A Conceptual Development of Process and Outcome User Satisfaction

JONATHAN B. WOODROOF
Middle Tennessee State University, USA

GEORGE M. KASPER
Virginia Commonwealth University, USA

Integrating three prominent organizational behavior theories of motivation (equity, expectancy, and needs) with concepts of information systems success, this paper develops a broad conceptual foundation from which to view and understand user satisfaction in information systems. This integration attempts to clarify many of the diverse dimensions of user satisfaction and examines the notions of process and outcome satisfaction and dissatisfaction in information systems.

Much research has been done on the relationship between the success of an information system and the satisfaction of the people who use them. Yet many studies report inconsistent or contradictory results. Despite these inconclusive findings, the relationship between user satisfaction (US) and information systems (IS) success has great appeal.

Historically, US research has been plagued by many problems. Directly measuring the success of an IS has been found to be impractical and perhaps impossible (Galletta & Lederer, 1989). Therefore, surrogates are used. The linkage between the operationalizations of US and the IS success construct has been tenuous at best. Methodological problems, such as weak construct validity, have also contributed to the lack of progress and the mixed results on US (Jarvenpaa, Dickson, & DeSantis, 1985; Zmud, Byrd, Sampson, Lenz, & Reardon, 1993). Perhaps the most compelling problem, however, is the lack of conceptual development (Jarvenpaa et al., 1985; Kim, 1989; Straub, 1989; Melone, 1990; Zmud et al., 1993). While the US construct has often been used to evaluate system effectiveness, there is no clearly articulated theory relating US to IS success (Klenke, 1992; Melone, 1990; Yaverbaum & Nosek, 1992).

The purpose of this paper is to develop a more comprehensive model of US. The proposed model of US integrates three prominent organizational behavior theories (equity, expectancy, and needs) with the concepts of IS success. In addition to suggesting a theoretical foundation for US, this integration identifies the notions of process and outcome as critical to assessing IS satisfaction and dissatisfaction. The paper begins with a discussion of the various definitions of user satisfaction that have been used in IS research. Next, a model of US that synthesizes organizational behavior theories and the concepts of IS success is proposed. By integrating the organizational behavior theories of equity, expectancy, and needs with the concepts of IS success, a broad, theory-based foundation for US in IS is developed. The conclusions are then presented and implications of the model for US research are discussed.
The US Construct

US has been defined as a learned disposition toward the objects of an IS (Lucas, 1973), a set of beliefs about the relative value of an IS (Swanson, 1974), “the sum of one’s positive and negative reactions to a set of factors” (Bailey & Pearson, 1983, p. 531), and “the extent to which users believe the information system available to them meets their information requirements” (Ives, Baroudi, & Olsen, 1983, p. 785). Other definitions include terms like “felt need,” “system acceptance,” “perceived usefulness,” “MIS appreciation,” “feelings about a system,” and “system friendliness” (Melone, 1990).

There is currently no agreement on a definition for US and many of the current definitions of US are conceptually inadequate. According to Melone (1990, p. 80),

This lack of agreement on the conceptual definition of the user-satisfaction construct has lead to a situation in which there are many operationalizations and an equal number of conceptual definitions, for the most part lacking theoretical foundation.

There is also no consensus on how US should be measured. A plethora of instruments has been developed and used in past US research, and these US instruments are as diverse as they are numerous (Lucas, 1973; Noland & Seward, 1974; Swanson, 1974; Schultz & Slevin, 1975; Schewe, 1976; Pearson, 1977; Bailey & Pearson, 1983; Ives, Baroudi, & Olsen, 1983; Barki & Huff, 1985; Raymond, 1985; Raymond, 1987; Baroudi & Orlikowski, 1988; Montazemi, 1988; Tait & Vessey, 1988; Doll & Torkzadeh, 1988; Galletta & Lederer, 1989; Tan & Lo, 1990). Moreover, the scales from which these instruments are constructed lack theoretical basis (Shirani, Aiken, & Reithel, 1994; Sanders & Garrity, 1995).

In summary, US research in IS is plagued by many problems, including the lack of consensus on a conceptual definition of the US construct, the lack of agreement on how US should be measured, and the inconsistent and even contradictory results that have been reported over the past two decades. The core reason for these problems and the resulting lack of progress in this area of research seems to be that, while much effort has been expended on the measurement of US, there has been very little work on the construct itself. Because of this, some IS researchers have called for a richer conceptual foundation for the US construct (Melone, 1990).

In response to this call, Sanders and Garrity (1995) extended the model of IS Success developed by DeLone and McLean (1992) by identifying four dimensions of US: Task Support Satisfaction, Quality of Worklife Satisfaction, Interface Satisfaction, and Decision Making Satisfaction. The DeLone / McLean model, as modified by Sanders and Garrity, is presented in Figure 1.

The four dimensions Sanders and Garrity (1995, p. 18) identified are defined as follows:

- Task Support Satisfaction measures the fit between the job and the computer system. Items for this scale attempt to measure the functionality of the system in terms of how the system helps the individual to get a job done and fulfill task requirements.
- Quality of Worklife Satisfaction measures how a computer system affects an individual’s quality of worklife and job satisfaction. Items for this scale attempt to measure whether the system supports the social needs, intellectual needs, and/or physiological requirements of the individual in the context of job related activities.
- Interface Satisfaction measures the quality of the computer system interface. Evaluation focuses on the characteristics of the interface in terms of presentation, format, and efficiency. Items for this construct attempt to determine whether

![Figure 1: The DeLone/McLean Model of IS Success, as modified by Sanders and Garrity (1995).](image-url)