
1. New product development research: consolidating the present and guiding the future

Peter N. Golder and Debanjan Mitra

New products are the lifeblood of organizations. Successful new products create new organizations, grow existing organizations, raise living standards, and generate wealth. Without new products, entrepreneurial ventures will never come to life and established firms will soon perish.

Given the critical importance of new product development, marketing researchers have devoted considerable attention to investigating this topic. In this handbook, we bring together the world's thought leaders on new product development with two overarching goals in mind. First, we seek to compile existing knowledge on new products research in a single source. We hope this will aid researchers and business practitioners in their efforts to become familiar with state-of-the-art knowledge in this area.

The second overarching objective is to expand the boundaries of our knowledge. The authors of the handbook's chapters identify numerous previously unaddressed research questions that provide opportunities to advance our understanding of new product development. Moreover, in this opening chapter, we outline broad areas of new product development research that are underrepresented in marketing. Each of these areas could benefit immensely from the insights a marketing perspective offers.

Furthermore, in an effort to spur additional research, we developed a conceptual framework of the antecedents of new product performance. New product performance is the key outcome of the new product development process and can be measured by firm profits, market share, stock market return, survival rate, and other metrics. In this framework, we propose that new product performance is determined by markets, customers, organizations, and the environmental context within which these entities exist. We map the handbook chapters into this framework so that readers can understand where current research exists to inform these relationships. Moreover, this framework illustrates many additional opportunities for enhancing current knowledge on the antecedents of new product performance.

Before describing these opportunities for new research, we begin our chapter with an overview of the handbook chapters. We organize these chapters into handbook parts according to the five common stages of the new product development process:

- idea generation
- market analysis
- product design and development
- commercialization
- market outcomes.

In providing this organizational structure, it is important to note that many chapters cover aspects of the new product development process that transcend more than a single stage of this process.

1.1 PART II: IDEA GENERATION

Five chapters in the handbook emphasize aspects of idea generation. In Chapter 2, Boyd and Goldenberg discuss how to harness the creative spark underlying idea generation. They compile insights from broad streams of research on creativity in new product development conducted since the 1990s. The idea itself is the central construct in their conceptual framework, which is then impacted by individuals, teams, organizations, and the marketplace. As a result, their conceptualization moves beyond simple unidirectional relationships in creativity to consider the broad set of interactive and recursive relationships that actually occur in the creative process.

In Chapter 3, Keko, Prevo, and Stremersch focus on innovation generation by elucidating innovation types, sources, and processes. Their chapter provides a roadmap for managers seeking to increase their innovation generation potential and navigate the innovation generation process. To accomplish their objective, the authors synthesize both academic and managerial work, drawing insights from a wide range of firms ranging from startups to multinational corporations.

In Chapter 4, Fisher and Fang develop the notion of customer-driven innovation by exploring its conceptual and theoretical foundations. They introduce various techniques used to incorporate customer participation ranging from anonymous crowds to working with a few selected customers. They classify these different forms of customer-driven innovation into a conceptual typology based on the mode of customer participation and the degree to which new product development tasks are driven by the firm or the user. As a result, the typology organizes eight approaches to customer-driven innovation. To aid further research, the authors summarize relevant definitions.

In Chapter 5, Moreau, Franke, and von Hippel reframe the notion of customer-driven innovation by looking at its implications for consumer research and proposing a conceptual overview of this shift. They begin by describing how new technologies make it increasingly likely that consumers will be involved in creating new products. As a result, consumers are no longer only passive recipients of new products. The authors aim to stimulate research on customer-driven innovation, especially when the consumer is an active participant in innovation activities.

In Chapter 6, O'Connor develops the concept of corporate entrepreneurship. She bases her conceptualization on an 11-year research program investigating breakthrough innovations developed by large, established firms. She identifies and elaborates on five management practices that limit a firm's ability to develop breakthrough innovations. Based on these limitations, she then offers a set of propositions to help firms develop dynamic capabilities to enhance their development of breakthrough innovations as a form of corporate entrepreneurship.

1.2 PART III: MARKET ANALYSIS

Two chapters in the handbook emphasize aspects of market analysis. In Chapter 7, Srinivasan and Ramani explore three types of digital, multi-sided platforms. These platforms create value by connecting individuals in exchange relationships and have disrupted several industries. The authors explore the distinctive features of digital multi-sided platforms that are different from traditional value chains. They explore how these distinctive features have important implications for firms operating these platforms as well as for companies outside the platform.

In Chapter 8, Yin and Prabhu explore the topic of innovation in the contexts of China and India, two of the world's largest and fastest growing economies. Innovation is increasingly important in these economies as they transition out of low-end manufacturing industries into services. Their exploration covers innovation activities of both multinationals and domestic firms. The authors identify similarities and differences in innovation approaches between the two countries, and how Western multinationals can respond to China's and India's enhanced innovation capabilities.

1.3 PART IV: PRODUCT DESIGN AND DEVELOPMENT

Four chapters in the handbook emphasize aspects of product design and development. In Chapter 9, Foutz and Rao present a state-of-the-art review of research on both new product design and new product demand forecasting. The authors' conceptual framework is grounded in the consumer choice process and they organize their review around consumer, product, and contextual elements influencing new product design and diffusion. Moreover, they consider recent research methodologies in light of the proliferation of data in digital markets.

In Chapter 10, Shugan explores the strategies associated with four different types of product enhancements: upgrades, add-ons, extras, and accessories. Firms can typically modify or enhance existing products at lower cost and lower risk than by developing entirely new products. The author distinguishes among the four types of enhancements by defining them and discussing examples of each. He also discusses strategies associated with these enhancements, including signaling, market segmentation, channel management, and deterrence of competition.

In Chapter 11, Genç and Di Benedetto explore new product development with a specific emphasis on sustainability, given its increasing importance as a corporate imperative. Examples include low emission vehicles and energy-saving appliances. They discuss how sustainable new product development is rooted in corporate environmentalism and corporate social responsibility. They argue that sustainability in new product development requires integrating sustainability into the entire new product development process in order to pursue increasingly available market opportunities.

In Chapter 12, Calantone and Nguyen bridge the literatures on Open Innovation and brand management. Through an Open Innovation process, firms develop a substantial amount of external knowledge by interacting extensively with their environment. The authors explore the unique characteristics of Open Innovation and the resulting opportunities and challenges for innovative firms. Moreover, they go on to

discuss the role of strategic brand management in forming, developing, and managing Open Innovation.

1.4 PART V: COMMERCIALIZATION

One chapter in the handbook emphasizes aspects of commercialization. In Chapter 13, Griffith and Yalcinkaya explore global product launches. They conceptualize the global product launch process and review related scholarly literature, including both customer-driven research and firm-driven research. They build on this review through the institutional economic perspective, which considers countries' social, legal, and political elements in a dynamic context wherein countries move toward convergence or divergence.

1.5 PART VI: MARKET OUTCOMES

Six chapters in the handbook emphasize market outcomes, while also touching on aspects covered in preceding parts of the handbook. In Chapter 14, Chandrasekaran and Tellis organize the literature on new product diffusion models and its key findings, including research on turning points of the diffusion curve. They discuss the drivers, specifications, and estimation methods of these models, and provide important generalizations on the diffusion process and stages of the product life cycle.

In Chapter 15, Baker and Donthu explore word-of-mouth processes in new product marketing. Researchers and managers want to understand how consumer word-of-mouth (WOM) influences new product success, but this relationship varies substantially across WOM types, contexts, research methods, marketing outcomes, and brand traits. Their chapter presents an integrative framework summarizing our knowledge of the antecedents and consequences of WOM research, emphasizing the new product launch stage.

In Chapter 16, Wies and Moorman explore the relationship between firm innovation and stock market performance. Their chapter explores the tension that exists in an environment that simultaneously rewards innovation activities while also raising barriers that reduce their likelihood. In doing so, the authors show how firm innovation affects stock market performance as well as how the stock market can affect firm innovation. These dual forces offer novel opportunities for theoretical and empirical research.

In Chapter 17, Kuppuswamy and Bayus present a comprehensive overview of research on crowdfunding. In crowdfunding, entrepreneurs appeal directly to the general public to finance their innovations. The authors discuss four types of crowdfunding (reward-based, lending-based, equity-based, and donation-based). As part of their discussion, they present key findings for each of these types of crowdfunding.

In Chapter 18, Vincent, Bharadwaj, and Challagalla present empirical generalizations on the antecedents, consequences, and mediating role of innovation. Their results are based on a meta-analysis of 416 independent samples examining 27 determinants of innovation and three outcomes of innovation. They find important relationships between innovation and performance, as well as numerous important antecedents of innovation. They also find significant moderators of these relationships. Moreover, they show how

these innovation relationships differ across innovation types (product versus process; radical versus incremental).

In Chapter 19, Cooper presents an overview of best practices in new product development in order to shed light on why so many new products fail and, more critically, what factors cause new products to succeed. The author highlights 20 key success drivers found in existing research, including voice-of-customer, cross-functional teams, “spiral development,” robust front-end homework, firm culture, leadership, and organization.

1.6 FUTURE RESEARCH OPPORTUNITIES

Any time researchers take stock of the body of knowledge in an area of investigation, they undoubtedly uncover fresh opportunities for exciting new research that will continue to expand the boundaries of our knowledge. Given the comprehensive treatment of new product development research presented throughout the many chapters of this handbook, a plethora of research opportunities has been uncovered.

First, within the new product development process, several stages are underrepresented. As a result, we encourage researchers to do more to elucidate our understanding of opportunity identification, idea screening, market analysis, concept testing, market testing, marketing strategy development and evolution, product launch strategies, and metrics for each stage of the new product development process.

Second, and more broadly, we have developed a framework on the antecedents of new product performance (Figure 1.1). This framework is based on (1) the internal structures and processes within organizations, markets, and customers; and (2) their interfaces with each other. For example, organizations includes firms, their collaborators, and competitors. Markets include the customer-facing benefits provided by an offering’s attributes as well as other marketing mix elements including price, promotion, and distribution. Customers include their expectations, evaluations, and social communication processes. Of course, firms and customers exchange benefits in the marketplace. However, they also interface with each other outside of the market in the context of socio-political, economic, and institutional environments. Finally, all these linkages culminate in the firm’s performance, which provides strategic feedback over time. While the process is a closed loop, we start with the broad context within which a firm’s new product development strategy is embedded. Notably, the framework has gaps within the small boxes (e.g., Benefits, Evaluations, Competitors) and between the boxes (e.g., between Benefits and Evaluations) that represent open opportunities for conducting research.

Figure 1.1 organizes this handbook’s chapters. Below, we use this organizing framework to highlight numerous research directions provided by the authors of each chapter. Moreover, each of the chapters lays out specific research questions across this broad research domain.

Yin and Prabhu (Chapter 8) exhort researchers to examine how the economic contexts in developing countries affect new product development. Similarly, Griffith and Yalcinkaya (Chapter 13) want researchers to focus on the role of institutions on global new product development while Genç and Di Benedetto (Chapter 11) consider the stages of new product development when sustainability objectives will pay off.

Delving within the organization, Boyd and Goldenberg (Chapter 2) would like

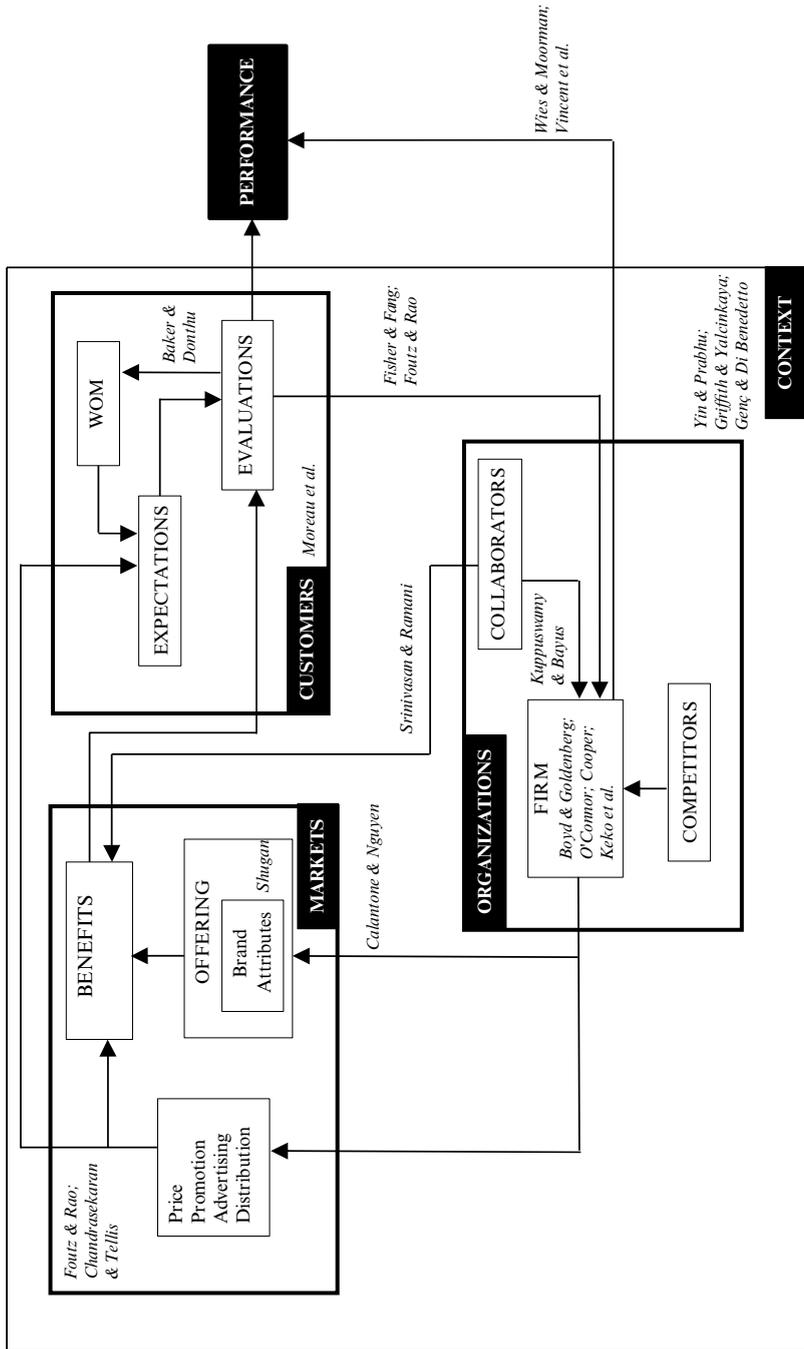


Figure 1.1 An organizing framework of research directions

researchers to examine creativity in light of the interaction between personal and situational factors. Keko, Prevo, and Stremersch (Chapter 3) focus on the outcomes of creativity (i.e., innovation generation) and ask researchers to focus on the role of different configurations of innovation type, methodology, and pattern. Cooper (Chapter 19) as well as O'Connor (Chapter 6) ask researchers to examine organizational practices and link them to the success or failure of new product development process outcomes. Kuppuswamy and Bayus (Chapter 17) consider the relationship between the firm and a newly emergent collaborator – namely, the crowd. They ask researchers to examine success rates of crowd versus firm financing of new product development, and the relative roles of families, friends, and strangers in crowdfunding.

Organizations exchange offerings in the market and hence link with different elements of the marketplace. Srinivasan and Ramani (Chapter 7) focus on market makers – providers of multi-sided platforms. They advise researchers to focus on relating different dimensions of these platforms – functionality, user motivation, and business model types – with their level of complementary services, platform participant firms' strategies, and, above all, success in terms of investor funding. Within these general areas, they provide many specific research questions that need to be addressed. Calantone and Nguyen (Chapter 12) call for research on another organization-market link, specifically how firms should manage brands while adopting an Open Innovation approach.

Within markets, Foutz and Rao (Chapter 9) call for research on developing methodologies to forecast demand for experiential and really new products. Chandrasekaran and Tellis (Chapter 14) adopt a different approach and ask researchers to arrive at empirical generalizations using well-accepted diffusion models and life cycle theories. Shugan (Chapter 10) lays out a taxonomy of new product enhancements and provides many research questions on their differential implications for competitive marketing strategy.

In processes related to customers, Baker and Donthu (Chapter 15) ask how product, brand, and competition interact to influence word-of-mouth (WOM) transmissions and outcomes. Another question that is increasingly relevant relates to the interrelationships among different types of WOM. Moreau, Franke, and von Hippel (Chapter 5) focus on the increasingly critical role of customer participation in new product development processes. They recommend that researchers examine the identity, motivation, and cognition of customer-innovators as well as their post-innovation satisfaction and regret.

The link between customers and organizations is critical in the new product development process. Fisher and Fang (Chapter 4) provide many open questions on the firm side including the capability to evaluate customer input and develop approaches to harness customer participation while making sure the firm retains control over the brand. On the policy front, they ask how “customer as producer” affects existing regulations that assume firms are the only producers. Foutz and Rao (Chapter 9) want researchers to develop methods to incorporate digital media-based big data on customers into effective new product design.

In the absence of understanding how the new product development process is related to a firm's performance, perhaps all other understanding becomes moot. In this domain, Wies and Moorman (Chapter 16) provide numerous research directions on innovation's relationship with stock market outcomes and, even more thought-provoking, how the stock market affects firm innovation. Finally, Vincent, Bharadwaj, and Challagalla

(Chapter 18) present insights and questions on different processes underpinning their broad meta-analysis on innovation consequences.

1.7 CONCLUSION

The collection of chapters in this handbook presents the latest and most comprehensive compilation of knowledge on new product development research. We encourage managers to become familiar with this handbook in order to apply the latest thinking in all of their innovation activities. We encourage educators to use this handbook to inform their students. Finally, we encourage researchers to build on the current body of knowledge by tackling the new research opportunities that have been identified throughout this handbook. Consumers, companies, and society will be the ultimate beneficiaries of your efforts.