Virtual Space Co-Creation: The Perspective of User Innovation

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ABSTRACT

By integrating theories and findings from prior user innovation literature, the authors examine how to improve a customer’s co-creation and personalization performance of virtual products by means of harnessing the complementary effects of user characteristics (leading edge status, customer knowledge, and creative self-efficacy) and firm supporting factors (user toolkits and user communities). They tested an integrated research model using survey data collected from 308 Chinese consumers who personalized their virtual spaces by utilizing the tools and supports provided on a social network service site. The authors find that the integrated model that includes both user factors and firm factors was more powerful in terms of explaining a higher variance in personalization effectiveness. They also find that leading edge status, creative self-efficacy, and user communities had stronger impacts on personalization effectiveness than did customer knowledge and user toolkits. The findings provide a broader review of user factors and firm factors for business practitioners and researchers to understand co-creation and personalization.

KEYWORDS

Co-Creation, Creative Self-Efficacy, Customer Knowledge, Leading Edge Status, Personalization, User Communities, User Innovation, User Toolkits

INTRODUCTION

Internet users are increasingly seen to participate in virtual spaces through such venues as online games, virtual worlds, online communities, and social networking sites. They also spend virtual currencies and consume virtual goods in these virtual spaces (Kohler, Matzler, & Füller, 2009; Wu, 2007). The market for virtual goods has grown explosively in the past and will continue to evolve in the near future. For example, the U.S. market for virtual goods amounted to $200 million in 2008 (Berthon, Pitt, Halvorson, Ewing, & Crittenden, 2010) and revenues from virtual goods was expected to reach $14 billion in 2014 (Greengard, 2011).

In order to meet consumers preferences in the virtual world, companies provide tools and functions for users and consumers to co-create and personalize their online spaces and purchase relevant virtual goods for their virtual world. Co-creation or personalization of virtual spaces and goods is an example of user-centered innovation, which can be generally defined as the practice where companies provide opportunities for customers to co-create and co-design (or personalize) products and services according to their individual requirements that are not met in the mass-production process (Franke, Keinz, & Schreier, 2008; Füller, Bartl, Ernst, & Mühlbacher, 2006; Nambisan & Baron, 2010).
Even though some initial empirical evidence in the virtual world has been reported (Kohler et al., 2009), we still need to explore what factors empower customers to conduct co-creation and personalization in virtual spaces. In this paper, we investigate the factors based on theories and findings from the user-innovation literature. The research community has examined value co-creation or user-centered innovation in the contexts of traditional physical goods and services (Prahalad & Ramaswamy, 2004) as well as virtual customer environments where firms interact with customers in the development and support of traditional products (Füller et al., 2006; Nambisan & Baron, 2010). Generally, these prior studies have examined co-creation from two divergent perspectives. The first is to study the characteristics of users involved in co-creation and user-centered innovation, while the second investigates technological supports provided by firms to aid these users in the process (Franke et al., 2008; Füller et al., 2006; Franke, Schreier, & Kaiser, 2010).

Between these two groups of factors, what factors are more important in determining the performance of co-creation and personalization, and how do these two groups of factors complement each other in a unified model? To our best knowledge, the prior literature is silent in answering these two questions. There is limited effort to converge these two groups of factors and provide an integrated view. This paper aims to explore whether the important factors found in the traditional contexts can be applied to virtual space co-creation and personalization. The emerging context of virtual world and virtual products may provide insights and evidence to extend the principles of user-centered innovation and co-creation, therefore, enriching our understandings of the basic principles. The current study examines three user characteristics, leading edge status, customer knowledge, and self-efficacy and three technological factors, solution space of user toolkits, interactivity of user tools, and user community support in the co-creation and personalization process of virtual products.

RESEARCH BACKGROUND AND HYPOTHESES

The proliferation of virtual spaces and social network services has attracted companies to develop new virtual products for consumers to purchase and consume in their virtual spaces. Empowered by Web 2.0 technologies, both businesses and consumers are able to co-create and co-produce virtual products in a collaborative manner. This business practice provides a good opportunity for the research community to examine the applicability of the theories in the prior user-centered innovation literature (Franke & Shah, 2003; Morrison, Roberts, & von Hippel, 2000). In this section, we review the practice of virtual products and user innovation literature and then develop research hypotheses.

Virtual Products

Virtual goods or products are non-physical items that people purchase for consumption and use in virtual spaces. Virtual goods can be functional or decorative. Functional virtual goods, such as tools and weapons in online games, help users or consumers complete tasks and achieve functional outcomes in the virtual space. Decorative virtual goods, such as avatars, clothing, accessories, homes, rooms, or profile themes, allow users or consumers to customize virtual spaces to improve self-expression. Even though existing only online and without tangible substance, virtual products satisfy the needs of consumers who spend time in the virtual world (Berthon et al., 2010; Wu, 2007).

As the boundary between virtual world and real world becomes blurred, consumers who spend time in the virtual world may express and represent themselves as they do in the real world. These consumers may exhibit similar consumption and purchasing behaviors of goods in both worlds. Compared to the $300 billion U.S. retail market for apparel in the real world, the virtual goods market
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