

**Customer's creative activities in New Product/Service Development  
procedure.**

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## **Abstract**

Cooperation between firms and customers in the area of value co-creation has been presented in the literature for years, but there are not many works that would comprehensively describe the topic of co-creating new products or services. The concept that gives the theoretical basis for insight into the innovation potential of customers is new product/service development (NPD/NSD). The purpose of this article is to present the variety of activities undertaken by customers in cooperation with firms at every stage of this process. The basis for the description and the conclusions presented is a systematic literature review (SLR) carried out in the field of customers knowledge, skills and creative potential.

Keywords: *New Product Development, New Service Development, Customer Engagement, Customer Relationship Management, Systematic Literature Review*

## 1. Introduction and Objectives

Customers interact with firms on different levels. One of possible ways to cooperate is to participate in offer creation. Those consumers whose knowledge is greater than others and who want to collaborate with firms are lead users and participate in firms' development of offerings (Urban, Hippel, & May, 2007; von Hippel, 1986; von Hippel & Riggs, 1996). This behaviour occurs especially in the process of new product/service development (NPD/NSD) (Fang, 2008; Nambisan, 2002). The objective of this article is to present variety of customer creative actions in the process of new product/service development.

## 2. Conceptual Background

Customers participate in offer creation/modification based on their preferences, and participate in the new offer creation/modification process (e.g., propose a new ice cream taste, design and test it). Several concepts and theories describe different aspects of the customer participation phenomenon from different angles (Gibbert, Leibold, & Probst, 2002), including lead user innovation (von Hippel & Thomke, 2007), customer co-creation (Koniorczyk, 2015) and customer co-creation in the new product development process (Hoyer, Chandy, Dorotic, Krafft, & Singh, 2010), communities of creation (Sawhney, Verona, & Prandelli, 2005), co-production (Etgar, 2008), innovative users (Abrell, Pihlajamaa, Kanto, vom Brocke, & Uebernickel, 2016), prosumerism (Toffler, 1980) or collaborative product development (Eslami & Lakemond, 2016). This paper presents variety of customer creative actions as NPD/NSD elements.

## 3. Research Question

The research question stated based on the above observations is: What are the examples of customers activities based on creative roles in NPD/NSD procedure?

## 4. Method

To answer the research question, this study used the customer knowledge SLR methodology with content analysis in the theoretical scheme version of Tranfield, Denyer, and Smart (2003), and its practical implementation by Crossan and Apaydin (2010). The study focused on an analysis of English publications included in the EBSCO, Proquest, Emerald, ScienceDirect and JSTOR databases. The study was up to date as of March 2017.

First, the article conducted a literature identification. The collection included data from peer-reviewed academic journal full papers, driven by the following keywords: *customer knowledge*, *customer knowledge management* and *customer knowledge value* in the title, abstract or keywords. The research resulted in an initial sample of 199 articles. Secondly, the literature selection phase resulted in three groups of articles (knowledge, skills and creative potential) including forty-three papers. Third, the research conducted a snowball analysis to complete the set. Articles' references analysis identified a further 141 papers relevant to the topic, so, finally, the research discovered 184 papers regarding knowledge, skills and creative potential of which 82 regard the latter.

84.62% of the articles relate to customer's creative potential. This accords with the well-grounded NPD/NSD theory, which allows for customer participation research studies to be conducted in a formalized way. Knowledge (12,50% ) and skills (24,04%) have been recently

identified with no such grounded theory. The results don't add up to 100%, because one article may cover more than one type.

## 5. Findings

Customers' opinions, likes, and dislikes help to improve the business's offerings to attract and retain customers (Kumar, 2013). Customers express their ideas in the form of different activities, from less engaged activities (ideation and feedback), through designing, offer development, testing, manufacturing, marketing, and sales (Alam, 2002). The seven steps mentioned above are NPD/NSD process components and are used in the paper as a framework for I create knowledge characteristics. They are disjunctive, which means that, e.g. a customer can be a designer but not necessarily an ideator.

Ideation is about generating ideas for the firm. Some customers prefer to generate new ideas, while others like to evaluate and further modify existing ones (Füller, 2010). Customers can bring ideas to modify a current offer or to create a new one; however, the difference between them is not always clear-cut.

People have ideas and want to share them when they can describe needs, problems, and possible solutions; suggest desired features, benefits, and preferences for products and services; identify financial problems not solved by existing services; identify gaps in the market; provide a new service wish list (Alam, 2006). People want to introduce ideas to producers (Fuller, 2006) to help them come up with new versions of products or genuinely new products (Jeppesen & Molin, 2003). The scope of forms is wide.

Product/service design is a further step in the creative process. It's about visualizing the idea in the form of a visual or conceptual prototype of the product or service. At this stage, customers often provide ideas on how the product or service should look (Eslami & Lakemond 2016). For example, the method of user design allows users to design their own products according to their wants and needs (Fuller & Matzler, 2007). Sometimes, this merely involves modifications of existing products regarding such elements as colour, form, and size (Lagrosen, 2005).

Product/service development refers to the conversion of a new idea and the design concept into a new, physical product or service. The development phase concerns work on the prototype, which leads to the establishment of a pre-test product/service by discussing and improving optional solution details, selecting or individualizing the preferred virtual (Fuller, 2006) or real (Shaw, 1985) prototype. However, bidirectional creators help the development team in various ways, such as validating product architectural choices (Blazevic & Lievens, 2008). Customers also engage as codevelopers in hands-on development and trials through development (Coviello & Joseph, 2012). Customers participate in round-table discussions, application labs, and user groups (Gordon, Kaminski, Calantone, & di Benedetto, 1993), and the whole process has an iteration character (Joshi & Sharma, 2004). If a highly innovative product is developed, it involves new engineering and manufacturing knowledge that is inherently ambiguous to the manufacturer, who has no prior experience of it (Lau, 2011).

The product/service is tested during or after the development test (see Joshi and Sharma 2004). Based on the nature of development, it is sometimes difficult to distinguish between these two phases. The phase covers testing and experiencing the new product features by running simulations, getting information about the new product, or just consuming it (J. Fuller, 2006). Customers are expert testers, who are typically able to spot errors and mistakes in prototypes during testing (Jeppesen, 2005). Lead users are a group that provides special information and feedback during product testing (Jin & Chih-Yu, 2011). Customers suggest improvements by identifying points of failure in service delivery. At this stage, the customers are contacted again and asked to give their viewpoints of the prototype (Lagrosen, 2005).

Toolkits, as well as workshops, enable a user-only service development and testing process carried out by users in their own user environments at no cost to the service developers (Oliveira & Von Hippel, 2011). Using that mold, creators-customers built 40 kayaks for their own testing purposes (Hienerth, 2006).

Manufacturing is a phase during which a customer participates in the production process. This can be a pilot (Campbell & Cooper, 1999) or regular (Lau, 2011) production. This phase occurs rarely. Producers manufacture without consumers (think of a firm producing cars), whereas services (such as a haircut or repairing a car) are more popular. It is often useful to think of services as either intermediation activities, such as transport, that arise because consumers want to separate production and consumption, or contact services, such as haircuts or medical services, where production involves the consumer directly and where the output of the activity is embodied in the consumer. An important aspect of a service is the jointness of production and consumption – i.e., that goods can be produced (Oliveira & Von Hippel, 2011).

Marketing is a phase during which a customer participates in a marketing process, and such participation is understood as being involved in marketing activities (Bonner, Walker, and Jr. 2004) connected with launching a product or service in the market (Carbonell et al. 2009; Füller et al. 2010). This includes the release of the product into the market and the promotion and commencement of sales to customers (Callahan & Lasry, 2004).

Sales is a phase in which a customer participates in sales activities (Bonner et al., 2004), initially by suggesting rough sales and market size (Alam, 2002; Alam, 2006) and subsequently leading to the commencement of sales to customers (Callahan & Lasry, 2004). This stage analysis resulted in no examples, which means this is very rare in the NPD/NSD process.

## **6. Discussion**

The analysis explores the product-creation field, where customer creative activities support the product-creation process from ideation to sales. The number of publications and its share in the population indicate that the area of the product-creating process supported by customers has covered the biggest part of customer knowledge research for 40 years. This reflects the popularity of the concept of new product development, which focuses on customers' knowledge sharing in the promotion of new product development in which customers are present.

## **7. Conclusions**

Customers use their creative potential to help firms to improve their offers on every stage of NPD/NSD process. This concept actually joint customer creative behavior described by different concepts mentioned in conceptual background, which regard product or service creation.

## **8. Limitations**

The main limitation of this study is that probably not all of the papers from the field have been included. This is a problem with all SLR-type papers, especially when the analysis is limited to keywords-based searching. To partly avoid the problem of omitting relevant papers, snowball analysis has been conducted. The second limitation is that all of the journals meeting the searching criteria have been included, which has resulted in an outcome based on ambiguous content.

## 9. Further Research

Identification of customer participation in the process of creating a new product or service allows the identification of his involvement at individual stages of his life cycle. This will answer the questions about whether customers are more likely to cooperate in NPD/NSD after the first purchase or after the next, on which stages are they interested in ideation and which in more involving procedures like designing or testing products.

## 10. Managerial Implications

Knowledge of the type of customer activities undertaken at various stages of creating products and services would allow managers to modify loyalty programs or customer journeys. In addition, the use of artificial intelligence could lead to the automation of value creation processes under NPD/NSD. This would automatically identify the most creative customers and show the company the ways to cooperate with them.

If the customer engaged in the NPD / NSD process is not a regular customer, one can imagine non-financial loyalty based on a tendency to contribute to the offer. This type of loyalty can be used to create loyalty programs also for influencers.

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