

Chapter 27

International Collaboration and Design Innovation in Virtual Worlds: Lessons from Second Life

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ABSTRACT

Second Life is a popular virtual world that can provide us with valuable lessons about international collaboration and design innovation. This chapter will explore how design practice and design education can assist geographically dispersed design teams working on collaborative designs in a shared virtual space, using real-time 3D constructions and communication tools. We contend that Second Life can provide solutions to collaborative international design and enable knowledge creation and innovation through tacit knowledge exchange.

INTRODUCTION

This chapter examines the dynamics and the features of international collaboration and design innovation in the virtual world, Second Life. Many writers have recognized innovation as an important contributor to the global economy (Von Krogh,

Nonaka, & Ichijo, 2000; Sunstein, 2006; Bryan & Joyce, 2007; Hamel, 2007; Hunter, 2008; Sebell, 2008). Three of the biggest drivers of innovation have been global mobility, information technology, and communications, (Kurzweil, 2005; Salzman & Matathia, 2007). These three mega trends have created an unprecedented convergence of diverse people, ideas, and cultures. They have formed a global “network society,” creating intersections

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never seen before in the history of the planet (Castells, 2000; Shavinina, 2003; Kurzweil, 2005; Benkler, 2006; Salzman & Matathia, 2007). Many writers have recognized innovation as an important driver of education, economic development, and scientific discovery (Peters, 1997; Teece, 2000; Von Krogh, et al., 2000; Shavinina, 2003).

UNDERSTANDING INNOVATION

At the heart of the innovation process is a design team who collaborates to contribute novel solutions to user problems (Mau, Leonard, & Institute without Boundaries, 2004; Suri & IDEO, 2005). The designer, Bruce Mau, has commented that design is no longer about one designer, one solution, one place, and one client, but is “distributed, plural, and collaborative” (Mau, et al., 2004). Therefore, the ability to innovate is closely related to one’s ability to collaborate (Tapscott & Williams, 2006; Bryan & Joyce, 2007; Hamel, 2007; Managing risks, 2008).

Fredrick Johansson (2004) describes how cross-cultural and international collaboration can contribute to surprising, rule-changing breakthrough innovations, or what he defines as “intersectional” innovations. This situation contrasts with the more common and pedestrian directional and incremental innovation processes typified by the formal Stage Gate™ model (Cooper, 2003; Rickards, 2003; Johansson, 2004; Koch & Leitner, 2008; Sebell, 2008).

However, a tension exists between the ability of a network society to collaborate and intersect as never before and the acknowledgement that innovative ideas often reside in people’s heads and is tacit rather than explicit. A number of writers have described how difficult it is to share expert knowledge that has been accumulated over years of experience and requires extended conversations within a shared spatial context, providing a rich sensory and emotional experience face-to-face (Nonaka & Takeuchi, 1995; Dixon, 2000; Teece & Nonaka, 2000; Von Krogh, et al., 2000; Ben-

kler, 2006; Rive, 2008; Rive, Thomassen, Lyons, & Billingham, 2008). From a design innovation perspective, it often requires multiple experts in cross-functional conversations to explore intersectional ideas, and that demands rich, emotional, and full sensory input to achieve knowledge creation, knowledge transfer, and knowledge sharing (Von Krogh, et al., 2000; Leonard & Swap, 2004; Benkler, 2006).

KNOWLEDGE CREATION AND KNOWLEDGE MANAGEMENT

If we place the plural, distributed, and collaborative design trend within the context of two other mega-trends—globalization and the virtualization of the office—we can understand how organizations now face the demand to somehow simulate the advantages of face-to-face communications in order to keep up with the accelerating pace of change to achieve timely innovations (Shields, 2003; Sunstein, 2006; Tapscott & Williams, 2006; Friedman, 2006; Cascio & Paffendorf, 2007; Yankelovich, 2007).

Given the importance of knowledge creation and tacit knowledge exchange in the design innovation process, it is important to be clear about the definitions of these terms. Knowledge creation was defined by Nonaka and Takeuchi (1995) as “justified true belief” and is unlike information because it is about beliefs and commitments (p. 58). Second, order cyberneticists, such as Maturana and Varela (1992), also state that knowledge is about action and has some end goal (Nonaka & Takeuchi, 1995). Third, knowledge is about meaning, and it is context specific and relational (Maturana & Varela, 1992; Nonaka & Takeuchi, 1995). Thus, knowledge creation is both an individual and a social process. An individual can create knowledge, but such creation takes place within the context of social behavior (Bateson & Donaldson, 1991; Maturana & Varela, 1992; Von Krogh, et al., 2000).

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