



RESEARCH ARTICLE

Managing the New Product Launch Process: Cross-Functional Information Exchange Perspective

Lehtimäki Tuula K*

Department of Marketing, Oulu Business School, University of Oulu, Finland.

*Corresponding Author: E-mail: tuula.lehtimaki@oulu.fi

Abstract

This study examines marketing function's information exchange with other functions during the different phases of the launch process; a topic neglected by literature on product launch and cross-functional communication alike. Marketing is the function responsible for managing product launches, which involves ensuring that the managers have the right information at the right time. However, the launch process is often poorly structured and managed. The findings of this study help plan and implement launches in a constructive way. An empirically grounded framework is presented for marketing's cross-functional information exchange; consisting of the identified five launch process phases, eight information categories, and six involved parties. Information exchange profiles for each of the launch process phases and the involved parties are described. Launch is a challenging phase not only because it is near the finish of the NPD process but also because it is a multifaceted cross-functional process involving varied information exchange.

Keywords: *Case study, Cross-functional, Information exchange, Introduction, Launch process, Marketing function.*

Introduction

The launch is the process of introducing a new product into the market for initial sale [1,2]. Its purpose is to maximize the chances of achieving the desired demand outcomes [3], and it has a significant effect on the new product's overall success [4]. Despite the importance of the launch, its risks and high costs [5,6], this phase is often poorly managed [7], and an unstructured launch process is itself a common challenge [8,9]. Furthermore, launching is often a busy time in the firm as the introduction date approaches. Just as new product development (NPD) stage models help project teams to carry out schedule and resource planning [10], and to ensure the critical activities are completed in time [11], an organized understanding of the launch process could help in planning and managing launches. However, literature seems to offer little systematic research on launch processes or launch activities. Employing function-specific and NPD stage-specific patterns of cross-functional integration is important for new product success [12]. Similarly, it is suggested here that understanding the cross-functional information exchange during launch from the marketing function's perspective could contribute to developing an organized approach to launch management. Marketing is the function responsible for managing product launches and that responsibility involves ensuring that the managers have the right information at the right time. Marketing is a focal point and

communication hub during launch [12], but it is a challenging and insufficiently understood role. At the time of launch, cooperation between R&D, marketing and operations is high [13], as is the level of information use [15], and the multiple information types used reflect a broad set of uncertainties that must be resolved across a wide functional base [16]. The purpose of this study is to contribute to the understanding of launch process management by examining *what kind of information, and with which functions, marketing exchanges in different phases of a launch process.* The aim is to build a rich and organized description of the phenomenon. First the launch literature and literature on cross-functional integration during NPD is reviewed in order to build a theoretically constructed framework concerning marketing's information exchange with other functions during launch. The framework is utilized to examine the phenomenon through an in-depth qualitative case study. The study concludes with an empirically grounded framework for marketing's cross-functional information exchange during launch that identifies launch process phases, information types, and information exchange parties. Based on that conceptualization, the study presents information exchange profiles for each launch phase describing the nature of management efforts required. In addition, information exchange profiles for each information exchange

party are presented to describe their roles from the launch process management perspective. Finally, implications for managers are presented with research evaluation and future research avenues.

Theoretical Framework for Examining Marketing's Cross-Functional Information Exchange during Launch

Launch Process Phases

The launch process is used here as a part of the organizing framework for the information exchange examination. A general description of the launch process phases is suitable for that purpose, because it captures the tasks that repeat in every launch regardless of the context, even though every company tailors the details of its launch processes to fit its culture, customers, industry and types of products [17]. In order to form the description of the launch process phases, studies which describe the launch activities in more detail than as a one phase of a NPD process [1] were searched. The review finally resulted in four relevant studies; [4], [5], [3] and [17]. They were then utilized to form a synthesis of the launch process phases based on the task groups they share: *launch planning* activities, *preparations and test* activities, *implementation activities* at the time of market introduction, and *monitoring and evaluation* activities. Hence, these four activity groups are termed launch process phases and their purpose is to give an overall picture of the launch process. *Launch planning* can begin when the business case has been documented and agreed upon, and target customers, product definition and differentiation and the main lines of the channel, operations and customer-service issues have been defined [17]. The strategic launch decisions [18] are considered as strategic givens for a launch plan [4, p. 373], as the focus of this study is on implementing the tactic launch process for new products in a product-based firm, not examining an optimal launch strategy. A launch plan addresses issues such as project planning and resources, customer trials, pricing, a rollout strategy, a communication plan, and more detailed channel choices, a sales training plan, customer-service plan, risk assessment, sales and distribution support, product branding, and timing of the introduction [3,17]. *Launch preparation and tests phase* carries out the launch plan and the preparations for the introduction. Preparations are made, for example, for marketing communication materials and events, assuring smooth ramp-up, and training customer service and the sales force [17]. Testing provides customer feedback on the prototype or the product and advertising, and tests marketing,

customer support, sales training, and the order-delivery-return cycle [5,17]. *Launch implementation* realizes the introduction to the market through the planned and prepared promotional activities, and the distribution and sales support. In the *launch monitoring and evaluation phase*, sales and marketing campaigns are monitored until the long-term evaluation has been executed and the launch process ends [17]. The launch is evaluated using both short- and long-term metrics-as well as qualitative evaluation of launch activities [2].

Information Categories Based on the Information Content

Information categories are the second element utilized here as a part of the organizing framework. Information is defined as the explicit form of knowledge, which has a structure and a context that give it a meaning [19]. Information exchange here refers to information flows to and from marketing and includes a description of the information content, but not of the amount of information [20]. A single information exchange note consists of the exchange party involved, information category and direction of the exchange. The study adopts an instrumental approach to information exchange [21,22]. The interest is in the use of exchanged information for the purposes of solving problems and carrying out activities. Therefore the information categories here are based on the topical content of the exchanged information. Information related to the NPD process has been categorized comprehensively, for example by [23] and [15,16]. Fredericks [23] focuses on describing the responsibilities of different functions during NPD, whereas Zahay et al. [15] describe different types of information used across the fuzzy-front-end, development-and-testing, and commercialization phases of the NPD process. Even though Zahay et al. [15] do not depict the role of different functions in information use, their categorization is adopted here, because its information typology is extensive, and their study has a setting similar to this one, distinguishing between NPD process phases and covering several functions. Thus this study adopts the nine information categories used by Zahay et al. [15], which are competitive, customer-account, customer-wants-and-needs, financial, market, project-management, regulatory, strategic, and technical information. These are detailed in Table 1.

Marketing's Cross-functional Information Exchange during Launch

Studies on cross-functional integration during NPD examine cross-functional communication (or interaction) as a part of integration, encompass

the central functions of a firm (*marketing, R&D, manufacturing, and occasionally, sales*), and distinguish among NPD process phases [12,23,24,25]. Therefore, this study synthesizes marketing's information exchanges with R&D, manufacturing and sales during launch by extracting the relevant findings from the studies on cross-functional integration during NPD. Even though other functions or stakeholders may also be relevant to launch, such as operations (logistics, purchasing) [13,17,23,26], customer service and launch management [17], they are usually excluded from cross-functional integration studies in NPD context, where the functions chosen are often based on the levels of cooperation and communication [13]. However, the emphasis is here to get the overall picture of the involved parties and the information exchanged. The relationship between marketing and R&D is perhaps the most researched cross-functional relationship (see [27] for a review). R&D provides marketing with important technical information on details of product features, attributes and benefits [14,15,23], used for launch planning. Project-management information is exchanged in order to manage the launch [16]. In particular, information concerning the coordination of NPD and launch schedules needs to be regular. The functions work together in pre-testing the product with customers [12,14], and marketing provides R&D with the test-marketing results and feedback from customers on product performance [28]. Efficient product rollout calls for integration between marketing and manufacturing, including information exchange on marketing plans, product ramp-up and introduction of the product into the marketplace [26]. Also production schedules and sales plans have to be coordinated [14], and marketing needs product availability information from manufacturing when pre-testing the products with customers [12]. Additionally, project-management information is exchanged to manage the launch [16], and technical information about product manufacturing detail [13,26], and product packaging [23] is exchanged. In many industrial firms the direct customer contacts of the sales force provide marketing with customer information. Customer satisfaction information assists targeting potential customers [16], and customer feedback supports post-launch monitoring and evaluation [5]. Sales may test a prototype with customers [29], and the functions may work together testing advertising and products, before finalizing marketing elements [5,23]. The sales function plays a major part in the actual product launch [29,30]. Marketing arranges training presenting new products, their positioning, supporting materials and marketing plans to sales staff,

which has a considerable impact on the way new products are sold [23,31]. Project-management information is also exchanged between these functions in order to manage the launch [16]. Fig. 1 presents these findings from the literature. Based on the review, the theoretically constructed framework then *consists of the launch phases, information exchange parties, and information categories*. This framework is further utilized and developed in the empirical part of this study.

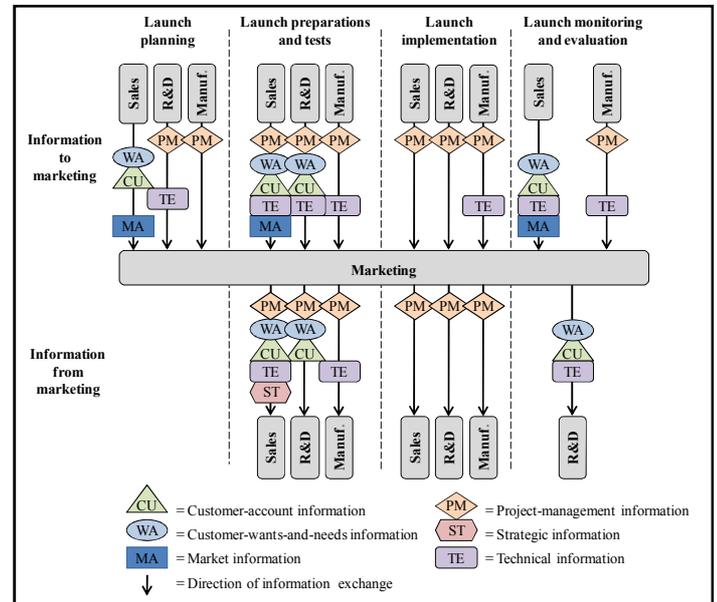


Fig.1: Marketing's information exchange with sales, R&D and manufacturing during launch phases based on the literature review.

Methodology

This study utilizes qualitative methods to study marketing's cross-functional information exchanges during launch in its natural setting in order to illustrate the meanings people ascribe to them [32, p. 8]. Twenty-three semi-structured interviews (see [33]) form the main data for the study (Table 2). The interviews lasted each ca. 90 minutes. The interview guides included predefined themes based on existing literature, but they were aimed to be free of predefined categorizations or models and to bring forward the perceptions and wording of the interviewees. Researchers observed the firm's fine-tuning of its launch process and the related four workshops that coincided with the study timescale. Data triangulation was achieved by use of the author's memos from the workshops and meetings, and public and internal documentation [34]. Data gathering took two years. A single case study approach is chosen in order to build a holistic understanding of the complex phenomenon in a single setting [35]. The launch process selected for this study is a representative case [35] of a manufacturing firm specializing in one core product, acting all of its NPD tasks from the ideation to launch, and using several distribution

channels to reach global markets. The firm has over 1,000 employees worldwide and headquarters in Europe. The firm has nearly twenty years of experience launching products globally. Launch was managed as a part of the product development process. The main processes of the firm related to the launch process were the product development process owned by R&D, the logistics process owned by production, and the customer satisfaction process owned by sales and marketing. Marketing function of the firm included e.g. brand management and communications, marketing intelligence, and product marketing. The project manager for product development projects was responsible for the launch process on a higher level, and the product marketing manager was responsible for the launch process planning and implementation. The product development process included some descriptions of the launch tasks of the marketing function, but for the marketing function itself the big picture as well as the details of the launch process was unclear. The purpose of the launch process description was to clarify the cross-functional communication during the launch process and the pertinent roles and schedules to enhance conditions for launch management. Four workshops were organized in order to iteratively refine the launch process phases, i.e. a common launch framework, to be used in the second round of interviews. The Marketing Director helped to find the best informants on the topic for the workshops and the interviews. The research problem is answered by systematically combining theory and empirical data based on abductive logic [36]. First the data was organized according to the launch process, the participants and the information exchanges. Then the identified information exchanges were categorized by function and by launch phase. The identified information exchanges between parties at launch process phases were categorized based on their content and direction of exchange. The identified launch process phases and information categories were compared with the literature review, and four detailed categorization rounds were made in order to check the information categories. After these data reduction and display phases, the findings were compared with and linked to the topical existing knowledge base, and conclusions drawn [37].

Marketing's Cross-Functional Information Exchange in Launch Process Phases in the Examined Industrial Firm

Identified Launch Process Phases

Through the workshops the launch process phases were identified. To avoid confusion, the names of

the phases used by the firm participants were changed here to match the names used in the literature review where we were certain that they corresponded. That resulted in the five launch process phases; *launch planning*, *launch preparations*, *internal introduction*, *external introduction*, and *launch evaluation*. Compared to the theoretical framework, added and altered phases need to be explained. *Internal introduction* presents the new product to the key functions of the organization, its distributors and key customers. Reaction to the product and marketing communications will be noted, although only minor changes to the marketing communications are possible before the product is released for production. Local launches are planned. Having internal launch as an individual phase follows the strongly held views of the workshop participants and interviewees. *External introduction* presents the product to the market with events and marketing communication efforts. The product is released for sale. A global launch is organized by headquarters. Local sales organizations implement their own launches.

Identified Information Categories based on the Information Content

After careful analysis, eight information categories were identified: *competitive*, *customer*, *financial*, *market*, *project-management*, *strategic*, *tactical* and *technical* information. Some differences exist between these categories and those of Zahay et al. [15]. In the empirical data a group of information exchanges concerning the tactical level of launch (how to implement launch; planning and preparing the marketing-mix elements, sales support and launch implementation, for instance) did not fit the theoretically constructed information categories, and the tactical information category was formed based on the often-cited definitions for tactical launch decisions [7]. It also was reasonable to combine customer-account and wants-and-needs information, because the data did not clearly reveal when customer information was linked to a particular account. The identified information categories are depicted in Table 3.

Marketing's Cross-functional Information Exchanges in the Launch Process Phases

The workshops and the interviews showed the relevant internal information exchange parties for marketing during launching to be *sales*, *R&D*, *manufacturing*, *top management*, *aftermarket services (AMS)*, and *maintenance*. It should be noted that in the examined firm manufacturing includes the considerations on distribution and logistics (could be called operations in other firms). Exchange with some of the parties might

be occasional but nevertheless include varied information. The identified information exchanges are presented in Fig. 2 and discussed then in Most of the information exchanges during *launch*

planning are directed at marketing, because launch planning is a complex task requiring a lot of information gathering from different sources.

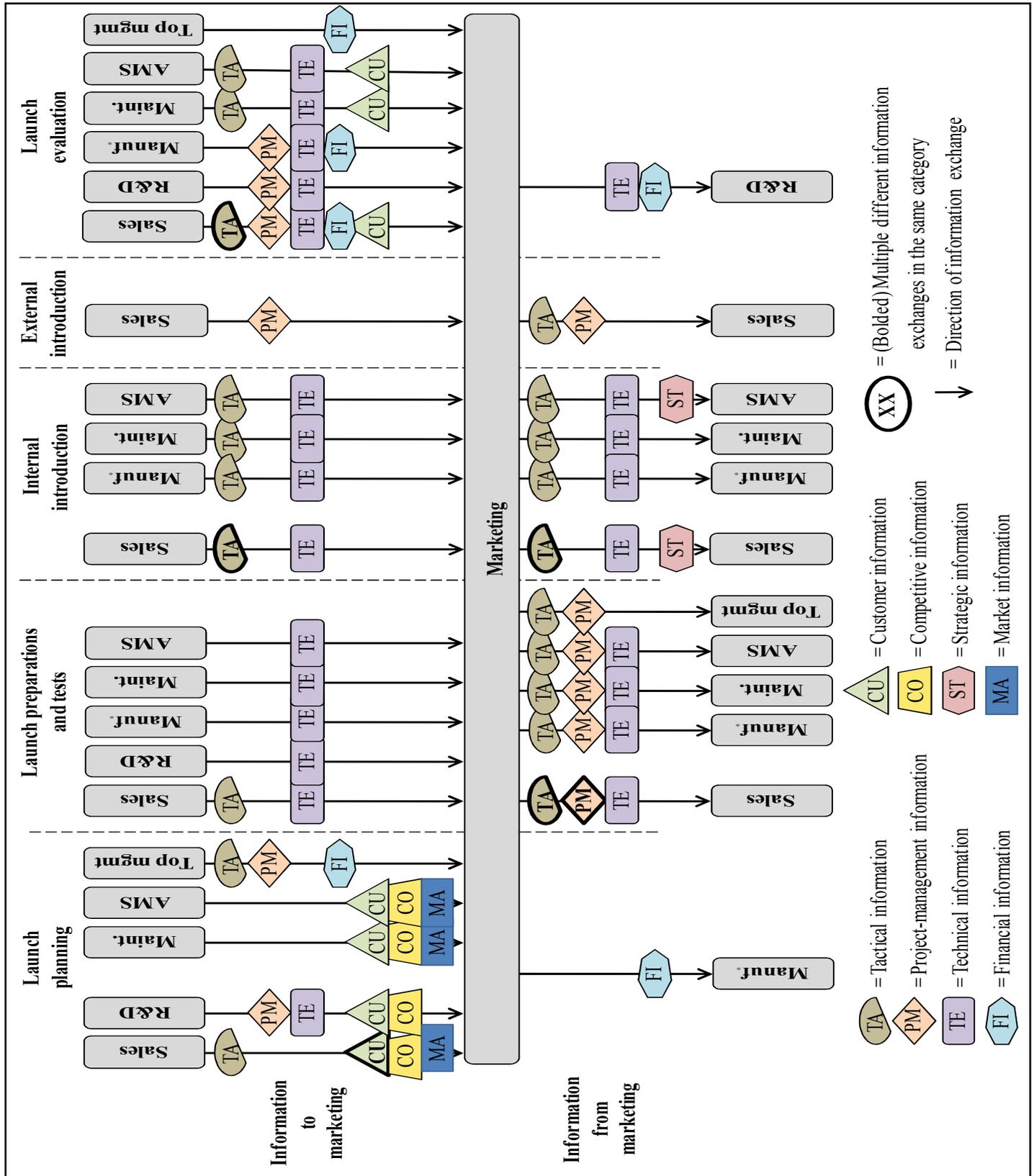


Fig. 2: The identified marketing's cross-functional information exchanges across launch process phases

Marketing receives a great deal of customer information, especially from sales, but also from AMS, maintenance and R&D, who are in direct detail. contact with customers and also have information on competitors, general market

characteristics and trends. Marketing receives tactical information from sales on how the product should be launched, because the sales function has valuable experience on launch practicalities. R&D informs marketing about NPD project schedules and new product features; delivering

project and technical information. Information is exchanged on project-management, including launch timeframe, budget and launch implementation guidelines with top management. Marketing informs manufacturing of updated volume forecasts. During *launch preparations and tests*, marketing's information exchange with other parties is more reciprocal than during launch planning. Marketing both gathers and disseminates many types of information. Marketing delivers tactical launch information on marketing communications, activities, and project-management information on schedules to sales, and presents the launch plan to top management. Important customers and certain functions inside the firm are informed about forthcoming products in order to build interest and commitment and to organize the marketing communications and product tests. Marketing receives feedback from other parties concerning, for example, product features and prices, to be utilized in launch preparations. Information about the new product in this phase is still confined to a limited group of stakeholders involved in product development, manufacturing, or launch planning and preparations. All marketing materials should be ready and the launch capability assured prior to the internal introduction. Marketing discusses with manufacturing the product details that affect, for example, the product's final visual characteristics and packaging. R&D prepares user documentation and delivers technical information for marketing communications and sales tools. *Internal introduction* was considered to be the most salient and challenging of the launch process phases for marketing, because of its effect on the

launch success and because the information exchange requires considerable efforts. Tactical information is exchanged with several parties as marketing informs the organization about the new product and the forthcoming launch and organizes technical and non-technical product training, including information on sales and launch strategies. Marketing receives last-minute feedback from the organization on marketing communications, launch materials and implementation plans, and on product characteristics. Exchanges of project-management information, particularly on launch schedules, were not identified in this phase. The important stakeholders have already been informed about the launch schedules in the preparations-and-tests phase. Now marketing mainly informs others about what has been decided, and the launch implementation plans (labeled tactical information) include the schedule information. The sales function is perceived as the central information exchange party, with whom multiple exchanges, including various pieces of tactical information, were identified. Sales needs to be well integrated into the launch process in this b-to-b context, because the sales force carries out the major part of the introduction to the customers. *The external introduction* phase introduces the product to the market through marketing communications and promotional launch activities. Analysis of this phase identified only a few internal information exchange types, as marketing intensively delivers information on the new product to customers and focuses on coordinating the implementation with sales. Thus, marketing delivers tactical information on the new product and launch activities to sales

Table 1: Information categories based on Zahay et al. [15,16]

Information category	Content
Competitive information	Competitors and their technical capabilities, strategies, financial results, marketing plans, product lines, products and target markets.
Customer-account information	Current and potential customers, e.g. contact information, purchase history, and customer profile.
Customer-wants-and-needs	The problems, wants and needs of the customers in different forms, product benefit information, and relative benefit information.
Financial information	Usually from the finance or accounting function such as profit margin level, project net present value or internal rate of return, and project related costs.
Market information	Market size, growth, trends and customer segmentation.
Project-management information	Related to managing the project activities such as personnel and project status, project planning charts, and progress reports.
Regulatory information	Regulations, laws, rules setting requirements and changes relevant to the firm's workplace safety, product or service safety, and environmental safety.
Strategic information	Strategic plans and guidelines on several levels such as the firm, business unit, product line, technology, marketing, and intellectual property.
Technical information	Technical details concerning the product and its manufacturing, and internal and external technical capabilities.

Table 2: The qualitative data

Interviews, pre-understanding the previous product generation as an example	Launch of Interviews, main data Marketing's information exchanges with other internal stakeholders in each phase of the launch	Complementary data
Brand & Communications Director	Brand & Communications Director	Memos from firm workshops and meetings (9). Internal documents such as project task tables and marketing plans (9). Annual reports, news, brochures and other public materials related to the firm.
Marketing Director	Marketing Director	
Product Marketing Director 1	Product Marketing Director 1	
Product Marketing Director 2	Product Marketing Director 2	
Product Marketing Director 3	Product Marketing Director 4	
Sales Director	Sales Director	
Product Manager 1	Product Manager 1	
Product Manager 2	Product Manager 2	
VP, R&D	R&D Director	
EVP, Products and Markets	Technology Director	
Product Development Manager	Process Developer	
Fairs and Events Manager		

Table 3: Identified categories for information that marketing exchanges during launch

Information category	Content
Competitive information	Competitors and their technical capabilities, strategies, financial results, marketing plans, product lines, products and target markets.
<i>Customer information</i>	<i>Current and potential customers, including customer wants and needs information as well as customer account information.</i>
Financial information	Usually from the finance or accounting function such as profit margin level, costs, <i>financial guidelines for launch, financial results of launch, budgeting.</i>
Market information	Market size, growth, trends and developments.
Project-management information	Related to managing the project activities such as personnel and project status, project planning charts, progress reports, <i>lessons learned, and schedules or proceeding of the launch process and the related NPD project</i>
Strategic information	Strategic plans and guidelines on several levels such as the firm, business unit, product line, technology, marketing, intellectual property <i>and launch.</i>
<i>Tactical information</i>	<i>Related to the marketing mix and launch implementation activities such as marketing communications, non-technical product information, pricing, distribution, and details of launch execution and launch activity evaluation not relevant for project management.</i>
Technical information	Technical details concerning the product and its manufacturing, <i>such as product features or testing results,</i> and internal and external technical capabilities, <i>such as manufacturing capability and product availability.</i>

Table 4: Profiles for marketing's information exchange at different launch process phases

Launch phase	Information exchange profile	Information exchange variety	Relevant parties involved	Information types	Main direction
Planning	Gathering planning information	High	All e.g. sales, R&D, manufacturing, AMS, maintenance, top management	Several e.g. TA, PM, TE, FI, CU, CO, MA	To marketing
Preparations and tests	Interactive preparations	High	All e.g. sales, R&D, manufacturing, AMS, maintenance, top management	Several e.g. TA, PM, TE (CU, MA)	Both
Internal introduction	Informing and collecting feedback	Moderate	Several e.g. sales, manufacturing, AMS, maintenance, general information for the whole organization	Several e.g. TA, TE, ST	Both
External introduction	Coordinating	Low	Few e.g. sales	Few e.g. TA, PM	Both
Evaluation	Feedback and reporting	High	All e.g. sales, R&D, manufacturing, AMS, maintenance, top management	Several e.g. TA, PM, TE, FI, CU (MA)	To marketing

Table 5: Profiles for marketing's information exchange with involved parties during launch

Functions	Information exchange profile	Information exchange variety	Launch phases	Information types	Main direction
Sales	Interactive partner	High	All Planning, preparations and tests, internal introduction, external introduction, evaluation	All TA, PM, TE, FI, CU, CO, MA, ST	Both
R&D	Information feeder	Moderate	Several Planning, preparations and tests, evaluation	Several PM, TE, CU, CO, FI	To marketing
Manufacturing	Supporter	Moderate	All but external introduction	Several TA, PM, TE, FI	Both
AMS and maintenance	Supporter	Moderate	All but external introduction	Several TA, TE, PM, CU, CO, MA	Both
Top management	Supervisor	Moderate	Several Planning, preparations and tests, evaluation	Several TA, PM, FI	Both

(mainly to local sales organizations) and exchanges project-management information related to coordinating and reporting on launch activities. *At the launch evaluation phase* several types of information exchanges and parties are involved. Information exchange is directed mainly towards marketing and comes from all of the examined parties, but especially from sales. Information includes feedback on the product, evaluation of launch activities, sales and volume figures, launch costs and customer satisfaction information. Marketing delivers the technical product feedback to R&D, which wants to have information about the financial success of the new product in its target group. The official financial evaluation of launch is conducted by top management, six to twelve months after the external introduction.

Summary of the Findings

The empirically grounded framework for marketing's cross-functional information exchanges during launch presents the information exchanges across *five launch process phases, six parties involved and eight information categories* identified in the study. Hence, the literature review and the case study suggest that the information exchange has different combinations of parties, directions and information types, and a varying amount of distinct information exchanges in each launch process phase. Since Fig. 1 collated dispersed findings on the topic as a starting point for the empirical study, and Fig. 2 is based on the specific case, it is purposeful to describe the nature of the information exchange on a broader level than them. Based on the identified main directions of information exchange; the main of information exchange parties and information

types in different phases we can describe the *information exchange profiles* for launch process phases (see Table 4). 1) Launch planning is a phase of *information gathering*, and it includes a high variety of information exchanges, because all parties and nearly all types of information are involved. That suggests that information exchange is complex in the planning phase, but the fact that information flows mainly towards marketing might ease the coordination of exchanges. 2) The *interactive phase of preparations and tests* has high information exchange variety, including several information types and all parties, and marketing both distributes and receives many types of information. 3) Internal introduction requires a marketing function to *actively inform* other parties of launch matters and to *collect feedback*. That means intensive and reciprocal information exchange, but the limited number of parties and information types make the information exchange less varied. 4) During the external introduction, *coordination* is an important marketing task, and the information exchanges are the least varied of any phase, primarily involving exchanging tactical and project-management information with sales, while the major communication efforts are aimed at an external audience. 5) At the time of launch evaluation, marketing exchanges a wide variety of information with all parties concerning feedback and *reports*. The information exchange profiles for each involved party can be described as well (see Table 5). Sales is an *interactive information exchange partner* of marketing, since information exchange between the two functions is the most varied and involves all the identified information types and several exchanges in all

phases. Information exchange with other functions is less versatile and less constant. R&D *feeds* marketing with important technical and project-management information but does not exchange information with marketing during internal or external introduction. Manufacturing, AMS and maintenance *support* marketing with many types of information, whereas top management *supervises*.

Conclusion

The findings contribute to research on launch management and cross-functional communication during NPD. First, this study built an organized framework on marketing's cross-functional information exchange during launch, which can be used to study the phenomenon in different firms and contexts. As far as the author is aware, this is the first framework that presents the phenomenon comprehensively according to the launch process phases, information categories and parties involved. The study identifies clear differences in the nature of the information exchange across the launch process phases and consequently presents the profiles that describe the marketing function's cross-functional information exchange in each part of the launch process, and with each of the information exchange parties. Cross-functional integration and its advantageous forms vary across the NPD stages [12,24], and the findings of this study suggest that the same might apply to launch process phases. Second, this study details the complexity of marketing's cross-functional information exchanges and coordinative role during launch, something only been hinted at in the previous literature [12,14,15,17]. The findings contribute to the NPD stage-specific and function-specific understanding invited by [14] and [12]. This study argues that a launch is a challenging phase not only because it occurs near the end of the NPD project but also because its multifaceted, cross-functional character involves a variety of information exchange. Third, this study suggests a new approach to the phasing of the launch process, including an internal introduction phase. Analysis of the launch process could be conducted on several empirically-established phases instead of one phase of NPD [1], or in combination with some other NPD phases [13,14,15]. The significance of internal introduction activities aimed at the sales force in an industrial firm has been previously discussed [38,39], but activities related to internal introduction, such as sales force training [5], have previously been weighted the same as other preparatory launch activities. Isolating an internal introduction phase was frequently advocated in the interviews as a way of directing attention to key activities and improving

their management. Internal introduction is a valid launch process phase for firms operating in consumer markets as well, because before external introduction the product is typically introduced to different distribution channels and internal stakeholders. This study's informants largely agreed with the findings from the previous literature regarding the main activities constituting the launch process [5,17], implying that the phasing may apply in different contexts. The results provide insights for marketing managers coordinating and developing a launch process, especially in firms developing, manufacturing and launching their own products. Launch management should pay attention to cross-functional information exchange, especially during launch planning, preparations and tests, and launch evaluation, due to the intensive nature of information exchange at those phases. Several functions should be involved in launch planning to acquire necessary information and to commit other parties to the launch plan. Sales is a salient information exchange party for marketing in each phase and building continuous, mutual information exchange between marketing and sales needs special care. During launch preparations and tests, the information exchange and cooperation between sales, R&D, manufacturing, logistics and marketing has an important role in selecting customers for and implementing pilot programs, which are crucial for verifying the launch capability before internal introduction. In the launch evaluation phase the key issue is to gather information from several functions alongside qualitative evaluation information on launch activities so the firm might systematically learn from its experiences. As with all research, this study has its potential limitations. Most studies in the literature review are quantitative, which is not an ideal basis for building a descriptive theoretical framework and might affect the internal validity of the study. To overcome that possible shortcoming, the first round of empirical analysis was based on open categorization, and pattern matching was done between the literature review findings and the empirical data (see [32]) throughout the study. Most of the firm's marketing managers and directors were interviewed, but only a limited number of those from other functions. That might have resulted in a limited perception of what information is expected *from* marketing. However, the conceptions of this matter were consistent in the data, which suggests that this would not have major effects on the findings. If more cases had been examined, perhaps the constellation of the specified information exchanges would have been slightly different, but the launch process phases and the information exchange profiles of the

launch phases would probably have changed less, because they are built around the identified launch process activities and the information types, which find support in the previous topical research conducted in various contexts [5,16,17]. The need for research on conceptualizing launch activities is acknowledged [40]. Future studies could first focus on building stronger empirical evidence for the presented framework, where information exchange with external parties could be included to help clarify their role in supporting launch. That would continue the work of Harrison and Waluszewski [41], which examines the development of a user network as a way to enhance adoption of new products. Also the linkages between information exchange problems and common launch management challenges could be examined with the help of the

presented framework. Launch timing problems can result from information exchange problems between the headquarters' marketing function and the local sales offices implementing the launch [42], and the type and timing of information exchange between marketing and sales appears to influence new product adoption among the sales force [43,44].

Acknowledgements

The financial support of the Finnish Funding Agency for Technology and Innovation is gratefully acknowledged. The author also wishes to thank the reviewers of the earlier versions of the article for their helpful comments, and Nora Mustonen and Henri Simula for their assistance with data collection.

References

- Cooper RG (2001) *Winning at new products: Accelerating the process from idea to launch*. 3rd ed. Addison-Wesley, Reading, MA.
- Tzokas N, Hultink EJ, Hart S (2004) Navigating the new product development process. *Ind. Market. Manag.* 33(7): 619-26.
- Guiltinan JP (1999) Launch strategy, launch tactics, and demand outcomes. *J. Prod. Innovat. Manag.* 16(6): 509-29.
- Crawford M, Di Benedetto A (2008) *New products management*. 9th ed. McGraw-Hill, New York.
- Di Benedetto CA (1999) Identifying the key success factors in new product launch. *J. Prod. Innovat. Manag.* 16(6): 530-44.
- Langerak F, Hultink EJ, Robben HSJ (2004) The impact of market orientation, product advantage, and launch proficiency on new product performance and organizational performance. *J. Prod. Innovat. Manag.* 21(2): 79-94.
- Hultink EJ, Hart S, Robben H, Griffin A (2000) Launch decision and new product success: An empirical comparison of consumer and industrial products. *J. Prod. Innovat. Manag.* 17(1): 5-23.
- Calantone RJ, Di Benedetto CA (2007) Clustering product launches by price and launch strategy. *J. Bus. Ind. Mark.* 22(1): 4-19.
- Greenley GE, Bayus BL (1994) A comparative study of product launch and elimination decisions in UK and US companies. *Eur. J. Market.* 28(2): 5-29.
- Cooper RG (2008) Perspective: the Stage-Gate® idea-to-launch process - update, what's new, and NexGen systems. *J Prod Innovat Manag.* 25(3): 213-232.
- Cooper RG (1986) A process model for new industrial new product development. *IEEE T Eng Manage.* 30(1): 2-11.
- Song XM, Thieme RJ, Xie J (1998) The impact of cross-functional joint involvement across product development stages: An exploratory study. *J. Prod. Innovat. Manag.* 15(4): 289-303.
- Olson EM, Walker Jr. OC, Ruekert RW, Bonner JM (2001) Patterns of cooperation during new product development among marketing, operations and R&D: Implications for project performance. *J. Prod. Innovat. Manag.* 18(4): 258-71.
- Brettel M, Heinemann, F, Engelen A, Neubauer S (2011) Cross-functional integration of R&D, marketing, and manufacturing in radical and incremental product innovations and its effects on project effectiveness and efficiency. *J. Prod. Innovat. Manag.* 28(2):251-69.
- Zahay D, Griffin A, Fredericks E (2011) Information use in new product development: An initial exploratory empirical investigation in the chemical industry. *J. Prod. Innovat. Manag.* 28(4): 485-502.
- Zahay D, Griffin A, Fredericks E (2004) Sources, uses, and forms of data in the new product development process. *Ind Market Manag.* 3 (7): 657-666.
- Nagle S. Managing new product and service launch. In: Kahn KB, Castellion G, Griffin A. editors. (2005) *The PDMA handbook of new product development*. John Wiley & Sons, Hoboken, New Jersey. p. 455-465.
- Hultink EJ, Griffin A, Hart S, Robben SJ (1997) Industrial new product launch strategies and product development performance. *J. Prod. Innovat. Manag.* 14(4): 243-257.
- Glazer R (1991) Marketing in an information-intensive environment: Strategic implications of knowledge as an asset. *J. Marketing.* 55(4):1-19.
- Haythornthwaite C (1996) Social network analysis: An approach and technique for the study of information exchange. *Libr. Inform. Sci. Res.* 18(4): 323-42.

21. Beyer JM, Trice HM (1982) The utilization process: A conceptual framework and synthesis of empirical findings. *Admin Sci Q.* 27(4): 591-622.
22. Song M, Bi vander, Weggeman M (2005) Determinants of the level of knowledge application: A knowledge-based and information processing perspective. *J Prod Innovat Manag.* 22(5): 430-444.
23. Fredericks E (2005) Cross-functional involvement in new product development. *Qual Market Res Int J.* 8(3): 327-341
24. Ernst H, Hoyer WD, Rübsaamen C (2010) Sales, marketing, and research-and-development cooperation across new product development stages: Implications for success. *J. Marketing.* 74(September): 80-92.
25. Song XM, Montoya-Weiss MM, Schmidt JB (1997) Antecedents and consequences of cross-functional cooperation: A comparison of R&D, manufacturing and marketing perspectives. *J. Prod. Innovat. Manag.* 4(1): 35-47.
26. Song M, Swink M (2009) Marketing-manufacturing integration across stages of new product development: Effects on the success on high- and low-innovativeness products. *IEEE T Eng Manage.* 56(1): 31-44.
27. Griffin A, Hauser JR (1996) Integrating R&D and marketing: A review and analysis of the literature. *J. Prod. Innovat. Manag.* 13(3): 191-215.
28. Gupta AK, Raj SP, Wilemon D (1985) The R&D-marketing interface in high-technology companies. *J Prod Innovat Manag.* 2(1): 12-24.
29. Rochford L, Wotruba TR (1993) New product development under changing economic conditions: The role of the salesforce. *J. Bus. Ind. Mark.* 8(3): 4-12.
30. Micheal K, Rochford L, Wotruba TR (2003) How new product introductions affect sales management strategy: The impact of type of newness of the new product. *J. Prod. Innovat. Manag.* 20(4): 270-83.
31. Rackham N (1998) Why bad things happen to good new products. *J Prod Innovat Manag.* 15(3): 201-207.
32. Denzin NK, Lincoln YS. (2000) *Handbook of qualitative research.* 2nd ed. Sage Publications, Thousand Oaks.
33. Arksey H, Knight P (1999) *Interviewing for Social Scientists.* Sage Publications, London.
34. Denzin NK (1988) *The research act: A theoretical introduction to sociological methods.* 3rd ed. Prentice-Hall, Englewood Cliffs, NJ.
35. Yin RK (2009) *Case study research: Design and methods.* 4th ed. Sage Publications, Thousand Oaks, CA.
36. Dubois A, Gadde LE (2002) Systematic combining: An abductive approach to case research. *J. Bus. Res.* 55(7): 553-60.
37. Miles MB, Huberman AM (1994) *Qualitative Data Analysis.* Sage Publications, Thousand Oaks.
38. Fu QF, Richards KA, Hughes DE, Jones E (2010) Motivating salespeople to sell new products: The relative influence of attitudes, subjective norms, and self-efficacy. *J. Marketing.* 74(November): 61-76.
39. Easingwood C, Harrington S (2002) Launching and re-launching high technology products. *Technovation.* 22(11): 657-66.
40. Talke K, Hultink EJ (2010) Managing diffusion barriers when launching new products. *J. Prod. Innovat. Manag.* 27(4): 537-53.
41. Harrison D, Waluszewski A (2008) The development of a user network as a way to re-launch an unwanted product. *Res. Pol.* 37(1):115-30.
42. Chryssochoidis GM, Wong V (2000) Customization of product technology and international new product success: Mediating effects of new product development and rollout timeliness. *J. Prod. Innovat. Manag.* 17:268-85.
43. Atuahene-Gima K (1997) Adoption of new product by the sales force: the construct, research propositions, and managerial implications. *J. Prod. Innovat. Manag.* 14(6):498-514.
44. Hultink EJ, Atuahene-Gima K (2000) The effect of sales force adoption on new product selling performance. *J. Prod. Innovat. Manag.* 17(6): 435-50.