

## Chapter 2.9

# Information Systems Development: Understanding User Participation as a Social Network

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### ABSTRACT

Conventional wisdom has it that user participation in information systems development (ISD) is essential for systems success. Though the significance of user participation to systems success has been much discussed in the literature, results from empirical studies are inconsistent and suggest, that perhaps new avenues need to be explored. One approach may be viewing user participation as a social network that is, looking at the emergence of social structures and their technological expressions during the user participation process. In this chapter, a framework is presented that organizes user participation approaches that emerge from the different worldviews existing within organizations. This user participation approach (UPA) framework is used as the structure for the systematic arrangement of user participation approaches into a fourfold taxonomy

based on extrinsic information attributed to them in the literature. In addition, a categorical analysis and social network analysis (SNA) are used to map and visualize the relationships between analyst and users, thus providing a conceptual and visual representation of the relational structures.

### INTRODUCTION

A critical factor in successful information systems (IS) development is generally assumed to be user participation. Interestingly enough, empirical studies have been unable to conclusively link user participation to systems success. Indeed, attempts to organize and synthesize past empirical studies on user participation have resulted in conflicting results (Cavaye, 1995; Hwang & Thorn, 1999; Olson & Ives, 1981). This may not be totally surprising, due to the dynamic nature of organizations (Doherty & King, 2005) and the inability to capture many of

DOI: 10.4018/978-1-60566-344-9.ch005

the *everyday* social interactions that occur as users participate. Everyday user participation may or may not be public and therefore has been difficult to assess in the past.

However, in today's world, online communication is becoming an increasingly important part of how users participate in information systems development (ISD). Project participants go online to look for information, keep in touch with co-workers and other professional contacts, conduct business, talk about the project, track progress, discuss new developments, and look for answers to problems. Most of these interactions leave behind records of some sort of social interaction: exchanged email messages, discussion forums, instant messaging (IM) logs, newsgroup postings, blog entries, wikis, etc. Hidden in these growing archives of interactions are useful social patterns that, if more easily recognized and understood, could greatly improve the outcome of an ISD project. This chapter looks at how social interaction may be visualized and how such representations may help organizations understand the mediated environments they inhabit, the worldviews they exhibit, and the relationships of these factors to information systems outcome or success. Indeed, information visualization offers a method of observing the unobservable (Shneiderman, 1998).

The Internet has produced a new way to identify "social networks". Indeed, these networks support social interaction and user participation on an unprecedented scale. Social networks are changing the user participation context, as millions of people around the world come together in online public spaces and exchange ideas, ask questions, and comment on daily life events. Indeed, individuals and organizations are *evolving* in their interactions as they recognize and learn to appreciate how they can stay in touch by e-mail or in online discussion forums with hundreds of people all over the globe. These social networks, which may be public or private, are about collaboration and empowerment for individuals, organizations, and societies (Shneiderman, 2002).

They leave behind copious evidence of the evolving social networks and the *revolutionary* ways users are participating. Yet, this evidence is largely undefined and thus so far has been unusable in the context of ISD user participation research. The objective of the current research is to provide a framework that will facilitate visualizing the cues and patterns that are present in social networks, in order to help users, analysts, managers, and other stakeholders participating in ISD, better understand the worldviews they exhibit and their relationship to systems outcomes.

In a sense, we undertake making the intangible aspects of user participation in ISD tangible. In doing so, an issue to contemplate is whether the process of "how users participate" is evolutionary, or are we experiencing a *revolution* with respect to "how users participate?" Disclosing the worldviews and patterns of "how users participate" may help illuminate these issues and others about user participation in ISD. Indeed, it may be a step towards conclusively showing a link between user participation and system success.

This chapter is organized as follows. After providing and discussing some basic terminology, we present and extend the *user participation approach (UPA)* framework (Mattia and Weistroffer, 2008) and justify its use as a means to better understand user participation as a social network. Based on a survey of the literature, we provide and summarize a categorization of user participation approaches using the UPA framework. The chapter concludes with a discussion on how the proposed framework can be better understood as a social network.

## THE USER PARTICIPATION APPROACH FRAMEWORK

Basically, this research involves extracting, analyzing, and categorizing information retrieved from available data. The concept of organizing data for better comprehension is not new, and indeed,

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