorical variable for which the key informants made a choice between one of the following three strategies: niche, selective or undifferentiated. The market growth rate (GRO) was expressed by a categorical variable (less than 0%, 0–5%, 6–10%, more than 10%). Finally, the previous innovation success (INNSUC) of the introducing company was operationalized as the percentage of sales coming from products introduced in the last five years.

4. Empirical results

4.1. Reaction strategies

The descriptive statistics in Table 3 show that competitors reacted, according to the data we obtained from the innovating firms, to 63.1% of the new product launches we studied. The prevalence of marketing mix instruments used for reaction corresponds to the figures found in previous

Table 3
Occurrence of competitive reactions

	Percentage of new products to which competitors reacted
Competition reacted by changing one or more of the marketing mix variables	63.1%
· Change of price	43.6%
· Change of product assortment	35.5%
· Change of promotion	23.9%
· Change of distribution	3.2%

studies [54]. Price modifications prevailed (43.6%), closely followed by changes in product assortment (35.5%). While changes in marketing communications occurred also rather frequently (23.9%), our data show that changes in distribution in response to a new product launch were rather rare (3.2%). In line with the technological, product-oriented nature of industrial markets [3] product adjustments are more frequently employed as a reaction tool, whereas communication tools are less likely used. Changing the distribution policy and operations seems to be the most difficult task to accomplish, or judged to be the least effective, because of the complexity and risk associated with new channel approaches. Changes in distribution strategy are hence unlikely to be used in competitive new product warfare [2]. This competitive reaction scenario prevailed across the three industries we studied: the occurrence of competitive marketing mix reactions did not differ significantly among the three industries included in the study.

4.2. Model estimation

The dependent variable in our study is of a dichotomous nature, that is, it expresses whether competing firms have reacted or not reacted to the new product that was introduced in the market by changing one or more of their marketing mix instruments. The respondents subsequently indicated which marketing mix instruments were used.

The explanatory variables are either continuous or categorical. Consequently, we used logistic regression to estimate the model parameters [48]. We used the "indicator coding" scheme for all categorical variables, that is, the coefficients are calculated against a reference category. The parameter estimates thus represent the probability that reaction occurs, in comparison to that reference category. Table 4 exhibits the parameter estimates of the logistic regression analysis on likelihood of competitive reaction. Sixty-one cases were excluded because of missing data, leaving 448 cases to estimate the parameters. The model fit is satisfactory ($\chi^2 = 57.708$; df.=14; $p < 0.001$). Model predictions are correct up to 68.1%, predicting 71.3% of the reactions and 61.8% of the nonreactions correctly. The analysis of the logistic regression model encompasses the three country samples. We subsequently tested the model for each country separately, but no significantly different results appeared. Also, adding the country of the new product launch as an explanatory variable for competitive reaction did not significantly improve the model and parameter estimates.

The same model was estimated on price, product and promotion reaction. The model fit the data, predicting respectively 61%, 59% and 59% of the likelihood of each type of reaction. Reactions on the distribution dimensions are not estimated for two reasons, First of all, the data show that distribution is extremely rarely used to react, and it is always used in conjunction with another marketing instrument. Secondly, and a possible reason for this finding, is that in the industrial context this study is situated in, distribution changes can be expected to pervade across products, and thus disturb the single product-based competitive reactions we study.

Each marketing mix instrument has a different market impact; we therefore expect a different impact of launch characteristics on the use of different types of reaction. The price level in the industry is a prime indicator of the industry's attractiveness and profitability. Using price to retaliate competitors is therefore a very effective, but also aggressive and possibly detrimental operation [21]. Marketing expenses in promotion and distribution, on the other hand, are aimed at increasing perceived value and thus can be interpreted as a less aggressive and hostile reaction behavior. It is aimed at restoring the company's competitive position, without creating a profit-destroying competitive battle. Finally, product changes are the most pervasive actions for the company, and directly alter its market offering.

Most importantly, Table 4 shows support for the propositional framework. The characteristics of the market introduction strategy of a new product have a significant influence on the likelihood of reactions, confirming earlier findings in the field [8]. This supports the main contribution of this research, which focuses on launch characteristics to investigate competitive reaction. Individual conclusions on the different launch elements are now discussed.

The first hypothesis looks at the impact of the product newness on the occurrence of competitive reaction. *Hypothesis 1 is supported by the data.* Hypothesis 1 postulates that innovative new products are confronted with the highest likelihood of competitive reaction. Indeed, the likelihood of reaction is lower in every other case, as is demonstrated by the negative parameter estimates. The results thus show a significant relationship between the level of innovation and the occurrence of reaction. However, the difference between more innovative and less innovative products is not statistically significant. Observe, though, that the coefficient is in the expected direction (-0.504; $p > 0.05$). This result corroborates an earlier study [56]. Apparently, competitors tend to react most to new products that (1) either represent a clear nondisruptive innovation for their product market or (2) represent a pure imitation of existing products.

The coefficient for radically new products is negative (-1.370; $p < 0{,}01$), confirming hypothesis 1. Innovative new products that are launched in an existing product category and market apparently stand the greatest chance of being reacted against, whereas radically new products create a new market and will be less likely reacted to. The magnitude of the parameter estimates also shows that competitors react least of all to radically new products.

With regard to the marketing instrument used for reaction, the effectiveness of different instruments differs. Price and promotion reactions increase the attractiveness of the reactant's offer and are effective instruments to utilize in an environment that is not confronted with disruptive change. They do not represent an adequate response to radically new

Table 4
Logistic regression model estimation

Construct	Parameter	Hypothesized sign	Competitive reaction	Price reaction	Product reaction	Promotion reaction
• Product newness	NEW = 1	—	−1.370**	−0.901*	−0.524	−0.801*
	NEW = 2	Reference category				
	NEW = 3	—	−0.697**	−0.292	0.195	−0.068
	NEW = 4	—	−0.504	−0.071	0.047	−0.007
• Promotion effort	PEXP	+	0.469**	0.475*	0.500**	0.317*
• Distribution effort	DEXP = 1	+	0.422	0.328	−0.092	0.747*
	DEXP = 2	+	0.255	0.021	−0.093	0.584*
	DEXP = 3	Reference category				
• Targeting strategy	TAR = 1	—	−0.376	−0.140	−0.217	0.624*
	TAR = 2	Reference category				
	TAR = 3	—	−0.598*	−0.705*	−0.251	0.144
• Market growth	GRO = 1	Reference category				
	GRO = 2	+	0.746*	0.205	0.881*	0.581
	GRO = 3	+	1.718**	0.902*	1.079*	1.234*
	GRO = 4	+	1.436**	0.684	1.432**	0.588
• Previous innovation success	INNSUC	+	−0.005	−0.005	−0.004	0.015*
• Constant			0.380	−0.055	−1.045	−3.167**

Significance tests are based on one-tail level: ** : $p < .01$; * $p < .05$.

products because their effect is mainly felt in the incumbent market. The new type of value proposition represented by the radical innovation cannot be countered by tactics that work to outplay competitors in a fixed game [18]. It has been suggested that incumbents respond to radical innovations primarily by improving their own products [9]. This suggests that the lower likelihood of competitive reaction to radically new products is mainly due to the absence of nonproduct reactions.

Hypothesis 2, positing a positive relationship between the marketing efforts spent on the new product introduction and competitive reaction, *is partially supported.* It was expected that new products that were supported by bigger marketing budgets than those of competitors would observe a higher likelihood of reaction. We expected that the effect of promotion investments would be larger than that of distribution investments. The positive parameter estimates show that higher promotion resources are indeed associated with a higher likelihood of reaction (0.469; $p < 0.01$). The resources invested in promotion provide the entrant with the opportunity to build up positional advantages. The enlarged opportunity cost of inaction provides a powerful stimulus for reaction. The threat to the competitive position of the company can be answered by improving the attractiveness of the company's offer [33]. This way, the company may restore the value added to customers compared to competitors. Reactions on product, price and promotion all have the objective to restore the company's competitive position vis-à-vis the new entrant. The effectiveness of each instrument depends on the reacting firm's capabilities, and is not determined by the entrant's marketing effort [27]. The influence of marketing effort is thus not specific for any type of reaction but extends over marketing mix instruments.

The effect of distribution effort is not significant except on the likelihood of promotion reaction. This suggests that competitors attempt to establish a pull-effect to counterbalance the push-effect of the new product introduction.

Hypothesis 3 is not supported by the data. An undifferentiated strategy does not differ significantly from a selective strategy when competitive reaction is concerned (-0.376; $p > 0.05$). Promotion reaction is more likely in case of an undifferentiated strategy. This may be explained by the primary effect that companies want to receive from their promotion efforts. The main objective of promotion is to differentiate the company's products from its counterparts. An undifferentiated strategy does not accomplish that, but instead launches a product that wants to appeal to the entire market. An effective and efficient response to this is to emphasize the company's own differentiation.

Hypothesis 4, concerning the relationship between a niche strategy and competitive reaction *is supported.* The reaction likelihood for a product launched with a niche strategy is lower than for a product launched with a selective strategy (-0.598; $p < 0.05$). Niche strategies target a specific segment in the market, which is often ignored by competitors. As such a niche strategy does not involve a central attack on the market position of the competition, and the likelihood of reaction decreases [12]. Because a niche strategy involves tailored value creation for a particular niche, it cannot be effectively nullified by price reactions. This can be observed in the price-reaction model, which shows a significant negative parameter estimate for a niche strategy.

Hypothesis 5 is supported. In low growth markets, the likelihood of reaction decreases, whereas in fast growing markets the likelihood of reaction increases. This is a very important finding. It contrasts sharply with the often-postulated reasoning that competition in slow growth markets

increases because competitors have to hunt for each other's market share in order to increase sales [50]. As far as innovation is concerned, the data from our large-scale survey research suggest that, in the context of a maturing or declining industrial market, companies do not go through the trouble of reacting to their competitors' actions by altering their own marketing mix. Considering the characteristics of emerging and maturing markets [50] provides another explanation for this result. In emerging markets, there is still uncertainty concerning the strategy to follow, the structure of the industry, the evolution of technology and the rules of competitive interaction. As a result, companies are quickly willing to adapt to new situations and change their strategy. This is also reflected in the type of reaction used. Market growth primarily influences product reaction. In mature markets the rules of behavior are settled and companies may be reluctant to induce provocative changes that might destabilize the competitive routines in the industry. High-growth markets are usually associated with the early stages of the life cycle [44]. These early stages are characterized by the absence of product standardization. Several product designs may coexist and no consensus has yet emerged on the dominant design [64]. Moreover, at the early market stages, competition is more technologically than marketing oriented [49]. Competitors emphasize product over other marketing instruments. Reaction on the product dimension can thus primarily be expected in high growth markets [41].

Hypothesis 6, hypothesizing that the previous innovation success of a company fosters reaction, *is not supported* (-0.005; $p > 0.05$). There is only a significant effect on promotion reaction. It remains therefore uncertain whether competitors react more frequently towards new products introduced by companies that have proven to be successful innovators. From a methodological perspective, the lack of support for hypothesis 7 may also be the result of a measurement artifact. The measure we use is of an 'internal' nature. This may not adequately assess the external perception of success.

5. Managerial implications

5.1. The need for a competitor orientation in new product launch

The present study holds important implications for management in general and new product strategy in particular. *Two thirds of new product launches meet reactions by competitors after their launch!* (Table 3). Consequently, an improvement of new product launch success also rests with the ability of the firm to implement a strong *competitor orientation* before and during the launch [45]. Launch strategies ought to include a conjectural plan, integrating competitive reactions. This enables the company to develop detailed scenarios that provide a means to be prepared for different competitive situations.

Still, competitive decision making proves to be difficult in practice [63]. Companies experience difficulties to step into their rivals' shoes to predict their reaction behavior [71]. Understanding the antecedents of competitive reaction is a necessary prerequisite to better understand and predict competitors' behavior. The study presented in this article responds to this need. Anticipation of competitive reaction can substantively improve managerial decision-making, but depends on an insight in the effect of the company's moves on competitors.

5.2. Understanding the antecedents of competitive reaction

We found that the occurrence of competitive reactions was significantly influenced by the launch strategy that was implemented by the innovating company. Thus, the strategic decisions managers make concerning a new product launch already instigate future reactions by competitors. Consequently, the likelihood of competitive reaction may deliberately be directed by the innovating firm through the choices they make in the launch strategy. Companies can employ different strategies to avoid competitive reaction. Our results suggest that in order to execute this effectively, one should consider the *centrality and scale of attack* the new product introduction means for competitors.

If the new product introduction does not directly targets competitors' territory, it is less likely reacted to. This is testified by the fact that radically new products or products that are targeted at niche markets experience smaller reaction likelihood. This can be caused by the fact that these new products do not constitute a direct obvious attack, and are recognized so. But it can also be caused by the fact that less attention is paid to such new product introductions. It was found that the probability of reaction was positively related to launch actions that enhance the *visibility* of the launch. Actions that do not alert competitors towards the new product introduction result in a smaller chance of competitive reaction. We have found that investments in distribution do not lead to more competitive reaction. Thus, launch tactics that occur out of the view of competitors are more beneficial if one wants to avoid retaliation.

The *motivation* to react primarily stems from the level of threat that the new product represents to the competitor, but also from the opportunity cost of remaining passive. The latter is claimed by the conclusion that competitors are more inclined to react in high growth markets. The former is inferred from the conclusion that actions that enhance the market impact of the new product also increase the likelihood of reaction.

5.3. Shaping the competitive arena

Overall, the results of this study support an avoidance strategy in order to escape competitiveness. Instead of confronting competitors with head-on competition, an avoid-

ance strategy seeks to bypass competitors. This strategy is particularly useful for small companies that compete with large established firms [69]. As they cannot win the competitive game by utilizing extensive resources, they have to find more creative ways to change the rules of the game and establish a less mainstream position in the market.

The results from this study indicate that companies that seek particular niches or launch radical innovations are less confronted with competitive reaction. On the other hand, companies that introduce incremental innovations into existing markets and attack existing segments follow established rules of the game and will therefore confront competition. However, companies that want to avoid competitive retaliation should consider abandoning this dysfunctional competitive focus that leads them to invest in incremental improvements [40]. In spite of the undoubted importance of incremental innovation within existing product categories [5], companies must realize that they directly confront competition by doing so. Companies that break the established logic of the market, and change the rules of the game, create a position that is difficult for incumbents to get a grip on and escape competitive retaliation.

6. Limitations and directions for future research

The present study suggests several valuable opportunities for future research. First, we collected the information from the innovating company. The major advantage of this method is that the innovator himself, who can provide detailed information, reports the launch strategy for the new product. By using a sample of successes and failures, one avoids a sampling bias towards major new products that had a big impact on the market. Instead, one obtains a balanced view on new product launches of various types. The major drawback however, is that reactions are reported by the innovator, who is not omniscient. He may be incapable of detecting or experiencing the full range of reactions by competitors. Consequently, he may provide only fragmented information [27]. Reactions such as an intensive direct communication campaign of the competitor, oriented towards its own customers, or an increased service level may be accomplished without the innovating company even noticing. Thus, the validity of the findings in the present research design depends on the capability of the responding firm to gather, analyze and interpret competitor information. *A dyadic research method,* utilizing input from both the innovating company as well as the reacting company could avoid the drawbacks of the two methods mentioned.

In the present study, no distinction was made among the *individual competitors* and their unique reactions. Future research could explore why different competitors respond in a variety of ways to the same new product. This implies that competitive reactions to new products cannot be fully analyzed at an aggregate level, but need to be looked at from the viewpoint of every competitor individually [13].

Third, future research could also employ a more *comprehensive repertoire* of new product introduction strategies. The presented study emphasizes variables describing the new product launch characteristics. Other variables may provide additional explanations (e.g., context characteristics). In future research, new product launch frequency [36], seller concentration [51,54] and market openness [66] may be added to the model. These market characteristics may assume an important moderating role, since they act as contingency elements.

Finally, future research could also explore the existence of *other types of competitive reactions,* as well as the timing of competitive reaction. In the present study, we focused on changes of the marketing mix. Especially in the case of a highly innovative new product, an analysis of the marketing mix adaptations may provide too narrow a perspective to acquire a full understanding of competitive behavior. For instance, a competitor may recognize the impact of a new technology and decide to collaborate in a way that benefits both parties. The innovator and the competitor could subsequently decide to enter a strategic alliance that permits the innovating company to leverage its own position by using the resources and the market position of established companies. The interaction that exists among competitors will also influence the assessment customers will make of the market, which in turn influences their buying decision [53]. For instance, the presence of multiple suppliers or technology standardization reduces the perceived risk for organizational buyers in favor of adoption [55,56]. In view of such externalities, accommodating reactions may be beneficial in the long term for the reacting company.

Biographical Sketches

Marion Debruyne is ICM-Doctoral Fellow and a doctoral candidate at the University of Ghent and Vlerick Leuven Gent Management School. She is currently a Visiting Doctoral Fellow at the Wharton school, University of Pennsylvania.

Rudy Moenaert is professor of strategic marketing at the TIAS Business School of Tilburgh University (Tilburgh, the Netherlands) and professor of marketing at Nyenrode University (Breukelen, the Netherlands). He received his B.Sc. in applied economic sciences (cum laude) and his MBA (magna cum laude) from the University of Antwerp. He earned his doctoral degree from the University of Ghent (summa cum laude). He is a regular teacher in executive management programs, and consults with industrial firms on strategic marketing and innovation management. He has published in journals such as the Journal of Product Innovation Management, R&D Management, Management Science, IEEE Transactions on Engineering Management, and the Journal of Management Studies. His current research interests focus on strategic marketing in business markets and the international management of product innovation.

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