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Impediments to customer integration into the innovation process: A case study in the telecommunications industry

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Summary Customer integration is an integral element of the innovation process today. Yet, despite the potential for integrating external knowledge into new product development (NPD) processes, companies often fail to benefit sufficiently from customer integration. Research attributes this failure to restricted absorptive capacity, intellectual property concerns, or the “not-invented-here” syndrome but has not yet shown in which different phases of NPD which barriers dominate. To contribute to the discussion on impediments and barriers to customer integration, this authors presents a case study that examines customer integration into different stages of the NPD on the basis on three complementary learning strategies, namely explorative learning, transformative learning, and exploitative learning. The results of the case study can help to sensitise managers for impediments to customer integration throughout their NPD and innovation processes and to overcome typical various types of barriers.

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Introduction

The importance of innovation has grown in recent years because consumers increasingly demand a variety of products and services (Füller, 2006). Firms have responded to this trend with an increased orientation toward the customer (Homburg, Wieseke, & Bornemann, 2009) and particularly with customer integration into the innovation process (Carbonell, Rodriguez-Escudero, & Pujari, 2011). Thus, more and more innovative companies reject the paradigm of an

internal, closed research and development (R&D) organisation in favour of a common, collaborative process among companies and external stakeholders, such as customers (Chesbrough, 2003).

Customer integration into the innovation process has been widely investigated (e.g., Bogers, Afuah, & Bastian, 2010; Brockhoff, 2003; Enkel, Kausch, & Gassmann, 2005; Kristensson, Magnusson, & Matthing, 2002; Lagrosen, 2005; Vargo, 2008; von Hippel, Ogawa, & De Jong, 2011), with a strong focus on the early stages of new product development (NPD). This stream of research has examined many ways to increase the inventiveness and strength of a company's innovations through collaborative processes with customers. For example, in the early stages of the NPD process, companies might implement a lead-user method to produce

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useful ideas, and in later stages, they might use product individualisation or mass customisation as forms of customer integration (e.g., Franke, von Hippel, & Schreier, 2006; Lüthje & Herstatt, 2004; Olson & Bakke, 2001). However, from a practitioner point of view still many companies do not sufficiently utilise external knowledge such as the knowledge of their customers (Cassiman & Veugelers, 2006) and are reluctant to integrate customers into core development phases. From a theoretical point of view, this reluctance may be explained by individual-level attitudes such as the not-invented-here syndrome (Lichtenthaler, 2011) or by missing organisational capabilities such as a limited absorptive capacity (Zahra & George, 2002). However, these theories do not explain why reluctance to customer integration is higher for one stage of the NPD than for the other.

In response to this relative lack of understanding, this article aims to identify learning-related impediments to customer integration throughout different stages of the NPD process, a subject that innovation research has been anaemic to in the past. For example, Gassmann, Kausch, and Enkel (2010) consider the side effects of customer integration rather than its barriers, and their results focus primarily on external dimensions, such as dependence on customer views. Enkel, Perez-Freije, and Gassmann (2005) discuss factors that determine the success or failure of customer integration, but they emphasise specific NPD phases and project-level factors. Sandmeier, Morrison, and Gassmann (2010) focus on customer integration throughout the innovation process. However, they compare in-house development with development contractors and do not address impediments to customer integration. Finally, in a recent article on customer integration into service innovation, Carbonell et al. (2011) find that the development stage has no moderating effect on the link between customer involvement and innovation outcomes and conclude that customers should be equally involved in different stages of the NPD. However, they do not provide an explanation for why companies use customer integration to different extents in different phases.

The aim of this article therefore is to (1) investigate what impediments towards customer integration arise along the entire NPD process rather than focussing on specific phases and (2) to determine how these impediments relate to theoretical concepts such as the firm's absorptive capacity. Because we observe a dearth of research on specific impediments to customer integration into the NPD process, we use an exploratory approach and analyse impediments to customer integration by undertaking a case study in a major German telecommunications company (Yin, 2003). The findings of our research are expected to contribute to theory building in the area of combinative capabilities and absorptive capacity (cf. Gebauer, Worch, & Truffer, 2012; Lichtenthaler & Lichtenthaler, 2009; Volberda, Foss, & Lyles, 2010), so our results are subject to be generalised to theory rather than to description (Lee & Baskerville, 2003). Among others, we found that research into absorptive capacity would benefit from a nuanced view considering the pecuniary and non-pecuniary nature of individual-level attitudes towards the integration of external knowledge.

Literature review and theoretical background

The customer as a source of innovation

Supporters of the demand-pull explanation of market creation claim that markets result when potential customers ask for the fulfilment of specific needs (e.g., Barki & Hartwick, 1994; Ives & Olson, 1984). This view emphasises the importance of customers' voices and their role as consumers and users. Day (1994), for example, has argued that market-driven organisations have high capabilities for market sensing and customer linking. A basic distinction between users and producers, as offered by Baldwin and von Hippel (2009, p. 3), recognises that "users... are firms or individual customers that expect to benefit from using a design, a product or a service. In contrast, producers expect to benefit from selling a design, product, or service." However, some industries (e.g., skateboarding, windsurfing) exist only because users have created these markets, a fact that points to permeable boundaries between users and producers at least in some industries (Franke & Shah, 2003; Lüthje & Herstatt, 2004; Rothwell, 1986; Sandmeier et al., 2010) as well as to various roles for individual customers in the innovation process. Furthermore, the emergence of the Internet and the growing phenomenon of user-generated content have forced a reconsideration of the role of users in the innovation process, particularly indicated by approaches such as crowdsourcing and ideation contests (Füller, 2006; Hutter, Hautz, Füller, Mueller, & Matzler, 2011; Piller & Walcher, 2006).

Beginning with von Hippel (1988), researchers from different disciplines have contributed to discussions of customer or user participation and involvement, which shift the focus to customers as innovators. In services marketing, the concept of customer integration recognises customers and their capabilities as inputs for service operations that contribute significantly to quality, satisfaction and value (e.g., Bitner, Faranda, Hubbert, & Zeithaml, 1997). Consequently, Moeller (2008, p. 198) has defined customer integration as "...the incorporation of resources from customers into the processes of a company."

Several studies have focused on how customers can be integrated into NPD (e.g., Thomke & von Hippel, 2002; Ulwick, 2002). For example, Dahan and Hauser (2002) suggest managing customer interaction and cooperation by listening, asking, and participating, with participation representing the most open method. Nambisan (2002) analyses different customer roles according to their relationships with specific phases in the NPD process: the customer is a resource in the ideation phase, a co-creator in the design and development phase, and a user in the testing and support phases. Whereas the roles of customers as resources and co-creators contribute to high innovativeness in products and services, the integration of customers as users helps to introduce flawless products and services (Sandmeier, 2009). Other scholars have investigated the best time (i.e., which phases of NPD) to integrate customers (e.g., Lüthje & Herstatt, 2004). For example, Sandmeier (2009) claims that the most efficient customer integration is in the early phases of NPD because at an early stage, customer needs can be accounted for more easily and cost efficiently.

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