

# Senior Executives' Use of Information Technology

*An examination of factors influencing managerial beliefs,  
attitude and use of Information Technology*



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## Abstract

Senior executives are constantly being told that Information Technology (IT) is the key to the success of the business, yet huge sums are being invested in IT with no commensurate increase in productivity. However, to achieve maximum leverage from these investments, it is vital that IT is widely accepted and used by senior executives. The lack of personal involvement and low level of use are an indication that senior executives still have not committed themselves to IT. Consequently they are not reaping the full benefits at first hand.

The primary objective of the study is to identify key factors and relationships likely to influence IT use by senior executives. To achieve this objective, a well-established model of IT usage behavior, the Technology Acceptance Model (TAM), was used. However, most TAM-based research to date has primarily focused on the core model instead of the key external variables directly and indirectly affecting the intermediate and dependent variables. These external variables represent the levers through which desired actions may be exercised. Building upon TAM, a theoretical research model was developed to investigate a large number of external variables that are possible antecedents of managerial beliefs, attitude, and use of IT. A dedicated system supporting senior executives' task, an Executive Information System (EIS), was selected as the IT tool under review.

A cross-sectional field survey was conducted to investigate the theoretical research model. Most questions on the survey were derived from instruments validated in previous empirical research. The results are based on the interpretation of questionnaire data from eighty-seven senior executives drawn from twenty-one different multinational, European-based companies. Structural equation modeling (SEM) was used to analyze the results. The results showed significant support for external variables, mostly of an individual nature, in the categories demographics, managerial and IT knowledge, personality of the manager, company characteristics, and characteristics of the IT resource. Contrary to expectations, three categories - social factors, environmental characteristics, and task-related characteristics - had no variable with a significant relationship.

The study has corroborated the core TAM model as a foundation for understanding managerial usage behavior with IT, although beliefs and attitude do not fully mediate the influence of the external variables. This study further presents empirical evidence to suggest a limited number of antecedents, under managerial control influencing beliefs, attitude, and use. A better understanding of the various factors that may impede or increase effective utilization of IT can facilitate the design of organizational or managerial interventions that address these issues.

The IT Usage Model has been developed based on the results of the theoretical research model. In this model, it is hypothesized that IT usage is directly and indirectly influenced by seven external variables divided into three categories: demographics, personality, and company characteristics. Three of these factors, two individual ones, computer self-efficacy and perceived fun / enjoyment, and one organizational factor, organizational support, are under direct managerial control. Using the IT Usage Model, effective and increased use of managerial IT tools can be promoted. This will enable senior executives to have access to better information leading in turn to more effective decision-making.

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