Identifying the Key Success Factors in New Product Launch

C. Anthony Di Benedetto

Effective product launch is a key driver of top performance, and launch is often the single costliest step in new product development. Despite its importance, costs, and risks, product launch has been relatively underresearched in the product literature.

We reviewed the extant literature on product launch to identify the most critical strategic, tactical, and information-gathering activities influencing the launch success. We then used a retrospective methodology to gather managerial perceptions regarding launch activities pertaining to a recent new product launch, and the product’s performance in terms of profitability, market share, and relative sales. A mail survey of PDMA practitioners elicited data on nearly 200 recent product launches.

Successful launches were found to be related to perceived superior skills in marketing research, sales force, distribution, promotion, R&D, and engineering. Having cross-functional teams making key marketing and manufacturing decisions, and getting logistics involved early in planning, were strategic activities that were strongly related to successful launches.

Several tactical activities were related to successful launches: high quality of selling effort, advertising, and technical support; good launch management and good management of support programs; and excellent launch timing relative to customers and competitors. Furthermore, information-gathering activities of all kinds (market testing, customer feedback, advertising testing, etc.) were very important to successful launches.

We conclude with observations about current product launch practice and with recommendations to management. Logistics plays a key role in successful strategy development and should receive the requisite amount of managerial attention. In particular, activities involving logistics personnel in strategy development showed much room for improvement.

We also find that the timing of the launch (i.e., when the launch is conducted from the point of view of the company, the competition, and the customer) is just as important as whether the activities are performed. More managerial attention should be devoted to launch timing with respect to all of these viewpoints in order to improve the chances of success. © 1999 Elsevier Science Inc.
Introduction

A recent PDMA study of best practices by innovating firms showed that, among the best performing firms, 49% of sales are derived from new products (those launched within the last 5 years); among all other firms, the comparable figure is only 22% [22]. Additionally, the proportion of sales deriving from new products is increasing [37]. Clearly, effective product commercialization and launch is a critical driver of top performance, and several studies [5,8,13,14,32] have consistently shown that a strong product launch greatly improves the chances of success. Launch is also very often the single costliest step in new product development (NPD) [1,6,13,27]. Cooper and Kleinschmidt [14] defined commercialization as trial production and sell, production startup, and market launch, and determined the average amount spent by industrial new product developers on commercialization to be almost $434,000. In addition, the cost of commercialization of successful products averaged almost $633,000, which was over six times the amount spent on commercializing products that failed.

As a typical example for a consumer good, the Gillette Sensor launch cost $200 million in research, engineering, and tooling, and an additional $110 million in first-year television and print advertising [26].

Despite the financial risks involved, proficiently conducting the product launch activities is critical to product success. A recent meta-analysis of the new product literature [35] indicated that most of the factors affecting new product success are controllable by management. This would suggest that, if product launch practice and other NPD activities are improved, higher success rates can be achieved. The first Project Newprod study [8] found that many companies just “hoped for the best” and did not spend any time on launch planning. Although product launch practice has improved since then, much more work needs to be done.

In this study, we choose strategic, tactical, and information-gathering activities as the focal points of our research. Recent studies [27,28] examining the product launch literature have identified two broad categories of launch decisions: strategic and tactical launch decisions. Strategic decisions are concerned with product and market issues: how innovative the product should be, what kind of market the product should be launched into, what the competitive stance or positioning should be, and so forth. These strategic decisions are likely to be solidified early in the NPD process during Product Innovation Charter or product protocol specification [11,15,17], and indeed are usually difficult or expensive to change at later stages in the process [27]. We also examine several key firm resources and skills that are generally found to be important precursors to proficient execution of strategic launch activities [5,8,9,12]. Tactical decisions are the marketing mix decisions (product and branding, pricing, advertising, and distribution) and are more easily modified in later stages of the NPD process. Tactical launch decisions are not only typically made after strategic decisions, but also may be strongly influenced by the strategic decisions already made [27].

We examine information-gathering activities in addition to activities related to strategic and tactical decisions. Information gathering throughout the NPD process is critical—and information typically becomes more valid and reliable as the project moves through the process toward commercialization [17]. Continuous update and modification of both marketing and production plans are necessary throughout the product launch phase (and post-launch) in response to customer and competitive reactions, and technological or economic environmental changes [18]. Fine-tuning or “steering control” of product, production process, and/or marketing strategy may be required after the launch is executed [17]. Therefore, careful execution of market research and testing activities is required to obtain key information about customers and the effectiveness of the marketing activities undertaken, as well as to provide feedback both during and after launch.

We begin by briefly reviewing the literature on product launch to identify the key strategic, tactical, and information-gathering activities influencing the success of a new product launch. We then collect data from close to 200 recent product launches. Respondents were asked to provide their perceptions on how well these activities were carried out and to determine which activities are most closely related to perceived
launch success, in terms of overall profitability and competitive performance goals. We conclude with observations about current product launch practice and with recommendations for improvement in the future.

Literature Review

The academic literature on product commercialization and launch is relatively scant. As seen in the Introduction section, the most recent academic work distinguishes strategic from tactical launch decisions [27,28]. This section briefly examines the activities carried out during each of these decisions, as well as the activities pertaining to gathering information pertinent to new product launch.

Firm Skills and Resources, and Strategic Launch Activities

A marketing strategy (statement of target market, desired positioning, and marketing mix) must be clearly planned and developed prior to launch [6,36]. Bad launches are typified by poorly planned marketing strategies, resulting in incomplete product offerings, inadequate channel, poor targeting, no focus on effort, and slow response to product flaws [42]. By comparison, a full launch strategy includes objectives for all elements of the marketing mix, as well as statements of launch control, timing and speed, and likely competitive responses [36].

A substantial body of literature in NPD has differentiated between firm resources, skills, and activities, and analyzed the relationships among them [5,7-9,12,40,41]. This research stream finds that a firm must possess an adequate level of marketing skills and resources in order to be able to carry out marketing activities specific to a given NPD project. Similarly, adequate technical skills and resources are required such that specific technical activities are carried out proficiently. Therefore, marketing and technical skills and resource levels must be carefully considered to determine if they are adequate. If not, the firm should take steps to address weaknesses to improve performance of project-specific activities [5].

All aspects of the marketing mix need to be considered in developing the marketing strategy and planning the strategic launch activities. The fit of the product with marketplace needs should be examined and adjusted if necessary based on input from market testing. With respect to promotion, there must be consistency between the copy platform and the proposed positioning of the product. Furthermore, the type of sales force required, and the amount of sales force training needed, should be assessed. Pricing decisions need to be made in light of the effects of price on both unit demand and revenue. A distribution policy must be developed and the need for structural changes in distribution must be assessed.

In order to carry out the marketing activities specific to the product launch, as well as activities in the non-marketing “stream” such as product design and engineering, R&D and manufacturing [6,17], cross-functional integration must be supported sufficiently. Much recent work has examined speeding up product launch while at the same time maintaining quality. Cross-functional teams including managers from R&D, marketing, and manufacturing have successfully been used to reduce time needed to launch high-quality products [19,20,24,25].

Logistics and inventory strategy has received relatively less attention in the product launch literature, but is nonetheless of prime importance, as it is intimately related to the material flow from manufacturer to end-user [42] and back again, if necessary, as in the case of product recalls [39]. The ability to handle uncertainties in new product demand, and to make adjustments where necessary, is related to the integration of the logistics function with marketing, manufacturing, and operations. If the business unit’s logistics strategy prioritizes reduction in products, material suppliers, logistics services suppliers, marginal customers, and stock-keeping units, and emphasizes quick-response programs and flexible manufacturing techniques, the chances for a high-performance product launch are likely to increase.

Tactical Launch Activities

Crawford’s [17] model of back-end activities in the NPD process (Figure 1) provides a good perspective of tactical decisions made by both marketing and technical personnel during launch and leading up to the launch (e.g., product design and testing). This model emphasizes the dual streams of marketing and production, both of which are ramped-up to full scale during product launch. Marketing tactical decisions at the product launch stage concern the development of the marketing mix: achieving appropriate distribution levels, providing all necessary auxiliary services, determining acceptable price, and setting the levels of advertising and promotion such that both profitability and market penetration goals are met [6]. Technical
tactical decisions include modification of the product and/or production process and are made in consideration of the results of product and market testing.

In addition to marketing and technical tactical decisions, launch timing is a critical variable determining ultimate product success [36]. Empirical studies [14,31,44] demonstrate a close relationship between product performance, value delivered to customers, and success rate. Firms that wait too long in product development or testing allow competitors the opportunity to launch a similar product first successfully. Furthermore, managers are often under great pressure to accelerate time to market [21,34] and may not always be aware of the risks involved [16]. One can assess the appropriateness of launch timing on a number of dimensions: relative to business unit goals, to competitors, and to customers; with respect to channel cooperation and coordination; with respect to execution of promotions to the channel and the trade; with respect to the resulting sustainable competitive advantage; and so on.
Market Information-Gathering Activities

In order to support both strategic and tactical launch activities and to assess the effectiveness of market launch, market research must be conducted efficiently. Market testing throughout the NPD process yields key information about likely customer adoption and allows the firm to finalize its plans for marketing and production ramp-up at the launch phase. These include training the sales force, planning and executing advertising strategy, developing distribution channel activities, and obtaining customer feedback during launch. As noted in the Introduction, adequate performance of activities that generate information on customer, competitive, or economic changes is critical for controlling and fine-tuning the product, process, and/or marketing strategy post-launch. We consider market information-gathering activities that occur during and post-launch, as well as several information-gathering activities pertaining to earlier stages of the NPD process (i.e., market testing, test-marketing execution, and interpretation), the results of which will aid in fine-tuning the product for a more successful launch.

Method

Data Collection Instrument

A retrospective methodology was used in this study, in which managers were asked to provide their perceptions regarding the launch activities and new product performance. This methodology is common in NPD research [8–14], but presents some limitations and raises some internal validity issues to be discussed later [3,35]. We developed a mail survey instrument for data collection, based on the literature on the NPD process that pertains to product launch. Respondents were requested to select one of their company’s most recent new product launches for which they would be able to provide detailed information. They were to choose a single product launched no more than 5 years ago, and one that could be considered “characteristic” of their firm at the time of launch. Respondents provided perceptual data on 7 skills and resources, 14 strategic activities, 17 tactical activities, and 8 marketing information-gathering activities pertaining to this launch. These were the skills, resources, and activities identified in the launch literature as most critical to new product launch [6,8,11,27,28]. All of these were measured using 0 to 10 Likert-type scales. The scale items used are provided in the Appendix.

We gathered four measures of perceived new product performance. Overall profitability is an undoubtedly important measure of performance, but a unidimensional scale of performance may be an oversimplification [12,14,23,29]. A firm may set an objective of reaching a certain overall profitability level with a given product launch, or it may measure product success in terms of its profitability relative to competing products. Alternatively, the objective may be to capture a certain amount of market share or sales away from competitors, and short-term profitability to some extent may be given up in favor of high sales or market share. Measuring only profitability may be a misleading indicator of that product’s success relative to the specified objectives. For this reason, the following measures of success were used in this study: (1) perceived overall profitability; and perceived (2) profitability, (3) sales, and (4) market share relative to competing products on the market. Each of these was measured on a scale of −5 to +5 (scale anchors given in the questionnaire in the Appendix).

The survey was pretested by practicing managers participating in a university executive training program and by classes of night MBA students, to ensure that all questions were clear and that the scale items represented the desired constructs. Only minor corrections and adjustments needed to be made to the questionnaire based on the feedback from the pretests.

Respondents

The survey was mailed to all practitioner members of the Product Development & Management Association (PDMA). PDMA practitioner members were chosen as the sampling frame, as these individuals are representative of the most knowledgeable managers active in new product management and NPD. A follow-up phone call and second mailing were undertaken to boost response rates. We used a key informant method for data collection frequently used in NPD research [7,12,13]. All respondents were experienced practicing managers in product development or a related position, who were the most knowledgeable sources of information on the NPD project and the product’s launch [38]. In a later section we discuss the limitations of this method. Our sample included representatives primarily involved in consumer as well as business-to-business products (goods and services). A total of 183 usable questionnaires were returned, representing a response rate of 11.4%. The demographics of the sample (by functional area and job title/level) are
presented in Table 1. Judging from these demographics, the sample appears representative of the PDMA membership.

To provide some evidence of reliability, the sample was split into two halves (early and late respondents), and the means of all 46 skills, resources, and activity variables were calculated for each half. The means differed significantly (at the $\alpha = .05$ level) for only one of the 46 variables (“product availability: sufficient inventory available”). We also found that the two halves were not significantly different in terms of any of the performance measures. We thus conclude that earlier and later respondents were not significantly different from each other.

### Table 1. Respondent Demographics

<table>
<thead>
<tr>
<th>Job Title</th>
<th>Respondents (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Principal/Partner</td>
<td>1.7</td>
</tr>
<tr>
<td>Senior/Chief/Head/Lead</td>
<td>2.9</td>
</tr>
<tr>
<td>President/Proprietor/Owner</td>
<td>2.9</td>
</tr>
<tr>
<td>Vice President/Group VP/Assistant VP</td>
<td>12.0</td>
</tr>
<tr>
<td>Director</td>
<td>24.0</td>
</tr>
<tr>
<td>Manager/Assistant Manager</td>
<td>52.0</td>
</tr>
<tr>
<td>Other</td>
<td>4.6</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Functional Area of Respondents</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Technology</td>
<td></td>
</tr>
<tr>
<td>Engineering</td>
<td>5.2</td>
</tr>
<tr>
<td>Research</td>
<td>0.6</td>
</tr>
<tr>
<td>Research and Development</td>
<td>8.6</td>
</tr>
<tr>
<td>Scientist</td>
<td>1.1</td>
</tr>
<tr>
<td>Technology</td>
<td>3.4</td>
</tr>
<tr>
<td>Projects/Special Projects</td>
<td>4.0</td>
</tr>
<tr>
<td>Total Technology</td>
<td>23.0</td>
</tr>
</tbody>
</table>

| Marketing                                      |                   |
| Business Development/New Business Development  | 6.9               |
| Commercial Development                         | 1.7               |
| Marketing                                     | 10.3              |
| Marketing Research/Information                 | 1.1               |
| Total Marketing                               | 20.1              |

| Management                                     |                   |
| Product Line Management                        | 1.1               |
| Product Management/New Product Management      | 16.1              |
| Product Planning/New Product Planning          | 0.6               |
| Product Development/New Product Development    | 25.3              |
| Program Management                             | 1.1               |
| Total Management                               | 44.3              |

| Planning/Corporate Planning/Strategic Planning|                   |
|                                               | 6.3               |
| Other                                         | 6.3               |

### Results

For this analysis, the product launches were categorized as “successful” or “unsuccessful” in four different ways according to the four success measures used. Considering first overall profitability, a product launch was classified as “successful” if a positive rating on this scale (+1 to +5) was given, and “unsuccessful” otherwise. The same procedure was used for the three other success measures used. Many launches were rated as successful or unsuccessful on all four measures; several, however, were only successful on one or two of the measures.

Next, the mean perceived levels of performance of each launch activity were calculated for successful and unsuccessful launches, and these means were compared using $t$-tests. The results for the skills and resources, the strategic launch activities, the tactical launch activities, and the market information-gathering activities are presented in Tables 2, 3 and 4, respectively. In each of these tables, a significant $t$-value indicates that the mean perceived levels of performance were significantly different between successful and unsuccessful groups.

Before examining each table individually, one should note that in every case where a significant difference was found, the activity was perceived to be performed better for the successful launches than for the unsuccessful ones. That is, better perceived performance of key activities tends to be related to a higher likelihood of success. In no case was better perceived performance on an attribute significantly related to more unsuccessful launches.

#### Results for Skills, Resources, and Strategic Launch Activities

Table 2 provides the mean responses and the results of the significance tests for the skills, resources, and strategic launch activities. As shown in the table, successful launches (in terms of overall profitability) were related to perceived superior skills in marketing research, sales force, distribution, advertising and promotion, R&D, and engineering. The table also indicates that the most successful launches (in terms of overall profitability and/or competitive measures) were related to better perceived performance on the following strategic activities:

- Having cross-functional teams make decisions concerning manufacturing, distribution/logistics, and marketing/sales strategy; and
Table 2. Skills, Resources, and Strategic Launch Activities

<table>
<thead>
<tr>
<th>Skills and Resources</th>
<th>Overall Profitability</th>
<th></th>
<th>Competitive Profitability</th>
<th></th>
<th>Competitive Sales</th>
<th></th>
<th>Competitive Market Share</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Successful (n = 117)</td>
<td></td>
<td>Unsuccessful (n = 66)</td>
<td></td>
<td>Successful (n = 109)</td>
<td></td>
<td>Unsuccessful (n = 74)</td>
<td></td>
</tr>
<tr>
<td>Our marketing research skills and resources were more than adequate.</td>
<td>6.33*</td>
<td>4.91</td>
<td>6.31*</td>
<td>5.09</td>
<td>6.37*</td>
<td>5.10</td>
<td>6.49*</td>
<td>5.01</td>
</tr>
<tr>
<td>Our sales force skills and resources were more than adequate</td>
<td>6.41*</td>
<td>4.95</td>
<td>6.22*</td>
<td>5.38</td>
<td>6.43*</td>
<td>5.14</td>
<td>6.49*</td>
<td>5.13</td>
</tr>
<tr>
<td>Our distribution skills and resources were more than adequate.</td>
<td>7.02*</td>
<td>6.05</td>
<td>7.04*</td>
<td>6.11</td>
<td>7.07*</td>
<td>6.15</td>
<td><strong>6.99</strong></td>
<td>6.28</td>
</tr>
<tr>
<td>Our advertising and promotion skills and resources were more than adequate.</td>
<td>6.30*</td>
<td>5.12</td>
<td>6.40*</td>
<td>5.11</td>
<td>6.43*</td>
<td>5.13</td>
<td><strong>6.64</strong></td>
<td>4.94</td>
</tr>
<tr>
<td>Our R&amp;D skills and resources were more than adequate.</td>
<td>7.61*</td>
<td>6.03</td>
<td>7.40*</td>
<td>6.51</td>
<td>7.36*</td>
<td>6.61</td>
<td><strong>7.46</strong></td>
<td>6.53</td>
</tr>
<tr>
<td>Our engineering skills and resources were more than adequate.</td>
<td>7.24*</td>
<td>6.51</td>
<td>7.20†</td>
<td>6.66</td>
<td>7.09</td>
<td>6.83</td>
<td>7.14</td>
<td>6.78</td>
</tr>
<tr>
<td>Our manufacturing skills and resources were more than adequate.</td>
<td>6.83</td>
<td>6.36</td>
<td>7.08*</td>
<td>6.04</td>
<td>6.84</td>
<td>6.43</td>
<td><strong>6.92</strong></td>
<td>6.36</td>
</tr>
</tbody>
</table>

**Activities**

<table>
<thead>
<tr>
<th></th>
<th>Overall Profitability</th>
<th></th>
<th>Competitive Profitability</th>
<th></th>
<th>Competitive Sales</th>
<th></th>
<th>Competitive Market Share</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Successful (n = 104)</td>
<td></td>
<td>Unsuccessful (n = 79)</td>
<td></td>
<td>Successful (n = 100)</td>
<td></td>
<td>Unsuccessful (n = 83)</td>
<td></td>
</tr>
<tr>
<td>Interdepartmental committees were set up to allow departments to engage in joint decision-making.</td>
<td>6.59</td>
<td>6.41</td>
<td>6.78</td>
<td>6.16</td>
<td>6.73</td>
<td>6.26</td>
<td>6.62</td>
<td>6.41</td>
</tr>
<tr>
<td>Task forces or temporary groups were set up to facilitate interdepartmental collaboration.</td>
<td>6.49</td>
<td>5.80</td>
<td>6.35</td>
<td>6.08</td>
<td>6.38</td>
<td>6.05</td>
<td>6.22</td>
<td>6.26</td>
</tr>
<tr>
<td>Liaison personnel existed whose specific job it was to coordinate the efforts of several departments.</td>
<td>6.31</td>
<td>5.71</td>
<td>6.38</td>
<td>5.68</td>
<td>6.09</td>
<td>6.10</td>
<td>6.06</td>
<td>6.13</td>
</tr>
<tr>
<td>Cross-functional teams made decisions concerning <strong>manufacturing strategy</strong>.</td>
<td>6.42†</td>
<td>5.66</td>
<td><strong>6.65</strong></td>
<td>5.41</td>
<td><strong>6.66</strong></td>
<td>5.47</td>
<td>6.46</td>
<td>5.78</td>
</tr>
<tr>
<td>Cross-functional teams made decisions concerning <strong>distribution or logistics strategy</strong>.</td>
<td>6.03*</td>
<td>5.06</td>
<td><strong>6.20</strong></td>
<td>4.92</td>
<td>5.95</td>
<td>5.31</td>
<td><strong>6.05</strong></td>
<td>5.22</td>
</tr>
<tr>
<td>Cross-functional teams made decisions concerning <strong>marketing or sales strategy</strong>.</td>
<td>6.30*</td>
<td>4.48</td>
<td><strong>6.34</strong></td>
<td>4.62</td>
<td><strong>6.39</strong></td>
<td>4.64</td>
<td><strong>6.47</strong></td>
<td>4.63</td>
</tr>
<tr>
<td>Our logistics operations, from the manufacturing facility to the customer, are highly integrated with <strong>marketing</strong>.</td>
<td>5.66</td>
<td>5.36</td>
<td>5.79</td>
<td>5.18</td>
<td>5.63</td>
<td>5.44</td>
<td>5.63</td>
<td>5.47</td>
</tr>
<tr>
<td>Our logistics operations, from the manufacturing facility to the customer, are highly integrated with <strong>manufacturing and production operations</strong>.</td>
<td>6.89</td>
<td>6.86</td>
<td>7.05</td>
<td>6.62</td>
<td>6.86</td>
<td>6.91</td>
<td>6.86</td>
<td>6.91</td>
</tr>
<tr>
<td>Logistics was involved in planning marketing programs.</td>
<td>4.28</td>
<td>3.88</td>
<td>4.38</td>
<td>3.77</td>
<td><strong>4.47</strong></td>
<td>3.66</td>
<td>4.46</td>
<td>3.73</td>
</tr>
<tr>
<td>Logistics was involved in formulating our distribution strategies.</td>
<td><strong>5.60</strong></td>
<td>4.74</td>
<td><strong>5.79</strong></td>
<td>4.54</td>
<td><strong>5.74</strong></td>
<td>4.66</td>
<td><strong>5.89</strong></td>
<td>4.53</td>
</tr>
<tr>
<td>Logistics was involved in coordinating with sales management.</td>
<td>5.83</td>
<td>5.05</td>
<td><strong>6.17</strong></td>
<td>4.60</td>
<td><strong>6.27</strong></td>
<td>4.51</td>
<td><strong>6.32</strong></td>
<td>4.58</td>
</tr>
<tr>
<td>Logistics was involved in lean inventory strategies.</td>
<td>5.54</td>
<td>4.93</td>
<td><strong>5.94</strong></td>
<td>4.38</td>
<td><strong>5.77</strong></td>
<td>4.69</td>
<td><strong>5.77</strong></td>
<td>4.76</td>
</tr>
<tr>
<td>Logistics was involved in service planning (after sale).</td>
<td>4.95</td>
<td>4.28</td>
<td>5.01</td>
<td>4.27</td>
<td><strong>5.15</strong></td>
<td>4.09</td>
<td><strong>5.23</strong></td>
<td>4.08</td>
</tr>
<tr>
<td>Logistics was involved in setting return or replacement policies.</td>
<td>4.76</td>
<td>4.81</td>
<td>5.02</td>
<td>4.39</td>
<td><strong>5.11</strong></td>
<td>4.28</td>
<td><strong>5.11</strong></td>
<td>4.35</td>
</tr>
</tbody>
</table>

* Mean for successful launch significantly greater than mean for unsuccessful launch at p < .05.
† Mean for successful launch significantly greater than mean for unsuccessful launch at p < .01.
Bold indicates means where significant differences in means are found, at p < .10 or better.
Having logistics involved in formulating distribution strategies, coordinating with sales management, developing inventory strategies, and planning after-sale service.

Table 2 shows that although these activities were generally perceived to be important across all the other success measures used, there were a few notable differences. Perceived strengths in engineering skills and resources were related to more successful launches using overall profitability and competitive profitability as performance measures, but not using competitive sales or market share. This suggests that investing to strengthen engineering skills increases the ultimate desirability of the product to the discriminating buyer.
(who is in search of performance or quality attributes rather than lowest price) and thus pays off more in terms of higher profitability but not necessarily higher sales or market share. Similarly, it was interesting to note that perceived strengths in manufacturing skills and resources were related to more successful launches in terms of competitive profitability and market share, but not overall profitability. Better manufacturing skills may translate to lower production costs, which can provide the manufacturer with a competitive price advantage at launch and can ultimately result in a strong market share or high profitability relative to competitors. These observations suggest that management must consider the objectives that were set for the product (in terms of profitability, sales, and/or market share) when prioritizing investments in engineering or manufacturing. That is, although both of these functions positively affect the likelihood of launch success, they do so in different ways.

High perceived cross-functional team involvement in manufacturing, distribution and logistics, and marketing/sales strategic decisions was significantly related to success across all or most success measures. Whereas this observation is consistent with expectations, it also was found that interdepartmental committees for joint decision-making, task forces, or temporary groups, and the use of liaison personnel did not improve the likelihood of perceived launch success. It would be beyond the scope of this study to conclude that these techniques for facilitating interdepartmental collaboration are not effective. Our results suggest, however, that either these techniques have not properly been implemented in the studied firms, or that more needs to be learned about how these techniques actually affect cross-functional integration.

In Table 2, most, though not all, of the strategic launch activities are perceived to be performed reasonably well in the most successful launches. Of the 14 strategic activities studied, 8 means were at least 6 on a 10-point scale among the successful (highest overall profitability) launches, and only 3 were rated below 5. Among the lowest mean ratings of perceived performance were observed for logistics activities: logistics involvement in distribution strategy formation, in coordinating with sales management, in “lean” or just-in-time inventory strategies, in after-sale service planning, in planning marketing programs, and in

### Table 4. Market Information, Gathering Activities

<table>
<thead>
<tr>
<th>Activities</th>
<th>Overall Profitability</th>
<th>Competitive Profitability</th>
<th>Competitive Sales</th>
<th>Competitive Market Share</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Successful (n = 117)</td>
<td>Unsuccessful (n = 66)</td>
<td>Successful (n = 109)</td>
<td>Unsuccessful (n = 74)</td>
</tr>
<tr>
<td>Selecting customers for testing market acceptance.</td>
<td>6.37*</td>
<td>4.94</td>
<td>6.19†</td>
<td>5.32</td>
</tr>
<tr>
<td>Submitting products to customers for in-use testing.</td>
<td>6.32*</td>
<td>5.36</td>
<td>6.29†</td>
<td>5.48</td>
</tr>
<tr>
<td>Executing test marketing programs.</td>
<td>4.67*</td>
<td>3.71</td>
<td>4.79†</td>
<td>3.60</td>
</tr>
<tr>
<td>Interpreting the findings of the market testing.</td>
<td>5.50*</td>
<td>4.37</td>
<td>5.23</td>
<td>4.87</td>
</tr>
<tr>
<td>Delegating or contracting specialized research work to outside contractors.</td>
<td>5.27*</td>
<td>4.11</td>
<td>5.42†</td>
<td>3.96</td>
</tr>
<tr>
<td>Studying feedback from customers regarding this product during launch.</td>
<td>6.94*</td>
<td>5.45</td>
<td>6.85*</td>
<td>5.73</td>
</tr>
<tr>
<td>Studying feedback from customers regarding this product after launch.</td>
<td>6.83*</td>
<td>5.75</td>
<td>6.73*</td>
<td>5.99</td>
</tr>
<tr>
<td>Planning and testing the advertising for this product.</td>
<td>4.91*</td>
<td>4.04</td>
<td>4.93*</td>
<td>4.07</td>
</tr>
</tbody>
</table>

* Mean for successful launch significantly greater than mean for unsuccessful launch at $p < .05$.
† Mean for successful launch significantly greater than mean for unsuccessful launch at $p < .10$.
Bold indicates means where significant differences in means are found, at $p < .10$ or better.
setting return or replacement policies. Furthermore, for most of these activities, better perceived performance was related to greater success in terms of competitive profitability, sales, and market share. These, then, are activities where there is room for improvement and for which improved performance is likely to be rewarded by greater competitiveness and higher profit.

Results for Tactical Launch Activities

Table 3 presents the results obtained for the tactical launch activities. As was the case for the strategic activities, better perceived performance on most of the launch activities is associated with greater success. Examining first the overall profitability measure, the tactical activities that were perceived to be performed significantly better in successful launches were as follows:

- High quality of selling effort, advertising, service, and technical support;
- Good management of key aspects of the launch: marketing plans, overall launch direction, and the launch itself;
- Good management of the support programs: distribution channel activities, sales force training, good pricing level, and advertising program execution; and
- Launch timing relative to competition and customers.

Again, a few differences were found when using other success measures. High perceived quality of promotions (discounts, trade shows, and events) was significantly related to greater competitive market share but not greater profitability or competitive sales. Finalizing plans for manufacturing was significantly related to greater perceived competitive profitability (note that manufacturing skills and resources were related to high competitive profitability in Table 2).

Interestingly, better perceived execution of advertising strategy was only marginally associated with higher overall profitability and competitive profitability ($p < .10$), and not with higher competitive sales or market share. This result may partially be explained by the fact that mean perceived performance of this activity was among the lowest of all tactical launch activities. Therefore, there was much room for improvement of advertising execution. Had there been a wider range of perceived performance on this variable, a more pronounced difference in means between successful and unsuccessful groups may have been observed. Overall, tactical activities were perceived to be performed well. Only execution of advertising strategy and quality of advertising had mean perceived ratings lower than 6.

Product availability (sufficient inventory available) and product distribution (on-time delivery and quick response) were the only two tactical launch activities for which better perceived performance was not related to significantly greater success on any measure. Examination of Table 3, however, indicates that these two activities were perceived to be consistently performed well (means are consistently above 7 for both successful and unsuccessful launches). Therefore, although these activities may well be important, they did not serve to distinguish successful from unsuccessful launches in this study.

Results for Market Information-Gathering Activities

As shown in Table 4, better perceived performance on the information-gathering activities included in this study is strongly related to success. Of the eight activities studied, all but one were related to greater perceived success on at least three of the success measures used. The information-gathering activities could be gathered into the following groups:

- Steps in market testing: selecting customers for market testing, submitting products to these customers, executing test markets, and analyzing the results;
- Studying feedback from customers regarding the product both during and after launch;
- Planning and testing advertising; and
- Contracting out specialized research work to outside contractors.

Our results suggest the importance of market testing and thorough analysis of customer feedback as a precursor to more successful launches. Interestingly, if specialized market research was needed to support the launch, it appears that hiring the job out to research professionals is the best strategy.

These activities were perceived to be performed reasonably well, with means in the range of 5 to 7, with two exceptions: executing test marketing programs, and planning and testing advertising, whose means were below 5. This observation, combined with the results found in Table 3, suggest that there is much room for improvement with respect to planning, testing, and conducting advertising among the firms in this sample.
Discussion and Conclusion

Product launch is almost always costly and risky; nevertheless, there have been few academic studies of the product launch process until recently. As Hultink et al. [28] have observed, most of the prior academic work has been within specific industry contexts and usually provides only a short normative checklist of critical activities. Recent work [27,28] has integrated this prior research and has suggested that a complete launch strategy requires both strategic and tactical launch decisions. In this study, we have attempted to identify which activities associated with launch strategies and launch tactics, as well as information-gathering support activities, are perceived to be the most critical to launch success using several different success definitions.

It was observed that successful and unsuccessful launches differed significantly with respect to most of the skills and resources and the strategic launch activities studied. These latter activities fell into two broad categories: the use of cross-functional teams in strategy development, and the involvement of logistics in development of several key strategies and programs. These observations are consistent with much previous work in the new product area [5,7–9,40,41]. The Project Newprod studies [8–14] indicated that skills, resources, and synergies in both marketing and technical streams are significantly related to greater new product success; whereas many empirical studies [24] have shown the importance of teamwork in improving the NPD process.

Although consistent with these empirical studies, our results provide several additional managerial insights. First, logistics is perceived to play a key role in successful strategy development. Although it has received somewhat less attention in the NPD literature, we found that the most successful launches were characterized by greater perceived involvement of the logistics function in marketing, sales, distribution, inventory, and service planning. Second, we showed that skills in engineering and manufacturing were more critical to greater perceived profitability relative to competing products, whereas certain activities (such as involvement of logistics in after-sale service planning) were related to higher competitive market share. Thus, when deciding which activities to stress or to improve on, managers should keep in mind their objectives in launching the product. Third, although activities were perceived to be performed rather well overall in the most successful cases, the mean perceived ratings for the tactical launch activities were generally higher than those for the strategic launch activities. In particular, strategic activities related to the participation of logistics in strategy development showed great potential for improvement: these activities were perceived to be among the least well performed, but were rated significantly higher in the successful launches.

Although the logistics literature has stressed the importance of logistics activities over the years, it has generally not shown how logistics activities are integrated into the process of NPD [2]; consequently, the impact of these findings on the management of NPD may have been mitigated. Very often, marketing and distribution costs make up the largest portion of the delivered cost of the product [1,10]. Thus, breakdowns in marketing or distribution logistics contribute more to new product failure than technical breakdowns [4]. Our findings corroborate the importance of logistics activities to new product success and integrate these activities into the context of the full NPD process.

Higher perceived performance on tactical launch activities tended to be associated with greater perceived success at launch. Activities ranging from the quality of the selling effort and the technical support to sales force training, managing the distribution channel, and timing the launch were all perceived to be conducted significantly better in the most successful cases. This observation is consistent with expectations from the literature. Cooper and Kleinschmidt [12,14], for example, showed that as more NPD activities are performed, the higher the chances of success.

Our results, however, also show that the timing of the launch (i.e., when the launch is conducted from the point of view of the company, the competition, and the customer) is just as important as whether the activities are performed. A very significant finding of this study for NPD researchers is the high perceived importance of launch timing, which has been comparatively underresearched in previous studies. Future empirical studies can investigate the antecedents and effects of launch timing more closely. For example, if service policies or channel/trade promotions are not in place prior to the launch, or if channel cooperation or coordination is not well developed ahead of time, the launch may be delayed from the point of view of the producer firm and/or the distributor. With a better understanding of the antecedents of launch timing, the firm can take steps to correct the controllable factors that may negatively affect the timing of future launches.

With respect to the tactical launch activities, we discovered that some activities are more associated
with high profitability (e.g., finalizing manufacturing plans and executing advertising strategy), whereas others are more associated with high market share (timing the launch relative to direct competition). In other words, a firm seeking high early profit returns on its product needs to place careful attention on its manufacturing and advertising planning, whereas a firm seeking to draw market share from competitors needs to be especially careful to time the launch appropriately with respect to competitive action.

As would be expected, superior perceived performance on the tactical activities most closely related to the actual launch is strongly related to launch success. These activities, in fact, were perceived to be done rather well by this sample. The results, however, clearly indicate that the strategic groundwork must be in place: most of the strategic activities also were perceived to be carried out better in the successful projects.

Finally, top perceived performance on virtually all the market information-gathering activities was very highly related to perceived launch success. Firms that thoroughly test the product in use and its advertising, study customer feedback during and after launch, and carefully interpret the findings of market testing have a substantially better chance of success regardless of the measure chosen.

There are several limitations to the present study. Although we had a very knowledgeable sample of respondents (all were senior- or middle-level managers involved in NPD and belonging to the PDMA), the response rate was low. Still, as discussed earlier, the sample appeared to be representative of the full PDMA practitioner sampling frame in terms of job title and functional area. We conclude that we obtained meaningful results representative of the PDMA practitioner membership despite the low sample size. As this group by definition is involved and interested in NPD, our results may not generalize to all other firms, because firms in our sample may tend to perform NPD activities better than average.

Two possible limitations to this study are the use of a retrospective methodology and the reliance on key informants. One must recall that managerial perceptions of activities and of NPD success are being measured in this study. Although this methodology is common in the NPD literature, several problems may be created. First, using retrospective data, the establishment of true cause-and-effect relationships is impossible. Further, because the outcome of the project (success or failure) was known prior to completing the survey, there may be halo bias effect present. There is also the possibility that respondents may be making their firm “look good” by upwardly biasing their responses, or that their perceptions may not accurately reflect reality.

Although we cannot decisively show that these biases did not occur, we believe that we have mitigated the concerns about respondent reliability by using key informants [38]. As noted earlier, our respondents were highly involved with the product launch and were the most knowledgeable sources of information on all aspects of the NPD process. Therefore, they can provide the most viable, useful responses pertaining to the activities and to the overall profitability of the launched product. Recent studies in related areas have found that senior-level key informants with a high level of knowledge and involvement regarding the project provide reliable, valid data on strategy and performance that is very similar to secondary objective data [30,33,43]. A limitation of using key informants, however, is that we only have a single questionnaire for each NPD project; thus, we are not able to assess the validity or the reliability of the responses statistically.

There are some other limitations to the study. Most of our sample consisted of managers working in U.S. industrial firms. We did not explore differences between consumer and industrial product practices, nor did we have a comparable sample from other countries to determine if our findings are generalizable to other business environments [28]. We also did not explore differences due to product characteristics: between new-to-the-world products and incremental innovations, between durables and nondurables, between products and services, etc. We found evidence that logistics personnel involvement and launch timing are important components of a successful launch. It would be useful to investigate their effects across several industry situations, business environments, and product characteristics. Nonetheless, our results provide a kind of “sanity check” on the activities typically considered to be important to launch (most of them are indeed associated with more successful launches) and provide insights as to which activities are the most critical to focus on when pursuing objectives of profitability, sales, or market share.

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References


APPENDIX

Questionnaire Items

The objective of this study is to gain insights on how to improve the new product development process, and in particular the critical stage of launch or commercialization. All responses will be held in the strictest confidence. Please select one of your company's most recent typical new product launches for discussion in answering these questions. Please try to choose a product that was launched fairly recently (within the last five years) and that was characteristics of your firm at that time.

Skills and Resources

To what extent does each statement listed below correctly describe this selected market launch? Please indicate your degree of agreement or disagreement.

<table>
<thead>
<tr>
<th>Strongly Agree</th>
<th>Strongly Disagree</th>
<th>Neutral</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

For the selected product launch,

...our marketing research skills and resources were more than adequate.
...our sales force skills and resources were more than adequate.
...our distribution skills and resources were more than adequate.
...our advertising and promotion skills and resources were more than adequate.
...our R&D skills and resources were more than adequate.
...our engineering skills and resources were more than adequate.
...our manufacturing skills and resources were more than adequate.

Strategic Launch Activities

To what extent does each statement listed below correctly describe this selected market launch? Please indicate your degree of agreement or disagreement.

<table>
<thead>
<tr>
<th>Strongly Agree</th>
<th>Strongly Disagree</th>
<th>Neutral</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

For the selected product launch,

...interdepartmental committees were set up to allow departments to engage in joint decision-making.
...task forces or temporary groups were set up to facilitate interdepartmental collaboration.
...liaison personnel existed whose specific job it was to coordinate the efforts of several departments.
...cross-functional teams made decisions concerning manufacturing strategy.
...cross-functional teams made decisions concerning distribution or logistics strategy.
...cross-functional teams made decisions concerning marketing or sales strategy.
Our logistics operations, from the manufacturing facility to the customer, are highly integrated with marketing.
Our logistics operations, from the manufacturing facility to the customer, are highly integrated with manufacturing and production operations.

When we went to national launch with this product/service, logistics personnel were involved in:

...planning marketing programs
...formulating our distribution strategies
...coordinating with sales management
...lean inventory strategies
...service planning (after sale)
...setting return or replacement policies
Tactical Launch Activities

How would you rate the quality of each of the following elements in the launch of this product? Please rate the level actually achieved.

<table>
<thead>
<tr>
<th>Very Poor</th>
<th>Excellent</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 1 2 3 4 5 6 7 8 9 10</td>
<td></td>
</tr>
</tbody>
</table>

Selling effort, e.g. the right people, properly trained, etc. 0 1 2 3 4 5 6 7 8 9 10
Advertising. 0 1 2 3 4 5 6 7 8 9 10
Promotion (e.g., discounts, trade shows, events). 0 1 2 3 4 5 6 7 8 9 10
Service and technical support for the customer, e.g., right people, qualified, responsive. 0 1 2 3 4 5 6 7 8 9 10
Product availability: sufficient inventory available. 0 1 2 3 4 5 6 7 8 9 10
Product distribution: on-time delivery, quick response. 0 1 2 3 4 5 6 7 8 9 10
Pricing: appropriateness of pricing level(s). 0 1 2 3 4 5 6 7 8 9 10
Finalizing plans for manufacturing. 0 1 2 3 4 5 6 7 8 9 10
Finalizing plans for marketing. 0 1 2 3 4 5 6 7 8 9 10
Establishing overall direction for this product launch. 0 1 2 3 4 5 6 7 8 9 10
Launching this product into the marketplace. 0 1 2 3 4 5 6 7 8 9 10
Training the sales force. 0 1 2 3 4 5 6 7 8 9 10
Executing the advertising strategy for this product (e.g., good copy placement, adequate number of insertions). 0 1 2 3 4 5 6 7 8 9 10
Managing distribution channel activities for this product. 0 1 2 3 4 5 6 7 8 9 10

Please comment on the relative timing of the product’s launch.

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Neutral</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 1 2 3 4 5 6 7 8 9 10</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Relative to our business unit’s goals, the timing of our launch was on target. 0 1 2 3 4 5 6 7 8 9 10
Relative to our direct competition, the timing of our launch was perfect. 0 1 2 3 4 5 6 7 8 9 10
From the point of view of our major customers, the timing of our launch was excellent. 0 1 2 3 4 5 6 7 8 9 10

Market Information Gathering Activities

Please indicate how well your business unit undertook each of these activities.

<table>
<thead>
<tr>
<th>Done very poorly or omitted</th>
<th>Done excellently</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 1 2 3 4 5 6 7 8 9 10</td>
<td></td>
</tr>
</tbody>
</table>

Selecting customers for testing market acceptance. 0 1 2 3 4 5 6 7 8 9 10
Submitting products to customers for in-use testing. 0 1 2 3 4 5 6 7 8 9 10
Executing test marketing programs. 0 1 2 3 4 5 6 7 8 9 10
Interpreting the findings of the market testing. 0 1 2 3 4 5 6 7 8 9 10
Delegating or contracting specialized research work to outside contractors. 0 1 2 3 4 5 6 7 8 9 10
Studying feedback from customers regarding this product during launch. 0 1 2 3 4 5 6 7 8 9 10
Studying feedback from customers regarding this product after launch. 0 1 2 3 4 5 6 7 8 9 10
Planning and testing the advertising for this product. 0 1 2 3 4 5 6 7 8 9 10

Performance

New product performance can be measured in a number of ways. Please indicate, from what you know today, how successful this market entry was or has been, using the following criteria.

A great financial failure (far less than our minimum acceptable profitability criteria) -5 -4 -3 -2 -1 0 1 2 3 4 5
A great financial success (far exceeded our minimum acceptable profitability criteria)

How successful was this market entry from an overall profitability standpoint? -5 -4 -3 -2 -1 0 1 2 3 4 5
Far less than the competing product launches
Far exceeded the competing product launches

Relative to competing product launches, how successful was this market entry in terms of profits? -5 -4 -3 -2 -1 0 1 2 3 4 5
Relative to competing product launches, how successful was this market entry in terms of sales? -5 -4 -3 -2 -1 0 1 2 3 4 5
Relative to competing product launches, how successful was this market entry in terms of market share? -5 -4 -3 -2 -1 0 1 2 3 4 5