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Information Systems Success: A Comparative Case Study

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For as long as the information systems (IS) field has existed, the answer to one question in particular has eluded IS researchers: which conditions are necessary for successful implementation of information systems? While researchers have taken steps toward finding the answer, they have not yet adequately answered the question (Lucas Jr., et al., 1990). Kwon and Zmud (1987) even went as far as to suggest that while research had yielded important findings, understanding of information systems implementation was surprisingly incomplete. A literature review of the time-period since Kwon and Zmud's paper reveals that though important steps have been taken toward a fuller understanding of information systems implementation, the field has a long way to go.

The last decade has seen environmental changes that have led to an increased need for additional research on IS implementation, such as the explosive proliferation of PC-based information systems and the increasing use of ready-made packages. According to Cale and Curley (1987) these changes have changed the field of investigation in three ways. First, the number of implementations has stretched the available professional resources in the field, a problem that has increased rather than decreased since 1987. Second, the base of users is moving towards non-technical, white-collar, workers and top management. Third, the users of the software packages have little, if any contact with the software developers, a clear violation of some of the factors that earlier research has found to be significantly correlated with information system success (Barki and Hartwick, 1989; Baroudi, et al., 1986; Franz and Robey, 1986).

Research in the current project will focus on testing a number of independent variables that have been proposed in past literature for their ability to affect IS implementation success. The independent variables are mainly derived from work by Kwon and Zmud (1987), Swanson (1987), Ives and Olson (1984), and Morrissey et al. (1982). The dependent variables mainly derive from work on IS implementation success by DeLone and McLean (1992) and Seddon (1997).

The independent variables will be analyzed in conjunction with a rigorous framework of success, thereby increasing the possibility of finding how different independent variables affect different types of success. The research model in Figure 1 outlines the major groups of variables to be tested. The dependent variables are displayed inside the large box, while the independent variables are outside the box large. Because of size restrictions, the specific hypotheses are not included in the extended abstract.

Based on a set of hypotheses derived from the research model in Figure 1, a set of twelve small- and midsize organizations implementing the same Enterprise Resource Planning software package will be investigated. A multimethod approach will be used to test the hypotheses. Though traditionally, quantitative methods of research have been considered appropriate by most IS researchers, qualitative approaches are rapidly gaining popularity. However, since the values of both qualitative and quantitative methods are undeniable singularly, this research project is based on a belief that they are strongest when mixed together (Benbasat, et al., 1987; Cale Jr. and Curley, 1987; Jick, 1979; Lee and Liebenau, 1997; Paré and Elam, 1997). The research will be organized by the use of comparative case studies containing both qualitative and quantitative data. Figure 2 outlines the different sources of data. Of the seven different types of data outlined, three or four will have been completely collected before the AMICS Doctoral consortium
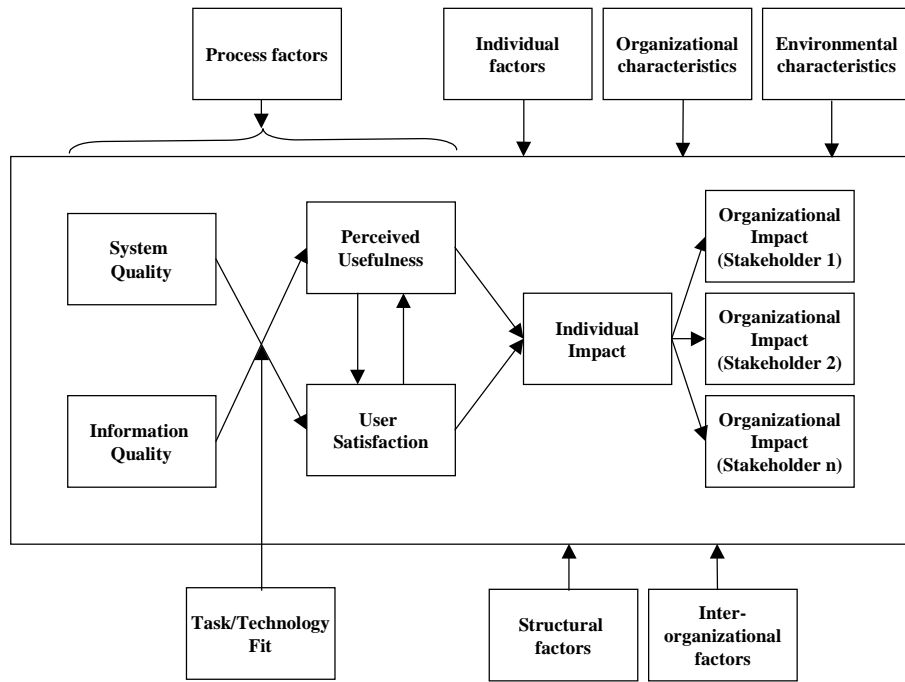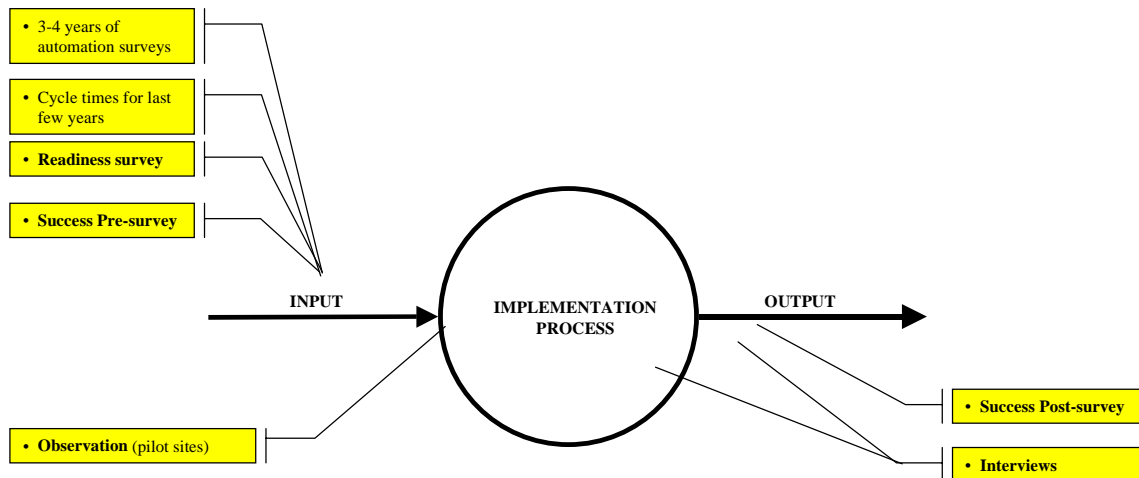
Figure 1. Temporary research model.

Figure 2. Collection of Data

References

Barki, H. and Hartwick, J. "Rethinking the Concept of User Involvement," *MIS Quarterly* :1), 1989, pp. 53-63.

Baroudi, J.J., Olson, M.H. and Ives, B. "An Empirical Study of the Impact of User Involvement on System Usage and Information Satisfaction," *Communications of the ACM* (29:3), 1986, pp. 232-238.

Benbasat, I., Goldstein, D. and Mead, M. "The Case Research Strategy in Studies of Information Systems," *MIS Quarterly* (11:3), 1987, pp. 369-386.

Cale Jr., E.G. and Curley, K.F. "Measuring Implementation Outcome: Beyond Success and Failure," *Information and Management* (13), 1987, pp. 245-253.

DeLone, W.H. and McLean, E.R. "Information Systems Success: The Quest for the Dependent Variable," *Information Systems Research* (3:1), 1992, pp. 60-95.

Franz, C.R. and Robey, D. "Organizational Context, User Involvement, and the Usefulness of Information Systems," *Decision Sciences* (17:3), 1986, pp. 329-356.

Ives, B. and Olson, M.H. "User Involvement and MIS success: A review of Research," *Management Science* (30:5), 1984, pp. 586-603.

Jick, T.D. "Mixing Qualitative and Quantitative Methods: Triangulation in Action," *Administrative Science Quarterly* (24:December), 1979, pp. 602-611.

Kwon, T.H. and Zmud, R.W. "Unifying the fragmented models of information systems implementation," In *Critical Issues in Information Systems Research*, R. Boland and R. Hirschheim (Ed.), John Wiley & Sons, Chichester, 1987, pp. 227-251.

Lee, A.S. and Liebenau, J. "Information Systems and Qualitative Research," In *Proceedings of the IFIP TC8 WG 8.2: Information Systems and Qualitative Research*, A. S. Lee, J. Liebenau and J. I. DeGross (Ed.), Chapman & Hall, London, England, Philadelphia, PA, 1997, pp. 1-8.

Lucas Jr., H.C., Ginzberg, M.J. and Schultz, R.L. *Information Systems Implementation: Testing a structural model*, Ablex Publishing Corporation, Norwodd, NJ, 1990.

Morrissey, J.P., Hall, R.H. and Lindsey, M.L. *Interorganizational Relations: A Sourcebook of Measures for Mental Health Programs*, U.S. Department of Health and Human Services, Rockville, Maryland, 1982.

Paré, G. and Elam, J.J. "Using Case Study Research to Build Theories of IT Implementation," In *Proceedings of the IFIP TC8 WG 8.2: Information Systems and Qualitative Research*, A. S. Lee, J. Liebenau and J. I. DeGross (Ed.), Chapman & Hall, London, England, Philadelphia, PA, 1997, pp. 542- 568.

Seddon, P.B. "A Respecification and Extension of the DeLone and McLean Model of IS Success," *Information Systems Research* (8:3), 1997, pp. 240-253.

Swanson, E.B. "Information Systems in Organization Theory: A Review," In *Critical Issues in Information Systems Research*, R. J. Boland Jr. and R. A. Hirschheim (Ed.), John Wiley & Sons, Chichester, 1987, pp. 181-204.