Chapter 2
The Value of TAM Antecedents in Global IS Development and Research

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ABSTRACT

Theoretical models are often conceived and tested in western countries. However, culture influences theoretical models, and the importance of evaluating models in non-western cultures has grown with the accelerating pace of globalization. The technology acceptance model (TAM) is no exception, and more TAM research is being conducted in non-western countries. TAM constructs of perceived usefulness and perceived ease of use are difficult to act on, which has led to several studies that identified valid antecedents to these constructs that make the model more practically actionable. These antecedents were conceived and tested in a western country but have yet to be evaluated in the context of a non-western country. In this paper, the authors evaluate these antecedents in Saudi Arabia and find that they function in the specific context of general computer use by Saudi knowledge workers.

INTRODUCTION

Does culture have an influence on the perceptions and acceptance of technology? In one of the earliest studies to address this question, Straub (1994) found that the cultural differences between Japan and the United States did have an effect on the perceptions and selective use of email and fax technologies. In a study of Arab cultures, Straub, Loch, and Hill (2001) gathered data from five Arab nations and determined that Arab cultural beliefs were powerful predictors of resistance to information systems technologies. Broader studies have also found similar patterns of cultural

influence on technology acceptance. Parboteeah, Parboteeah, Cullen, and Basu (2005) conducted a 24-nation study and found that cultural factors were influential in the perceived usefulness of information technology. The results of these studies would seem to provide clear evidence that culture does, in fact, have an influence on the perceptions and acceptance of technology.

So why is it important to study the influences of culture on technology acceptance? Information systems are expensive to implement and often involve considerable sunk costs before they are ready for use by end users. Since users can potentially undermine the intended purposes of the technology (Orlikowski & Robey, 1991), businesses need to have a good idea up front how these systems will be received and accepted. Increasing globalization is resulting in the need for multinational and trans-cultural organizations to utilize information technology to achieve economies of scale, coordinate global operations, and facilitate collaborative work across distributed locations and diverse cultures (Ford, Connelly, & Meister, 2003; Shin, Ishman, & Sanders, 2007). Understanding the influences of different sets of cultural values on the acceptance and use of information systems can help managers and system developers design systems for use by multinational organizations to improve their chances of being accepted and used.

How does this paper contribute to the study of the cultural influences on technology acceptance? The study of technology acceptance over the last two decades has predominantly centered on the technology acceptance model (TAM) (Davis, 1989). The extent to which it has been studied and applied over the last two decades is evident in recent meta-analyses (King & He, 2006; Schepers & Wetzels, 2007) and reviews (Lee, Kozar, & Larsen, 2003; Legris, Ingham, & Collerette, 2003) of TAM research. A part of the model's popularity and appeal to researchers can be explained by its parsimonious structure which has only four constructs, with perceived ease of use (PEOU) and perceived usefulness (PUSE) predicting behavioral

intention which leads to actual use. However, one of the criticisms of TAM is the difficulty in acting on the results of the model (Gefen & Keil, 1998; Venkatesh & Davis, 2000). One solution would be the identification of antecedents to perceived usefulness and perceived ease of use which could make TAM more practically actionable. In fact, Davis had considered antecedents to TAM in his initial research, but found that they were fully mediated by perceived usefulness and perceived ease of use (Davis, 1989). A decade later two studies re-examined potential TAM antecedents to produce a more actionable model of technology acceptance (Venkatesh, 2000; Venkatesh & Davis, 2000). These studies identified a number of antecedents to TAM that are effective predictors of perceived usefulness and perceived ease of use; however, both studies were conducted in North American organizations. Will those antecedents be valid in a non-western culture? Straub, Keil, and Brenner (1997) found that the TAM model held in the United States and Switzerland but not in Japan. The fact that culture has been shown to affect theoretical models that predict technology acceptance would seem to support the need for the evaluation of these models in multiple cultures. Since the validity of these antecedents has not been examined outside of a western country, the goal of this research is to evaluate the predictive validity of select TAM antecedents within an Arab country to determine whether they are valid for organizations operating within that context.

LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

Information systems research in the context of non-western cultures has been increasing in recent years with TAM studies providing a good example of this trend. In the ten years following Davis's (1989) seminal article on the technology acceptance model, there were only eight TAM related articles published that either included culture as

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