An investigation of user communication behavior in computer mediated environments

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Abstract

Computer Mediated Environments (CMEs) allow people to communicate and interact electronically, either synchronously or asynchronously, their key characteristic being online interactivity. This study attempts to provide a better understanding of communication behavior in CMEs, the study objective being to investigate the effects of the level of interactivity on web users' attitudes and intentions towards the use of online communication tools. It tests constructs based on system characteristics (interactivity), extrinsic motivation (the Technology acceptance model), and intrinsic motivation (Flow theory) in an integrated theoretical framework for online communication behavior. This study demonstrates the development of a reliable and valid measure to capture several critical constructs in order to understand online communication behavior. Questionnaires were placed on the website for voluntary participants who use online communication tools to complete. The statistical results revealed that attitude and behavioral intention are directly affected by users' internal and external motivation, and are indirectly affected by interactivity through the perceived ease of use, perceived usefulness, and flow experience. This shows that interactivity is an important element of web-based information technology for absorbing users, and is not only mediated by task-oriented (external) motivation but also entertainment-oriented (internal) motivation.
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1. Introduction

Since 1990, the World Wide Web (WWW) has developed quickly, and now has a widespread and varied impact upon the communication behavior of people. The pervasive use of the WWW led to the creation of Computer Mediated Environments (CMEs), which are defined as distributed computer networks used to access and provide hypermedia content (Hoffman & Novak, 1996). CMEs formed a new technological medium and mode of communication between people. Today, web-based information systems can be found in applications spanning commerce, education and entertainment; the introduction of CMEs has stimulated businesses to establish commercial websites. On the Internet, consumers no longer interact with salespeople or have a direct physical experience of a store and its products. Instead, their experience is mediated through the web, using a graphical display without any face-to-face interaction with the e-vendor (Koufaris & Hampton-Sosa, 2004). Therefore, we must endeavor to understand users' communication behavior in these emerging computer mediated environments. Examination of the important technological features affecting web users' beliefs, attitude and intention towards online communication tools can help the corporation or website administrator to improve their interface design and the approach of online communication with consumers or web users.

Interactivity is one of the key characteristics of new media (Hoffman & Novak, 1996). The benefits of adding interactivity to a website include improved user satisfaction (Teo, Oh, Liu, & Wei, 2003) and better acceptance (Fortin & Dholakia, 2005). In the past decade, perceived ease of use and perceived usefulness have been considered important in determining the individual's acceptance and use of information technology (IT). However, the WWW is primarily used for education, shopping, entertainment, work, communication or personal information; hence, perceived usefulness and perceived ease of use alone may not fully reflect the motives of WWW users, in contrast to users of traditional IT. It is necessary to search for additional intrinsic motivational factors, and many researchers have suggested using the concept of flow experience in that search (Hsu & Lu, 2004; Koufaris, 2002).

Past research that adopted the Technology Acceptance Model (TAM), extended TAM or combined TAM and flow theory, has mostly investigated online shopping behavior (Saeed, Hwang, & Yi, 2003), the effects of online learning (Hayashi, Chen, Ryan, & Wu, 2004), users' degree of involvement in online game playing (Hsu & Lu, 2004) or the degree of user mobile commerce acceptance (Wu & Wang, 2005) – online communication behavior between users in the online environment has rarely been investigated. Therefore, this paper intends to explore the effect of different online communication tools on interaction between users within CMEs. To achieve this purpose, users' perceptions of interactivity are measured, and an integrated model combining the Technology Acceptance Model (Davis, 1989) and Flow Theory (Hoffman & Novak, 1996) is proposed to provide a better understanding of online communication behavior. Within this field, this study further investigates:

(1) the influence of interactivity characteristics on users' external attitudes towards the acceptance of IT;
(2) the influence of interactivity characteristics on users' internal motivation towards the acceptance of IT;