Chapter 69
Mobile Purchase Decision Support Systems for In-Store Shopping Environments

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ABSTRACT

Purchase decision-making is influenced by product information available in online or in-store shopping environments. In online shopping environments, the use of decision support systems increases the value of product information as information becomes adaptive and thus more relevant to consumers' information needs. Correspondingly, mobile purchase decision support systems (MP-DSSs) may also increase the value of product information in in-store shopping environments. In this chapter, we investigate the use of a MP-DSS that is bound to a physical product. Based on Theory of Planned Behaviour, Innovation Diffusion Theory, and Technology Acceptance Model, we propose and evaluate a model to better understand MP-DSSs. Results indicate that perceived usefulness influences product purchases and predicts usage intentions and store preferences of consumers. We therefore discuss new business models for retail stores in which MP-DSSs satisfy both the information needs of consumers and the communication needs of retailers.

INTRODUCTION

Consumers depend on precise and comprehensible product information at the point of sale. For example, consumers with food allergies need to know about the ingredients of groceries and consumers that buy a memory card for a digital camera need to know if both products are compatible with each other. Product information therefore strongly influences purchase behaviour as found by consumer research for in-store shopping situations (Tellis & Gaeth, 1990). In the case of online purchase situations, the value of product information can be increased further with the use of purchase DSS,

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also known as recommendation agents, as they "elicit the interests or preferences of individual users for products either explicitly or implicitly, and make recommendations accordingly" (Bo & Benbasat, 2007, p. 137). In this sense, product information provided by purchase DSS becomes adaptive and therefore more relevant to individual consumers' information needs, whereas product information on printed product labels is static by definition. Correspondingly, several studies revealed that online purchase DSS help to reduce search complexity and consumers' information overload (Häubl & Trifts, 2000; Todd & Benbasat, 1999), improve decision quality (Pereira, 2001), increase trust in decisions (Gregor & Benbasat, 1999), and finally, influence consumer behaviour and purchase intentions (Bo & Benbasat, 2007; Häubl & Trifts, 2000; Kamis, Koufaris, & Stern, 2008). In practice, they are restricted to online applications and are adopted by providers of product information, e.g., for car configurations, such as offered by Toyota (carconfig.toyota-europe.com), collaborative product recommendations (e.g., Amazon.com) or recommendations of recipes based on particular ingredients a consumer has available (e.g., allrecipes.com).

As purchase DSS are used via websites at home, they may also be used on mobile devices for in-store product information acquisition. Correspondingly, mobile applications are currently being developed for consumers to communicate with physical products (Maass & Varshney, 2008). Thus, mobile shopping assistants such as Impulse (Youll, Morris, Krikorian, & Maes, 2000), MyGrocer (Kourouthanassis & Roussos, 2003), MASSI (Metro AG), the Tip'n Tell client (Maass & Filler, 2006), the Mobile Prosumer (Resatsch, Sandner, Leimeister, & Krcmar, 2008), EasiShop (Keegan, O'Hare, & O'Grady, 2008), or APriori (von Reischach, Guinard, Michahelles, & Fleisch, 2009) allow to request product information directly at the point of sale. For example, a garment is identified by a mobile barcode or radio-frequency identification (RFID) reader device and then provides its information such as the recommended sales price, its producer or other products that fit with it. In that case, physical products can be enriched with new digital product information services relevant to the consumer. This would not only change the way retail stores are perceived by consumers, e.g., they might request product information directly at the point of sale instead at home, but it would also have managerial implications for retailers and providers of product information. In particular, the use and impact of mobile purchase DSSs (MP-DSSs) in in-store shopping environments are a main concern from both consumer's and retailers' perspective.

Up until now, little research has been conducted on the utility of purchase DSSs for in-store purchase decision-making. For example, Westerman et al. (2007) found that a desktop-based purchase DSS improves the quality of purchase decisions by providing recommendations based on a weighted adding model. In another lab experiment, product information provided by a MP-DSS was perceived as being better than static product information (e.g., information printed on product labels) particularly for product bundle purchases in in-store situations (Kowatsch, Maass, Filler, & Janzen, 2008; Maass & Kowatsch, 2008a). Further, the existence of personalized cues provided by MP-DSSs and indicating the attractiveness of a product improves the quality of product consideration sets (van der Heijden, 2006). But with regard to the literature review in the next section it is still open, (1) whether MP-DSSs are adopted for product information acquisition in retail stores, (2) by which factors they are adopted, (3) if they influence purchase behaviour, and finally, (4) whether MP-DSSs influence the consumers' preferences in selecting retail stores that provide access to them.

This chapter provides first answers to these questions with the help of a lab experiment. It is organized as follows. Next, we will discuss related literature on product information and purchase DSSs before we develop our research model that is based on Theory of Planned Behaviour (Ajzen,