



Effects of interface style on user perceptions and behavioral intention to use computer systems

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Abstract

This study examines the influence of two interface styles (menu- and command-based) on the perceived ease of use, perceived usefulness, and behavioral intention of the user to use the system. We have treated the system interface style as an external factor in the technology acceptance model (TAM) to examine its direct and indirect effects on behavioral intention to accept and use a system. The results showed that the interface style had direct effects on perceived ease of use and perceived usefulness which, in turn, demonstrated significant effects on behavioral intention to use the system. Further, the results showed that perceptions of the menu-based interface were more favorable than perceptions of the command-based interface. These results provide several theoretical and practical implications for designing an effective system.

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Keywords: Interface style; Technology acceptance model; TAM; IS acceptance; Perceived ease of use; Perceived usefulness; Behavioral intention

1. Introduction

Although considerable amounts of time and money are spent in developing and deploying computer systems, many of these applications may not be accepted or used by their potential users (Luarn & Lin, 2005). Still, other systems may be underutilized or not fully exploited (Venkatesh & Morris, 2000). Hence, user acceptance of computer systems has been recognized as a key pre-requisite for the subsequent use and success of such systems.

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Therefore, better understanding the factors that influence individual's decision to accept or reject an IS continues to be a pivotal objective in information systems (IS) research and practice (Venkatesh & Morris, 2000).

Among the various models that have been proposed to explain and predict user acceptance computer systems, the technology acceptance model (TAM) by Davis (1989) has been found to offer a powerful and parsimonious explanation for system acceptance and users' subsequent usage behavior (Huang & Liaw, 2005). The TAM was adapted from the theory of reasoned action (TRA) (Ajzen & Fishbein, 1980) as a model to predict and explain technology acceptance across diverse user group, computer systems, and computing settings. TAM models acceptance of a system as a function of users' perceptions of the ease of use (PEOU) and usefulness (PU) of the system.

More importantly, TAM suggests that perceptions of ease of use and usefulness are directly determined by external variables. Although these external variables pertain to user characteristics, system attributes, and the setting in which the system will be implemented and used, most past studies have focused on examining the role of individual characteristics of users and little attention has been given to examining the impact of system characteristics (Hong, Thong, Wong, & Tam, 2002; Hu, Chau, Liu, & Tam, 1999). Therefore, this study represents an additional attempt to address this issue by investigating the impact of major system attribute, namely the interface style, on user perceptions of and behavioral intention towards an IS.

A summary of previous studies examining the relationship between interface style and systems acceptance is presented in Table 1. As Table 1 illustrates, compared to the large number of studies of TAM (Legris, Ingham, & Colleerte, 2003; Ma & Liu, 2004; Mahmood, Hall, & Swanberg, 2001), very few studies have focused on the impact system interface style. Moreover, the reported results in this area have been mixed and inconclusive. For instance, while Davis (1993) found that interface style had a significant effect on perceived usefulness; other studies demonstrated that this relationship was nonsignificant (Wiedenbeck & Davis, 1997).

Certainly there are other system attributes (e.g. system reliability, documentation, and functionality) that have the potential to influence users' perceptions of usefulness and ease of use. However, we chose to focus on the impact of interface style for several reasons. Firstly, as described above, there has been little research in this area and several researchers have called for additional research gain better insights into the role of interface style in

Table 1
Summary of past studies

Study	System	Interface style	Results
Gururajan and Fink (2002)	Project management	Icons Menus	<ul style="list-style-type: none"> • Interface has no significant effect on PEOU • Usefulness was not examined
Wiedenbeck and Davis (1997)	McIntosh-Word <i>vi</i> /TROF PC Word	Direct-manipulation Menu-based Command-based	<ul style="list-style-type: none"> • Interface has significant effect on PEOU • Interface has no significant effect on PU
Davis (1993)	Electronic mail Text editor	Not reported Not reported	<ul style="list-style-type: none"> • System has significant effect on PEOU • System has no significant effect on PU
Davis and Bostrom (1992)	Macintosh-Finder IBM-DOS	Direct-manipulation Command-based	<ul style="list-style-type: none"> • Interface has no significant effect on PEOU • Usefulness was not examined

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