

# Personalization and Customer Satisfaction in Mobile Commerce

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## INTRODUCTION

The advancement of wireless technology facilitates both consumers' activities and business transactions. With the rapid proliferation and widespread use of mobile devices, including mobile phones, personal digital assistants (PDAs), and handheld computers, mobile commerce or m-commerce is widely considered to be a driving force for the next generation of electronic commerce (e-commerce). According to Jupiter Research, the m-commerce industry is expected to be US\$22 billion globally by 2005. However, to date many promising technologies—especially m-commerce applications—have failed with the notable exceptions of i-Mode service and short messaging service (SMS).

Popular “i-Mode”, produced by NTT DoCoMo of Japan, is a service that enables wireless Web browsing and e-mail from mobile phones. The “i-Mode service” has been the first successful commercial introduction of 3G (third-generation) mobile applications. It exceeded expectations and acquired over 30 million profitable users in a three-year period (Cohen, 2002).

One of the main goals of most operators might be building customer satisfaction and loyalty by providing one or more ‘killer apps’ to them. One way is to integrate customer relationship management (CRM) into the development of mobile services' applications. Some firms have tried to target these applications to their customers on an individualized basis. “Personalization” may be the way to achieve that. Specifically, personalization can be regarded as the use of technology and user/customer information to match multimedia content with individual needs with the goal of producing user satisfaction. Personalization can be presented by an IP services framework that allows operators and subscribers through self-service provisioning approaches to control the types of service and applications they want and are willing to buy.

The purpose of this article is to develop a deeper understanding of personalization, with an emphasis on those factors that lead to customer satisfaction and/or delight. Specifically, this article presents factors contrib-

uting to consequences derived from using personalized applications and services in m-commerce.

## BACKGROUND

In their pilot study, Ho and Kwok (2003) applied the technology acceptance model (TAM) originated by Davis (1989) to their m-commerce study. They utilized four constructs to predict the service subscribers' intention to switch: number of generalized messages, perceived ease of use of general advertisements, perceived usefulness of personalized message, and privacy issues about personalized advertisements.

This article extends the thrust of Ho and Kwok's research to incorporate the effect of personalization on customers' satisfaction and delight that could contribute to CRM. Customers' satisfaction and delight are derived from expectancy theory, and they are discussed by Oliver (1981), Oliver, Rust, and Varki (1997), Spreng, Mackenzie, and Olshavsky (1996), and Verma (2003).

## Expectancy: Satisfaction and Delight

Expectancy theory is used to frame the evaluation of mobile services users. Oliver (1981) defined expectation to include two components: the probability of occurrence (e.g., the likelihood that a personalized cell service will be available) and an evaluation of the occurrence (e.g., the degree to which the personalization level is desirable or undesirable). The disconfirmation/confirmation paradigm of satisfaction is based on expectancy theory. It can be an emotional response to the comparison of the performance received and the products' normative standards. When the performance and expectations are at variance with each other, there is a discrepancy. This discrepancy could be either *positive* (when performance exceeds the expectations), which often causes satisfied state, or it could be *negative*, when performance is worse off than expected (Oliver, 1981). In other words, the consumer would be satisfied if perceptions match expectations or if confirma-

tions are reached. Consistent with Spreng et al. (1996), satisfaction arises when consumers compare their perceptions of the performance of a good and/or service to both their desires and expectations. As such, satisfaction is a subjective judgment and may imply mere fulfillment.

Delight is a positively valence state reflecting high levels of consumption-based affect. The feeling of delight is experienced when the customer is pleasantly surprised in response to an experienced disconfirmation. It is the feeling state containing high levels of joy and surprise (Westbrook & Oliver, 1991). Further, Oliver et al. (1997) proposed and confirmed that delight is a function of surprising consumption, arousal, and positive effect or a function of surprisingly unexpected pleasure. They empirically confirmed that delight is a “mixture” of positive effect and arousal or surprise. It is associated with the level of arousal intensity. Moreover, it is a reaction experienced by the customer when he or she receives a service and/or a good that does not simply evoke a feeling of satisfaction, but also provides an unexpected value or unanticipated additional pleasure. In other words, delight occurs when the outcome is unanticipated or surprising. It can be marked by pleasurable, unforgettable, and memorable feelings in a service encounter or a product purchase (Verma, 2003). It is thought to be the key to customer loyalty and loyalty-driven profit (Oliver et al., 1997) and is known as the highest level of expectation-disconfirmation paradigm.

### **Technology Acceptance Model (TAM)**

From Davis' (1989) TAM model, ease of use (EOU), and perceived usefulness (PU) of a technology are factors that either directly or indirectly increase a person's intention to adopt an innovation. While *perceived usefulness* is the degree to which a person believes that using a particular technology/system would enhance the outcome performance, *perceived ease of use* is the extent to which a person believes that using a particular technology/system will be free of effort (Davis, 1989). TAM could be helpful in predicting the usage of personalized applications and services. Greer and Murtaza (2003) adapted the TAM model to study issues that impact the valuation of Web personalization as well as factors that determine customer use of Web personalization. Ho and Kwok (2003) adapted Davis' (1989) EOU and supported the effect of using a generalized message on changing a service provider. They also used “PU of personalized service” to test the importance of personalization in mobile commerce. They found support for both. Most importantly, the PU of personalized service was the most effective factor, together with ease of locating generalized message and the amount of generalized message that

affected the decision to change to a new service (Ho & Kwok, 2003).

### **MAIN THRUST OF THE ARTICLE**

Usually when there are too many generalized messages, customers lose their motivation to read, retrieve, or even locate a useful message. In addition, the amount of space available on the mobile screen limits the amount of options and information. Given this, personalization is considered to be the key factor for success/failure of mobile devices and services. Information and services must become increasingly tailored to individual user preferences and characteristics in order to accommodate limited space and scarce airtime. Personalization is viewed as including “recognition of a customer's uniqueness” (Surprenant & Solomon, 1987, p. 87), use of a customer's name, and response to customer needs (Goodwin & Smith, 1990).

### **Message Format**

Carlson et al. (1998) characterized medium *richness* as the capacity to convey information. It is further defined as the ability to provide immediate feedback to customers' consumption of media. Rich information can be produced by giving immediate feedback, having a variety of available communication cues, understandable/common language, and foremost, personalization of the medium (Carlson et al., 1998).

Media richness theory postulates that media selection depends on the uncertainty of the task at hand (Kumar & Benbasat, 2002). Both media richness theory and the TAM model have illustrated their relationships with task orientation. Also, social presence theory postulates a particular communication task based on the degree of necessary social presence that links a selection of media (Kumar & Benbasat, 2002). Originally, it referred to the degree to which a medium allows a user to establish a personal connection with the other users. Social presence seems to be moving towards a task orientation at an individual level in the latter theoretical development, such as the para-social concept from Kumar and Benbasat (2002). Para-social is a combination product of social presence and media richness. This article focuses on the PU of personalized messages that employ a task orientation, while two different formats of messages (text and multimedia) were drawn from media richness theory.

### **Personalization**

Personalization can be defined as the use of technology and user/customer information to customize multimedia

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