‘Listening to the Voices of the Users’ in Product Based Software Development

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ABSTRACT

Information technology (IT) development, but it is often challenging, especially in the product based software development context. This article critically examines the practice of ‘listening to the voices of the users’; how it is accomplished in product based software development. First literature addressing users’ role in the product development context is reviewed. Afterwards, empirical analysis in three IT companies involved in product business but with different degrees of productization is carried out. In the analysis, the focus is on: 1) Where do the users’ voices come from? 2) When are the users’ voices listened to? 3) What happens to the users’ voices; whether and how do they affect the development? 4) What are the challenges and particularities of each case? The analysis reveals similarities but also clear differences between the cases. Implications both for theory and practice discussed. [Article copies are available for purchase from InfoSci-on-Demand.com]

Keywords: Interpretive Case Study; Product Based Software Development; Productization; User-Centered Design; User Involvement; User Participation

INTRODUCTION

This article critically examines the practice of ‘listening to the voices of the users’; how it is accomplished in information technology (IT) development, particularly in the product based software development context. Based on the degree of productization, software development strategies today could basically be characterized by a line with two ends and with variations in the middle. These two ends have been called by different names: custom or contract vs. product development (Grudin, 1991), customized vs. general products (Sommerville, 1995), custom vs. packaged software (Carmel & Becker, 1995), custom or made-to-order vs. packaged products1 (Sawyer, 2000, 2001), custom-made vs. generic or consumer products (ISO, 1999), professional services vs. product business (Hoch, Roeding, Purket & Lindner, 2000), and product vs. services (Cusumano, 2004), to name but a few examples. In this article we will mainly focus
on product based software development for a market of many possible customers as opposed to the traditional information systems (IS) type of custom development for one well known customer only. However, many software business organizations lie somewhere between these two extremes. Therefore, in this study we consider product based software development as development with the aim for a standard, generalized software even though the degree of productization may be different (high in mass-market packaged software and low in many enterprise solutions types of products).

As Grudin (1991) points out, we like to highlight product based software development from the point of view of its different relation to users compared to IS type of development – the uncertainty related to users, namely. Product based development is considered as a very challenging context from the viewpoint of listening to the users. In this context, products are developed potentially for large and heterogeneous user and customer populations in a situation in which both the users and the customers might be unidentifiable until the product is in the market, as well as very difficult to be in touch with during the development (Adam & Light, 2004; Grudin, 1991; Grudin, 1993; Grudin & Pruitt, 2002; Grønbak, Grudin, Bodker & Bannon, 1993; Iivari, 2006a; Keil & Carmel, 1995; Kujala, 2007; Symon, 1998). It is also typical that basic functionality is defined by marketing or even by engineering (Karlsson, Dahlstedt, Regnell, Natt och Dag & Persson, 2007). It has been criticized that users, if contacted at all, are contacted while defining issues related to human-computer interaction after the basic functionality has been defined (Beyer & Holtzblatt, 1998; Carmel & Sawyer, 1998; Grudin, 1991, 1993; Keil & Carmel, 1995).

However, it has been widely accepted that users should be taken into account in the IT development. In IS research, user participation has been central topic for decades, and currently legitimately labeled as an ‘old, tired concept’, which, however, needs revisiting (Markus & Mao, 2004). Especially the Scandinavian collective resources approach (Bjerknes & Bratteteig, 1995; Bansler, 1989; Kraft & Bansler, 1994; Kyng, 1998) has emphasized the importance of ‘giving the users’ (or more specifically the workers and their unions) a voice. The approach focused on workplace democracy and union involvement in the development of computer systems. The approach maintained that the workers need to be able to participate in the decision-making in their work place. Within the more recent participatory design (PD) or cooperative design tradition, however, political issues have decreased in importance. The focus has shifted from industrial democracy to participatory and cooperative design process, in which the developers and the users are to be appreciated as equal partners, both contributing their specific type of expertise (Asaro, 2000; Bjerknes & Bratteteig, 1995; Bansler & Kraft, 1994; Kraft & Bansler, 1994; Kyng, 1998; Spinuzzi, 2002). This contemporary tradition has recently been very influential in emphasizing active user participation in the design process (Greenbaum & Kyng, 1991; Schuler & Namioka, 1993). The field of Human Computer Interaction (HCI), and more specifically usability research in HCI, on the other hand, has addressed particularly the product development context, and emphasized the importance of taking the users into account in approaches such as of UE (Usability Engineering) and UCD (User-Centered Design) (Bannon, 1991; Grudin, 1991; Gulliksen, Göransson, Boivie, Blomkvist, Persson & Cajander, 2003; Karat, 1997).

This article critically examines the practice of ‘listening to the voices of the users’; how it is accomplished in the product based software development context. Existing literature has already indicated that user involvement or user-centeredness might be used only as buzzwords or as weapons for achieving surprising or even paradoxical ends (Artman, 2002; Catarci, Marrazzo & Raiss, 2002; Hirschheim & Newman, 1991; Howcroft & Wilson, 2003; Iivari, 2006a, 2006b; Robey & Markus, 1984; Symon, 1998). However, there is a lack of empirical research examining what is involved in ‘listening to the voices of the users’ in the product development context.
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