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Industrial New Product Launch Strategies and Product Development Performance

Erik Jan Hultink, Abbie Griffin, Susan Hart, and Henry S. J. Robben

Just as reporters must answer a few fundamental questions in every story they write, decision-makers in the new product development (NPD) process must address five key issues: what to launch, where to launch, when to launch, why to launch, and how to launch. These decisions involve significant commitments of time, money, and resources. They also go a long way toward determining the success or failure of any new product. Deeper insight into the tradeoffs these decisions involve may help to increase the likelihood of success for product launch efforts.

Erik Jan Hultink, Abbie Griffin, Susan Hart, and Henry Robben present the results of a study that examines the interplay between these product launch decisions and NPD performance. Noting that previous launch studies focus primarily on the tactical decisions (that is, how to launch) rather than on the strategic decisions (what, where, when, and why to launch), they explore not only which decisions are important to success, but also the associations between the two sets of decisions. Because the strategic launch decisions made early in the NPD process affect the tactical decisions made later in the process, their study emphasizes the importance of launch consistency—that is, the alignment of the strategic and tactical decisions made throughout the process. The survey respondents—managers from marketing, product development, or general management in U.K. firms—provided information about 221 industrial new products launched during the previous five years.

The responses identify associations between various sets of strategic and tactical decisions. That is, the responses suggest that the strategic decisions managers make regarding product innovativeness, market targeting, the number of competitors, and whether the product is marketing- or technology-driven are associated with subsequent tactical decisions regarding branding, distribution expenditure and intensity, and pricing.

The study also suggests that different sets of launch decisions have differing effects on performance of industrial new products. In this study, the greatest success was enjoyed by a small group of respondents categorized as Niche Innovators. Their launch strategy involves a niche focus, targeting innovative products into markets with few competitors. Tactical decisions made by this group include exclusive distribution, a skimming pricing strategy, and a broad product assortment.

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Introduction

A number of issues recur as consistent correlates of new product success [10,11,28,33,37]. One of the common factors identified is the impact of the new product's launch strategy on success. However, while other success differentiators have been researched extensively, studies which derive the details of the anatomy of a launch strategy and its relationship with success are few in number. This is surprising, given the resources companies invest in product launches. Of all the steps in the new product development (NPD) process, product launch requires

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the largest commitment in time, money, and managerial resources [44].

In this article, we seek to fill some of these gaps in extant knowledge in launch strategies by reviewing the relevant literature, developing a framework for more completely studying launch strategies based on current theory combined with additional field research, empirically analyzing launch strategy decisions managers made to determine what associations occurred across different aspects of decisions, and determining what performance outcomes correlate with sets of associated launch decisions. The purposes of our research are to provide a more complete understanding of launch strategies and analyze the impact of particular associated launch decisions on product development performance for industrial products. Because of these purposes, and the fragmentary nature of the research which has preceded this study, this research is rather exploratory in nature.

The remainder of this article is split into four sections. First, we review the literature pertaining to how to launch a new product proficiently and derive a conceptual framework to guide research. We then give details of the method by which we conducted and analyzed our survey of 221 industrial product launches in the UK followed by the results of the tests of association and performance. Finally, we discuss these results and their implications.

Literature Review and Conceptual Framework

Defining Launch Strategies

Calantone and Montoya-Weiss [4], noting that product launch is often the most expensive, most risky, and least well-managed part of the overall product development process, prescribe a launch plan in terms similar to a marketing plan: identify target markets, establish marketing mix roles, forecast financial outcomes, and control the project. Other normative prescriptions have been offered "to guide new product launches" [16,35,42]. Unfortunately, while these prescriptions provide the steps one should go through in putting together a launch plan, they provide no explicit advice as to what decisions go into launching a new product and whether or which of those decisions may be interdependent.

The first step in the research was to develop a more complete definition of launch strategies and a model of how launch strategies impact product commercializa-

tion performance. To do this, a rigorous identification of launch strategy components was carried out both by reviewing the previous launch strategy literature and interviewing managers responsible for making launch decisions. The literature reviewed included both delineations of generally acknowledged (but empirically untested) associations between strategic and marketing mix decisions for product launches [e.g. 26,29,44] as well as the empirical research already investigating links between some launch decisions and performance [3,47]. The empirical research provided a broad initial list of variables which would need to be investigated in a more inclusive study which tries to comprehensively define important components of launch strategies.

The literature describes a launch strategy as those decisions and activities necessary to present a product to its target market and begin to generate income from sales of the new product [5,6,47]. Biggadike [3] categorizes the full set of launch decisions into "posture" and marketing mix decisions. "Posture" decisions include strategic issues such as the degree of innovation in a product and the size of production entry scale. Marketing mix decisions include the level, mix, and allocation of marketing effort across the tactical levers of marketing: price, promotion, distribution, and product tactics.

These categorizations are not just semantically convenient. Research has demonstrated that the marketing mix tactics which lead to higher market entry performance depend upon the market conditions into which the entry is made [17,19,20]. In addition, several authors have noted that posture, or strategy, decisions precede marketing mix decisions [3,29,42] in the launch process. Managers in our field interviews concurred: a significant part of the launch decision-making occurs prior to making the marketing mix launch decisions, and prior even to beginning development [3]. These decisions, once made, are difficult or expensive to change later during development. While they are set apart in time from the actual launch, they are very much a part of the launch strategy because they set the strategic context into which the product will ultimately be launched. These *strategic launch decisions* govern the *what* to launch, *where* to launch, *when* to launch, and *why* to launch.

A project development strategy (or posture) defines the boundaries of the program, encompassing product strategy, market strategy, competitive strategy, and firm strategy [9,12,13], which means these aspects of strategy should also be reflected in the strategic launch decisions. A number of decisions within each of these

aspects of strategy have been investigated across the empirical research on launch strategies. Elements of product strategy investigated include the project's technological roots [10], degree of innovativeness [3,26], and time to market [7]. Market strategy aspects include the breadth of the target market [3,31], market growth rate [8,47], and stage of the product life cycle [3,8,47]. Competitive aspects of strategy include the desired level of product advantage [5,9,12,20] and number of competitors [5,47]. Finally, the aspects of firm strategy which impinge upon product development launch strategies include the product driver, that is whether the product is market- or technology-driven or a combination of the two [21] and innovation strategy [5,18,20,31,32,39,40,43,44]. Aspects of launch decisions were classified as strategic if they generally were made early in the NPD project and were difficult or expensive to change later in the project [3].

While, as pointed out above, some decisions clearly take place early in the development cycle, other launch activities and decisions occur after conceptual and physical development of a new product is complete [3,29]. These are the *tactical launch decisions* generally involving marketing mix adjustments. They govern the *how* of the launch. The tactical launch decisions are, in effect, the elements of the marketing mix [29]: pricing [15], product and branding [31], advertising and promotion [20], and distribution [5,6]. These decisions are more easily modified late in the development cycle than are the strategic decisions. Many specific decisions associated with tactical launch elements have been investigated in relation to new product performance. For example, NPD performance is likely to be higher when relative advertising expenditures are higher [20,31,47], relative price is lower [3,5,31], and relative breadth of product assortment is broader [3,31]. Less research has been done to determine how distribution and elements of the communication package affect launch performance. Decisions were classified as tactical decisions if they were made relatively late in the project and if they could be easily or inexpensively modified as launch neared.

From interviewing managers we also found that, not only are tactical launch decisions made after the strategic decisions, but some or all of the most appropriate tactical launch decisions may be dictated by the strategic launch decisions already made. Once the strategic launch decisions are set, they influence which launch tactical decisions, or marketing mix decisions, managers decide to make. The strategic decisions

made earlier in the product development process thus influence what marketing mix decisions are made later, closer to commercialization. These findings have important implications for conceptualizing the anatomy of a launch strategy and determining the most appropriate methods for analyzing the data.

The variables used across the 18 previous empirical studies investigating launch strategies are summarized in Table 1. They have been classified as either strategic or tactical decisions based on when they are made in the NPD process and in a fashion consistent with the literature [13,29,44]. Most of the previous research investigates the special context where a strategic business unit (SBU) begins to compete in a product-market in which it did not previously operate. These studies (1–10 in Table 1), referred to as 'entry strategy' studies, always involve entry into a new market and may or may not involve a new-to-the-company product. In the other set of research in this area, the product development launch research (11–18 in Table 1), product launch always involves a changed or totally new-to-the-company product which may be directed into either a new or old market. The qualitative interviews provided additional decisions to explore to the definitions of what constitutes a launch strategy. For example, managers told us they decide whether a new or existing brand name will be used in constructing launch strategies, a variable not investigated in previous empirical efforts.

Although the market entry studies identified in Table 1 have investigated several strategic launch decisions, the focus in the product development launch studies has been more on tactical launch decisions. Neither set of studies investigates simultaneous associations between multiple tactical and strategic aspects of product launches as the managers we interviewed suggested occurred. However, three studies focus on determining which tactical launch decisions are best, given a particular strategic context. Biggadike [3] investigated the direct effects of a number of tactical decisions on performance by separating the data into groups and analyzing the model separately for each group. In one analysis, they looked at different tactics used when entry is earlier rather than later in the product life cycle. In the second, they separated the data based upon product newness. Yoon and Lilien [47] used a similar method, separating their data depending on whether the product was an original new product or a reformulated new product. Robinson and Fornell [39] used a two-stage least squares regression with dummy variables for the market entry strategy

Table 1. Key Decisions in Launching a New Product

Variables	Previous Study
Strategic Launch Variables	
Product Strategy	
Product innovativeness	1,10
Relative product newness	1,10,18
Cycle time	3,8,11
Market Strategy	
Breadth of segments served (targeting)	1,4,8
Stage of product life cycle	1,11,18
Target market growth	12,18
Competitive Stance	
Number of competitors	11,18
Product advantage	3,11,13,14
Firm Strategy	
Innovation strategy	2,3,4,5,8,9,10,11,16,18
Driver	11
Marketing Mix (Tactical) Launch Variables	
Product	
Breadth of product line	1,4
Promotion	
Advertising	13,14,15,16,17
Promotion	13,14,15,16
Pricing	
Pricing	1,4,11,13,15,16,17
Distribution	
Distribution intensity	1,4,6,11,14,15,16,17
Sales force effort	13,14,16

Key
Market Entry Studies
1: Biggadike [3]
2: Glazer [18]
3: Green and Ryans [20]
4: Lambkin [31]
5: Lieberman and Montgomery [32]
6: MacMillan and Day [36]
7: Roberts and Berry [38]
8: Robinson and Fornell [39]
9: Ryans [40]
10: Urban et al. [43]
Product Development Launch Studies
11: Choffray and Lilien [5]
12: Cooper [8]
13: Cooper [9]
14: Crawford [12]
15: Little [34]
16: Urban and Hauser [44]
17: Wind [46]
18: Yoon and Lilien [47]

variable. Variables capturing aspects of the market conditions into which the products were launched also were included in the empirical tests, as others had already found they impacted appropriate marketing mix decisions [17,19,20]. In each study, the set of tactics which lead to higher performance differed depending on the particulars of the strategic launch de-

cisions. Higher performance is not created by just one aspect of the marketing mix. It is achieved through making appropriate decisions across multiple launch variables which must be mutually reinforcing to produce success [46].

This research suggests that including variables which capture both strategic as well as tactical aspects of launch decisions is necessary as both influence the outcome of the overall launch. However, the specific strategic launch decisions made early in the process impact the specific tactical decisions made later in the process. The success of the product in the marketplace, then, requires striving for launch consistency. Alignment must be achieved across the strategic and tactical groups of decisions made in the product launch. Thus, it is necessary to not only determine which strategic and tactical decisions are important to success, but to also describe the associations between and within the two sets of variables. Figure 1 depicts the associations we have just described: strategic and tactical launch decisions interact to determine product development performance.

Research Objectives

This exploratory study starts from the premise, laid out above, that product launch decisions are based on a mix of strategic and tactical decisions which must be

Figure 1. Impact of launch decisions on new product performance.

mutually reinforcing to produce NPD success. Our two research questions are:

- How are sets of industrial product strategic and tactical launch decisions associated?
- How do particular launch strategies relate to industrial new product performance?

Method

Data Collection Instrument and Measured Variables

A mail survey instrument was used to collect launch decision and success data for new products which had been launched into the market within the last five years in the UK. In addition, the survey collected background and demographic information on the respondent and the firm. Respondents were asked to provide two sets of launch information in each survey. One set of decisions was provided for a project which the respondent designated as "successful." The second set of decisions were to be provided for an "unsuccessful" project.

The dependent variable of interest in the present study is NPD success. Product development project-level success occurs along three orthogonal dimensions: customer-determined, financial, and product performance [22]. Each dimension can be operationalized using a number of different items. Obtaining success in one dimension does not necessarily lead to success in another dimension [23,25]. In this project, multiple items were used to operationalize each of the three dimensions of success.

Respondents rated the success of each project on six items representing customer-determined success, four items of financial performance, and five items of product-level performance [22,27]. A 1 ("did not meet criteria at all") to 7 ("met criteria completely") Likert scale was used in rating the projects. Overall success ratings and ratings for each independent dimension of success were obtained by simple averages of the appropriate items. Cronbach's α for combining all 15 items into an overall measure of success was .97. Cronbach's α for the composite success dimension variables were .95 for customer-determined success, .95 for financial performance and .89 for product-level performance. Gathering data on all these items allows us to analyze the impact of launch decisions on success at three levels:

- on individual items within a success dimension, similar to Yoon and Lilien [47];
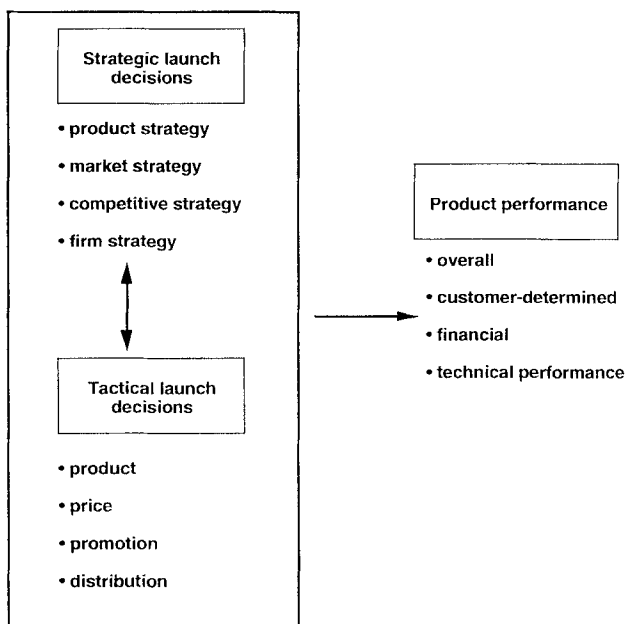
- to achieve a composite level of success by dimension; and
- for overall success across the dimensions.

Respondents provided data on ten strategic and nine tactical launch decisions. These variables were derived from a number of the previous studies in the market entry and product launch research stream [3,5,8,9, 12,18,20,31,32,34,36,38,39,40,43,44,46,47] and from the field interviews. Table 2 shows the launch decision variables included in the study and the response categories for each variable. Categoric responses were used in obtaining descriptions of the launch decisions made by managers to avoid the possibility of systematic biases in attributions [14,45]. The surveys were pre-tested with three sets of managers for clarity and to ensure that the items represented the intended con-

struct. We found that managers had no difficulty providing categoric responses (rather than continuous scale responses) to describe the decisions they made. After changing the survey to reflect several suggestions regarding rewording and clarifications discovered in the first two pre-tests, interviews with the third set of managers after they had completed the survey indicated that the meanings were clear and the survey could be completed without difficulty.

Respondents and Industries

The data for this study were collected in the spring of 1995 in the U.K. Names, addresses, and phone numbers for potential respondents in the construction/installation, transport/communication, and chemicals in-

Table 2.   Variables Included in the Study

Variables	Response Categories		
	(1)	(2)	(3)
Strategic Launch Decisions			
Product Strategy			
Product Innovativeness	More	Equal	Less
NPD Cycle Time	< 1 Year	1–3 Years	> 3 Years
Product Newness	New Products/Lines	Reformulations	
Market Strategy			
Market Growth Rate	Less than 5%	More than 5%	
Stage of the PLC	Intro/Growth	Maturity/Decline	
Targeting Strategy	Niche	Selective	Mass-market
Competitive Stance			
Number of Competitors	1-to-3	More than 3	
Product Advantage	Low	Medium	High
Firm Strategy			
Driver of NPD	Market	Mix of Market/Technology	
Innovation Strategy	Innovator	Follower	
Marketing Mix (Tactical) Launch Decisions			
Product			
Branding Decisions	New Brand	Brand Extension	Company
Breadth of Assortment	Broader	Equal	Smaller
Distribution			
Distribution Channels	Current	New	
Distribution Expenditures	Higher	Equal	Lower
Distribution Intensity	Intensive	Selective	Exclusive
Pricing			
Price Level	Higher	Equal	Lower
Pricing Policy	Skimming	Penetration	Other
Promotion			
Promotion Expenditures	Higher	Equal	Lower
Salesforce Intensity	Higher	Equal	Lower

Note: Innovativeness, distribution expenditures, salesforce intensity, breadth of product assortment, promotion expenditures, and price level were measured in comparison with competing products on the marketplace.

dustries for firms with more than 25 employees were obtained from McMillan's *Top 10,000 Manufacturing Companies in the U.K.*, Sell's *Directory of Manufacturing Companies*, and Dun & Bradstreet's *Key to British Enterprises*. 563 managers in these industries were phoned to explain the purpose of the study, to verify whether the respondent was responsible for the new product's launch (and therefore qualified to answer) and to solicit cooperation. 107 managers could not identify any new product launched by the firm and thus did not meet that screening criterion for inclusion in the study. From the remaining 456 firms meeting the criterion, 253 (55%) managers agreed to participate in the study and received the mail questionnaire. A total of 138 usable questionnaires were returned from those who agreed to participate (54.5% of those who received the mailing, 30.3% of those who met the criterion).

The respondents, from a marketing, general management or product development background, provided data on 138 successful and 83 unsuccessful new products that their company had developed and introduced since 1989 and for which they were responsible. The total number of new industrial products included in the study equals 221. Demographic data and sample summary statistics are provided in Table 3.

NPD is important for the firms in the sample as indicated by the average percentage of company sales and profits generated by products which were not on the market five years ago (53% and 44%). In addition, 94.2% of the respondents requested the results of the study showing that they had, in general, a positive attitude toward the investigation, and that there is a large interest among managers on how to launch a new industrial product successfully.

Analyses and Results

Associations Between Strategic and Tactical Launch Decisions

6qUncovering the associations depicted in Figure 1 between tactical and strategic launch decisions required using an analytical technique which provides insight into what associations exist across two sets of variables. This analysis needs to illustrate which variables move in what related directions, and which variables are independent of the others which were investigated. Once the set(s) of associated variables are uncovered, the next step in the analysis is to determine what particular decision responses managers make within those variable sets. Because some of the variables included in the data were nominal in nature, the first step in the analysis only provides directionality in the decision sets which managers make. The second analytical step is required to provide the actual decision responses which are associated. This second step involved clustering the new products on the results of the first step, namely on the canonical variate scores (i.e., the sets of associated launch decisions). This procedure resulted in clusters of new products that are launched with separate sets of interrelated strategic and tactical launch decisions. Finally, to test whether performance varied across the clusters, a set of ANOVA's assessed performance differences across clusters.

Canonical correlation analysis (CCA) determines whether relationships exist between sets of variables [1,30]. This analysis was used to ascertain structure across the sets of strategic and tactical launch variables. The aim of CCA is to account for as much variance in relationships among the variable sets as

Table 3. Sample Composition and Summary Statistics

	Construction	Transport	Chemicals	Total Sample
Number of Firms	72	38	28	138
Number of Product Introductions	118	58	45	221
Number of Success	72	38	28	138
Number of Failures	46	20	17	83
Success Rate (% Success)	61%	66%	62%	62%
% of Sales by New Products*	56%	53%	47%	53%
% of Profits by New Products	47%	43%	40%	44%
Overall Success Level	4.4	4.2	4.0	4.2

* Percentage of sales generated by new products introduced in the last five years for construction was statistically significantly higher than for chemicals (ANOVA, post hoc Scheffé); all other means were not significantly different across the product categories.
Likert scale with 1 = did not meet success criteria at all 7 = met success criteria completely.

possible [24]. Because of the nonparametric measurement level of the data (i.e., nominal and ordinal), we relied on the SPSS OVERALS procedure [41]. CCA computes dimensions from both sets of variables, comparable to factors in principal components analysis [30]. Given the exploratory nature of the investigation, we inspected one- to four-dimensional solutions for optimal data fit. A two-dimensional solution described the data structure best. All but one of the variables that loaded high on the third dimension in the three-dimensional solution also loaded high on the first or second dimension. The four-dimensional convergence test value had still not been reached after 100 iterations.

The fit of the two-dimensional solution was 1.77 out the maximum possible of 2, the number of canonical dimensions for a perfect relationship [41]. In addition, the eigenvalues of both dimensions and the canonical correlation coefficients were close to 1. Table 4 summarizes the results for the two-dimensional solution and indicates which sets of strategic and tactical launch decisions are associated.[1] Decisions from each of the four dimensions of strategic decisions are associated with decisions from each of the four tactical areas.

The first dimension suggests that the way in which managers make decisions regarding product innovativeness, market targeting, the number of competitors, and whether the project is marketing- or technology-driven are associated with later decisions dictating branding, distribution expenditure and intensity, and pricing tactics. The signs of the loadings on the dimensions provide the decision directions which are consistent across any two variables. For example, one consistent set of decisions would include niche targeting of more innovative products developed as a result of combining technological possibilities with a market need into a market with fewer competitors, launched using exclusive distribution, high distribution expenditures and skimming pricing with the company name as the brand name.

The associated decisions identified in this dimension support the thrust of the strategic findings of Yoon and Lilien [47], who found innovative new products being introduced into markets with low levels of competition. We add the launch tactics that go along with the strategy: such products are launched with high distribution expenditures into selected distributors in order to target those customers willing to

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[1] A loading of .40 is deemed high enough for saliency [30].

Table 4. CCA Component Loadings for the Variables on Two Dimensions

Variable	Dimension 1 Loading	Dimension 2 Loading
Strategic Launch Decisions		
Product Strategy		
Product Innovativeness	**−.59**	.30
Product Newness	−.28	**−.49**
NPD Cycle Time	−.28	.14
Market Strategy		
Targeting Strategy	**−.75**	−.09
Market Growth Rate	.30	−.13
Stage of the PLC	−.29	−.24
Competitive Stance		
Number of Competitors	**−.65**	.22
Product Advantage	−.30	−.20
Firm Strategy		
Innovation Strategy	−.22	**.61**
Driver of NPD	**.49**	.12
Marketing Mix (Tactical) Launch Decisions		
Product		
Breadth of Assortment	.12	**.56**
Branding Decisions	**.43**	.23
Distribution		
Distribution Intensity	**.59**	.20
Distribution Channels	.33	**.41**
Distribution Expenditures	**−.40**	.08
Pricing		
Pricing Policy	**−.45**	**.48**
Price Level	.02	.08
Promotion		
Salesforce Intensity	.35	**.40**
Promotion Expenditures	−.08	.23
Eigenvalue	.91	.90
Canonical Correlation	.81	.82

Fit = 1.77 (out of 2)
Note: Component loadings .40 or greater are presented in bold; positive signs are associated with the higher response categories in Table 2.

pay a premium price for the innovation. This strategy is pursued by companies who are known as innovators and as such, they make full use of the force of the company name at the time of the launch.

The opposite responses to those identified above may also meld into a launch strategy based on the direction of the signs in the first dimension. Firms may mass-market less innovative, market-driven products, launching them into a market with many competitors using intensive distribution, but with low distribution expenditures, penetration pricing and a brand extension or new brand name.

The second dimension suggests that the decisions managers make regarding product newness and the

firm's innovation strategy are associated with tactical launch decisions regarding the breadth of product assortment, whether current or new distribution channels are to be used, pricing policy, and salesforce intensity. Again, from the signs of the loadings, firms with less innovative strategies who are launching newer-to-the firm products, launch only a small range of them at once with low salesforce intensity through new channels with penetration pricing. Conversely, when innovative firms launch less innovative products, they launch a larger range of them at one time through current channels with higher prices and high salesforce intensity.

As interesting as these associations between strategic and tactical decisions, are the launch decisions which remained relatively independent across the two canonical dimensions. Four strategic launch decisions were not associated in a highly systematic way with any of the tactical variables across the two canonical dimensions: NPD cycle time, market growth rate, stage of the product life cycle and product advantage. For example, two companies, one in a slow-growth market and the other in a fast-growth market are not precluded from adopting similar, or even identical, tactical launch decisions.

Only two tactical launch decisions were relatively independent of the strategies implemented earlier in the product development process: relative price level and promotion expenditures. What price the firm sets, relative to competitors, is not associated with any strategic aspect of launch strategy. Also, for these industrial markets, where less is spent on advertising and promotion than in consumer markets, promotion expenditures were relatively independent of strategic launch choices. The vast majority of industrial product launch tactics are associated with strategic launch decisions. This supports our earlier statements about the need to incorporate a broader total set of launch strategy variables into one investigation.

The performance impact of combinations of strategic and tactical launch decisions in an overall launch strategy would help strengthen the findings' ability to imply normative conclusions and it is to these that we now turn.

Performance and Launch Decisions

We first determined whether managers routinely combined particular launch decision responses by clustering the actual projects based on the associations between the strategic and tactical launch decisions made

and cross-tabulating variable responses with cluster membership. We then investigated how the sets of launch decision responses relate to product development performance by analyzing performance outcomes across the clusters and testing statistical differences through analysis of variance of the outcomes.

Because we were interested in obtaining associations among the particular responses across the strategic and tactical launch decisions made, we clustered the projects' CCA variate scores. Clustering was done on the standardized CCA scores instead of the responses for the original variables because the variate scores account for the relationships found among the tactical and strategic launch variables. In addition, because the variate scores are ratio-scaled, difficulties arising from clustering the nominal variable responses contained in the original data are not encountered. Since the two CCA variate scores are unrelated ($r = .03, p = .70$) multicollinearity is not an issue with this analysis procedure.

Four different cluster analysis algorithms were investigated (Ward's method, average linkage, complete linkage, and single linkage). Excessive chaining occurred for the single linkage algorithm. The structure of the dendograms for the remaining three algorithms suggested that a four-cluster solution was most appropriate. Multiple discriminant analysis with cluster membership as the grouping variable and standardized CCA variate scores as the predictor set showed that the four cluster solution using Ward's method classified the highest percentage of projects correctly (Ward's: 95.5%; complete linkage: 92.8%; average linkage: 90.6%).

Table 5 describes the interrelated launch decisions associated with the cases belonging to each of the four clusters. Table 6 shows in detail how new product performance varies across clusters. To produce these tables, we crosstabulated cluster membership with responses to the original variables used to create the clusters and calculated average performance within the cluster for each success measure individually, as well as for the average performance within each dimension of success and overall. The entries in Table 5 are responses with an adjusted residual greater than +2 after crosstabulating the original variables with cluster membership.

Cluster 2, the small set of *Niche Innovators*, performed best by almost every measure of success. Of the 41 product introductions, 95% belonged in the "successful" performance category. A one-way analysis on the proportion of successful product introduc-

Table 5. A Typology of Industrial Product Launch Strategies

	Niche Followers (N = 67)	Niche Innovators (N = 41)	Mass Marketers (N = 64)	Would-Be Me-Toos (N = 49)
Strategic Launch Decisions				
Product Innovativeness	More Innovative	More Innovative	Equally Innovative	Less Innovative
Product Newness	New Products/lines		Reformulated Products	
Targeting Strategy	Niche	Niche	Mass-Market	Mass-Market
Number of Competitors	≤ 3	≤ 3	> 3	> 3
Driver of NPD	Mix Market/Technology	Mix Market/Technology	Market Driven	Market Driven
Innovation Strategy	Follower	Innovator		Innovator
Tactical Launch Decisions				
Branding Decisions	Company Name		Brand Extension	
Product Assortment Breadth	Same	Broader		Less Broad
Distribution Channels	New Channels		Current Channels	New Channels
Distribution Intensity	Exclusive	Exclusive	Intensive	Selective
Distribution Expenditures	Same	Higher	Lower	Same
Pricing Policy		Skimming	Penetration	Other
Salesforce Intensity			Highly Intensive	Mod. Intensity
Overall Success Ratio*	66%	95%	53%	43%
% of Sales by NPs**	56%	63%	48%	46%
% of Profits by NPs***	52%	50%	38%	38%

Entries refer to response categories with an adjusted residual higher than +2 after crosstabulation.
* Denotes that means differ significantly across the clusters at $p < .05$; 2 > 1,3,4 (ANOVA, post-hoc Scheffé).
** $p < .05$; 1,2 > 4,2 < 3.
*** $p < .05$; 1,2 > 3,4.

tions per cluster revealed a significant effect of cluster membership (F $(3,217) = 11.09, p < .001$). A Scheffé test showed that the percentage of successful products for the *Niche Innovators* cluster differed significantly from those for the other clusters at $p < .05$. At the project level, this strategy produces significantly higher overall success ratings as well as ratings on each of the dimensions of project success than any of the other strategies. At the firm level, these introductions were launched by companies who derive 63% of sales and 50% of profits from products launched in the last five years, where the average for the whole sample was 53% and 44%, respectively. This launch strategy stands out as the most appropriate for industrial product launches where the goal of the firm is to maximize launch success, regardless of the way in which that construct is operationalized.

Cluster 2 loaded positively on the first and negatively on the second canonical variate (1.23, −1.27), producing a set of introductions which are developed in companies whose basic innovation strategy is to pioneer new products and lines which are driven by both technology and market needs. The strategic aspects of their launches use a niche focus to target relatively more innovative products into markets where the number of competitors is low. Tactical

launch decisions associated with this strategy are exclusive distribution with higher distribution expenditures, a skimming price strategy, and, perhaps somewhat surprisingly, a broad product assortment. However, given the sample of introductions is from industrial companies, where goods are often customized to accommodate specific needs, a broad product assortment is justified as part of an exclusive launch strategy which commands a high price for flexibility in choice.

If a firm cannot be a Niche Innovator, they should strive to become *Niche Followers*. The 67 Niche Followers of cluster 1, loading positively on both canonical variates (0.74, 0.64), attain the second best overall performance and are the largest set of projects. Companies in this cluster derive more than 50% of both sales and profits from products launched in the past five years. They have many characteristics in common with the Niche Innovators, with one large exception. Niche Followers define themselves as followers rather than innovators who, again like the Niche Innovators, combine both market- and technology-drivers in their development processes to produce rather innovative new products. Their new product strategies target new products and product lines to markets where there are few incumbent competitors. Following, rather than

Table 6. Launch Strategies and Performance Implications

Performance Measure	Cluster 1 Niche Followers	Cluster 2 Niche Innovators	Cluster 3 Mass Marketers	Cluster 4 Would-be Me-toos	$P < .05$*
Overall Success Ratio	66%	95%	53%	43%	2 > 1,3,4*
Customer Determined					
Customer satisfaction	5.0	6.1	5.0	4.7	2 > 1,3,4
Customer acceptance	4.7	6.0	4.4	4.2	2 > 1,3,4
Met market share goals	3.9	5.1	3.6	3.2	2 > 1,3,4
Met revenue goals	3.8	5.4	3.8	3.6	2 > 1,3,4
Revenue growth	3.5	5.0	3.9	3.2	2 > 1,3,4
Met unit sales goals	3.5	5.5	3.9	3.3	2 > 1,3,4
Average	4.1	5.5	4.1	3.7	2 > 1,3,4
Financial Performance					
Attain margin goals	4.7	5.4	3.6	3.2	1,2 > 3,4
Attain profitability goals	4.1	5.6	3.8	3.4	2 > 1,3,4
Break-even time	3.6	4.8	3.5	3.0	2 > 1,3,4
IRR/ROI	3.5	5.0	3.5	3.0	2 > 1,3,4
Average	4.0	5.2	3.6	3.2	2 > 1,3,4; 1 > 4
Product-Level Measures					
Meeting quality goals	4.9	5.7	5.1	5.1	2 > 1
Development costs	3.5	4.3	3.6	3.2	2 > 4
Launched on time	3.4	4.6	3.6	3.6	2 > 1
Speed to market	3.2	4.2	3.4	3.0	2 > 1,4
Product performance	5.6	6.0	5.0	4.8	1,2 > 4; 2 > 3
Average	4.1	4.9	4.1	3.9	2 > 1,3,4
Overall Success Level	4.1	5.3	4.0	3.6	2 > 1,3,4

* Note: Entries for performance measures are means from a scale with a '1' indicating that the criterion has not been met at all, and a '7' indicating that a criterion has been met completely; true N per ANOVA varies because of missing values. All F-test were significant at $p < .01$. The last column indicates the Post-hoc Scheffé test of significance to control for multiple comparisons.

innovating, leads to several differences in the launch tactics used. Niche Followers launch a moderately broad assortment of products which are branded with the company name and distributed through new, exclusive distribution channels. There is no tendency to use one pricing strategy in preference to another. The basic new product strategy of this cluster is that of the niche player with a preference for fast imitation.

Almost ⅔ of the Niche Follower projects were designated by respondents as successful (66%), versus an average success rate of 62% for the entire sample. Total profits which the Niche Follower firms derive from new products are higher even than those obtained by Niche Innovators (but not significantly so), even though sales from new products are lower. Firms in this cluster perform significantly better than firms from either cluster 3 or 4 on overall success ratio and on the percentage of both sales and profits from new products.

At the project level, two Niche Follower success ratings equal Niche Innovator ratings: attaining margin and product performance goals. Waiting until the Innovator sets market performance expectations while

maintaining your technological capabilities so that you can quickly imitate produces product performance and margin success equivalent to those achieved by the Innovators. Because the Innovators take risks in pioneering new products, it follows, not unreasonably, that they may have slight difficulties meeting margin targets compared to others who follow in their footsteps. While the Niche Followers' performance on overall, customer-determined and product-level success is undistinguished from projects in clusters 3 and 4, their financial success ratings are higher, and significantly so as compared to financial success for cluster 4. The only dimension of success in which these Niche Followers look at all different from cluster 3 projects is financially. The higher margins obtained with this launch strategy lead to higher profits and thus higher financial performance.

The performance of firms and projects within cluster 3 is only moderate. Just over half of the 64 new products launched with this strategy were successful (53%), a ratio which is below the 62% sample average. Companies in cluster 3 derive on average 48% of sales and 38% of profits from products that were not on the

market five years ago. At the project level of success measurement, this group of projects ranks third out of four in terms of overall, customer-determined, financial and product-level success. Although the trend is clearly toward a third-place finish in performance, none of these average ratings is statistically significantly smaller than the Niche Followers.

Cluster 3 loaded negatively on the first and second canonical variates (-1.06, -0.42) and is therefore the mirror image of cluster 1. These projects follow a *Mass Marketer* strategy. They are essentially market driven in their overall approach to new product development, with new product strategies targeting equivalently-innovative reformulated products intensively marketed by the salesforce to mass markets in which there are numerous competitive offerings. The new products, which are intensively distributed, but with lower overall distribution expenses, through the firm's current channels, are offered as a broad assortment at a price to rapidly penetrate the market, bearing the name of another of the company's product groups.

Although third-ranked overall, *Mass Marketers* achieve targets in revenue growth and unit sales to a slightly greater extent than *Niche Followers* through their launch strategy. On the other hand, they do not meet market share, margin, profitability, or product performance goals as well as *Niche Followers*. *Mass Marketers* aim their equally innovative product reformulations at competitive markets, using their salesforce to intensively push them into the marketplace where there is bound to be some competitive backlash to the launch, causing price, margin and profit pressure even though this strategy does provide them with unit sales and revenue growth.

The 49 projects belonging to cluster 4, *Would-Be Me-Toos*, appear to have misaligned strategic and tactical launch decisions, which results in the lowest success ratings, success ratios (43%), and new product contributions to sales (46%) and profits (38%) of all the clusters. Cluster 4 loaded negatively on the first and positively on the second variate (-0.57, 0.90) and is, therefore, the mirror image of cluster 2.

Would-Be Me-Toos are market-driven fast imitators who launch less innovative new products into a wide range of highly-competitive markets. Strategically set up as "Mass Market Followers" who might benefit from mistakes made by *Mass Marketers*, they fail to capitalize on their position because of misaligned launch tactics. The strategy reflects a classic me-too approach which, according to Ansoff [2], requires strong price and delivery performance for success.

However, the actual tactics of the launch do not coincide conceptually with the strategic stance: the small assortment of new products are selectively distributed through new distribution channels without more than average help from the salesforce or any increase in distribution expenses. None of this is commensurate with a mass market follower approach, which would require knowledge and intensive use of the distribution chain, with a clear penetration strategy for pricing. The low performance of projects in this cluster across every variable measured confirms the need to match the tactics of product launches to the strategies for success.

Discussion and Implications

This study set out to identify associated strategic and tactical new product launch decisions and examine performance outcomes across different launch strategies. The data provide answers to both questions which managers of industrial products should find interesting, actionable and useful.

In terms of Figure 1, our findings suggest that the vast majority of strategic and tactical launch decisions are associated for industrial products. That is, choosing a particular product innovativeness strategy for a new product development project may suggest the appropriate pricing tactic which should be implemented later to keep the set of decisions consistent, and maximize the probability of success. A skimming price policy would be more appropriate for a more innovative project, a penetration pricing policy would be more appropriate for an equally innovative project, and neither policy is appropriate for less innovative projects.

Conversely, if a particular tactic has been decided upon at the outset of a product development project (say for historical reasons), then that tactic may suggest a more appropriate strategic launch decision for the project. For example, if current distribution channels are to be used for a development project, then a firm may need to pursue more incremental improvement type projects, rather than much newer products, to maintain consistency across the decisions made. Managers do need to recognize that even though the launch strategy for this project is consistent across the strategic and tactical decisions, there is still a lower probability of achieving NPD success, because of the distribution channel constraint.

For industrial products, several strategic launch decisions are associated with other tactical launch deci-

sions. Overall, 13 of the 19 variables (68%) included in 18 previous studies plus our interviews may need to be considered jointly to produce consistent launch strategies for industrial products. At least one variable in each of four dimensions of strategic decisions (product strategy, market strategy, competitive stance, and firm strategy) may need to be included in the set of decisions managers construct for launching new products. One promotion and one price-related tactical decision, in addition to all of the distribution and product-related tactical decisions included in this research, need to be considered in light of the strategic choices made. This research demonstrates that all four dimensions of both strategic and tactical launch decisions are associated, suggesting that future research needs to look broadly at the aspects included in launch strategies. Because decisions across strategies and tactics are associated, both must be included in launch strategy research.

Our findings also suggest that in industrial product launches, different sets of decisions which are joined into launch strategies have differential impacts on product performance. Niche strategies which are implemented through appropriate exclusive distribution and pricing are more successful than mass marketing strategies for industrial products, with Niche Innovator strategies being even more successful than Niche Follower strategies. Where niche strategies are pursued, it is innovative companies which launch their more innovative products through exclusive channels with a skimming price strategy that are the most successful. There are, however, trade-offs to be made. Innovating is risky, costly, and time-consuming. The cost and time which may be required to innovate have the potential to detract from the eventual product's market appeal or financial success. Project risk, in that not every innovation sought is technically achievable, has the potential to add to a firm's project failure rate. There are fewer projects in the Niche Innovator category than any of the other three. The projects included in this research are those which made it to market, and did not include those which failed technically or were abandoned as being too difficult to achieve before making it to market. Perhaps one reason the number of projects in this category is lower than the others is because fewer of them made it to market.

Mass market strategies are less appropriate for industrial markets, possibly because these markets are often oliogopsonistic so that 'average' product and marketing strategies are less effective. An alternative hypothesis is that mass-market strategies are less suc-

cessful because the needs of business customer vary more across each purchasing unit than do the needs of household consumers. Of the two launch clusters that did pursue mass markets, those striving for parity in innovativeness with more salesforce attention, but at a lower price to the customers fared better than less innovative products selectively distributed with only moderate salesforce support. If a firm is going to spend money to redevelop a product, providing adequate channel and salesforce coverage is necessary in achieving success, even for less new or innovative products.

In theoretical terms, this study contributes to understanding the nature of a proficient launch strategy. This often-cited critical new product success factor has been given scant theoretical or empirical attention in either the new product or marketing literature. This paper identifies a number of tactical launch decisions companies consider during product launch which are associated with strategic launch decisions which are likely to be made earlier in the new product development process. This allows us to start to define the complexities in developing and launching strategically-consistent products and to understand the importance of taking into consideration the mix of factors involved in a decision of this nature. We provide empirical evidence to support Wind's [46] hypothesized set of marketing mix variables for new product launches and in so doing, we show how successful launches do, in fact, follow the normative literature: innovate, target and skim, even for industrial products.

Limitations and Future Research

Our field interviews suggested that many strategic launch decisions were made prior to starting development, and prior to making many tactical launch decisions. However, our analytical techniques allow us only to demonstrate associations between sets of variables, not sequence or timing. Thus, the arrow in Figure 1 is depicted as bi-directional to signify only association, rather than single-headed which might suggest sequence or causality. Additional research is needed to demonstrate statistically the sequencing of decisions.

The data analyzed in this paper were gathered only from firms in the U.K. Because management principles, standards, and styles differ around the world, appropriate actions from and links between strategic and tactical decisions associated with new product launches may differ depending upon geographic

source of the data. A future research endeavor will attempt to address the global applicability of both the associations across decision-making levels and performance relationships to launch strategies.

These data also are not representative of two additional product categories, which we believe limits the applicability of our findings. All the product introductions in these data are for physical goods (manufactured goods) introduced into business-to-business settings. These data include neither services of any type, nor any goods marketed and sold directly to consumers. The effects of changing from physical goods to service launches will most likely be felt in the product strategy (via NPD cycle time), product (breadth of assortment), distribution (channel newness and intensity), and promotion (salesforce intensity) decision categories. We would expect changing from a business-to-business to a consumer market to effect findings within the product strategy (product innovativeness and newness), competitive stance (product advantage), product (branding strategy), distribution (channel newness and intensity) and especially the promotion (expenditures) categories. The findings presented in this article apply to business-to-business physical goods within markets that operate similarly to the U.K. The research remains to be done to determine how moving from business-to-business to consumer markets, physical goods to services and other geographies effects the results reported here.

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