From Beliefs to Success: Utilizing an Expanded TAM to Predict Web Page Development Success

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ABSTRACT

The technology acceptance model (TAM) is a popular model for the prediction of information systems acceptance behaviors, defining a causal linkage between beliefs, attitudes, intentions, and the usage of information technologies. Since its inception, numerous studies have utilized the TAM, providing empirical support for the model in both traditional and Internet-based computing settings. This article describes a research study that utilizes an adaptation of the TAM to predict successful Web page development, as an introduction of the TAM to a new domain, and the testing of a new dependent variable within the model. The study found some evidence to support the use of the TAM as a starting point for the prediction of Web development success, finding causal linkages between the belief constructs and the attitude constructs, and the intent construct and the successful development of Web pages. However, additional research is required to further study the expanded model introduced within this article.

Keywords: computer attitudes; internet attitudes; system development success; technology acceptance model (TAM)

INTRODUCTION

The TAM is a well-established model for the prediction of information systems usage. However, despite a number of studies being conducted with the Internet as a research domain, very few of these studies consider more than the usage of Internet technologies. We propose that this research should be extended to the domain of Web page development, as this activity forms a critical component of the Internet and its usage. Furthermore, Web page development is increasingly becoming a large part of the information technology activities of organizations (Taylor, McWilliam, Forsythe & Wade, 2002), and concerns have been raised about the increasing numbers of individuals who create Web pages without sufficient skills to do so (Gellerson & Gaedke, 1999). However, very little research has focused on the success of these applications or factors which may influence their success. The study described in this article uses an adaptation of the TAM to investigate the
relationships between an individual’s beliefs, attitudes, intentions, and their subsequent success, as an attempt to ascertain whether these factors can be used to predict the success of Web application development.

The Technology Acceptance Model

Davis’s (1989) TAM is grounded in the theoretical underpinnings of the theory of reasoned action (TRA) (Fishbein & Ajzen, 1975). The TRA asserts that an individual’s actual behavior is linked to their beliefs, attitudes, and intentions to perform that behavior, such that an individual’s beliefs toward a particular action influences their attitudes (or “general feeling[s] of favorableness or unfavorableness”) (Fishbein & Ajzen, 1975, p. 216) toward that action. These attitudes then influence their intention to perform that action, which finally affects their undertaking of that particular action (Fishbein & Ajzen, 1975).

The TAM refines the TRA in order to model the user acceptance of information systems (Davis, Bagozzi & Warshaw, 1989). This model has since been declared as “one of the most influential research models in studying the determinants of IT usage” (Chau, 2001, p. 26). It has also been important in the theorizing of the causal linkages between external factors, internal beliefs, attitudes, and behavioral intentions (Davis et al., 1989). The TAM is presented in Figure 1.

Guided by previous research in the field identifying determinants of information technology acceptance (e.g., DeSanctis, 1983; Robey, 1979; Schultz & Slevin, 1975; Swanson, 1987), the TAM utilizes the two variables of perceived usefulness and perceived ease of use as determinants of an individual’s attitude toward using a particular technology. These two variables form the belief constructs within the TAM (Davis et al., 1989). Perceived usefulness has been defined as “the degree to which a person believes that using a particular system would enhance his or her job performance” (Davis, 1989, p. 320); whilst perceived ease of use is defined as “the degree to which a person believes that using a particular system would be free of effort” (Davis, 1989, p. 320). These two factors are theorized to be the fundamental variables in the prediction of information technology acceptance (Davis et al., 1989).

The attitude construct within the TAM pertains to an individual’s attitude toward using a particular information technology, whilst the intention construct refers to the individual’s intention to use the technology in question, and the behavioral construct concerns the actual usage of the information system (Davis et al., 1989). Therefore, the TAM states that an individual’s acceptance of an information technology is dependent on their beliefs about the usefulness and ease of use of the technology.
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