

# Virtual product experience and customer participation—A chance for customer-centred, really new products

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## Abstract

This paper demonstrates how customers can be virtually integrated into a company's innovation process. New interaction tools allow companies to gain valuable input from customers via the Internet. First, we explain why too closely listening to customers may turn out to be problematic for the development of real new products. The KANO model shows that it is difficult for customers to express their latent needs as well as those which are taken for granted. New virtual interaction tools and virtual product experiences help to overcome these problems and enable customers to transfer their explicit and implicit knowledge to innovation teams. How to apply virtual interaction tools and how to virtually integrate customers into the innovation process in practice is illustrated in detail in the AUDI case study. Our case study findings show that virtual customer integration provides valuable input for new product development. This paper introduces virtual customer integration as a new means of coming up with customer-centred, really new products.

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## 1. Introduction

Today, absorbing external knowledge is becoming indispensable for the creation of successful innovations (Cohen and Levinthal, 1990; Sawhney and Prandelli, 2000; Chao-Ton et al., 2006). In the era of “open innovation”, researchers as well as consultants ask for more active engagement of customers into new product development than traditional market research allows (Kambil et al., 1999; Sawhney and Prandelli, 2000; Vandenbosch and Dawar, 2002; von Hippel, 2002; Chesbrough, 2003; Prahalad and Ramaswamy, 2004; Hobo et al., 2006). To sustain the pace of innovation resulting from fast changing technologies and customer needs, Leonard-Barton (1996), Teece et al. (1997), and Lengnick-Hall (1996), among others, suggested integrating customers into value creation and absorbing customers' knowledge to strengthen a company's core competencies (Cohen and Levinthal,

1990) and to discover their needs (Dahan and Hauser, 2002a). As a consequence, new methods are needed that allow active engagement of customers into new product development (Lilien et al., 2002). Only by experiencing a new product and its features, will customers be able to realistically assess whether they like it and whether the new product idea fulfils a latent—hitherto unknown—need.

The Internet as an interactive and multimedia-rich technology with low costs of mass communication (Dahan and Hauser, 2002a, 2002b; Dahan and Srinivasan, 2000; Urban and Hauser, 2004) allows consumers to virtually experience new products and offers new, simplified modes of large-scale interaction between producers and consumers. In literature, a number of new tools to interact virtually with customers can be found (von Hippel, 2001; von Hippel and Katz, 2002). However, it lacks some case studies shedding light on how to virtually integrate customers in practice. The information missing in detail is: how to identify qualified customers on the Internet, how to motivate them and how to interact with them. Under which conditions are users willing and able to share their knowledge with producers?

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In this paper, we show that virtual product experiences enable customers to express their latent, so far unknown, needs. Producers with access to this information obtain a chance to develop customer-centred, really new products. Further, the virtual product experience empowers customers to participate in the creation of new products much more actively. Customers become known as co-creators and are recognised as valuable resources for new product development (Kambil et al., 1999; Prahalad and Ramaswamy, 2000, 2002; Chesbrough, 2003). To use the customer knowledge available on the Internet to a larger extent, producers have to know how to create a virtual product experience that motivates customers to fiddle around with new products, honestly state their preferences, contribute their know-how, and share their ideas with producers.

This paper is structured as follows. First, we give an overview of the problems associated with too closely listening to the voice of the customer. Second, we argue that by means of virtual product experiences, customers can get their hands on innovations long before they really exist, thereby building sound judgments and enabling them to express their former unknown needs and desires through trial and error loops. Third, we introduce the concept of customer integration along a three-stage innovation process. Fourth, we present a detailed explorative case study to demonstrate how to virtually integrate customers into new product development in practice. Finally, we discuss the results and summarise their implications.

## 2. Customers' problems to articulate their needs

As lately shown by Matzler and Bailom (2006) companies that are able to identify customer needs and align these with their core competencies are those who champion innovation. Such companies are more profitable than others. Innovation champions combine their vision and core competencies with customers' knowledge when creating new products. Further, strong market orientation and producers' capabilities to get customer insight are considered as important success factors for new product development (e.g., Atuahene-Gima, 1996; Lukas and Ferrell, 2000). However, the problem when asking customers what they desire is that they only refer to those which come to mind. They simply cannot imagine what they have not experienced and what they do not know about, for example new technologies, materials, etc. (Christensen, 1997; Ulwick, 2002).

The KANO model (Kano, 1984), often used to identify customer needs in new product development (Matzler and Hinterhuber, 1998), helps to explain why customers have difficulties in articulating their needs. Customers' expectations toward product and service attributes can be grouped into three categories: (a) basic factors, (b) performance factors, and (c) excitement factors (Fig. 1).

*Basic factors* (dissatisfiers) are minimum requirements that cause dissatisfaction if not fulfilled, but do not lead to

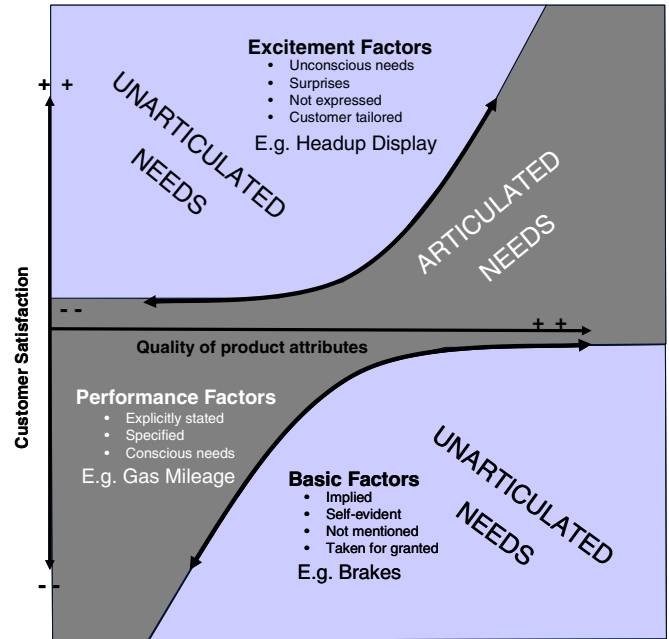


Fig. 1. Customers' problems to articulate their needs illustrated by the Kano model.

customer satisfaction if fulfilled or exceeded. For example, brakes are considered as basic attributes of an automobile. As basic factors are entirely expected and considered as prerequisite, customers do not articulate them when asked about their needs. Although those product attributes are often not explicitly stated by customers, they are absolutely necessary and basic requirements. Usually, a producer's innovation team is aware of them as they are standard and known from previous experience.

*Excitement factors* (satisfiers) surprise the customer and generate "delight" but are neither explicitly expressed nor expected by customers. For example, until quite recently, head up displays in the windshield of a car have been not expected by customers and caused pure excitement. If excitement factors are incorporated in the product offering, they are appreciated, if they are not incorporated, they are not missed. As excitement factors are unknown at the moment customers are exposed to them, they are not able to articulate them when asked. Often, new products or product functionalities are not expected by customers, as they refer to some unconscious, latent needs but they create pure excitement with the benefits they offer. Product excitement factors create high additional value and strongly influence customers' preferences. However, with traditional marketing research tools it is difficult to identify them. As a consequence, real new products have often been initiated by visionary companies who push them to market, running high risks of market failure but with high potential margins.

*Performance factors* (hybrids) lead to satisfaction if performance is high and to dissatisfaction if performance is low. For example, gas mileage of cars can be considered as a performance factor. Customers explicitly demand these

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