Exploring Gender Influence on Customer's Intention to Engage Permission-based Mobile Marketing

HEIKKI KARJALUOTO, HEIKKI LEHTO, MATTI LEPPÄNIEMI AND CHANAKA JAYAWARDHENA

INTRODUCTION

With the notion of one-to-one marketing, which contends that customers should be addressed individually, one at a time (Peppers and Rogers 1993, Peppers et al. 1999), marketers are increasingly shifting away from mass marketing (Barwise and Farley 2005). Similarly, marketing thinking is experiencing a reconstruction towards service dominant logic, which accelerates relationship marketing by providing better interactivity and connectivity with the help of technology in serving customers (Peppers et al. 1999, Vargo and Lusch 2004). Companies are nowadays effectively utilizing digital marketing channels such as e-mail and SMS (text) messaging to reach their target audiences. SMS advertising, where a text message is used as a vehicle for the distribution of promotional messages, is rapidly gaining foothold as an important direct marketing tool (Barnes and Scornavacca 2004, Trappey and Woodside 2006). Companies are nowadays effectively utilizing digital marketing channels such as e-mail and SMS (text) messaging to reach their target audiences. SMS advertising, where a text message is used as a vehicle for the distribution of promotional messages, is rapidly gaining foothold as an important direct marketing tool (Barnes and Scornavacca 2004, Trappey and Woodside 2006). In this article we focus on permission-based SMS advertising, which is the most common form of mobile advertising today and thus also most relevant to marketers. Permission-based mobile marketing can be defined as a message that has been requested by the consumer as a part of an opt-in system (e.g. a consumer fills in their mobile phone number on a website and agrees to receive information of interest). In effect, the permission to market to the consumer is received by the marketer. Permission-based advertising messages are powerful because by

Permission-based mobile communications, and reference group influence, affects intention to engage in permission based mobile communications with a firm. Data is collected by the means of an online survey (n=8,578) and analysis incorporates confirmatory factor analysis and structural equation modelling. The results support the conceptual model and show specifically that perceived usefulness of mobile communications explains a considerable amount of attitude toward advertising. Attitude was found to explain a considerable amount of the intention to receive messages from a firm. Furthermore, women are found to have a stronger relationship between mobile marketing communications with both intentions to visit and actual visits compared to men. The implications of these results are discussed, together with managerial implications, study limitations, and future research directions.

Keywords: permission marketing, mobile advertising, technology acceptance, behavioural intention

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signing up to an opt-in marketing list, the consumer is requesting the information from the marketer rather than simply being exposed to it (Martin et al. 2003). Thus marketers can gain better value for their marketing expenditure, as the message recipients have already indicated a level of interest in the messages.

Consumer intention to engage in digital marketing communications is a fresh topic and it is not surprising that there is less literature on the subject compared to more established subjects. Moreover, relatively less academic research has been devoted to the topics of examining the driving forces of consumer intentions to use mobile services in general (Jayawardhena et al. forthcoming, Kautonen et al. 2007, Nysveen et al. 2005a) or, more specifically, to the investigation of the antecedents of the intention to use the mobile channel as a part of customer relationship management (CRM) programmes (Sinisalo et al. 2007). Although the growing importance of mobile media for marketing activities is widely recognized (e.g. Balasubramanian et al. 2002, Nysveen et al. 2005, Watson et al. 2002), gaps exist in our understanding of this emerging marketing phenomenon (Jayawardhena et al. forthcoming, Venkatesh 2005). Furthermore, the literature also implies that behaviours that result from mobile communications may be a function of gender. For instance, research appear to suggest females value enjoyment, fun and the social dimensions related to mobile service usage (Nysveen et al. 2005b). This is consistent with the view that women behave differently from men (Stern 1999). Thus there are theoretical reasons to expect that women may experience mobile marketing communications differently to men.

The present study is designed to contribute to the theory of the acceptance of permission-based mobile marketing communications as a part of companies’ CRM programmes. The main objective of the study is to develop and test a model of permission-based mobile marketing acceptance in relation to a real-life digital marketing campaign drawn from the hospitality sector. This research also examines the impact of gender on behavioural intentions.

The remainder of this paper is structured as follows. The next section outlines the different frameworks regarding the investigation of intention to use new technology, particularly mobile services. This will be followed by the presentation of the conceptual model and the hypotheses related to it. Subsequently, we present the methodology and the analysis of data. The final section of the article outlines the contributions of the present study, the limitations and suggests avenues for further research.

FRAMEWORKS OF INTENTION TO USE NEW TECHNOLOGY

The intention to use mobile services has been investigated in the information systems discipline mostly from the perspective of the technology acceptance model (TAM) and its modifications (Hung et al. 2003, Nysveen et al. 2005a). In general, the overall attitude toward technology has been used as a major determinant of whether a person is willing to use an information system or not (Davis 1993). Although the attitude toward technology has not been used in the original TAM model, it acts as a central part of the TAM as an antecedent of intention (Davis 1993, Lee et al. 2006, Mathieson 1991). Technology acceptance literature has not widely recognized the role of familiarity with the system or object under investigation, and thus most studies have not taken into account whether respondents are experienced or inexperienced users of the system (Taylor and Todd 1995a). Therefore it is suggested to investigate technology acceptance in the light of whether people have experience with the technology or not. There is extant literature on the effects of technology experience on Internet use and online shopping behaviour (McKeechnie et al. 2006, Montoya-Weiss et al. 2003). The literature is consistent in proposing that the more experience people have of the Internet, the more positive attitudes they hold and therefore the more willing they are to use various online services. With respect to mobile marketing communications, it can be expected that prior experience is similarly associated with attitude.

A CONCEPTUAL FRAMEWORK OF INTENTION TO USE MOBILE MARKETING COMMUNICATIONS

The conceptual model displayed in Figure 1 shows the causal links mainly established by previous studies concerning technology acceptance and use. The model is an integration of three theoretical foundations, albeit all originating from the Theory of Reasoned Action (TRA) (Ajzen and Fishbein 1980, Fishbein and Ajzen 1975), namely the Technology Acceptance Model (TAM) (Davis 1989, Davis et al. 1989, Davis and Venkatesh 1996, Mathieson 1991), and its modifications such as TAM2 (Venkatesh and Davis 2000), the Theory of Planned Behavior (TPB) (Ajzen 1991), and the Unified Theory of Acceptance and Use of Technology (UTAUT) (Venkatesh et al. 2003).

The literature is full of various modifications of the theories applied, mobile settings in general (Nysveen et al. 2005a), and mobile marketing in particular (Bauer et al. 2005, Muk and Babin 2006). However, the conceptual model also shows new hypotheses not widely confirmed in the relevant literature, such as examining the effect of attitude toward advertising as an explanatory variable of intention to receive mobile marketing communications from a firm. Furthermore, inside the mobile channel, relatively little is known about how the intention to receive marketing is associated with the behavioural intention to act (in our case, the intention to visit the nightclub). We argue that there are several factors that explain consumers’ intention to receive
mobile communications from a firm, and test the link between attitude-intention-behaviour in a mobile context. In the following sections we outline the theoretical bases for the antecedents of attitude and other concepts of the model and link them to relevant theoretical discussions.

**Perceived usefulness and perceived ease of use of mobile communications**

The extant literature on technology acceptance and adoption highlights the importance of perceived usefulness and ease of use as the main indicators of whether a person is willing to adopt or use new technology, particularly in the case of user acceptance of computers (Davis 1989, Davis *et al*. 1989, Davis and Venkatesh 1996, Mathieson 1991, Taylor and Todd 1995a). TAM studies have proposed that the effect of perceived ease of use (PEOU) is often less significant on acceptance than is the effect of perceived usefulness (PU) (Davis 1989, Keil *et al*. 1995). This is explained by the fact that while users of the information system learn about ease of use, its impact becomes instrumental via PU. Although the original TAM model and its various extensions have been conceptually developed further and tested extensively with various samples in many settings, and proved valid models of measuring user acceptance of information technology (Venkatesh and Davis 1996, Venkatesh and Morris 2000), this stream of literature has so far produced equivocal results (Karahanna *et al*. 2006, Legris *et al*. 2003). Thus, in line with the TAM literature, perceived usefulness and ease of use are seen as antecedents of consumer attitudes toward advertising:

*Hypothesis 1:* Perceived usefulness of mobile communications is positively associated with attitude toward advertising.

*Hypothesis 2a:* Perceived ease of use of mobile communications is positively associated with attitude toward advertising.

In the light of the technology acceptance literature, perceived ease of use is hypothesized to affect perceived usefulness (Davis 1989, King and He 2006, Venkatesh *et al*. 2003). Thus, we hypothesize that:

*Hypothesis 2b:* Perceived ease of use of mobile communications is positively associated with perceived usefulness of mobile communications.

**Perceived trust**

Although literature on the role of perceived trust (PTR) in the context of mobile communications is still at an early stage, trust has been identified as one of the main concepts affecting attitudes and intentions in electronic channels (Ba *et al*. 2003, McKnight and Chervany 2002, Siau and Shen 2003, Yang *et al*. 2006). Trust can be defined as a belief or expectation that another party can be relied on with confidence to behave in a manner that is beneficial or at least not detrimental to the other party’s interests (Gambetta 2000, 217, Morgan and Hunt 1994). As trust is a multidimensional concept including various dimensions such as benevolence and competence (Ganesan and Hess 1997, Selnes and
Gronhaug 2000), there is still considerable conceptual disagreement across disciplines of its different aspects (Poortinga and Pidgeon 2006) and of how it should be operationalized (Sargeant and Lee 2004). Generally speaking, with respect to electronic environments, trust has been accepted to consist of various dimensions such as benevolence, integrity and ability (Chen and Dhillon 2002, Gefen 2002, Lee and Turban 2001, McKnight et al. 2002).

Past literature has shown the positive association of trust and the acceptance of and attitude toward new technologies (Chen et al. 2004, Eiser et al. 2002, Gefen et al. 2003). In general, the more trust there is, or the lower the perceived risk is, the more willing people are to adopt new technologies. In other words, people are assumed to oppose new technologies because of their lack of trust or the risks involved (Huang and Chuang 2007, Sjöberg 2002). Thus we propose that:

**Hypothesis 3a**: Trust in the marketer is positively related to attitude toward advertising.

**Hypothesis 3b**: Trust in the marketer is positively related to intention to receive messages.

**Reference group influence**

In literature, reference groups (REF) have been widely found to affect consumer attitudes, intentions and behaviour (Bagozzi 2000, Bearden and Etzel 1982, Fishbein and Ajzen 1975). Reference group influence or subjective norms can simply be defined as what the consumer believes other people would think of a given behaviour. When measuring reference group influence, Fishbein and Ajzen (1975) propose using two measures, namely the normative belief (b), referring to doing what other people want one to do, and the motivation to comply with different referents (m). In the original TRA model the relative influence of subjective norms varies greatly from situation to situation, and in some circumstances certain behavioural intentions can be primarily affected by subjective norms (Peter and Olson 1990: 157).

Literature on subjective norms identifies two types of reference groups, namely normative, such as parents and peers, and comparative, such as idols (Childers and Rao 1992). Reference group influence in the marketing sector has mostly been studied in the setting of tangible products (Hsu et al. 2006), and relatively few studies are available that have measured the various aspects of reference group influence in different social environments. In our study, reference group influence is related to peer influence, as many studies have considered the influence of peers on behavioural intention related to drinking, going out, entertainment or dining to be more significant than the influence of other subjective norms, such as parents, community or comparative referents (Fitzgerald and Arndt 2002, Lessig and Park 1978, Mehta, Labwani and Ping 2001). With respect to the willingness to receive mobile marketing communications, peer influence has been identified to positively affect the intention to engage in mobile marketing (Bauer et al. 2005, Muk and Babin 2006, Rohm and Sultan 2006, Scharl et al. 2005). In a recent study of over 4,000 online users, peer influence was found to explain roughly 22% of the variation of the intention to receive mobile advertising (Karjaluoto and Alatalo 2007). On this basis, we propose that reference group influences both the intention to receive messages and the intention to visit:

**Hypothesis 4a**: Reference group influence is positively associated with intention to receive messages.

**Hypothesis 4b**: Reference group influence is positively associated with intention to visit.

**Perceived behavioural control**

In general, perceived behavioural control (PBC) refers to people’s perceptions of their ability to behave in a given way. Perceived behavioural control was added to the TRA “in an attempt to deal with situations in which people lack complete volitional control over the behavior of interest” (Ajzen 2002: 2). Ajzen (2002) recommends that PBC be measured indirectly in the same way as attitude and subjective norm that is, using belief-based measures that also capture the cognitive foundations underlying perceptions of behavioural control. However, most studies have used direct measures in measuring PBC, such as direct questions related to the three to five controlling factors that are linked to the behavioural intention in question.

Perceived behavioural control or a concept very similar to it, called self-efficacy has been used as part of technology acceptance studies to predict the intention to use (Mathieson 1991, Taylor and Todd 1995b). While literature on the association of PBC and intention in mobile context is fresh, and there is no commonly accepted agreement on whether and how perceived behavioural control affects intention to receive mobile marketing communications, preliminary results suggest that control has little association with the intention to receive mobile marketing communications (Jayawardhena et al. Forthcoming, Karjaluoto and Alatalo 2007, Merisavo et al. 2007, Venkatesh et al. 2003). With the use of focus groups, Carroll et al. (2007) find that permission regarding content relevance and control over wireless service provider are among the critical factors to the acceptance of mobile advertising messages. Although studies have found that consumers regard control over mobile marketing as extremely important, no significant associations with it and intention to use have been established. The main
reason for this is that mobile marketing in almost all countries is permission-based and thus requires asking permission from the consumers. Thus, we hypothesize that:

**Hypothesis 5**: Perceived behavioural control of permission-based messaging will have a positive influence on intention to receive messages.

**Attitude toward advertising**

In general, attitude toward advertising (ATT) has been studied extensively in the last few decades (Dutta-Bergman 2006) with a wide variety of samples and methods (Shavitt et al. 1998). Prior literature on attitude toward advertising has its roots in attitude toward ads (Bauer and Greyser 1968, Lutz 1985), perceptions of ads in general (Durvasula et al. 1993) and brand attitude (Muehling 1987). The attitude toward advertising has been defined in a way similar to the attitude toward any objective or behavioural intention as ‘a learned predisposition to respond in a consistently favourable or unfavourable manner to advertising in general’ (Lutz 1985: 53). The attitude toward advertising has been conceptualized to consist of at least two dimensions, such as the attitude toward the institution and the attitude toward the instrument (Durvasula et al. 1993, Sandage and Leckenby 1980), or, as pointed out by Dutta-Bergman (2006), as informational utility of advertising and the attitudes toward its regulation.

The ultimate outcome of the studies on attitude toward advertising has been the proposition that attitude toward advertising affects consumer purchasing behaviour (Bush et al. 1999). Lutz (1985) was among the first to argue that consumer attitudes toward advertising in general affect their attitudes toward individual advertisements (see also Dutta-Bergman 2006). Recent literature on online advertising has measured attitudes toward different online ad formats (Burns and Lutz 2006) and found that the ad format is significantly associated with the attitude toward the ad. Moreover, the study found that the online ad format is an important characteristic of online advertising and influences online advertising response. The empirical results obtained by Drossos et al. (2007) indicate that consumers held negative attitudes towards receiving mobile ads, unless they have specifically consented to receive mobile ads (see also Tsang et al. 2004). Furthermore, Drossos et al. propose that attitudes toward specific mobile advertisements are influenced by attitudes toward advertising in general.

**Hypothesis 6**: The more positive the attitude toward advertising, the higher the intention to receive messages.

**Intention to receive messages and intention to visit**

The intention to receive messages (INR) refers to a person’s willingness to receive digital marketing communications, such as advertisements or alerts, from a company. Receiving communications requires opt-in, and thus should not be confused with spamming. Prior studies on consumer acceptance of mobile advertising have investigated factors that affect consumers’ intention to receive or adopt mobile advertising (Bauer et al. 2005, Leppäniemi et al. 2006). A study by Kim and Hunter (1993) examined the links between attitude-behavioural intention-behaviour with meta-analysis. They found that attitudes are positively associated with behavioural intention. On this basis we propose that there is a positive link between the behavioural intention to receive messages and intention to visit:

**Hypothesis 7**: Intention to receive messages is positively associated with intention to visit.

**Gender influence**

It has been argued that men and women differ in relation to how they process information and how they process environmental cues (Minahan and Beverland 2005). Although the impact of gender on mobile marketing communications is scarce, several studies have investigated the link between demographics including gender and mobile service usage (Karjaluoto et al. 2006, Nysveen et al. 2005a, 2005b, Pedersen 2005). In terms of gender, studies have found that females are using more SMS services such as texting to others than are males (Karjaluoto et al. 2006, Pedersen 2005). One possible reason for this is that females seem to value enjoyment, fun and the social dimensions related to mobile service usage (Nysveen et al. 2005). In a series of Finnish surveys on mobile service usage, female respondents were found to be more active in ordering mobile services such as logos and ringtones and in participating in mobile marketing in terms of sweepstakes and TV shows (Hyvönen and Repo 2005, Karjaluoto et al. 2006).

In light of the limited amount of literature in gender related work on mobile marketing, it is useful to draw from previous work in related streams of literature where influence of gender has been examined in detail. Since there is emerging evidence that mobile marketing is a precursor to mobile retailing (Karjaluoto et al. 2006), we have drawn from retailing literature to further conceptualize our arguments on how gender roles will have an influence on behavioural intentions and actual behaviour in mobile marketing.

Previous work has identified differences in shopping-related attitudes based upon biological gender (Palan.
2002) and gender roles (Lavin 1993), although distinct gender roles appear to have become somewhat blurred as evidenced by more recent work (Otnes and McGrath 2001). These arguments are based on the Savannah Hypothesis, a theory in Evolutionary Psychology. This hypothesis argues that human psychology has been shaped by the need to evolve and adapt to the savannah environment (Dennis and McCall 2005). More specifically: ‘selection has favoured preferences, motivations and cognitions to explore and settle in environments abundant with the resources needed to sustain life’ (Buss 1998: 83). While it is outside of the scope of this paper to initiate detailed discussion of the Savannah Hypothesis, authors argue that this evolutionary adaptability may influence the way that we make shopping decisions (Dennis et al. 2005). Indeed, recent research in retailing has begun to present typologies of the respective shopping styles of men and women (Bakewell and Mitchell 2004, Campbell 1997, Dholakia and Chiang 2003, Miller 1998, Otnes and McGrath 2001). However, despite this work, there remains a need for further research examining differences across gender (Otnes and McGrath 2001).

What authors have found thus far is that for most shopping experiences females are generally characterized by: imagining and envisioning the merchandise in use (Campbell 1997); weighing up the pros and cons of the purchase (Laroche et al. 2000); taking pride in their ability to shop (Underhill 1999); viewing the shopping process as a leisure activity (Bakewell and Mitchell 2004); spending longer shopping than men (Campbell 1997); visiting more shops than men; shopping more often than men (Dholakia 1999); including social interaction as an important part of the shopping experience (Otnes and McGrath 2001); including entertainment in the shopping experience (Haytko and Baker 2004); and shopping to express love for families and social networks (Miller 1998). Men, on the other hand, generally have their shopping decisions characterized by the following: incisiveness, decisiveness, determination, and excitement at the ‘moment of the kill’ or purchase (Dennis et al. 2005); instrumentality and product specificity (Campbell 1997); lack of patience and trying to complete the shopping activity in the shortest possible time (Bakewell and Mitchell 2004); preference for top brands as both symbols of economic power (Underhill 1999) and time savers (Bakewell and Mitchell 2004); and shopping for power and achievement, so called ‘shopping to win’ (Otnes and McGrath 2001).

To summarize, the above commentary implies that women, if they have had experience in digital direct marketing, have a positive attitude towards it and are more likely to participate in such campaigns. On the other hand, men are characterized by a lack of patience and a desire to finish digital marketing based activities as soon as possible. Therefore, unlike women, men are less likely to participate in mobile marketing communications. More specifically we argue that the strength of the relationship between the customer’s intention to receive messages and behavioural intention to participate mobile marketing communications will be as follows:

Hypothesis \( H_{GEN} \): The strength of the relationship between the customer’s intention to receive messages and the likelihood of his or her intention to visit will be greater for women than for men.

**METHOD**

**Questionnaire**

The majority of the construct items used in this study were adopted from prior mobile marketing and technology acceptance research. The item measures are listed in Appendix with respective sources. All constructs consist of multiple items, each of which was measured by a five-point Likert scale, from 1 (completely disagree) to 5 (completely agree) with a ‘do not know’ option. The questionnaire was pre-tested with university students \((n=15)\). After the pre-test the wording of some items was modified and the sequence reconsidered. Furthermore, the revised questionnaire was reviewed by a group of experts consisting of advertising and marketing practitioners and academics. No significant modification was suggested. A full breakdown of the items is given in the appendix.

Perceived usefulness (PU), perceived ease of use (PEOU) and behavioural intention (BI) were measured using items adapted from Davis (1989), Davis et al. (1989) and Venkatesh and Davis (2000). The measurement scales were developed mainly for IS environment, and, therefore, items were modified for the purposes of this study. Perceived usefulness and perceived ease of use were both measured using four items. The role of intention as a predictor of behaviour is critical and has been well-established in previous studies (Ajzen 1991, Sheppard et al. 1988, Taylor and Todd 1995a). Two scales were used in measuring behavioural intention. The intention to receive messages was measured with two items and the intention to visit with three measures adapted from the previous studies mentioned above.

In measuring perceived trust, the scales used by Chiou and Droge (2006) having their origins in Smith (1997) and Harris and Goode (2004), both of these originating from Hess (1995), were revised and adopted to the present study. All items were specified after the questionnaire pre-test, as the respondents required more specific instructions of what aspects of trust were to be measured. The specifications included, for instance, modifications like changing ‘XYZ brand is very honest’ (Chiou and Droge 2006) to ‘X is very honest in its
marketing’ and ‘XYZ brand is very reliable’ to ‘X is a very reliable advertiser’. The items captured the various dimensions of trust, including reliability, responsibility, and motives/intentions.

Reference group influence/subjective norms were measured with four items. The first measure, social influence was adapted from Taylor and Todd (1995a). The other three measures were modified from scales used by Moschis (1976) and Cox et al. (1990). The modification reflects our interest in peer-based reference groups, as opposed to reference groups in general. More specifically, the subjects were asked about the influence of their friends.

Perceived behavioural control refers to ‘a person’s belief as to how easy or difficult performance of the behavior is likely to be’ (Ajzen and Madden 1986). In this conception PBC was intended to reflect perceptions of factors that are both internal (e.g. knowledge, skills, will-power) and external (e.g. time, availability, the cooperation of others) to the actor. We acknowledge this actual meaning of PCB, but it is not applicable for our purpose. Mobile advertising is permission-based in most developed countries and therefore consumers can be seen as having control over whether or not to receive communications. With this in mind we developed three items for mobile marketing context.

Consumers’ attitude toward mobile advertising has previously been studied to some extent by for example Tsang et al. (2004) and Bauer et al. (2005). However, the instruments developed in those studies were found inappropriate for our purposes. Mobile advertising is permission-based in most developed countries and therefore consumers can be seen as having control over whether or not to receive communications. With this in mind we developed three items for mobile marketing context.

Data collection

The survey was planned as a part of the case firm’s direct marketing campaign (conducted in Finland) in which customers were invited to participate in a typical ‘theme night’. The firm frequently arranges theme nights in their nightclubs, with changing themes. Typically, the case company sends their opt-in customers invitations to these theme nights via email (at the beginning of the week) and SMS (on the night of the event).

The final version of the questionnaire was sent to ‘opt-in’ customers chosen from the firm’s customer database via an e-mail link. Opt-in customers were encouraged to click the link to jump to the survey site. As an incentive, the respondents were invited to participate in a lottery for a MP3 player. To minimize the mortality or abandonment rate of questionnaire completion, we created a system that required the respondents to complete each question in order to proceed to the next question. The survey site was open for two weeks. In total, 8,578 responses were received and the effective response rate was 24%.

In order to examine possible non-response bias we followed the method suggested by Armstrong and Overton (1977), who propose that early respondents should be compared with late respondents. To this end, the first 1,000 respondents were compared with the last 1,000 respondents. Mean comparisons revealed no significant differences (at p<.001) in the study constructs between the groups. Thus, it seems that significant non-response bias is not likely to occur in this study.

RESULTS

Descriptive statistics

Table 1 summarizes the descriptive statistics of the sample. In terms of gender, 60.7% of the sample was female, outweighing the male counterparts, who accounted for 39.3%. As expected, most respondents were under 30 years of age: around 70% belonged to the age group 21 to 29. Full sample characteristics are given in Table 1.

Measurement model assessment

Upon collection of data, all scales were subjected to a purification process. This involved recommended assessments of dimensionality, reliability and validity (Anderson and Gerbing 1988). First the measures were subject to an exploratory factor analysis (using maximum likelihood) and reliability assessment. Here, items not loading clearly on any of the factors or with low item-to-total correlations were discarded. This resulted in the elimination of two items.

To assess reliability and validity of the model a confirmatory factor analysis (CFA) using LISREL8.7 was
conducted. We followed the two-step method recommended by Anderson and Gerbing (1988). There are various ways to test construct validity of a model. Although it is not a necessary requirement to test construct validity with separate tests if using covariance-based structural equation modelling (Gefen et al. 2000), tests of both convergent and discriminant validity have become common among researchers. In covariance-based structural equation modelling, construct validity is usually tested with an investigation of convergent and discriminant validity (Gefen et al. 2000). In general, convergent validity can be assessed via internal consistency by: 1) looking at the correlations among items which constitute a scale; 2) using scales that have been accepted, used and proven valid in the field by other researchers; and 3) looking at the strength and significance of item loadings.

The fit indices associated with the CFA exceeded acceptable thresholds. A combination of fit indices were used because this achieves a good balance between Type I and Type II error rates when assessing model fit (Hu and Bentler 1995). Construct validity was then further assessed by calculating Cronbach’s alpha for each of the scales. The alphas for the study constructs exceeded or equalled the threshold 0.7 (Nunnally 1978) with one exception (INR = .68) (see Table 2). The indicators in the model loaded highly on their hypothesized constructs and were significant (factor loadings ranged from 0.50 to 0.93). Another test of convergent validity involved an investigation of the average variance extracted (hereafter AVE) of the constructs. A model can be considered to have good convergent validity if the AVE for each construct is greater than 0.50 as this indicates that more of each construct is explained by its indicators than by other, external influences (Fornell and Larcker 1981). The AVE of the constructs in the model ranged from 0.54 to 0.81. Overall, these results indicated that our model had good convergent validity. The results of the CFA testing are presented in Table 2.

To assess discriminant validity of the model, we tested whether the square root of AVE for each construct is greater than the correlation with other constructs (Fornell and Larcker 1981). Table 3 presents the square root of the average variance extracted and the correlations between the constructs. As can be seen, the square root of AVE is greater than the correlation with any other construct. This indicates good discriminant validity of the model.

As a further test of the convergent validity of the items in each scale and the discriminant validity between each scale, we analyzed each possible pair of constructs by comparing their fit in terms of a unidimensional model and a two-factor model (Netemeyer et al. 1990). For all 28 pairs of constructs, the two-factor solution provided a better fit than the unidimensional solution (i.e. \( \chi^2 \) value of > 3.84 with a change in degrees of freedom of 1) offering support for the convergent and discriminant validity of each scale (Anderson and Gerbing 1988). Finally, the correlations

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between constructs were in the a priori expected directions, supporting the nomological validity of the constructs used in the study (Hair et al. 2006). These results, along with the findings of our earlier CFA analysis, support the psychometric soundness of the measures used in our study (Anderson and Gerbing 1988, Netemeyer et al. 1990).

Structural model assessment and hypotheses tests

The model fit was good ($\chi^2=3693.9$ (df=295), $p=.00$; CFI=.991; NFI=.990; NNFI=.988; IFI=.991; RMSEA=.037) (Bollen 1989, Browne and Cudek 1993, Hu and Bentler 1995). While the chi-square statistic becomes problematic with large samples, other indices like RMSEA should be used to assess model fit (Diamantopoulos and Siguaw 2000, Ullman and Bentler 2004). The RMSEA statistic for the model was below the cut-off criteria of .05 indicating a close fit (Browne and Cudek 1993, Byrne 1989). Hypothesized path loadings, their respective $t$ values, and model fit measures are shown in Table 4.

As it can be seen, all the paths except one turned out to be statistically significant. There are significant variations in the strength of the paths, which warrant explanation.

Hypothesis 1 contends that there is a positive and direct relationship between perceived usefulness of mobile communications and the attitude toward advertising. The path coefficient ($\beta=.53$) is strong with a high $t$ value (30.85) indicating that PU has a strong positive association with attitude. Thus, in line with the extant literature on technology acceptance, hypothesis 1 receives significant support from the data.

Hypothesis 2a proposes that the perceived ease of use (PEOU) of mobile communications is positively associated with the attitude toward advertising (ATT). What we find is that the relationship is negative and insignificant ($\beta=-.03$, $t=-1.84$). Although this finding is rather unexpected there is some support in the literature for this finding. Technology acceptance literature point out that PU is typically a stronger determinant of attitude toward use and behavioural intention than perceived ease of use. A possible explanation for this is that if people believe that new technology lacks in usefulness, even if it is easy to use,
they will not consider using it (Davis 1989, Keil et al. 1995). In this vein, there seems to be extant theoretical support for this finding.

Hypothesis 2b argues that perceived ease of use (PEOU) of mobile communications has a positive influence on perceived usefulness (PU) of mobile communications. The path is positive ($\beta=.27$, $t=19.07$) supporting the hypotheses. Thus, perceived ease of use seems to influence attitude via perceived usefulness.

Hypothesis 3a and 3b hypothesize that trust in the marketer is positively related to the attitude toward advertising and to the intention to receive messages. The path coefficients for these hypotheses are quite similar (Hypothesis 3a: $\beta=.38$, $t=21.25$; H3b: $\beta=.42$, $t=20.02$). Both associations are positive and significant. Thus, both hypotheses are accepted.

Hypothesis 4a argues that reference group influence is positively associated with the intention to receive messages, whereas hypothesis 4b proposes that reference group influence is positively associated with the intention to visit. Support for both hypotheses is found (Hypothesis 4a: $\beta=.18$, $t=10.87$; hypothesis 4b: $\beta=.32$, $t=19.92$). These findings are in line with the theories of Reasoned Action and Planned Behaviour, both of which propose that reference groups influence behavioural intentions.

Hypothesis 5 argues that the perceived behavioural control of permission based messaging will have an influence on behavioural intention. The path is significant although quite low ($\beta=.05$, $t=3.98$). Thus, the hypothesis supported.

Hypothesis 6 asserts that the more positive attitude toward advertising a person has, the higher his or her intention to receive messages is. This relationship was found to be positive and strong ($\beta=.45$, $t=25.13$). Thus, there is enough support evident in the data in order to declare hypothesis 6 confirmed.

Hypothesis 7 argues that the intention to receive messages is positively associated with the intention to visit. We find the association positive ($\beta=.28$, $t=15.88$). Thus, hypothesis 7 is accepted.

Hypothesis GEN proposed that the strength of the relationship between the customer’s intention to receive messages and the likelihood of his or her intention to visit will be greater for women than for men. In order to assess possible gender differences in the $\gamma$ parameter between men and women, two competing models were run via multi-group analysis. First, a restricted model was run in which the $\gamma$ value was fixed to be identical between men and women. The fit statistics for this restricted model are shown in Table 5. Following this, a second model was run in which the $\gamma$ parameter was estimated freely. The fit statistics for this unrestricted model are also shown in Table 5. As can be seen, the fit statistics for the unrestricted model show an improvement over the restricted model. This confirms that there is a difference, across gender, in the strength of the relationship between intention to receive and intention to visit. More specifically, in the unrestricted model, $\chi^2$ increases by 93.98 with an associated decrease of one degree of freedom, which is significant at $p<.05$ (to be significant at the 5% level, the critical value for a Chi-square change with one degree of freedom is 3.84). The RMSEA and CFI improved marginally. All other fit indices, namely the NNFI and the GFI remain the same across both models. Therefore, based upon these results we used the unrestricted model to inform our hypotheses.

**DISCUSSION**

The objective of this paper has been to introduce a conceptual framework with an empirical test for explaining several aspects of customers’ intention to engage in permission-based mobile marketing communications. The conceptual model is based on the theories of Reasoned Action (TRA), Planned Behaviour (TPB), Technology Acceptance Model (TAM) and its modifications, and the Unified Theory of Acceptance and Use of Technology (UTAUT). In line with Benbasat and Barki (2007), the conceptual model was developed on the basis of the original theories TRA and TPB, rather than using the TAM as a starting point. The model is differentiated from existing models, as studies examining the associations between the proposed constructs in this context are

**Table 5. Model Comparison across gender**

<table>
<thead>
<tr>
<th></th>
<th>$\chi^2$</th>
<th>df</th>
<th>RMSEA</th>
<th>NNFI</th>
<th>CFI</th>
<th>GFI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model 1</td>
<td>9538.79</td>
<td>646</td>
<td>0.057</td>
<td>0.963</td>
<td>0.968</td>
<td>0.915</td>
</tr>
<tr>
<td>Factor loadings forced to be equal across males and females</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Model 2</td>
<td>9444.81</td>
<td>645</td>
<td>0.056</td>
<td>0.963</td>
<td>0.969</td>
<td>0.915</td>
</tr>
</tbody>
</table>
scarce. The findings of the study support the theoretical framework developed.

Our main findings indicate, in line with several technology acceptance studies (Davis 1989, Venkatesh et al. 2003) that perceived usefulness (PU) of mobile communications is the main mediator of consumer attitudes toward behavioural intentions related to the intention to receive messages and the intention to visit. The effect of PU on attitude was greater than the effect of the other two proposed factors, namely perceived ease of use of mobile communications and perceived trust. When examining the effects of the components of the Theory of Planned Behaviour, the findings indicate that normative reference groups, such as the influence of friends, explain a considerable amount of the intention to visit and intention to receive messages. These findings, being in line with previous studies looking at the antecedents of behavioural intentions to receive mobile advertising (Bauer et al. 2005, Karjaluoto and Alatalo 2007, Muk and Babin 2006, Rohm and Sultan 2006, Scharl et al. 2005), receive merit, as the role of references was, in our study, even more significantly associated with the intention to visit than with the intention to receive messages. With respect to other constructs in the TPB, perceived behavioural control and attitude had very different effects on behavioural intentions. PBC influenced the intention to receive messages only weakly, whereas attitude toward advertising significantly explained the intention to receive messages. Finally, the model showed that the intention to receive messages has a direct significant relationship with the intention to visit.

In line with our expectations, the relationship between the constructs (intention to receive with intention to visit) appears to be stronger for females than for males. With respect to the relationship between intention to receive and intention to use, when considering the results of the multi-group analysis, the results show that there is a stronger relationship ($\gamma$ parameter) between intention to receive and intentions to visit for females than for males. For males, $\gamma = .23$ ($t$ value = 9.91) and for females $\gamma = .28$ ($t$ value = 13.21). Hence, the findings provide support for Hypothesis gen.

These results are in keeping with the arguments put forward in support of Hypothesis gen. We assumed in our arguments that men, due to impatience, are unlikely act upon receipt of mobile marketing messages to the same extent as females. Predominantly, we hypothesized that this was as a result of women’s predisposition towards enjoyment in receiving mobile messages, and as retailing literature suggested, an increased involvement in shopping. We extrapolated, out this superior involvement, the conclusion that women should have a stronger disposition towards actual use and intention to visit. Our tentative results support the notion that men and women behave in a manner similar to traditional retail environments. Perhaps, for women, enjoyment is related to the use of mobile (for example, texting) as a leisure activity (Nysveen et al. 2005). Some women enjoy the social dimensions of texting and investing time in text conversations. A therefore question arises, is a receipt of a message from an organization perceived in the same manner, and could this explain their relatively stronger resulting behaviours compared to men?

**Theoretical contributions**

This research contributes to the literature on consumer attitudes and intentions toward permission-based mobile marketing in several ways. First, our results underscore the importance of perceived usefulness of the communications as the main mediator of consumer attitudes toward advertising. In literature, perceived usefulness has been found to explain a considerable amount of variance of attitude and intention (Davis 1989, Davis et al. 1989, Davis and Venkatesh 1996, Gefen and Straub 2000, Mathieson 1991), and that its effect is typically stronger than the effect of perceived ease of use (Davis 1989, Pikkarainen et al. 2004). Perceived usefulness in the context of mobile marketing and advertising has typically been related to monetary benefits and relevant information provided in the right time and context. Therefore, the results obtained contribute strongly to the mobile marketing literature (Bauer et al. 2005, Drossos et al. 2007, Gopal and Tripathi 2006, Haghiri et al. 2005, Scharl et al. 2005, Scornavacca and McKenzie 2007). Second, we showed that perceived trust is positively associated with the attitude toward advertising and the intention to receive messages. This finding confirms the previous findings of the role of trust as a mediator of consumer attitudes and intention in electronic channels (Ba et al. 2003, McKnight and Chervany 2002, Siau and Shen 2003, Yang et al. 2006). The impact of trust in mobile marketing context receives much attention, as the e-mail and mobile channels can be considered to be the most personal and intimate marketing channels. Third, our results contribute to the Theory of Planned Behaviour by confirming the links between attitude-intention, reference group influence-intention and intention-use. An additional contribution to TAM-based models is that we used the TPB as the base theory and modelled PU and PEOU as antecedents of attitude as suggested in literature (Benbasat and Barki 2007).

From a gender-related perspective, our results confirm the notion of the Savannah Hypothesis and emerging mobile literature. Based upon this hypothesis, we expected the relationship between enjoyment and behavioural intentions to be stronger for women than men, as women enjoying mobile marketing communications should see intention to visit as an opportunity
to extend their mobile marketing communications experience, whereas men generally seek to keep time spent to a minimum. The results confirm our expectations that women respond more positively to direct mobile marketing communications.

Managerial contributions

Our findings provide several specific managerial insights under two sections, which can be classified as general managerial implications related to the campaign and its innovativeness and as specific contributions related to the survey findings. Since the reported research is based on a real-life digital marketing campaign, the campaign design and its innovativeness deserve merit as well as further investigation in terms of, for instance, describing the campaign and its results in detail from the points of view of the agency and the marketer. A detailed examination shows that the use of almost purely electronic channels in advertising has proved to be a great success to company X. The case company has reduced its marketing expenses to one third, created a large SMS and e-mail opt-in database mostly via word-of-mouth and made the mobile channel a very attractive and interactive channel among its opt-in users. Thus, there is strong evidence that mobile marketing works if the target audience is suitable.

In terms of specific contributions, to managers, based on the survey, at least three important implications can be made. In general, managers in this field are mostly interested in the factors that: a) make consumers come to visit; and b) make them active users/receivers of digital marketing communications from the firm. As it was shown, the intention to receive messages is strongly explained by attitude toward advertising, perceived usefulness, trust, and peer influence. Therefore, when using mobile and e-mail channels, marketers should first think of the right target group. The group should be receptive to digital communication channels but that alone is not sufficient, as the communications should also clearly show the direct benefits associated to being an opt-in customer. Since the beginning of its digital marketing campaigns the case company has offered clear benefits in terms of good discounts to its entrance fee and drink prices, as well as organized several special nights to opt-in customers. This is in turn expected to generate trust and positive word-of-mouth about the service. Another specific contribution drawn from the survey relates to the importance of peers’ on the intention to visit. As going out as such is a social event, friends normally have a great influence on where to go. Thus one implication for managers might be to identify the referents that typically make the decisions as to where to go and target specific advertising to them.

We demonstrated that perceived usefulness (PU) of mobile communications is the main mediator of consumer attitudes toward behavioural intentions related to the intention to receive messages and the intention to visit. This suggests that consumers will adopt mobile marketing communication services when they identify that using the services could be beneficial to them. While this may sound intuitive, this suggests that marketers should not provide such mobile services ‘just because technology makes it possible’. Consumers will adopt services when they identify a clear benefit in adopting them. By extension this also suggests that when a new service is introduced it is paramount that marketers educate customers as how they could benefit from the new service. It was also seen that the influence of friends, explains a considerable amount of the intention to visit and intention to receive messages. Because the influence of reference groups is significant in receiving messages, we could speculate that this suggests mobile marketing services could be particularly suitable candidate for viral marketing campaigns. Finally, the strong association of the intention to receive messages to actual use provides the conclusion that it is important to mediate intention with its strong indicators, such as perceived usefulness and attitude.

The gender role findings in this research could raise potential issues for mobile marketing communications management. The results suggest that it may be prudent for marketing management to be predisposed to ensure that women enjoy their digital direct marketing experience and target advertising and promotional activities more towards women than men. Our work confirms earlier work that show the existence of well-defined gender shopping roles (Fischer and Arnold 1994, Lavin 1993) and are at odds with recent literature that favour relaxed gender roles (Ottes and McGrath 2001).

Limitations

As with any empirical study, our study is characterized by certain key limitations that must be evaluated before making further implications or generalizations about the results. Similar studies using a theoretical model and testing it with structural equation modelling typically recognize two main limitations that are applicable in this study as well. The first of these is usually related to the use of the particular constructs and the causal links obtained between them, which in fact cannot be regarded as definite evidence of causality (Harris and Goode 2004). Moreover, in explaining intention to receive mobile messages, our framework focused on the effect of certain constructs validated in literature but not previously tested within this context. Thus our study provides evidence of how the chosen constructs affect intention but does not look at the other possible factors that might explain behavioural intentions. Second, generalizations of the findings must be made carefully, as we only used one sample that was characterized by
prior experience of mobile and e-mail direct marketing from the firm. Therefore our results might differ when changing the sample for example to a less experienced group of population. Another limitation with our study is that we measured all constructs in our study with one survey conducted at the same time. Although we minimized the common method variance problem through our survey design (e.g. all constructs were separated and the order was mixed) and found no evidence of it in our data analysis (reliability and validity tests) its impact can be ruled out only if we were able to collect data through different sources or through a longitudinal survey.

Future work

Additional research is needed to enhance the validity of the hypothesized model and its implications. Future studies could use a longitudinal evaluation model with data collected from several time points. Our pre-analysis of the customer database confirmed that, typically, the newer the customer is the more willing and enthusiastic he or she is to receive e-mail and mobile communications. Therefore a comparison of new and old customers in the light of the model might be an important future research project. Furthermore, other multi-group analyses on the model might produce results of interest. Given the weight of evidence that appears to suggest that differences between genders should be expected in a mobile context, further work in this area could be useful to either confirm or question the current finding. Perhaps future work could investigate other relationships in our model for gender variation. In particular, it might be interesting to examine the influence of specifically-targeted advertising on the shopping behaviour of both men and women. In addition to these, the conceptual model could also be developed in terms of adding elements of satisfaction and loyalty, which in turn might affect the study constructs as well.

CONCLUSION

To conclude, although this research was anchored to well-established theories that all attempt to explain behavioural intentions, the study can be seen as a starting point in examining these links of the constructs in permission-based mobile marketing context among experienced customers. Marketers should focus on developing innovative advertising campaigns in the hospitality sector to increase customer involvement in the campaigns. Our results clearly show that the kind of digital direct marketing the case company does works with their opt-in customers. However, as the company is among the first to effectively utilize digital direct marketing on a weekly basis, competing brands are soon expected to copy at least part of the campaign elements. Thus novel ways of reaching the target audience are constantly needed in order to stay ahead of competitors. The research conducted here was part of this development programme, and in the future it is expected that we will see more developed media use in targeting information and invitations to the customers than just SMS and e-mailing. Finally, if managed the right way, the constantly growing and developing customer opt-in database is expected to give the case firm even more of a competitive edge over competitors.

ACKNOWLEDGEMENTS

The financial support of the Finnish Funding Agency for Technology and Innovation is gratefully acknowledged.

References


Appendix A

List of items

**PU - Perceived usefulness of mobile communications**
PU1. Receiving messages gives me topical information*
PU2. Receiving messages saves me time
PU3. Receiving messages gives me monetary benefits
PU4. Receiving messages gives me personal information

This scale is adapted from Davis (1989), Davis, Bagozzi and Warshaw (1989), and Venkatesh and Davis (2000)

**PEOU - Perceived ease of use of mobile communications**
PEOU1. It is easy for me to use a mobile phone
PEOU2. I learn fast to use new mobile services
PEOU3. I know what m-services I can use on my phone
PEOU4. I find it easy to download m-services on my phone

This scale is based on items represented by Davis (1989), Davis, Bagozzi and Warshaw (1989), and Venkatesh and Davis (2000)

**PTR - Perceived trust**
PTR1. I think X is very honest in its marketing
PTR2. X is very reliable advertiser
PTR3. X is very responsible
PTR4. X takes its customers’ interests into account in its communications
PTR5. I think X’s marketing is truthful
PTR6. X’s promises of various services (e.g. special nights) are mostly true

This scale is adapted from Chiou and Droge (2006) and Harris and Goode (2004)

**REF - Reference group influence**
REF1. People who are important to me think that I should be a regular customer of the X
REF2. I am receiving messages from X because my friends are receiving them
REF3. Regular customers of X are appreciated among my friends
REF4. I am visiting X because it is popular among my friends

This scale is adapted from Taylor and Todd (1995a), Moschis (1976), and Cox, Cox, and Moschis (1990)

**PBC - Perceived behavioural control**
PBC1. I find it important that I can choose the form of the messages (e.g. SMS, MMS, e-mail)
PBC2. I find it important that I can easily control the number of messages I receive
PBC3. I find it important that I can easily stop receiving messages

This scale is based on items represented by Mathieson (1991), Taylor and Todd (1995b), and Merisavo et al. (2007).

**ATT - Attitude toward advertising**
ATA1. In general I like advertising
ATA2. In general, there is too much advertising around*
ATA3. In general, advertising affects my buying behaviour
ATA4. I receive marketing messages with pleasure on my phone

This scale is based on items represented by Barksdale, Darden and Perreault Jr (1976), Gaski and Etzel (1986), Obermiller and Spangenberg (1998), and Pollay and Mittal (1993)

**INR - Intention to receive messages**
INR1. I believe I will receive messages from X in the future
INR2. I believe that in the future, I am likely to receive messages other than text messages from X

This scale has been developed based on intention measures taken from Ajzen (1991), Sheppard, Hartwick and Warshaw (1988), and Taylor and Todd (1995a)

**INV - Intention to visit**
INV1. I had an intention to visit
INV2. After receiving the ad I planned to visit in two weeks
INV3. The ad I received affected my intention to go

This scale has been developed based on intention measures taken from Ajzen (1991), Sheppard, Hartwick and Warshaw (1988), and Taylor and Todd (1995a)

All items were measured by a five-point Likert scale ranging from 1 (completely disagree) and 5 (completely agree).

An item marked with * was deleted during the measurement purification process.