

Ronald Holzleitner

Strategic Launch Process Model for Radical Innovations

102 - Strategisches Innovationsmanagement in Volatilen Märkten

Abstract

The automotive industry belongs to the most dynamic markets of today's economy. This industry appears to be technology driven with highest manufacturing standards, yet the introduction of radical innovative products is time consuming and protracted. This paper presents a strategic launch process model which supports the adoption of radical innovative goods in the automotive tier-1 supplier industry. A fundamental literature research examines relevant factors and characteristics influencing a products adoption process and is subsequently complemented by a qualitative market research to identify how the adoption of radical innovative goods is influenced by the marketing mix dimensions. The following developed strategic launch process model implements the findings of both theoretical and empirical research and represents a two parts framework for the preparation and execution of launch activities for radical innovations. This staged process approach is supplemented by launch targets, activities and tools to complete a systematic product launch guideline.

Keywords:

Strategic Innovation Management, Radical Innovation, Product Launch, New Products, Automotive Tier-1, Process Model, Diffusion of Innovations, Adoption Process

1. Introduction

The global automotive industry appears to be amongst the most dynamic markets of today's global economy (Berger 2014; Lazard 2014). However, the introduction of radical innovative products is a protracted process. This leads to the central research question of the paper: Which framework is most suitable to strategically launch radical innovative goods and foster business success in the automotive tier-1 industry? This paper is structured as follows: Section 2 discusses a broad literature review on radical innovations and their product launch. The qualitative market research is described in section 3. Section 4 introduces the strategic launch process model. In section 5 the first implementation of the process model is presented. A final conclusion is drawn in section 6.

2. Literature Review

Fundamental literature research is used to formulate a response to the research question and build a theoretical foundation. The utilization of relevant research literature in combination with basic fundamental research results is emphasised. A distinct focus is placed on the fields and theories of diffusion of innovation, new product development, new product launch, product strategy and marketing as well as radical innovation management and industrial buying behaviour.

2.1. Defining Radical Innovation

Innovation has become a quite modern term with a very broad usage in today's business life, yet product innovation is vital to foster organizational renewal and business success (Slater 2014). Therefore it is even more important to find a common definition of what innovation, especially radical innovation is. Hüsigg (2006) conducted a broad literature research to characterise pertinent factors of typical radical innovation. This research showed a broad consensus in technology and market related factors. Especially, the simultaneous appearance of both *market and technology related factors* is identified as a significant characteristic. Moreover, speaking of radical innovation prevalently involves the discontinuity of company, branch, world, market process and technology systems (Hüsigg 2006).

Therefore, it is implied that radical innovation is potentially changing the business relationship within a supplier-customer environment by changing the market, substituting existing products and technologies and, furthermore, is introducing new product categories (Meyer 2012). Innovations with a high degree of novelty will show a distinctive performance level, whereas a minor or incremental innovation will have a marginal performance level compared to radical innovations (Gaubinger et al 2009). Fostering radical innovation simply by the presence of a firm's established innovative culture with radical and incremental innovation occurring side by side is virtually impossible (O'Connor/Ayers 2005). The requirements of radical innovation differ from those of any standard innovation. During the start of a potential radical innovation it is often unclear how the final product will look or rather perform. Therefore the level of resistance to develop such new products or processes is perceived as high, especially due to the unknown performance on a profit-level (Mandl 2005). This is coherent with the findings of Kristiansen and Gertsen (2015) who point out that a firm's expectation of radical innovation performance is often directly linked to the generated fiscal output after the innovation process is finished (Kristiansen/Gertsen 2015).

2.2. Launching Innovative Products

Breaking into a new market by offering innovative products cannot be considered an easy task at all. Focussing on winning a market, or reaching a critical mass of adopters is mandatory for a proper diffusion, hence a fast and sound replacement of the initial adopters by an early majority is vital. However, many radical innovative products seem to get rejected due to the presence of resistance to innovation. It seems, that businesses experience such innovation resistance on a regularly basis as soon as they are confronted with the adoption of innovation. Should the level of resistance reach a point where the adoption is inhibited, the innovation is likely to fail. As a consequence, firms strive to avoid such failures since they represent not only the loss of reputation but much more a submarginal investment (Heidenreich 2013). Particularly radical innovations tend to produce reluctance due to a considerably higher level of risk along with a lack of experience and information (Baker 2007). In addition to that, individual buying decision characteristics become substantial for successful product commercialization of radical innovations (Johnston 1996). Hence, it seems inevitable to be influenced by the circumstances of industrial buying behaviour, buying center principles and the diffusion of innovation. Traditional diffusion theories supplement this deliberation. However as soon as innovations

require customers to accept any sort of change, additional resistance is expected. Based on this understanding, the development of more effective marketing mix strategies is considered vital to address reasons that prohibit the adoption of innovative products (Claudy et al 2014). Due to this complexity of industrial buying behaviour and individual market needs, requirements for the design of a customised and appropriate marketing mix arise (Perreault/ McCarthy 2002). Thus the classic 4P's marketing mix is expanded and depicted in table 1 to meet the needs of more complex situations within industrial markets for innovative products and processes (Rafiq/Ahmed1995; Kotler/Keller 2011).

Characteristics	Dimensions
<i>Product</i>	variety, quality, design, features, warranty, brand, innovativeness, information, customisation
<i>Price</i>	list price, discounts, allowances, payment period, credit terms, increased competition
<i>Placement</i>	channels, assortments, locations, inventory, transport, coverage, reach
<i>Promotion</i>	sales promotion, advertising, sales force, public relations, direct marketing
<i>Participants</i>	training, commitment, incentives, appearance, behaviour, attitudes, degree of involvement
<i>Processes</i>	policies, procedures, mechanization, customer involvement, flow of activities
<i>Physical evidence</i>	environment, colour, layout, noise level, tangible clues
<i>Performance</i>	social responsibility, legal, ethical, community related, profitability, brand equity, customer equity
<i>Programs</i>	consumer directed activities, online, offline, traditional, non-traditional

Table 1: Characterising a 9Ps marketing mix. Adapted from Goi (2009), Rafiq/Ahmed (1995) and Kotler/Keller (2011)

These implications lead to the conclusion that a strategic product marketing policy is vital for the success of a product. Meffert et al (2015) identify such marketing strategies as applicable tasks which will ensure the implementation and, even more, the completion of strategic targets (Meffert et al 2015). This definition implies a processual and sequential approach which is further combined with a launch strategy or launch process.

3. Qualitative Market Research

As soon as new market constellations or processes are to be researched, an open and interpretive approach is considered as most appropriate (Buber 2009). An expert interview is designed with a special focus on industry experts who represent the functional expertise and experience (Bogner 2014) within the automotive tier-1 business environment. Even though such types of interviews are often referred to as controversial due to a vague methodological background (Buber, 2009), reliability and goodness are obtained through a sound structural design and documentation. Throughout the whole research design, market study, data collection, processing and interpretation of the standard methods and approaches of Miles and Huberman (1994), Gaubinger (2000), Strübing (2002), Glaser and Strauss (1967), Homburg (2006), Kuß (2014) as well as Naderer and Balzer (2001) and Mayring (2014) is applied to ensure the high merit and sound reliability of the study.

For the research of barriers affecting the acceptance and adoption of radical technological innovation as well as marketing-mix related characteristics influencing the commercialisation of radical innovation, various global acting tier-1 suppliers were contacted. Each of the selected companies offers a broad spectrum of innovative products for the automotive industry, employs close to 1000 or more people and is recognised as a high-tech supplier within the automotive tier-1 segment.

Eventually seven industry experts participated in the research study until a theoretical saturation was reached and no new data, new findings or insights were generated (Glaser/Strauss 1967). For the data analysis and evaluation, a qualitative content analysis approach was chosen to achieve a systematic and analytic context evaluation of the expert interviews (Kaiser 2014, Naderer/Balzer 2011).

The extensive contextual data provided during the interviews disclosed that product characteristics and performance in combination with socially related dimensions are the primary factors influencing the adoption of radical innovative goods. These factors listed in table 2 can generate both acceptance and resistance depending on the individual conditions of the products which are to be marketed. As soon as significant benefits or advantages over existing technologies are provided, asset cost and investment becomes of secondary importance, yet cost savings are expected to be realized after the new innovative product is put into service.

Major barriers affecting the acceptance and adoption		Minor barriers affecting the acceptance and adoption
<i>Benefits and advantages</i>	Lack of benefits, minor advantages, no difference to existing solutions	Politics
<i>Social and cultural dimensions</i>	Personal sensitivities, cultural topics, lack of trust	Processes
<i>Cost and performance</i>	Invest related topics, cost/benefit analysis, performance or quality issues	Buying center decisions
		Norms and standards

Table 2: Barriers affecting the acceptance and adoption of radical innovative goods

In addition, the previously determined marketing mix factors have been verified to either reduce resistance and foster acceptance or to generate resistance along reduced approval of radical innovative products. As an exception, the program's activities were mostly perceived to influence the customer/supplier relationship rather than affecting the adoption of a radical technological innovation. This leads to the finding that the listed marketing mix dimensions of table 3 are directly influencing the commercialisation of radical innovation; yet some are perceived to have a more significant influence than others.

Empirical Compiled Marketing Mix Determinants		Priority (number of mentions)
Product	<ul style="list-style-type: none"> • Must deliver significant benefits and satisfy expectations • Has to be proven and in a mature stage • Needs to offer flexibility and be easy to understand 	7
Performance	<ul style="list-style-type: none"> • Substantial improvements to existing solution and/or cost-benefit • Stability and reliability has to be proven in advance and demonstrated 	7
Participants	<ul style="list-style-type: none"> • Identify relevant players of the buying center • Trust, information sharing and collaboration are vital • Striving for close and strategic cooperation 	6
Price	<ul style="list-style-type: none"> • Improved cost-benefit and cost of ownership • Price and performance has to be explained in a simple way • Prepare cost-benefit analysis to verify potential cost savings during application 	5
Promotion	<ul style="list-style-type: none"> • Not necessarily important to market a product as radical innovation • Profound and simple promotion of important data (focus on benefits) • Communication of relevant and proven data is expected 	5
Placement	<ul style="list-style-type: none"> • Profound knowledge about target market, existing technologies and customers • Communication and collaboration more important than sales channel 	4
Processes	<ul style="list-style-type: none"> • Identify relevant processes and block irrelevant ones • Preparing a time schedule and speed up processes 	3

Physical evidence	<ul style="list-style-type: none"> • Comply to all relevant industry standards • Identify individual customer or market related standards and circumstances and adapt accordingly or blend in 	3
Program activities	<ul style="list-style-type: none"> • Focused on customer-supplier collaboration and strategic partnership 	1

Table 3: Empirical Compiled Marketing Mix Determinants

4. Designing a Strategic Launch Framework

For a company to launch radical innovative products, a fundamental knowledge about the market, its customers as well as organisational launch skills and capabilities are necessary. In order to prepare for a strategic launch scenario, the first and superordinate priority is to build customer knowledge, which aligns with Rogers' theory of adoption. It might not be necessary to inform potential customers of every single peculiarity of the upcoming innovation, but making them aware that there is a radical innovation emerging helps to increase the number of adopters during the launch phase (Frattoni et al 2013).

The developed process model provides a systematic launch approach by combining a *Product Launch Preparation* and a *Product Launch Execution* phase. *Elementary Launch Targets* are formulated according to the process approach of Rogers (2003) and Crawford/ Di Benedetto (2015) to represent the required objectives and achievable results within the launch model. These targets lead over to the interdisciplinary and parallel tasks of the *Launch Activities*, representing the influence of the marketing mix dimensions (Crawford/Di Benedetto 2015; Di Benedetto 1999). Besides target-setting and related activities, it is crucial to establish appropriate yet individualized *Launch Tools* to support these actions. Crawford et al (2015) are identifying three strategic launch decisions to be made during the preparation phase starting with a completed product development, a first marketing plan and finally a product launch plan. As soon as this preparation phase is completed, the execution phase begins the most costly and risky part of the commercialisation process (Crawford/Di Benedetto 2015). The goal of this stage is to achieve the acceptance of a product among the early adopters and beyond that, initiate a transition into the subsequent growth phase with the majority adopting the innovative product or service. However, it is important to point out that this execution phase may also be identified as launch cycles divided into sub-stages (Crawford/Di Benedetto 2015), which may be repeated or modified based on the results and experience gained. Accordingly, the execution phase focuses on the development and immediate testing of the required launch components. This stage may also be called a pre-launch phase, as one has to develop, build-up and test all competencies needed for the actual product launch stage. In addition, it is crucial that all elements of the marketing mix are considered and implemented, the distribution channels are selected and a company's sales and service teams are ready. Besides these marketing related factors, the supply chain as well as the communication channels are tested and prepared for the upcoming launch and commercialisation activities.

Ultimately, the developed framework, depicted in figure 1, provides a systematic guideline for the commercialisation process of radical innovative goods with a focus on the early adopters of a new-to-the-world product or service.

5. Implementation at Fronius International GmbH

A first implementation and partial verification of the developed process model is being realized at Fronius International GmbH, an innovation leading company. The application of the strategic launch model in combination with the researched marketing mix characteristics provides an adequate guideline for the commercialisation of a new radical innovative product at Fronius. The designed framework model and the recommendations of a sound project management team provide a smooth launch process for this innovative product. Moreover, the company intends to apply the model within a recently founded new business innovation unit.

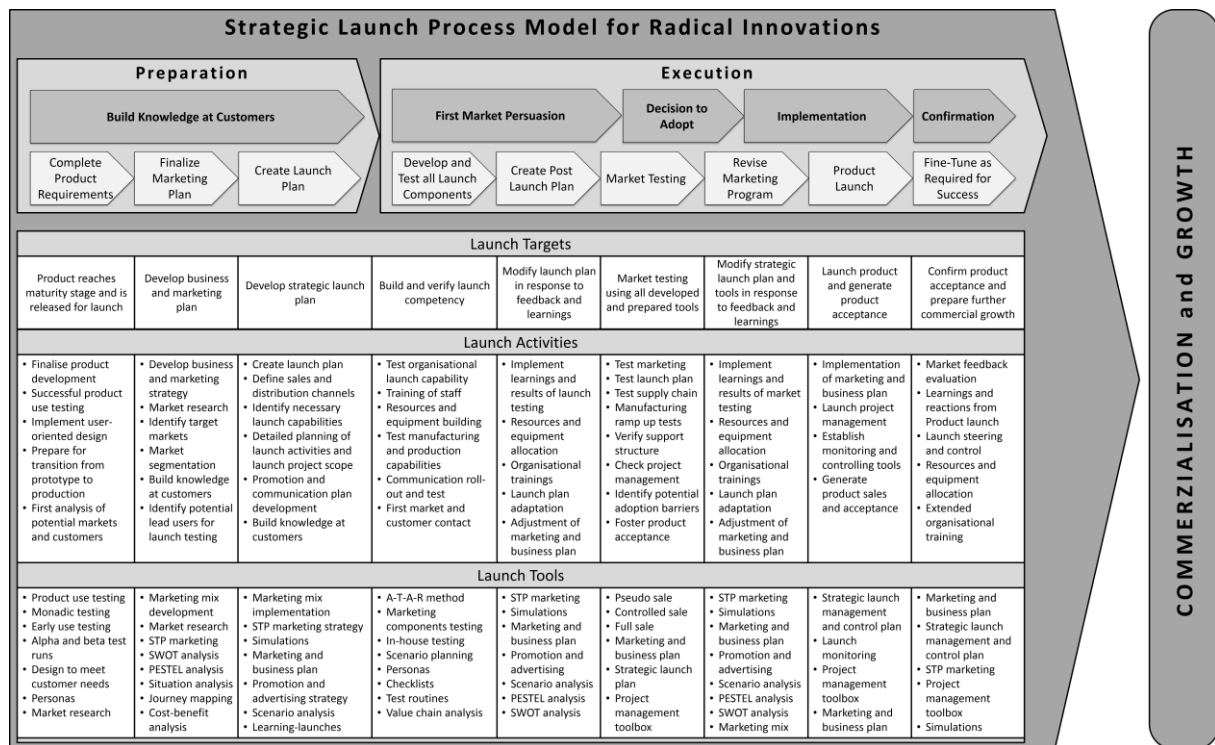


Figure 1: Strategic Launch Process Model for Radical Innovations

6. Conclusion and Limitations

Introducing innovative products is closely linked to barriers such as socially related dimensions, quality and stability factors, established manufacturing standards as well as price and cost-benefit performance. These empirically identified factors indicate that the tier-1 industry exhibits a conservative attitude towards introducing radical innovation. The developed strategic launch process model introduces a sequential staged product launch approach which is supplemented by individual launch activities and tools. Moreover, the specialisation of radical innovation occurs within the models' contextual dimensions and their intensity. The introduced launch process model provides a strategic market oriented approach and incorporates the capability to individually adapt the level of intensity and resources needed to foster a successful product adoption. Hence, for a market to be adequately made

aware and prepared for a radical innovative solution, it must understand its performance benefits and, as a result, accept and adopt the innovation.

As with all research matters, the presented paper is subject to limitations. In particular, the described strategic process model does not claim to be exhaustive, neither in regards to the described stages nor in regards to the supplementing marketing mix dimensions. The qualitative marketing research provides a general overview of factors influencing the launch process. However, determining the most relevant factors during each process stage offers further research potential.

References:

- Baker, M./Hart, S. (2007): Product strategy and management. Harlow: Prentice Hall
- Berger, Roland Strategy Consultants (2014): Trends for the global auto supplier industry, Technical report, Roland Berger Strategy Consultants, Hannover
- Bogner, A./Littig, B./Menz, W. (2014): Interviews mit Experten. Wiesbaden: Springer Fachmedien
- Buber, R./Holzmüller, H. M. (2009): Qualitative Marktforschung: Konzepte-Methoden-Analysen, Wiesbaden: Gabler GWV Fachverlage GmbH
- Claudy, M. C./Garcia, R./O'Driscoll, A. (2014): Consumer resistance to innovation-a behavioural reasoning perspective. Journal of the Academy of Marketing Science 43, 528-544
- Crawford, M./Di Benedetto, C. A. (2015): New Products Marketing. New York: McGraw-Hill Education
- Di Benedetto, C. A. (1999): Identifying the key success factors in new product launch. Journal of Product Innovation Management 16, 530-544
- Frattini, F./Dell'Era, C./Rangone, A. (2013): Launch decisions and the early market survival of innovations: An empirical analysis of the Italian mobile value-added services (VAS) industry, Journal of Product Innovation Management 30, 174-187
- Gaubinger, Kurt (2000): Strategisches Marketing-Controlling für KMU Basis für den Erfolg im EU-Binnenmarkt. Wiesbaden: Deutscher Universitäts-Verlag GmbH / Gabler GmbH
- Gaubinger, K./Werani, T./Rabl, M. (2009): Praxisorientiertes Innovations- und Produktmanagement: Grundlagen und Fallstudien aus B-to-B-Märkten. Wiesbaden: Gabler GWV Fachverlage GmbH
- Glaser, B. G./Strauss, A. L. (1967): The Discovery of Grounded Theory: Strategies for Qualitative Research
- Goi, Chai Lee (2009): A Review of Marketing Mix: 4Ps or More? International Journal of Marketing Studies 1, 2-15
- Heidenreich, S./Spieth, P. (2013): Why Innovations Fail - The Case of Passive and Active Innovation Resistance. International Journal of Innovation Management 17
- Homburg, C./Krohmer, H. (2006): Marketingmanagement. Wiesbaden: Betriebswirtschaftlicher Verlag Dr. Th. Gabler GmbH / GWV Fachverlage GmbH
- Hüsig, Stefan (2006): Institutionalisierte Vorentwicklung für radikale Innovationen. Duisburg: WiKu-Verlag Wissenschaftsverlag und Kulturedition Dr. Stein.
- Johnston, W. J./Lewin, J. E. (1996): Organizational buying behavior: Toward an integrative framework. Journal of Business Research 35, 1-15
- Kaiser, Robert (2014): Qualitative Experteninterviews. Wiesbaden: Springer Fachmedien

- Kristiansen, J./Gertsen, F. (2015): Is Radical Innovation Management Misunderstood? Problematizing the Radical Innovation Discipline. In 26th ISPIM Conference - Shaping the Frontiers of Innovation Management, Budapest
- Kuß, A./Wildner, R./Kreis, H. (2014): Marktforschung. Wiesbaden: Springer Fachmedien Wiesbaden
- Lazard/Roland Berger Strategy Consultants (2014): Global Automotive Supplier Study. Technical report, Lazard & Co. GmbH, Roland Berger Strategy Consultants
- Mandl, Christoph (2005): Radikale Innovation als Kernkompetenz, Metalogikon
- Mayring, Philipp (2014): Qualitative Content Analysis Theoretical Foundation, Basic Procedures and Software Solution. Klagenfurt, Austria: Beltz Verlag
- Meffert, H./Burmam, C./Kirchgeorg, M. (2015): Marketing - Grundlagen marktorientierter Unternehmensführung
- Meyer, Jens-Uwe (2012): Radikale Innovation: Das Handbuch für Marktrevolutionäre. Göttingen: Business Village GmbH
- Miles, M. B./Huberman, A. M. (1994): Qualitative Data Analysis. Thousand Oaks: SAGE Publications, Inc.
- Naderer, G./Balzer, E. (2011): Qualitative Marktforschung in Theorie und Praxis. Wiesbaden: Gabler Verlag / Springer Fachmedien
- O'Connor, G. C. O./Ayers, A. D. (2005): Building A Radical Innovation Competency. Research Technology Management 48, 23-31
- Perreault, W. D./McCarthy, E. J. (2002): Basic Marketing: A Global-managerial Approach. New York: McGraw-Hill/Irwin
- Rafiq, M./Ahmed, P. K. (1995): Using the 7Ps as a generic marketing mix: an exploratory survey of UK and European marketing academics. Marketing Intelligence & Planning 13, 4-15
- Rogers, Everett M. (2003): Diffusion of Innovations. New York: Free Press
- Slater, S. F./Mohr, J. J./Sengupta, S. (2014): Radical product innovation capability: Literature review, synthesis, and illustrative research propositions. Journal of Product Innovation Management 31, 552-566
- Strübing, Jörg (2002): Just Do It. Kölner Zeitschrift für Soziologie und Sozialpsychologie 54, 318-342
- Johnston, W. J./Lewin, J. E. (1996): Organizational buying behaviour: Toward an integrative framework. Journal of Business Research 35, 1-15