User Participation, Management Support and System Types

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This paper explores user participation in the systems development process and examines this variable in relation to the type of system under development. Prior user participation research has not shown conclusive support for its impact on system success. Ives and Olson (1984) have suggested that much of the prior research on user involvement/participation has not been strongly grounded in theory. Using Simon's (1965) model of decision-making together with Zmud's (1983) typology of systems, it is hypothesized that user participation's impact on perceived usefulness should be greater for the more unstructured (non-programmed) decision-based systems than for transaction processing systems. This paper thus tests for moderating influences by system type. This study provides evidence that system type (or problem type) is an important moderating variable between user participation and perceived usefulness.

User participation/user involvement has been studied extensively in MIS research. It is believed that involving users in the development process will lead to both better quality systems and improve the likelihood of system use and acceptance. Ives and Olson (1984) summarize the findings of past research efforts by noting that user involvement is predicted to increase user acceptance by: (1) developing realistic expectations about system capabilities, (2) providing an arena for bargaining and conflict resolution about design issues, (3) leading to system ownership by users, (4) decreasing user resistance to change, and (5) committing users to the system. User involvement is also predicted to improve system quality by: (1) providing a more accurate and complete assessment of user information requirements, (2) providing expertise about the organization the system is to support, (3) avoiding development of unacceptable or unimportant features, and (4) improving user understanding of the system (Ives and Olson, 1984).

Despite the relatively large number of studies undertaken, research has been far from conclusive to support the relationship between user participation/user involvement and system success (Ives and Olson, 1984). This has prompted Pettingell, Marshall, and Remington (1988) to undertake a meta-analysis of user involvement studies. Their study did find a significant relationship between user involvement and system success. The authors urge caution in interpreting their findings because they note that the addition of just a few non-significant studies could reverse the findings for some of the variables.

Ives and Olson (1984) have criticized past re-
search efforts on a number of points. First, past research has not been strongly based in theory. Second, there has been a lack of consistency in how user participation/user involvement is conceptualized and defined. Lastly, a majority of studies have been methodologically flawed. In the next section we review a number of studies which have been undertaken since Ives and Olson’s critical review of the literature.

**Literature Review**

Studies of user involvement/participation since 1984 have attempted to apply a theoretical approach in order to a priori structure the research model, and to better interpret results or explain the variance predicted by the model. Tait and Vessey (1988) reviewed the information systems research on user involvement and proposed a study of global factors that should mediate the influence of user involvement on system success. They draw on organizational change theory, which suggests that an information system represents an organizational change and that to overcome this resistance, organizations must establish a suitable climate for change (Lewin, 1951; Schein, 1964). Applying this theory suggest that variables such as user attitudes be taken into account. The authors also draw on participative decision making research and include variables such as level of knowledge of employees, motivation of employees, organizational factors, task attributes, group characteristics, and leader attributes.

The Tait and Vessey (1988) study also included a review of technical system quality and development process variables in their model. The study found significant effects between system success and both system complexity and resource constraints. However and most importantly, their study did not find a significant relationship between user involvement and system success. This may have been a methodological problem because they used a single-item measure of user involvement.

Baronas and Louis (1988) propose that “system implementation represents a threat to users’ perceptions of control over their work and a period of transition during which users must cope with differences between old and new work systems..” (p. 111). Theories of perceived control are borrowed from social psychology (see Langer, 1983). They hypothesize that user involvement is effective because it restores or enhances perceived control. Results from a field experiment demonstrated that the treatment group, those with a high level of perceived control, were significantly more satisfied with the new system than were the control group members.

Newman and Noble (1990) state that “the precise nature and consequences of user involvement have been insufficiently explored empirically” (p. 89). They undertook a case study in which the process of user involvement can be explained using different process models, such as learning, conflict resolution, political paradigms, and garbage-can models. They conclude that in complex situations user involvement may best be described using an enhanced two-staged conflict model (c.f., Robey and Farrow 1982). Building on the concept of enhancing our understanding of the process of systems development, Newman and Robey (1992) studied the social dynamics of the user/analyst relationship. Their model contends that “established relationships between analysts and users will persist unless critical encounters change the trajectory of the project” (p.249). Their research does not provide universal prescriptive guidelines for practitioners, but serves as a starting point at developing a better understanding of this complex relationship.

Doll and Torkzadeh (1991) define a “congruence construct of user involvement” which is a measure of the degree to which users’ desire for involvement in systems analysis activities matches their perceived level of involvement. The results indicate that involvement congruence is a better predictor of end-user satisfaction than perceived involvement.

Doll and Torkzadeh (1991) state that although considerable attention has been devoted to the relationship between user involvement and MIS success, “MIS user involvement research has not been based on the behavioral literature concerning conditional variables that moderate the efficacy of participation” (p. 443). Building on Doll and Torkzadeh’s call for research based on conditional variables that moderate the efficacy of participation, this paper investigates problem type or information systems type as an important moderating influence between user participation and system success in systems development applications. The development of an information system is viewed as a problem solving task, in which the application type, whether decision based or transaction processing, influences user participation and problem-solving.

**Theory and Hypotheses**

Barki and Hartwick (1989) propose a distinction
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