

The Role of User Review on Information System Project Outcomes: A Control Theory Perspective

Jack Shih-Chieh Hsu, National Sun Yat-Sen University, Taiwan

Houn-Gee Chen, National Taiwan University, Taiwan

James Jiang, University of Central Florida, USA

Gary Klein, University of Colorado, Colorado Springs, USA

ABSTRACT

The effect of user participation on system success is one of the most studied topics in information systems, yet still yields inconclusive results. Contingency-based concepts attempt to resolve this issue by providing a plausible explanation which indicates that users can only generate expected results when there is a need for users to participate in the development process. As a different approach, this study adopts a mediating perspective and asserts that influence due to the effectiveness of participation determines the final outcomes. Based on control theory, and viewing user participation in reviews as one kind of control, we propose that the influence users can generate through participation determines project outcomes. Data collected from 151 information systems personnel confirms the relationships and that an ability to achieve quality interactions among developers and users heightens the achievement of user influence.

Keywords: Control Theory, Information System Development, Interaction Quality, Project Management, Project Success, User Participation, User Review

INTRODUCTION

After decades of study, the effect of user participation on information system (IS) success is still not well understood (Markus & Mao, 2004). Users vary widely as information systems are recognized as any software designed to

provide information to support job duties. User participation, representatives of the target user group assuming active roles and responsibilities, is believed to improve user acceptance of the new system, reduce resistance to implementation, and increase satisfaction with the final product (Hwang & Thorn, 1999). However, inconsistent results of empirical studies hint at the need to reevaluate methodological and

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theoretical approaches to examining the impact of user participation. Among theoretical advances, contingency theory receives significant attention. Contingency theory models have been confirmed that show the effect of user participation on development outcomes is moderated by desired involvement, complexity, design environment, development stage, task interdependence, and user expertise. In whole, researchers conclude that user participation can generate the desired improvements only when sharing crucial information about system functionality.

Ravichandran and Rai argue that instead of understanding the direct relationship between user participation and development outcomes, researchers should shift their focus to exploring how the development process is influenced by user representatives (Ravichandran & Rai, 2000). Their assertion implies that, in addition to understanding the contingent effect, there is a need to reinvestigate the effectiveness of participation through an influence lens. Indeed, the level of influence users can generate through participation may be more important than participation itself (Lynch & Gregor, 2004). Participation can be viewed as effective only when users generate significant influence (Markus, 1983). Only when user voices are heard and taken seriously by developers will the final product better fit user needs and requirements. To do this, users must not just participate; they must exert some form of control over the process.

The application of control theory to user participation requires that stakeholders have active roles during the information system development (ISD) process. Users are a primary stakeholder in the application of controls (Kirsch, Sambamurthy, Ko & Purvis, 2002). When outcomes are measurable, users can adopt outcome control mechanisms to insure the ISD meets the predefined schedule and cost. When behavior is observable, granting users the authority to review work carried out by the developers insures that the final product will better meet business needs. These studies on controls provide a solid foundation for under-

standing which control tactics can be exercised under what conditions. However, they also raise some interesting questions. In particular, how does the user effect the design process by exercising control and does the exercise of control generate the expected effect?

Based on control theory and the user participation research stream, this study aims at understanding how users can influence the system development outcomes through participating in and exercising control of the development process. We target a plausible explanation for the inconsistent results yielded by past user engagement literature. We assert that in addition to types of participation or the timing of the participation, the influence exhibited by effective participation is important. Based on this assertion, we hypothesize that the effect of user participation on project performance is fully mediated by user influence. However, the controls must be done in an effective fashion, so it is additionally expected that the positive impacts of participation can be enlarged when users and developers interact in a high quality manner. That is, the total influence the users generate through control activities is determined by the quality of interaction between users and developers.

The research results contribute to user participation and project control research by showing how users can affect project performance through control activities. In the following sections, we first review prior literature that serves as the basis of the hypotheses and research model. In the methodology section, measurement construction and data collection are described. The fourth section includes data analysis. Finally, a discussion of implications with conclusions, limitations, and future research direction conclude the article.

THEORETICAL BACKGROUND AND HYPOTHESES DEVELOPMENT

Control theory-based research in ISD projects focuses on managerial control, referring to the

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