Models for Technology Acceptance, Culture-Based IT Products, Software Reuse Libraries, and Digital Broadcasting

Fantasy theme analysis of virtual teams and communities
A new model for research on technology acceptance
Call for research on culturally modeled features for IT based products
A Goldilocks model for software reuse libraries
Business models for digital multimedia broadcasting

Kendal, Kendall, and Kah (2006) employ fantasy theme analysis to identify “heroes, villains, plots and subplots” in the development of virtual community policy. This perspective has the advantage of allowing investigations of the roles of individuals and concepts in the management of virtual communities, independent of their physical contexts. It also is a method that has the potential to result in rich, qualitative understanding of the community. As such, it follows a tradition in IS research and practice to employ methods, such as focus groups, storyboarding, and role playing, to develop a richer understanding of the functionality, efficacy, and the role of the individual in information systems development and organizational culture.

Sun and Zhang (2006) apply Markus and Robey’s (1988) “Casual Structure in Theory and Research” to research that uses the technology acceptance model (TAM) (Davis, Bagozzi and Warshaw 1989). The concept of causal structure links three dimensions, causal agency, beliefs about causal relationships among events and actions; logical structure, whether beliefs about causation are related to associations or processes; and the level of analysis, which may be macro social phenomena, micro or individual behavior, or mixed. The authors review prior TAM research to characterize it in terms of these three dimensions.

They argue for a new model, based on TAM, task-technology fit (Goodhue and Thompson 1995), and computer self-efficacy (Compeau and Higgins 1995), that allows for the use of an emergent perspective for study at a mixed level of analysis. They propose a set of 13 propositions for study using the new model. This paper should be of interest to researchers interested in studying user acceptance using mixed level data.

The problem of developing information systems and IT based products is more than simply developing success products and
systems for the home market, developing localized versions, and seeing if they fly or not. Many products have been developed for one market and been very successful, only to fail when transported to a market in a distinctly different culture. The success and failures of mobile telephonic products in diverse markets, such as Northern Europe, Japan, and the US presents a good example of this.

Tuunanen, Peffers, Gengler, Hui, and Virtanen (2006) point out that individual values, models of how the universe works, and product preferences vary greatly across market cultures. They collect data about consumer preferences for mobile applications using ‘presence’ technology and analyze it to show substantial differences in preferences, among potential consumers in Hong Kong, Las Vegas, and Helsinki, for bundles of products.

Rather than develop IT-based products for one market and rolling them out worldwide to succeed or fail, they argue for developing culture-based products and feature sets for each culture, based on differences in values, consequence models, and preferences. The findings of the study should be of interest to researchers who are interested in extending requirements elicitation and related research to incorporate processes that take advantage of culture to develop systems and products that better fit the cultures for which they are intended.

Prior research and intuition suggests that the reuse of software components should reduce costs and improve quality in software engineering efforts. The expected benefits of such reuse are not without some offsetting costs, however. Searching in a library of reusable software for the appropriate software component is a cost. Consequently, if the software library is too small, its benefits may be reduced because such searches might often result in failure to find a suitable component to fit the needs of the developer. If the library is too large, the search costs are simply large.

Likewise, if the size of components in the library is small, matches to the developers’ needs are likely, but the benefit of using them, rather than writing new components, is small. If component sizes are large, there will be fewer matches.

Are there optimal sizes for software components and software reuse libraries? Nazareth and Rothenberger (2006) investigate this “Goldilocks conjecture” in a series of simulations and find support for it. Their findings imply that there are regions of software component and library size that are economically beneficial and other regions that are not. The findings should be of interest to managers because they suggest design characteristics for the economically beneficial use of software reuse libraries.

Digital Multimedia Broadcasting is a process for broadcasting multimedia, especially television, through satellite or Internet media for reception and play, particularly by mobile devices, either hand held, in vehicles or elsewhere. This technology creates some interesting business opportunities and some regulatory and business model problems. Shim, Shin and Weiss (2006) provide a brief overview of the technology and investigate (1) the business prospects for two technologies for providing the service, (2) the optimal regulatory environment for the services, (3) optimal service pricing, and (4) the sensitivity of service profitability to pricing. The results are based on a study of products and potential products produced in Korea. The paper is potentially very interesting for managers who are interested in providing this kind of service and for researchers interested in studying these issues for other emerging technologies.

REFERENCES


