Chapter 2.28
Developing and Validating a Measure of Web Personalization Strategy

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ABSTRACT

An important theoretical undertaking in personalization research is to identify the structure of the multidimensional construct of personalization and to operationalize them in measurable terms. The purpose of this study was to develop and validate measurement scales for personalization by identifying four distinctive personalization archetypes and hypothesizing their respective relationships with different cognitive and affective outcomes. This effort was successful in several respects. New scales for measuring personalization strategies were developed based on the definitions of personalization archetypes (architectural, instrumental, social and commercial), which were in turn derived from an extensive review of multidisciplinary studies. A lab experiment with 229 student subjects was conducted to explore the structure of the personalization construct and to validate the instrument using four Web site stimuli representing four types of personalization strategies. The new measures were found to have strong psychometric properties and exhibit significant linkages with respective cognitive and affective outcomes as theoretically postulated.

INTRODUCTION

In e-commerce and mobile commerce, personalization has been recognized as an important element in customer relationship and Web strategies. Personalization is commonly treated as an independent variable that influences Web usage outcomes such as customer experience (Novak, Hoffman, & Yung, 2000), Web site usability (Agarwal & Venkatesh, 2002; Palmer, 2002), and

customer churning behavior (Chen & Hitt, 2002). However, the extant research on personalization is constrained by the shortage of high-quality measures for the personalization construct (Fan & Poole, 2006). Due to the inadequacy of existing personalization measures to capture all dimensions of personalization consumers actually value (Chen & Hitt, 2002), empirical studies have often failed to support the hypothesized association between personalization and the behavioral outcomes (Chen & Hitt, 2002; Novak et al., 2000). In responding to the need for better measures of personalization, this study aims to develop and validate measures for four archetypes of personalization.

Personalization can be generally defined as "*changing the functionality, interface, information access and content, or distinctiveness of a system to increase its personal relevance to an individual or a category of individuals*" (Blom, 2000, p. 313). While there exist a set of narrow, specialized definitions of personalization that are built around varied goals and techniques of personalization in the literature, Blom's definition of personalization provides an integrated view of personalization that centers on the general goal of increasing personal relevance without limiting the personalization concept to particular motivations, context or techniques (Fan & Poole, 2006).

In developing measures for personalization, we focus on four personalization archetypes: architectural, instrumental, social and commercial personalization, which are theorized to be four distinctive personalization strategies that elicit different cognitive and affective outcomes (Fan & Poole, 2006). While the existing personalization categories, such as Rossi et al.'s three personalization categories pertaining to link, navigation structure, and navigation context, are largely concerned with the system-level personalization mechanisms (Rossi, Schwabe, & Mattos Guimares, 2001; Wu, Im, Tremaine, Instone, & Turoff, 2003), Fan and Poole's personalization archetypes provide a high-level framework for the design of personalization

by delineating different philosophies concerning user-centered motivations behind personalization and their corresponding strategies of personalization. Developing valid measures for those four personalization archetypes will not only facilitate the investigation of cognitive and affective aspects of using the personalization system, but also promote the accumulation of personalization research results on the basis of a common measure of personalization. In addition to the significant theoretical value, developing and validating such measures also has great practical value for both personalization technology vendors and user organizations.

In the rest of this article, first we review prior literature on personalization, followed by a discussion of four personalization archetypes and proposition of hypotheses for their individual influences on cognitive and affective aspects of Web usage. Then, we present the method and procedure of developing the multi-item measurement scales of the four personalization archetypes. Next, we discuss the research design of an empirical study to test and validate the measurement model. After that, the results of data analysis are reported and interpreted. Finally, limitations of the study are addressed along with future directions.

REVIEW OF PRIOR LITERATURE

As an important social phenomenon that brings considerable economic values (Davenport & Beck, 2001; Pine & Gilmore, 1999), personalization has been studied extensively in e-commerce research. Considerable research efforts have been devoted to classifying different mechanisms for implementing personalization. Rossi et al. (2001) made a distinction between base information and behavior, what the user perceives and how the user perceives. Rossi et al.'s framework mainly deals with system-level elements such as personalization for links, navigation structure, and navigation context. Wu et al. (2003) classified personalization

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