Chapter VI

The Technology Acceptance Model: A Meta-Analysis of Empirical Findings

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ABSTRACT

The technology acceptance model proposes that perceived ease of use and perceived usefulness predict the acceptance of information technology. Since its inception, the model has been tested with various applications in tens of studies and has become a most widely applied model of user acceptance and usage. Nevertheless, the reported findings on the model are mixed in terms of statistical significance, direction, and magnitude. In this study, we conducted a meta-analysis based on 26 selected empirical studies in order to synthesize the empirical evidence. The results suggest that both the correlation between usefulness and acceptance and between usefulness and ease of use are somewhat strong. However, the relationship between ease of use and acceptance is weak, and its significance does not pass the fail-safe test.
INTRODUCTION

Information technology (IT) acceptance or adoption has received consider-
able attention in the last decade. Several theoretical models have been proposed
to explain end users’ acceptance behavior. Among them, the technology
acceptance model (TAM) proposed by Davis (1989) is widely applied and
empirically tested. There have been tens of empirical studies conducted on TAM
since its inception. Compared with its competing models, TAM is believed to be
more parsimonious, predictive, and robust (Venkatesh & Davis, 2000).

Despite the plethora of literature on TAM, the empirical tests so far have
produced mixed and inconclusive results that vary considerably in terms of
statistical significance, direction, or magnitude. Although they are not uncommon
in social sciences where human behavior is difficult and complex to explain, the
mixed findings not only undermine the precision of TAM, but also complicate
efforts for IT practitioners and academicians to identify the antecedents to user
acceptance behavior.

The goal of this study is to understand to what extent the existing body of
literature reflects substantial and cumulative validity of TAM. In particular, we
synthesize the existing findings on TAM by conducting a meta-analysis. We hope
that by integrating existing empirical findings, we can better understand how
TAM is applicable to different technologies as a whole. We will be able to
examine the relationships between the constructs of TAM with a larger sample
of subjects than any individual studies. We hope that the results of this study can
be used as a benchmark for future tests of TAM.

Besides its potential theoretical contributions, a meta-analysis on TAM also
is significant to IT management practice. By understanding the substantive
antecedents to user acceptance, IT managers can take more effective interven-
tions to achieve greater technology acceptance or usage. As Robey and Marus
(1998) and Benbasat and Zmud (1999) noted, IT management needs prescrip-
tions. IT researchers should not only apply rigorous methodology best suited to
their research objectives, but also produce relevant and consumable research for
practitioners. There can be many possible ways for academic research to
contribute to practice. Benbasat and Zmud (1999) noted as a successful
example, “IT research based on Theory of Reasoned Action and its extensions,
such as the Theory of Planned Behavior, to the study of IT adoption, implemen-
tation, and use” (p. 9). They suggested that once a sizable body of literature
exists regarding a phenomenon, “it does become possible to synthesize this
literature” (p. 9). Thus, they recommended that the “IS research community
produce cumulative, theory-based, context-rich bodies of research” (p. 9). In a
sense, the current study answers this rigor and relevance research call.

The outline of this chapter is as follows. We first review the literature on
TAM and indicate major inconsistencies and discrepancies in the existing
findings. Then, we describe how we collected and recorded the sample of

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