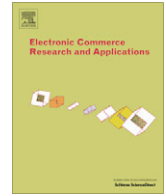


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## Predictors of attitudinal and behavioral outcomes in mobile advertising: A field experiment

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### ABSTRACT

The study examines consumer responses to SMS-based mobile advertising campaigns using a field experiment with actual behavioral responses. Specifically, the effects of message characteristics (i.e., incentives and prior permission) and individual differences of message recipients (i.e., content involvement, prior experience with the mobile medium, and medium-fit perceptions) on the attitudinal and behavioral outcomes of such campaigns are investigated. Perceived intrusiveness of the message and attitude toward the campaign are conceptualized as key attitudinal reactions triggered by a mobile advertising message, which in turn influence the behavioral responses generated by the campaign. Findings suggest that, in comparison to permission and incentive, individual differences are stronger determinants of responses to mobile advertising campaigns. Additionally, intriguing insights with respect to the effectiveness of different types of incentives are provided.

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### 1. Introduction

Driven by the ongoing evolution in mobile technologies and the high penetration rate of mobile handhelds, the popularity and importance of mobile advertising has increased rapidly (Okazaki 2006). Mobile advertising is unique in terms of establishing direct, pervasive, and individualized links with customers due to several inherent characteristics of mobile handsets such as being “exceptionally personal,” “always on,” “always connected,” and “always with the user” (Balasubramanian et al. 2002, Kavasallis et al. 2003). Its relative novelty, unique features, and growing business potential have made mobile advertising a stimulating area of interest for both practitioners and researchers.

Accordingly, research in marketing has begun to explore the factors shaping consumer responses in the mobile context (e.g., Okazaki 2004, Zhang and Mao 2008). The present research aims to advance the current state of knowledge in this area via a field experiment. The main purpose of the study is to reveal the nomological characteristics and relative impacts of a number of drivers of attitudinal and behavioral outcomes in mobile advertising campaigns.

Specifically, the two most critical determinants of consumer responses in mobile advertising, incentives provided to and permissions granted by the target audience, are integrated as treatment factors in a between-subjects experimental process and are explored in terms of their effects on attitudinal and behavioral consumer responses, i.e., campaign outcomes. In addition, the effects of three individual difference variables reflecting respondent characteristics and perceptions, namely, content involvement, perceptions regarding medium fit, and prior experience with the mobile medium, are examined. Specifically, these five factors are theorized to be influential on attitudinal reactions triggered by the campaign (intrusiveness of the message and attitude toward the mobile advertising campaign), which in turn influence behavioral and behavioral intention-based campaign outcomes (actual response behavior, response delay, and word-of-mouth intentions).

It is important to note that the degree of involvement that recipients of a mobile message have with the message content as well as their prior experience with the mobile medium are fully or partially controllable by campaign managers through targeting and personalization decisions; however perceptions regarding medium-fit represent individual-level differences across mobile users. Findings of the present research therefore provide insights with regard to decisions in mobile marketing involving (1) critical campaign elements and (2) segmentation and targeting strategies, while at the same time revealing novel evidence regarding the crucial role of the concept of medium-fit on campaign outcomes.

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Furthermore, the experimental processes employed reveal rather realistic assessments of consumer responses since, unlike majority of prior research, real response behaviors toward a SMS-based campaign are investigated in the study.

## 2. Literature review

Extant research in mobile advertising has identified a wide variety of factors that influence the adoption of mobile services and mobile advertising messages (e.g., Varnali and Toker 2010). A comprehensive review reveals that variables related to consumer responses in the mobile context belong to one of the three main phases of the communication process: (1) targeting, (2) message, medium, and implementation decisions, and (3) responses and response assessments.

The first phase of the communication process involves data-based segmentation and targeting practices to increase message relevance. Targeting is the process of identifying and selecting target customer segments and designing advertising stimuli according to their distinct profiles (Germanakos et al. 2008). Extant studies concentrating on this phase of the communication process provide a workable list of inputs for effective targeting and personalization algorithms, such as customer demographics (Okazaki, 2004, 2007), prior use of mobile services and non-store shopping experience (Bauer et al. 2005), cultural differences (Muk 2007), predisposition to trust (Zhang and Mao 2008), innovativeness (Sultan and Rohm 2008), optimum stimulation level (Mahatanankoon 2007), time consciousness (Kleijnen et al. 2007), and novelty seeking (Okazaki 2009).

The second phase of the communication process involves strategic decisions with regard to message and implementation elements. Whereas consensus exists that effectiveness of communication depends largely on characteristics of the target audience (Michael and Salter 2006), several message-related issues are also found to influence consumers' experiences with mobile advertising stimuli. Most prominent among these factors are content design, medium characteristics, and source-related facilitators (e.g., Marez et al. 2007, Scharl et al. 2005, Palka et al. 2009, Zhang and Mao 2008). In addition, existence of incentives motivating response and the degree of user control are deemed as the two "usual suspects" of successful mobile advertising campaigns (Michael and Salter 2006, Varnali et al. 2010). Incentives may entail both monetary benefits such as discounts, coupons, lotteries, credits, and gifts, and non-monetary benefits involving intrinsic value such as badges, level-ups, status awards, right for priority service, helping others, and contributing to a cause. Surprisingly, besides anecdotal evidence and conceptual arguments, empirical evidence with respect to the nature of the impact of incentives on campaign outcomes is almost nonexistent in the related literature. Consumer control in the context of mobile advertising is a multidimensional construct referring to the ability of consumers (1) to provide explicit permission to the marketer, that is, "to opt in," for exposure to mobile advertising messages, (2) to decide upon the timing, frequency, and content of the messages received, and (3) to have the option to 'opt out' at any stage (Carroll et al. 2007). There is robust support for the notion that perceived user control significantly and strongly influences consumers' attitudes toward mobile advertising messages (e.g., Carroll et al. 2007, Kleijnen et al. 2007, Maneesoonthorn and Fortin 2006).

The third communication phase relates to attitudinal and behavioral outcomes of the campaign (e.g., Fang et al. 2005/2006, Kleijnen et al. 2007, Rohm and Sultan 2006). Perceptions regarding informativeness, entertainment, credibility, medium-fit and interactivity of and trust towards mobile ads have been shown to influence acceptance levels (Haghirian and Inoue 2007, Okazaki 2004,

2006; Okazaki et al. 2007). Also relevant at this phase is the monitoring, measurement, and assessment of consumer responses. In addition to response rates, word-of-mouth created and forwarding of the message are important behavioral outcomes in mobile campaigns (Okazaki 2009) since these behaviors increase campaign effects exponentially without additional costs.

A comprehensive understanding of consumer experience in mobile marketing requires a unifying approach that (1) integrates message/implementation characteristics, individual differences, and perceptual/attitudinal reactions together and (2) investigates how these components of the mobile advertising process interact to produce behavioral campaign outcomes. Yet, very few studies have adopted such an approach; research regarding behavioral outcomes of mobile advertising campaigns, although as of today is rich and prolific, is also highly fragmented and scattered across the literature. Specifically, the relative effects of message characteristics and individual differences on campaign outcomes are largely unknown. The present study aims to fill this gap in the related literature by incorporating a model that includes essential factors from all three phases of the communication process in mobile advertising and examine their relative effects on campaign outcomes.

Note that works in mobile advertising have often contented with measuring behavioral intentions of the potential respondents rather than observing real response behaviors (e.g., Mahatanankoon 2007, Zhang and Mao 2008). This approach has been criticized on the grounds that intentions do not necessarily ensure realization of behaviors. It is therefore important to emphasize that, as a distinctive aspect of the present study, real response behaviors of the participants are studied in an experimental SMS messaging campaign.

## 3. Theoretical framework

In this section, we explain the experimental constructs in detail and develop research hypotheses. Fig. 1 depicts an overview of the hypotheses and highlights the essence of the present research. The model in Fig. 1 incorporates two essential factors as predictors of attitudinal and behavioral responses in mobile advertising: (1) message and campaign characteristics and (2) individual differences of message recipients. The effects of two most commonly noted, "usual suspects" of success in mobile advertising on attitudinal and behavioral campaign outcomes, namely prior permission and incentive, are to be empirically investigated, while at the same time accounting for the potential effects of individual differences.

### 3.1. Attitudinal and behavioral outcomes of mobile advertising

Perceived intrusiveness of the SMS message and overall attitude toward the campaign are deemed as the two most important attitudinal reactions triggered by a mobile advertising campaign. Intrusiveness relates to the perceived degree of irritation or annoyance evoked by the methods used in marketing practices (Edwards et al. 2002, Ha 1996). Most prevalent dimensions of intrusiveness in the context of advertising include (1) intrusion into consumer privacy (Milne and Rohm 2004), (2) intrusion on task performance and cognitive processing (Edwards et al. 2002), and (3) media clutter (Ha 1996, Elliott and Speck 1998). Whereas the effect of media clutter is largely beyond the control of marketers in many cases, other aspects of intrusiveness could be avoided to some significant extent (Ying et al. 2009). The very personal nature of mobile devices is the main reason that mobile advertising is perceived as more intrusive than other media (Wehmeyer 2007). Unlike many other channels, mobile users cannot simply avoid advertising messages; users often have to suspend their tasks and deal with mobile messages. Although attenuating perceived intrusiveness

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