

Chapter 6.12

Web Personalization for E-Marketing Intelligence

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ABSTRACT

As the Web is growing exponentially, online marketing has been changed by the newly provided technological capacities and digital channels of sales. Online marketing or e-marketing is the adaptation and development of marketing strategies in the Web environment and includes all factors that affect a Web site's efficiency, like the idea, the content, the structure, the interface, the implementation, the maintenance, the promotion and the advertising. Since more and more businesses are using the Web to conduct their activities, issues like interface usability, easy navigation and effective supporting services become critical and influence their success dramatically. However, one important problem that arises is that Web

users are confronted with too many options. Currently, Web personalization is the most promising approach to alleviate this information overload and to provide users with tailored experiences. It improves user interaction with Web sites and offers them the ability to establish long-term and loyal relationships. The scope of this chapter is to give a comprehensive overview of research issues on personalized e-marketing applications. We focus on the importance of personalization as a remedy for the negative effects of the traditional "one-size-fits-all" approach. Next, we explore the different steps of the personalization process providing information about interesting research initiatives and representative commercial tools for producing personalized Web experiences. Finally, we demonstrate the close relation between per-

sonalization and Web mining and discuss open research issues.

INTRODUCTION

In today's competitive business world, understanding and leveraging the power of the four Ps of marketing, namely product, price, place and promotion has become one of the major factors that determines a company's marketing future survival or success. However, these four Ps have all been modified by technological evolutions and especially the Web and they have been converted into the four Ps of e-marketing, namely permission, privacy, profiling and personalization (Goldsmith, 1999). According to (Mobasher & Dai, 2003) "*personalization is the provision to each individual of tailored information, products, or services*" and the subject of this chapter is to study the significant role of personalization in intelligent e-marketing applications.

The roots of personalization are traced back to the introduction of adaptive hypermedia applications in Brusilovsky (1996, 2001). Adaptive hypermedia were introduced as an alternative to the traditional "one-size-fits-all" approach, building a model of the goals, preferences and knowledge of each individual user, and using this model throughout the interaction, in order to adapt to the user's specific needs (Perkowitz & Etzioni, 1997, 2000a).

Personalization is a broad scientific and technological area, also covering recommender systems, customization, one-to-one marketing, and adaptive Web sites (Blom, 2000; Mulvenna et al., 2000; Schafer et al., 2001). It is the process of gathering and storing information about Web site visitors, analyzing the information in order to learn users' patterns, habits and preferences, and based on this analysis, delivering the right information to each visitor at the right time (Eirinaki & Vazirgiannis, 2003).

Personalization can be deployed by e-businesses (any Web site whose operation is related to commercial purposes, e.g., e-shop, e-procurement, e-auction, e-mall, portal, etc.) and be used as the key technology for managing customer relationships, running targeted advertisement campaigns, promoting products or services and customizing Web site content (Perner & Fiss, 2002). Besides, according to the forth of the five mutable laws for Web marketing (Wilson, 1999) the objective of e-commerce sites should be to "*pull people to the site by its attractive content, then push quality information to them regularly via e-mail.*" However, personalized content apart from e-mail can be advertising, recommended items, screen layout, news, or anything else accessed via commercial Web site.

The digital channels that can be deployed by an e-business to reach its customers are numerous: Web, e-mail, ftp, chat, search, voice over IP, interactive multimedia, etc. The power of these digital channels is significant, since they can dramatically change the way the e-business listens, understands and responds to its customers and suppliers. Moreover, these channels facilitate instantaneous responses to the information gathered by various touch-points (buttons' selection, hyperlinks, transactions, log files, etc.) without the need for human intervention (Yao et al., 2001).

Web personalization may be implemented in the form of:

- personalized content presentation and delivery (inserting or removing thematic units/sections/paragraphs, optional explanations or detailed information, personalized recommendations/offers/prices/products/services).
- personalized structure (sorting, hiding, unhiding, adding, removing or highlighting links), e.g., yahoo.com (Manber et al., 2000).

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