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A unified model of the co-creation process

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ABSTRACT

Co-creation is a pro-active strategy for enabling firms to create value through co-opting consumer competences. Several studies have conceptualised factors for characterizing the co-creation process. A few propose methodologies for co-creation. However, only a handful have so far analysed co-creation in a manner that emphasises the role of existing value or formalised the co-creation process with a view to adding rigour to research/practice and providing insights into activities – leading to increased success of co-creation.

This article proposes a unified model for co-creation that integrates functions for strategising supplier–consumer involvement based on existing value-in-exchange and value-in-use and for selecting co-creation techniques. A step-by-step approach to using the unified model is then presented and applied through two collaborative projects within a semiconductor company. The article concludes by discussing the implications of the model for research and practice.

1. Introduction

1.1. Research background

Traditionally, the *received view* i.e. employing scientists and engineers as proxies for end-users, as shown in Fig. 1, offered the main means for capturing customer needs (Kotonya & Sommerville, 2002; Rossi & Tuunanen, 2004). At an organisational level, the view also created design situations in which the needs of users were 'thrown over the wall' and users were only actively involved after the completion of the design process (Reich, Konda, Monarch, Levy, & Subrahmanian, 1996). The received view was also hindered by a lack of direct customer involvement or knowledge of customer needs and willingness-to-pay. Users assumed the role of 'validators', remain passive during design, and were used as test-subjects for exchanging information with designers to improve the functionality and usefulness of products (e.g. Roberts, Baker, & Walker, 2005). Thus, the main role for users was to offer feedback on product use, personal experience and market research for enabling managers to act as proxies.

In contrast, actively involving stakeholders in the customisation, personalisation and invention of solutions is the focus of the *co-creation view* (e.g. Bogers, Afuah, & Bastian, 2010; Foxall, 1986; Jenkins, 2006; Sunikka & Bragge, 2012; Von Hippel, 2005). In this approach, the 'single-inventor perspective' is replaced by a knowledge flow (inflow and outflow) process between stakeholders as partners (Bogers & West, 2012). Products, services and experiences are developed jointly by companies and their customers (Ramaswamy, 2009; Visser & Visser, 2006) through collaboration that extends beyond organisational boundaries and integrates entities external to the firm (Sawhney, Verona, & Prandelli, 2005). ollaboration means working together in team(s) to achieve a common goal and irrespective of geographical separation (Beyerlein, Freedman, McGee, & Moran, 2003; Boh, Ren, Kiesler, & Bussjaeger, 2007). This goal is often beyond the capabilities of the participants involved in the collaboration and requires participants to closely work together and communicate based on durable relationships with a view to pooling expertise/resources and standardising operations. By adopting a collaborative approach to involving customers in processes to capture customer needs, firms can maintain competitiveness based on differentiation achieved through knowledge of customer needs and cost leadership that understands and minimises costs associated with product-life cycles and new product development (Altun, Dereli, & Baykasoğlu, 2013; Pawar, Forrester, & Glazzard, 1993; Wang, Ohsawa, and Nishihara (2012); Yan, Ye, Wang, & Hua, 2010). Yet, how co-creation is actually conducted still poses a fundamental question for research and practice (Parjanen, Hennala, & Konsti-Laakso, 2012).

1.2. Aim of article

The aim of this article is to propose a conceptual model for descriptively characterising the co-creation process and assessing

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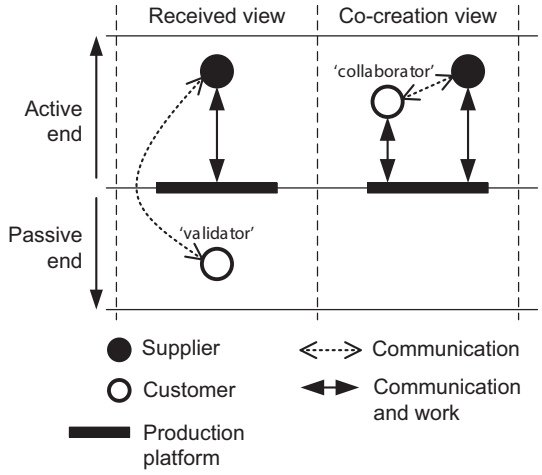

Fig. 1. A comparison of the received and co-creation views.

co-creation methodologies. Although normative models aid in making judgements about what to do when facing process problems, the focus on a descriptive model was made with a view to understanding "the nature of the problem (in this case, the co-creation process) before we try to correct it" (Koehler & Harvey 2004, p. 20). Using literature, the proposed descriptive model formalises the relationship between co-creation involvement strategies and the selection of co-creation technique during the co-creation process. Whereas insights into co-creation involvement will improve the experiences of stakeholders (Payne, Storbacka, & Frow, 2008), the effectiveness of co-creation is enhanced by better understanding of the co-creation process (Banks & Potts, 2010; Prahalad & Ramaswamy, 2004) and technique selection factors (Hickey & Davis, 2004). Furthermore, co-creation as a research area is still at an early stage (Zhang & Chen, 2008) and there is a need to formalise the co-creation process and to assess methodologies that apply techniques for involving customers in co-creation. This is because formalising and assessing methodologies adds rigour to research/practice and provides insights into activities – leading to increased success of processes (Hickey & Davis, 2004). The benefits of formalising methodologies are evident in literature where mathematical reasoning has been applied in areas such as requirements elicitation (Hickey & Davis, 2004) and user participation (Durugbo, 2012). Within the context of co-creation research, diagrammatic reasoning is commonly used to characterise roles and relationships (Andreu, Sánchez, & Mele, 2010; Gebauer, Johnson, & Enquist, 2010). The relevance of this article to research and practice is therefore two-fold: firstly it introduces a conceptual model that descriptively characterising the co-creation process, and secondly it applies the use of the model for assessing co-creation methodologies.

1.3. Co-creation: an overview

Co-creation lies in the pioneering works by Chesbrough (2003) on open innovation, Von Hippel (2005) on user-led innovation and 'customer-active paradigm', and Jenkins (2006) on participatory and convergence culture. These works reflect a variety of academic and industrial perspectives that have shifted the focus of innovation from a single organisation to distributed processes and arrangements that co-opt multiple stakeholders in value networks (Bogers & West, 2012; Sawhney & Prandelli, 2000). Significantly, co-creation processes are instigated as a learning strategy that enables organisations cope with increasing market demands (Di Tollo, Tanev, Davide, & Ma, 2012; Payne et al., 2008). Knowledge and information acquired during the learning process is used to improve customer experience (Rowley, 2007) and to drive the innovation process for new service development (Edvardsson, Kristensson, Magnusson, & Sundstrom, 2012; Matthing, Sandén, & Edvardsson, 2004) or new product development (Sawhney et al., 2005). Thus, the main output from the co-creation process is value that is dependent on the use of services (Vargo, Maglio, & Akaka, 2008) and experiences of customers (Prahalad & Ramaswamy, 2004). In some cases, such as in the aviation sector, co-creation is viewed as a useful avenue for improving environmental sustainability through knowledge exchanges between individual passengers (consumers) and airlines (producers) (Gössling, Haglund, Kallgren, Revahl, & Hultman, 2009). Then again, co-creation has been criticised as an avenue for exploiting customers to generate 'a new source of surplus value' (Ritzer & Jurgenson, 2010).

Numerous examples of real-world applications of co-creation (by firms such as Microsoft, Cisco IKEA Sony, Microsoft, TiVo, Apple, Dell, eBay, Disney, Coca-Cola, Steelcase, Osram, Alcatel-Lucent, Toyota Scion, Endemol, Aloft, and Mazda) also offer support for the emerging reality that costumer–company interactions are gradually acting as the locus of value creation during the innovation process (see for instance, di Tollo et al., 2012; Kohler, Matzler, & Füller, 2009). In these applications, the co-creation process involves customers as part of the value chain i.e. as an individual that adds value to a service or product (Prahalad & Ramaswamy, 2004; Vargo et al., 2008). Co-creation also fosters an attitude in which consumption is closely connected to production (Etgar, 2008; Ritzer & Jurgenson, 2010) and can be sponsored by firms or initiated and supported by consumer communities (Foxall, 1986; Foxall & Johnston, 1987; Zwass, 2010).

In spite of the widely acknowledged benefits or value of the co-creation process (e.g. Prahalad & Ramaswamy, 2004; Vargo et al., 2008; Zwass, 2010), limited participation poses a significant problem for the success of co-creation, and insights into co-creation participation have shed the spotlight on experiences that motivate customers to physically and virtually submit ideas (Füller, Hutter, & Faullant, 2011). Other scholars have focused on challenges of geographical proximity or personal interaction to identify brokerage functions for facilitating co-creation (Parjanen et al., 2012). The question of whether different types of customers are required and willing to take part in co-creation has also driven researchers to explore creativity components of co-creation (Füller, Matzler, Hutter, & Hautz, 2012). These insights have enabled collective creativity – creative activity that originates from collaborating and contributing individuals – to be emphasised for stimulating participation during co-creation (Füller et al., 2011; Parjanen et al., 2012). Furthermore, the co-creation process is dependent on the willingness and openness of customers for involvement in working together and co-opetition (a neologism of cooperation and competition) (Hutter, Hautz, Fueller, Mueller, & Matzler, 2011). Level of involvement of customers have been categorised according to: persuasion of customers through adverts and promotions (customer engagement), collaborative work for new service development or new product development (co-design), technology use for ordering, buying and exchanging resources (self-service), solving problems for themselves (problem solving) and creating experiences (customer experience) (Gebauer et al., 2010; Prahalad, 2004).

1.4. Related work

Generally, descriptions and frameworks of co-creation have so far focused on characterising generic and domain-specific needs of co-creation in relation to elements such as encounters, suppliers and customers, as summarised by Table 1. These frameworks have been used in empirical studies within a wide range of industry sectors such as health (Gill, White, & Cameron, 2011), retail (Oh & Teo,