Measuring Information Success at the Individual Level in Cross-Cultural Environments

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This paper proposes a questionnaire to be added to the inventory of well-developed management information system (MIS) instruments. In particular, an instrument is presented and tested that measures information system success, at the individual level, in cross-cultural environments. Few MIS instruments have been tested outside the homogeneous domestic environments in which they were developed. Yet the variables such instruments attempt to measure are often operationalized in heterogeneous global environments. Information systems are very costly, especially those implemented globally. Accordingly, the development of a global research instrument that measures the variables that influence successful outcomes is important. The MIS instrument presented in this paper offers the international manager a means by which information system success can be measured at the individual level. In cases of low levels of success, intervention strategies can then be formulated to improve system success in meeting the individual user’s needs.

Inventories of Survey Instruments

Survey research is one of the most widely used methodologies in the field of management information systems (MIS). There are a number of advantages associated with this particular research design. (1) “Traditional survey work is strong in (those) areas where field methods are weak. Surveys can accurately document the norm, identify extreme outcomes, and delineate associations between variables in a sample” (Attewell & Rule, 1991). (2) “Unlike analysis based on aggregate data, survey research provides information at both the individual and aggregate level of analysis. At the same time, it provides more cases and more systematic data than case studies, facilitating more rigorous hypothesis testing and generalization” (Dansiger & Kramer, 1991). (3) It has the potential to add to the inventory of previously well-developed MIS instruments. Such an inventory of instruments allows the field of MIS to be proactive, in that new techniques can be studied without the delay of reinventing instruments (Benbasat, 1989). It is this last point that is of particular interest, since it is the purpose of the research study presented in this paper to add to the inventory of well-developed MIS instruments.

Survey research is also one of the more practical ways to collect primary data on a global basis. However, few MIS instruments for collecting primary data have been tested outside the homogeneous domestic environments in which they were developed. The MIS instrument presented in this paper has been tested in a heterogeneous global environment. Consequently it offers the international researcher and practitioner a means by which information system success can be measured at the individual level on a global basis.

Information System Success at the Individual Level

In terms of the dependent variable for information system (I/S) success, DeLone and McLean (1992) have noted that “different researchers have addressed different aspects of (I/S) success, making comparisons difficult and the prospects for building a cumulative tradition for I/S research elusive.” Their contribution to the resolution of this problem has been to
introduce a taxonomy that presents researchers with an integrated view of the dependent variable for I/S success. Their model is presented in Figure 1. They propose six major dimensions for defining I/S success, (a) system quality, (b) information quality, (c) user satisfaction, (d) system usage, (e) individual impact, and (f) organizational impact.

DeLone and McLean describe their model as multidimensional and in terms of its level of analysis it might also be described as a multi-level model. Figure 2 is a reconstruction of DeLone and McLean’s model from a multi-level aspect. Such a reconstruction allows the researcher to select the level of theory to explore and develop an appropriate strategy for data collection and statistical analysis. In this study, the level of theory is the individual, where it may be assumed that there is independence of the individual from group influences (Klien, Dansereau, & Hall, 1994). The study is not interested in either within-group or between-group differences. This is an important distinction because the instrument presented in this study is tested at the individual level. Thus its theoretical basis is different from instruments that are tested at the group level. For example, Hofstede’s instrument (1984, 1991) measures work-related values at the group level. The theoretical basis of his instrument is grounded in group differences between national cultures. Data collected by the instrument must be aggregated based on the groups under study. Hofstede emphasizes that the instrument cannot be used to measure individual differences. Kettinger, Lee and Lee’s (1995) recent study of global differences in information service quality is another example of a group level study.

Applying an individual-level of analysis to the DeLone and McLean model narrows the dimensions of I/S success to user satisfaction, system and information quality, and system usage. In the following sections, these dimensions of I/S success are examined in more detail.

**Dimensions of I/S Success:**

**The Dependent Variable**

**User Information Satisfaction**

The user information satisfaction variable, has been the