THE IMPACT OF CONTEXTUAL FACTORS ON
INFORMATION SYSTEM EFFECTIVENESS

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A Dissertation Submitted in Partial Fulfillment of the Requirements
for the Degree of Doctor of Philosophy (Development Administration)
School of Public Administration
The National Institute of Development Administration
ISBN 974-231-517-5
2003
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ABSTRACT

Title of Dissertation : The Impact of Contextual Factors on Information System Effectiveness
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Degree : Doctor of Philosophy (Development Administration)
Year : 2003

There have been an increasing number of information systems implemented in a variety of business environments. The implementation of information systems is an extremely important yet difficult task in organizations. Information systems have been integrated into the overall organizational environment; they exist in the context of an organization. They are deemed to be successful only if they contribute to an organization's goal achievement. Organizational context includes the elements that, at any one point in time, make up the "givens" facing the information system – the material with which the information system has to work. Hence, the contextual factors are the organization's components. This model views four major components of organizations: strategy, structure, task and culture. The information system must fit with organizational components in order to be successful. The fit between the information system (IS) and organizational components results in tacit, firm-specific, difficult to imitate, intangible resources which are the key drivers of superior performance. On the other hand, a lack of fit between IS and organizational components is the cause of performance gaps.

This paper develops an integrative model of the impact of contextual factors on IS effectiveness based on contingency and resource-based approaches. This study attempts to test the model to measure the effects of four sets of fit: IS-strategy fit, IS-structure fit, IS-task fit, and IS-culture fit upon information system effectiveness. The four sets of fit produced eight important outputs: information-based strategic advantage, operational efficiency, open communication, organizational flexibility, job satisfaction, on-the-job productivity, involvement,
and organizational consensus. Also, this research explores the outputs of the four sets of fit, which would affect information system effectiveness.

The study employs a descriptive research method. The study sampled 153 registration offices of higher education institutions in Thailand. The data were obtained through questionnaires and interviews. Percentage, correlation, and multiple regression were adopted for data analysis.

The results of this research confirmed the assumption of the study that the fits between information systems and organizational components: strategy, structure, task, and culture affect IS effectiveness. However, the impacts of these four sets of fit depend on (1) organizational contexts in which information systems function, (2) information system development conditions, and (3) IS effectiveness dimensions.

Both outputs of IS-Strategy Fit, information-based strategic advantage and operational efficiency, significantly affect both dimensions of IS effectiveness, user information satisfaction (UIS) and improvement in management decision-making.

Both outputs of IS-Structure Fit, open communication and organizational flexibility, significantly affect UIS, but neither of them significantly affects improvement in management decision-making.

Both outputs of IS-Task Fit, job satisfaction and on-the-job productivity, significantly affect both user information satisfaction (UIS) and improvement in management decision-making.

Only one output of IS-Culture Fit, organizational consensus, significantly affects both dimensions of IS effectiveness. But, involvement does not significantly affect either dimension of IS effectiveness.

Hence, the organizational context of the information system, i.e. strategy, structure, task, and culture, must be considered in information systems implementation and use. The changes in these organizational components and the changes in the information system itself are needed for the fit between IS and its contexts. Only when the IS is aligned with these organizational components will the IS effectiveness be maximized.
This dissertation concludes with a set of guidelines for future research on IS effectiveness in organizations. More systematic analyses of information system effectiveness are still needed. Attempts should be made to identify additional valid and reliable IS effectiveness indicators. Types of information systems and development conditions should be also considered for IS effectiveness. Finally, additional research is required to explore the applicability of IS-fit and conceptualization of IS effectiveness in other industries, and in other contexts.
ACKNOWLEDGEMENTS

I wish to express my sincere gratitude to many people for their assistance in the completion of this research as well as my doctoral program. Deep gratitude goes to Assistant Professor Dr. Tippawan Lorsuwannarat, my advisor and dissertation committee chairperson. Her advice, understanding, and encouragement helped me pass through the process of dissertation development. Great appreciation is extended to my dissertation committee members, Associate Professor Dr. Suchitra Punyaratabandhu and Associate Professor Dr. Nisada Wedchayanon, for their valuable comments and suggestions, which contributed to the completion of this dissertation.

I owe much to my friends and colleagues at the Faculty of Science and Technology, Assumption University for their support and encouragement. Special thanks are given to Asst. Prof. Jirayut Poomontre for his advice in research methodology and data analysis.

Most of all, I would like to express my deepest gratefulness to my beloved family: my father and mother, Mr. Sutin and Mrs. Nantiya Nontakao, who gave me love and support over the years of study. Sincere gratefulness is extended to my husband, Pol. Lt. Colonel Somkiat Sukolsatitkul, who continuously provided moral support during the tough times in developing this dissertation.

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July 2003