A Theoretical Explanation of the Evolving Role of Users in Shaping Corporate Information Systems

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The role of users in various aspects of the corporate information systems (IS) activities has substantially changed during the short history of computer-based IS. The importance of the user role is evidenced by the mounting literature on user involvement in IS development, user satisfaction, and end-user computing. The purpose of this paper is to highlight the satisfaction literature from two disciplines, management theories and information technology, in order to provide a theoretical explanation of the changing role of users.

Among important developments in the evolution of information technology is the changing role of users in shaping the corporate information systems (Nolan, 1979; King and Kraemer 1984; Tafti, 1990). Computer and IS literacy is significantly increasing, the gap between computer professionals and users is vanishing, and the users are demanding more control over the corporate information resources. IS users are the subject of a mounting literature from a number of viewpoints: user participation in IS development (Swanson, 1974; Lucas, 1981; Ives and Olson, 1984; Tafti, 1991), user satisfaction (Bailey and Pearson, 1983; Doll and Torkzadeh, 1988), and end-user computing (Rivard and Huff, 1988; Alavi, Nelson, and Weiss 1987; Huff, Munro, and Martin, 1988). For example, as a surrogate measure of IS success in securing user needs, user satisfaction is convincingly stressed in the literature. According to Cyert and March (1965), user satisfaction is reinforced by the success of a formal system in meeting the user’s need for information. Powers and Dickson (1973) found user satisfaction to be the most critical criterion in measuring the success or failure of computer systems. Therefore, the measurement of user satisfaction as a surrogate major of IS effectiveness in meeting user needs is emphasized (Lucas, 1981; Bailey and Pearson, 1983; Ives, Olson, and Baroudi, 1983; Doll and Torkzadeh, 1988).

Why have the IS users become the center of attention by IS policy makers, practitioners, and researchers? How can the increasing influence of users on various IS-related decisions be explained? Why are the users demanding a higher role in shaping the corporate IS strategy? To what extent are the users responsible for such recent IS practices as end-user computing and downsizing?

The purpose of this paper is to present a framework that maps user satisfaction onto Maslow’s need hierarchy in order to shed some light on these questions, and provide a base for further research in this area. The following section provides an overview of Maslow’s need hierarchy. Section III derives three dimensions of IS user satisfaction from review of satisfaction literature.

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The relevance of motivation theories to user satisfaction is discussed in section IV where the dimensions of user satisfaction are further explored and extended into a hierarchy of user requirements. Section V discusses practical and research implications of the proposed framework.

Overview of Maslow’s Needs Hierarchy

The traditional management approach which was based on Taylor’s scientific management (1912) considered wage/bonus as the primary source of workers’ motivation. This classical approach was considered a significant step toward increased productivity and efficiency in the early 1900s. However, as the factory environment and working conditions improved, this approach did not seem to be as effective as expected. Consequently, the focus of research switched to the study of human behavior. In response to the changing environment, motivation theories were evolved to explain the complex nature of human motivation and satisfaction. One of the prominent authors in this area is Abraham Maslow (1964) who postulated that there is a hierarchy of needs that people strive to satisfy. As the lower-level need is met they move to fulfill another need at a higher level. Maslow’s hierarchy involves the following needs:

1. **Physiological needs** include food, water, clothing and shelter.
2. **Safety and security** concerns protection of the first-level needs.
3. **Affiliation** involves sense of belonging and friendship.
4. **Esteem** pertains to the need for achievement, success, and recognition.
5. **Self-actualization** concerns need for creativity, self-expression, integrity, and self-fulfillment.

Physiological requirements such as food and shelter are the most basic needs, and constitute the lowest level of Maslow’s hierarchy. An individual is motivated to satisfy this level of needs before striving to fulfill the next level.

User Satisfaction

User satisfaction is defined in the early satisfaction literature as a set of user beliefs about the relative value of an IS in terms of providing timely, accurate, and easy-to-understand information to support decision making (Swanson 1974). This definition is based upon the Cyert and March (1965) model described below. But this view of user satisfaction is somewhat limited in that it deals only with one dimension of user satisfaction: information satisfaction. Given that a user’s basic information needs have been fulfilled, user satisfaction can be enhanced beyond this level by first, improving the IS to be more flexible and user-friendly, and second, providing a support system to assist the end user. We find, therefore, that the earlier definition of user satisfaction needs to be expanded. In addition to information satisfaction, a user’s perception of the IS (system satisfaction) and his attitude toward the IS support group constitute two other dimensions of user satisfaction. An analysis of these three dimensions is presented in the following sections.

A. Information Satisfaction

The most fundamental user requirements from an IS is information. In their book, *A Behavioral Theory of the Firm*, Cyert and March (1965), discuss a model where user satisfaction is a function of information availability through the present IS. Everytime an IS provides the information which is called for in a decision situation, user satisfaction is reinforced. On the other hand, everytime an IS fails to supply the required information, user satisfaction is undermined. If the user has to expand the search beyond the available IS, the expenditure of additional time and other resources to obtain the necessary information will result in reduction of user satisfaction.

Although the availability of information is a critical factor in enhancing user satisfaction, it is by no means the only criterion. It only constitutes a primary level of the user needs upon which a user depends in making decisions. In addition to information satisfaction, the degree to which overall user satisfaction will be affected depends also on the user perception of the quality and potential of the IS itself, as well as on the perceived attitude and behavior of the support group (Tafti, 1990). For example, if the user perceives that the system interface is satisfactory and it has potential for further enhancements—and the support group is cooperative in implementing the required changes—the user would not be as dissatisfied as he would have been if he felt that nothing could be done to improve the system. Therefore, overall user satisfaction depends also on satisfaction with the system itself as well as with the support group.

Figure 1 is a dynamic framework which extends the Cyert and March model to include the dimensions of system satisfaction and support-group (SG) satisfaction.