Chapter 6
Usage of ICT Tools in New Product Development:
Creating User–Involvement

Kristina Risom Jespersen
Aarhus University, Denmark

Nuka Buck
Aarhus University, Denmark

ABSTRACT

Involvement of users in new product development is needed more than ever due to the technological and the social progression in recent years. Usage of ICT tools is one approach forwarded in literature discussing user-involvement. This chapter explores the antecedents of ICT usage in NPD. We utilize five groups of factors: innovative climate, strategic emphasis on ICT tools, ICT champions, competencies and performance expectations. To this end three case studies were conducted. The case findings demonstrate that the most significant antecedents for sustained user-involvement in NPD with ICT tools are strategic emphasis, competencies and the type of ICT champion.

INTRODUCTION

The commercial expansion of the Internet in the early 1990s changed the Western world from an industrial to an information society, characterized by the rapid development and the adoption of new information and communication technologies (ICTs). Information accessibility and creation continues to become faster and easier as new ICTs are developed at a rapid pace. Another aspect of the progress in ICT is the change from a focus on the presentation of information to content collaboration through posting, commenting, and writing on the Web. Users search for, read, and compose knowledge together irrespective of group affiliation, and they talk directly to each other. Thus, the information society has transformed into a knowledge society. The knowledge society represents a significant change in the power relationship of users and corporations. The traditional control companies had over information that users of their products could access has eroded.

ICT usage has drastically modified communication, sales and information methods, thus enabling companies to achieve strong competitive advantages in both production and product development (Bayo-

DOI: 10.4018/978-1-61520-643-8.ch006

Moriones & Lera-Lopez, 2007; Ozer, 2000). Greater usage of ICT in a particular product development effort will lead to greater market success of a given product when launched. Research finds that ICT usage impacts the commercial success of new products in a positive direction (Barczak, Sultan, & Hultink, 2007). Progress with ICTs has made users an independent dimension of company new product development (NPD). Users communicate across markets, share experiences, and refine products outside the control of companies. The "corporate playground" has evolved into a three-dimensional space (technology, markets, and users) that must be navigated when developing new products.

Research has put ICT tools forward as instruments for connecting with users. ICT is regarded as a platform for relationship building between company and product/service users. The increase in numbers of virtual communities and self-service technologies reinforces this notion (Andersen, 2005; Casalo, Flavian, & Guinaliu, 2008; McWilliam, 2000). Virtual environments are an effective way of building relationships with users and motivating both the company and its users to participate in collaborative NPD (Miles, Miles, & Snow, 2005; Sawheny, Verona, & Prandelli, 2005). The aim of this chapter is to extend this body of research by addressing ICT tool usage in NPD that aims at creating user-involvement. This is significant as the main principle of user-driven NPD is the incorporation of user information and knowledge into new product projects throughout the stages of the development process. User knowledge includes input, comments, and feedback generated through a continuous dialogue with users. The application of user input optimizes product technology and/or product design, and matches a new product to extended and/or latent user needs (Jespersen, 2008; Von Hippel, 2005). The literature on customer relationship management and relationship marketing stresses the relationship between company and customer as a pre-requisite for involvement. Producers can only involve customers and establish a dialogue if they are connected to them (Andersen, 2005; Dwyer, Shur, & Oh, 1987; Morgan & Hunt, 1994).

The purpose of this chapter is to explore the antecedents of the ICT usage process in NPD. Specifically, we investigate the choice of ICT tool, the type of user-involvement created, and whether ICT tool implementation is accomplished. To this end, we have conducted a longitudinal case study of ICT usage in NPD in three Danish international operating companies. The presented study contributes to existing research on ICT adaptation and user-involvement with observations from actual applications of ICT tools in new product projects. The opportunities and challenges facing companies when pursuing user-involvement through ICT tool usage are provided for research and practice to gain from.

In the following, the process of user-involvement and ICT usage in NPD is conceptualized. After this the antecedents of ICT usage are discussed. The cases are then presented and findings are discussed. Finally, conclusions are reached an recommendations given.

ICT USAGE AND USER-INVOLVEMENT IN NPD

ICT tool usage in NPD is a two phase process that builds on the innovation diffusion process (Venkatesh, Morris, Davis, & Davis, 2003). First, a company has to apply a minimum of one ICT tool in a NPD project. Through the ICT tool application, users are involved in the NPD project and the company forms an experience of user-involvement and the ICT tool. Based on this, the second phase of the process can be one of two possible: the company either implements the ICT tool in their NPD process, or does not do so. This part of the chapter connects user-involvement and ICT tool in the NPD process.

The initiative to involve users in new product projects (interaction control) may be taken by us-