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# Consumer Attitude Toward Advertising via Mobile Devices - An Empirical Investigation Among Austrian Users

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# CONSUMER ATTITUDE TOWARD ADVERTISING VIA MOBILE DEVICES – AN EMPIRICAL INVESTIGATION AMONG AUSTRIAN USERS

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## Abstract

*Mobile marketing offers great opportunities for businesses. Marketing activities supported by mobile devices allow companies to directly communicate with their consumers without time or location barriers. However, some areas of mobile marketing still need further investigation. Especially, the topic of advertising via mobile devices is of major interest. It addresses consumers with individualized advertising messages via mobile devices. The underlying paper discusses its relevance and investigates antecedents of consumer attitudes toward advertising via mobile devices. The analysis is based on a consumer survey. For this purpose a quota sample of 815 cellular phone users in Austria has been interviewed. The results indicate that advertising value and advertising message content have the largest impact on attitude toward advertising via mobile devices.*

*Keywords: Mobile Devices, Advertising, Consumer Attitudes, Austria.*

# 1 INTRODUCTION

In everyday life, devices and systems based on mobile technologies have become a commonplace in most industrialized countries (Balasubramanian, Peterson and Jarvenpaa, 2002). Their relevance is obvious to all of us. The rapid adoption process of cellular phones shows that large parts of the population have accepted this technology very quickly in many different countries. E.g., in the US the number of cell phone users has reached a level of almost 72% (number of cell phone subscribers according to FCC, 2004) as a portion of total US population older than 14 years (US-Census, 2001). In Western Europe, 60% of the total population were unique mobile phone users in 2002, almost 30% were unique SMS users (Marcussen, 2004).

As mobile communication allows communication in an entirely new form, it has also changed the marketers' world. Interactions between customer and advertiser become increasingly rapid and easy (Pavlou and Stewart, 2000). Opportunities for direct contact with consumers are unprecedented (Hoffman and Novak, 1996). Consumers can be provided with information they are interested in, what gives marketers the chance to build customer relationships of a new dimension. As a result, modern advertisers are increasingly relying on various modes of interactive technology to advertise and promote their products and services (Pavlou and Stewart, 2000).

But potential customers did so far not have many opportunities to communicate their apprehension of marketing activities via mobile devices. Consequently, not much is known about the potential factors that influence the attitude toward mobile advertising. Advertising research has shown that the effects of advertising activities are influenced by the attitude toward an advertising message, the advertising company or even the applied media (MacKenzie and Lutz, 1989). But these findings are related to "traditional" advertising via mass media (Ducoffe, 1995) or web-based advertising (Ducoffe, 1996).

If marketers want to use the communication channels that mobile media provide in an efficient way, they need to understand how mobile consumers perceive and evaluate mobile devices as a source of advertising. This paper aims to contribute to this objective and presents results of a survey among 815 Austrian cellular phone users on consumer attitudes toward advertising via mobile devices (advertising via mobile devices). The paper is organized as follows: First, the concept of mobile marketing and mobile advertising are derived from the traditional marketing concept. After that, the impact of advertising value on advertising success is outlined. The following section provides a review of marketing and advertising literature that is discussed in terms of its relevance to advertising via mobile devices. Resulting from that, antecedents of the advertising value and attitude toward mobile advertising are derived. On this basis, a research model is developed. Then, the applied research methodology is presented and the empirical evaluation of the model is carried out. After this, results of the analysis are presented.

## 2 ADVERTISING VIA MOBILE DEVICES

Kotler (Kotler, 2003) defines advertising as "any paid form of non-personal presentation and promotion of ideas, goods or services by an identified sponsor" (p. 590). Advertising via mobile devices or mobile advertising (in the following abbreviated as advertising via mobile devices) is defined as *the usage of interactive wireless media (such as cellular phones and pagers, cordless telephones, personal digital assistants, two-way radios, baby crib monitors, wireless networking systems, GPS-based locators and maps) to transmit advertising messages to consumers in form of time and location sensitive, personalized information with the overall goal to promote goods and services.*

There are different synonyms for advertising via mobile devices, such as wireless advertising (Krishnamurthy, 2003) or wireless advertising messaging (Petty, 2003). Usually, mobile advertising messages are transmitted via short message service (SMS) (De Reyck and Degraeve, 2003). Mobile advertising allows marketers to exploit the medium's unique features in order to customize their messages to consumers' attributes. "Good marketing management emphasizes the building of long-term relationships" (Houston and Gassenheimer, 1987; p. 10). Mobile advertising can support these goals in various ways because it allows reciprocal communication processes between marketer and consumers. "As more wireless bandwidth will be available, content rich advertising involving audio,

pictures, and video clips can be produced for individual users with specific needs, interests, and inclinations” (Varshney and Vetter, 2002; p. 188). It is therefore assumed that mobile advertising will be also an important revenue source for mobile operators in the future (DeZoysa, 2002).

### 3 ATTITUDE TOWARD ADVERTISING VIA MOBILE DEVICES

Attitude toward an ad is defined as “a learned predisposition to respond in a consistently favorable or unfavorable manner toward advertising in general” (MacKenzie and Lutz, 1989; p. 54). In this context, it is important to note that attitude toward advertising via mobile devices pertains to consumers’ attitude toward this advertising type in general and not to the exposure to one particular ad. In general, attitudes are “mental states used by individuals to structure the way they perceive their environment and guide the way they respond to it” (Aaker, Kumar and Day, 1995; p. 254). A significant correlation between favorable attitudes toward advertising and respondents’ rating of specific advertisements as being annoying, likeable, enjoyable etc. has been observed (Bauer and Greyser, 1968). Consequently, our research interest focuses on the antecedents of consumer attitudes toward advertising via mobile devices. In this paper the attitude toward advertising via mobile devices is measured along various dimensions. The following subsections present the components of the model as can be seen in Figure 1 beginning with the dependent variable “attitude toward advertising via mobile devices”. An intensive literature review was used to establish content validity, i.e. whether the items represent all situations we sought to measure.

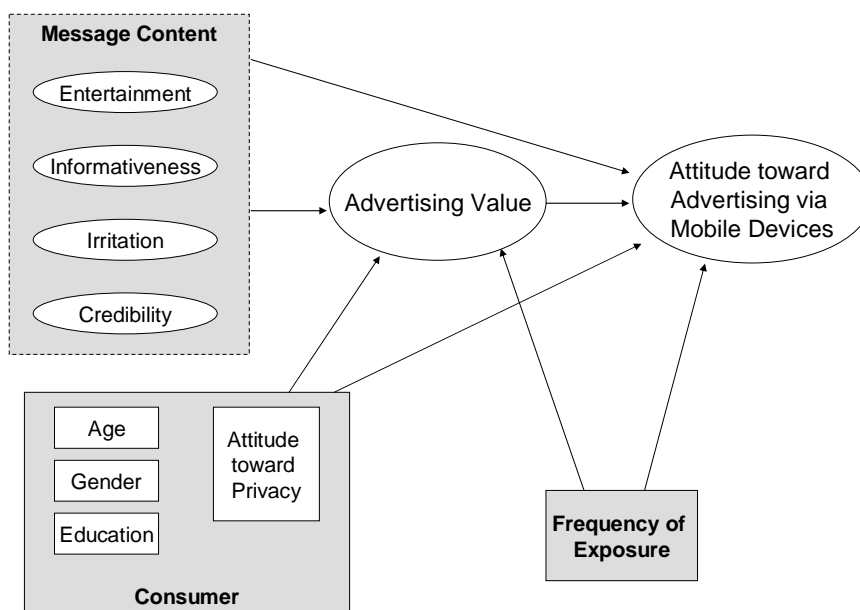


Figure 1: Antecedents of Attitude toward Advertising via Mobile Devices

## 4 ANTECEDENTS OF ATTITUDE TOWARD ADVERTISING VIA MOBILE DEVICES

### 4.1 Advertising Value of Mobile Marketing

Advertising value is a measure for advertising effectiveness and “may serve as an index of customer satisfaction with the *communication products* of organizations”. It is defined as “a subjective evaluation of the relative worth or utility of advertising to consumers” (Ducoffe, 1995; p. 1). A value can be described as an enduring belief that a specific conduct or state is personally-psychologically or socially-culturally preferable to a converse mode of conduct or an opposite end state of existence

(Levi, 1990). Value potentially derives from the expectations about an offering itself, from experiences accompanying the exchange, and from the residual of having engaged in behaviors necessary to achieve the exchange. Hence, value can reflect the worth of the element itself as well as the experience associated with the transaction (Houston and Gassenheimer, 1987). Values are the basis of actions, attitudes, and judgments in advertising as well as in other aspects of social life (Beatty, Kahle, Homer and Shekar, 1985). Advertising value of web advertising has shown to have a significant influence on attitude toward web advertising (Ducoffe, 1996). We thus conclude that a highly perceived value of advertising via mobile devices also reflects positively on the consumers' attitude toward advertising via mobile devices.

- H1: A high advertising value is positively correlated with a “positive” attitude toward advertising via mobile devices.

## **4.2 Characteristics of Message Content**

Advertising theorists have been describing the critical stimulus features of various advertising media and their content (Rodgers and Thorson, 2000).

### *4.2.1 Entertainment:*

Entertainment of advertising information is significantly related to advertising value of traditional advertising (Ducoffe, 1995). A high degree of pleasure and involvement during interaction with computer-based media leads to concurrent subjective perceptions of positive affect and mood of the consumer (Hoffman and Novak, 1996). People's feeling of enjoyment associated with advertisements play the greatest role in accounting for their overall attitudes toward them (Shavitt, Lowrey and Haefner, 1998). Entertainment denotes its full ability to fulfill consumers' needs for “escapism, diversion, aesthetic enjoyment or emotional release” (McQuail, 1983).

Entertainment is also a crucial factor for mobile marketing. It is essential that the message is concise and funny, and thus immediately captures consumers' attention (Katterbach, 2002). Entertainment services can increase customer loyalty and add value for the customer. As most people have a natural playfulness, providing games and prizes via text messaging (SMS) yields high participation. Delivering games and prizes to the customer's cell phone is a successful way to attract and keep customers. Interactive games for example can also be played via text messages. These features can be used to involve customers more deeply and make them more familiar with the advertised service or product (Lehmkuhl, 2003). Therefore we conclude that an entertaining advertising message is being perceived more positive by the recipient.

- H2a: A high entertainment factor of an advertising message is positively correlated with a “positive” attitude toward advertising via mobile devices.
- H2b: A high entertainment factor of an advertising message is positively correlated with a high advertising value.

### *4.2.2 Informativeness:*

The quality of information placed on a company's web site shows a direct influence on the customers' perceptions of the company and the company's products. Accordingly, information delivered to them via mobile devices also needs to show qualitative features like accuracy, timeliness, and usefulness for the consumer (Siau and Shen, 2003). Apart from this, the user needs quick access to the information (s)he is looking for his/her current content of use. There is even the possibility that information may be delivered automatically to the consumer (Kaasinen, 2003).

In any event, consumers want the content of mobile services to be tailored to their interest (Robins, 2003). On top of this, they are interested in getting messages that are relevant for them (Milne and Gordon, 1993). Information is thus considered a very valuable incentive in mobile marketing because recipients react very positively to advertisement that transfer incentives (Varshney, 2003). Not surprisingly, informativeness of advertising information is therefore strongly related to the advertising value when it is transferred via traditional media vehicles (Ducoffe, 1995).

- H3a: High informativeness of an advertising message is positively correlated with a “positive” attitude toward advertising via mobile devices.

- H3b: High informativeness of an advertising message is positively correlated with a high advertising value.

#### 4.2.3 Irritation:

Indignity people feel when being addressed by advertisements has a very great influence on people's attitude toward advertising (Shavitt, Lowrey and Haefner, 1998). "When advertising employs techniques that annoy, offend, insult or are overly manipulative, consumers are likely to perceive it as unwanted and irritating influence" (Ducoffe, 1996; p. 23). Mobile advertising may provide an array of information that confuses the recipient and can be distracting and overwhelming the consumer with information (Stewart and Pavlou, 2002). Consumers may feel confused about them and react negatively. Another point of possible annoyance are unwanted messages, commonly known as spam (Dickinger et al., 2004). Spam intrudes into consumers' privacy and stifle consumer acceptance. We therefore conclude that irritation caused by an incomprehensive or unwanted mobile advertising message may reflect negatively on the perceived advertising value of mobile marketing.

- H4a: Irritation of an advertising message is negatively correlated with a "positive" attitude toward advertising via mobile devices.
- H4b: Irritation of an advertising message is negatively correlated with a high advertising value.

#### 4.2.4 Credibility:

Advertising credibility turned out to be significantly relevant to advertising value of web advertising (Brackett and Carr, 2001). MacKenzie and Lutz (1989; p. 51) define advertising credibility as "consumers' perception of the truthfulness and believability of advertising in general", whereas Pavlou and Stewart (2000) refer to it as "predictability and fulfillment of implicit and explicit requirements of an agreement" (online document). Credibility of an advertisement is influenced by different factors, especially by the company's credibility and the bearer of the message (Goldsmith, Lafferty and Newell, 2000, Lafferty, Goldsmith and Newell, 2002). But it is also influenced by the advertising medium. For example, Marshall and WoonBong (2003) found out that a message on the Internet achieves less credibility than a printed message unless the message is communicated by a strong brand. There is no empirical evidence on the overall credibility of messages transferred to mobile devices and their influencing factors. Considering the findings cited above we conclude that the credibility of a mobile advertising message has a positive influence on consumers' attitude toward advertising via mobile devices and on the perceived advertising value of the consumer.

- H5a: High credibility of an advertising message is positively correlated with a "positive" attitude toward advertising via mobile devices.
- H5b: High credibility of an advertising message is positively correlated with a high advertising value.

### 4.3 Frequency of Exposure

The number of advertising messages received via mobile devices is an important factor that influences the advertising value for the consumer (Haghirian and Dickinger, 2004). Ducoffe states that informativeness and entertainment of advertising information should decline with repetition because the information will be learned by the audience and thereby lessening its value (Ducoffe, 1995). As the quantity of promotional message rises, the attitude of the individual towards the promotional vehicle also worsens and leads to tedium from consumers' point of view (Ha, 1996); (Tellis, 1997). In our model, the impact of informativeness is already analyzed on behalf of H2, therefore we investigate the relationship between the frequency of exposure and the dependent variables.

- H6a: Frequency of exposure of an advertising message is negatively correlated with a "positive" attitude toward advertising via mobile devices.
- H6b: Frequency of exposure of an advertising message is negatively correlated with a high advertising value.

## 4.4 Consumer

### 4.4.1 Consumer Attitude toward Privacy

Privacy refers to the degree to which personal information is not known by others (Rust, Kannan and Peng, 2002). Customer privacy has always been a critical issue in marketing, but has assumed a greater significance in recent years with the rise of Internet-based commercial transactions (Rust, Kannan and Peng, 2002). Most consumers are still quite uncomfortable with the concept of mobile business and they are sceptical whether these businesses are feasible and secure (Siau and Shen, 2003).

Originally meant to connect the world of business, the mobile phone has been increasingly applied by private households and therewith entered the domestic sphere. Accordingly, the mobile phone has changed its identity: it has lost its internal coherence and its connotations of being a mobile technology (Fortunati, 2001). Consumers regard their mobile phone a very private item. Mobile technologies are considered “personal” technologies, attached to a particular body or person (Green, Harper, Murtagh and Cooper, 2001). Consequently, they are very sensitive about receiving messages from unknown persons or organizations. Data control by unknown individuals can easily lead to annoyance among receivers (Whitaker, 2001). Moreover, advertising via electronic communications media like telephone, fax or e-mail is prohibited by law in several Western European countries unless the consumer agrees explicitly to receive the message. Privacy issues are therefore very important when using mobile devices in addressing the consumers. This calls for application of permission marketing (Kent and Brandal, 2003; Krishnamurthy, 2000; Tezinde, Smith and Murphy, 2002). Before receiving advertising messages via a mobile device, consumers need to empower a marketer to send promotional messages in certain interest categories to them. Typically, this is done by asking the consumer to fill out a survey indicating his or her interest when registering for a service. After that, the marketer can match advertising messages with the interests of the consumer (Krishnamurthy, 2001). These processes allow a new kind of interactivity, which often leads to marketers collecting, compiling, and using information about customers (Stewart and Pavlou, 2002).

- H7a: Relevance of privacy is negatively correlated with a “positive” attitude toward advertising via mobile devices.
- H7b: Relevance of privacy is negatively correlated with a high advertising value.

### 4.4.2 Relevant Demographic Variables

Besides the above-mentioned influencing factors that are mainly related to the message and its attributes itself as well as to related privacy issues, we also assume that demographic variables also can affect perceived advertising value and attitude toward advertising.

**Age:** Generally, young people are heavy users of mobile services (Dickinger, et al., 2004). For them mobile devices have become as much as a fashion accessory as they are a communication device (Robins, 2003). Younger consumers also show a more favorable attitude toward traditional advertising in a number of dimensions. They like looking at ads and they feel more comfortable when doing so (Shavitt, Lowrey and Haefner, 1998). Not surprisingly, they also show a very positive attitude toward mobile ads, whereas older consumers are also positive about mobile ads, but more prudent (Kaasinen, 2003). Considering these facts we come to the conclusion that younger consumers value advertising messages via mobile devices to a higher extent than older consumers and also show a more positive attitude toward them.

- H8a: Age of the consumer is negatively correlated with a “positive” attitude toward advertising via mobile devices.
- H8b: Age of the consumer is negatively correlated with a high advertising value.

**Gender:** Gender has shown to be relevant in forming overall attitudes on mobile phones. Women and men perceive mobile phones and their usage differently (Ozhan Dedeoglu, 2004). Ling reports that the role of the mobile phone differs between genders (Ling, 2001). Generally male consumers show a more favourable attitude toward ads than female consumers (Shavitt, Lowrey and Haefner, 1998). Since there is so far no research done on the attitude of the genders toward advertising via mobile devices, we can only conclude that there are differences in their attitude toward this form of marketing and its value.

- H9a: Attitudes toward advertising via mobile devices differ between men and women.
- H9b: Advertising value differs between men and women.

**Education:** Ozhan (2004) reports that as educational level increases, the level of negative attitude toward mobile phones increases also. These findings are supported by Sarker and Wells (2003) who consider economic conditions as an influencing factor on adoption and usage of mobile phones (Sarker and Wells, 2003). Persons with less education and lower income generally report a more favorable attitude toward advertising in general (Shavitt, Lowrey and Haefner, 1998). We therefore conclude that interviewees with a higher level of education show a more negative attitude toward advertising via mobile devices and perceive a lower value.

- H10a: A high level of education is negatively correlated with a “positive” attitude toward advertising via mobile devices.
- H10b: A high level of education is negatively correlated with a high advertising value.

## 5 RESEARCH METHODOLOGY

The study was conducted in autumn 2003 over a six weeks period during which 815 mobile phone owners were interviewed. For this investigation, a pre-tested standardized questionnaire has been applied for the face-to-face interviews. The interviewed persons have been selected on the basis of a quota sample that is representative for the Austrian population. These quota are related to gender, age, and education. The interviews have been carried out by trained undergraduate students under the authors’ supervision. The Austrian market shows one of the highest penetration rates of mobile phone users in Europe (Merrill-Lynch, 2002) and is therefore very suitable for investigation on mobile marketing and advertising.

Apart from the items investigating the age of the interviewee and the number of his/her advertising messages received, all measures were assessed via a 5-point-Likert-type scale ranging from “strongly agree” (1) to “strongly disagree” (5). These scales were reverse-coded where appropriate. Please refer to Table 1 for further details on the measures applied.

| Measures  | Items | Range  | Mean  | Standard Deviation | Variance | Alpha |
|---|-------|--------|-------|--------------------|----------|-------|
| <b>Attitude toward Ads</b>                        |       |        |       |                    |          |       |
| Attitude toward advertising via mobile devices    | 8     | 1 to 5 | 3.88  | 1.17               | 1.37     | .85   |
| <b>Advertising Value</b>                          |       |        |       |                    |          |       |
| Perceived value of advertising via mobile devices | 3     | 1 to 5 | 3.7   | 1.3                | 1.69     | .77   |
| <b>Message Content</b>                            |       |        |       |                    |          |       |
| Entertainment                                     | 6     | 1 to 5 | 3.61  | 1.34               | 1.8      | .88   |
| Informativeness                                   | 7     | 1 to 5 | 3.3   | 1.16               | 1.36     | .81   |
| Irritation  | 6     | 1 to 5 | 2.5   | 1.23               | 1.53     | .81   |
| Credibility                                       | 4     | 1 to 5 | 3.2   | 1.43               | 2.04     | .84   |
| <b>Message Exposure</b>                           |       |        |       |                    |          |       |
| Frequency of exposure (Ads received per week)     | 1     |        | 1,43  | ,50                | 0,25     |       |
| <b>Consumer</b>                                   |       |        |       |                    |          |       |
| Attitude towards privacy                          | 2     | 1 to 5 | 1,53  | 0,99               | 0,99     | .65   |
| Age of consumer                                   | 1     |        | 41,03 | 14,25              | 203      |       |

Table 1: Properties of Purified Measures



## 6 RESULTS AND DISCUSSION

Table 2 shows the correlations between the factors hypothesized to impact the advertising value of mobile marketing, respectively.

|  | <b>Perceived Advertising Value</b> | <b>Attitude toward Advertising via Mobile Devices</b> |
|--|------------------------------------|---|
| <b>H1: Perceived Advertising Value</b> |                                    | .626**  |
| <b>H2a and H2b: Entertainment</b>      | .761**                             | .606**  |
| <b>H3a and H3b: Informativeness</b>    | .692**                             | .654**  |
| <b>H4: Irritation</b>                  |                                    | -.13**  |
| <b>H5a and H5b: Credibility</b>        | .660**                             | .640**  |
| <b>H6a and H6b: Frequency</b>          | -.099**                            | -.62  |
| <b>H7a and H7b: Privacy</b>            | -.138**                            | -.116**   |
| <b>H8a and H8b: Age</b>                | -.051                              | .001  |
| <b>H9a and H9b: Gender<sup>1</sup></b> | p=0.72                             | p=0.84  |
| <b>H10a and H10b: Education</b>        | .074*                              | .035  |

Table 2: *Results of Hypotheses Tests<sup>2</sup>*

Hypothesis 1 stated the perceived value of advertising via mobile devices influences consumers' attitudes toward advertising via mobile devices. This hypothesis could be supported. It shows that the correlation between these variables is positive and highly significant. The results reflect Ducoffe's results of 1996 which showed that the same relationship between value and attitude occurs in web-advertising.

Hypotheses 2a and 2b as well as 3a and 3b predict that entertainment and informativeness are positively associated with advertising value when addressing consumers via mobile devices. Both hypotheses were supported by data. The high correlation coefficients indicate that there is a strong relationship with advertising value as well as consumers' attitudes toward it. These results are confirmed by other studies (Brackett and Carr, 2001, Ducoffe, 1996) as well, who come to the same results investigating web advertising.

Entertainment has turned out to increase advertising value in different empirical investigations. For example, Ferrazzi, Chen and Li (2003) found out that entertaining games in combination with sales messages can encourage dialogs with customers and project product images. Online advertising that is enriched with entertaining elements achieves a more positive evaluation by recipients and leads to higher intent to revisit the homepage than web sites without entertainment features (Raney, Arpan, Padhupati and Brill, 2003).

Informativeness of the advertising message turns out to be the second strong influencing factor on consumers' perceived advertising value, but shows the strongest influence on consumers' attitude. The advertising message is perceived as valuable as long as it provides information and thus creates some benefit for the consumer. Providing information via mobile devices is obviously another dominant influencing factor on attitude. Stewart and Pavlou (2002) point at the importance of interactive media, like the Internet, as an information broker that allows "the customer to acquire real-time account information that was previously not available" (p. 384). They further conclude that this may be perceived as an added value the consumer may even be willing to pay for in some cases.

<sup>1</sup> The analysis of gender differences was conducted via a t-test.

<sup>2</sup> \*p<.05, \*\*p<.01, \*\*\*p<.001

Hypothesis 4 predicts irritation to be negatively associated with virtual advertising value. Results indicate that irritation does negatively influence the value of mobile advertising. A low correlation coefficient indicates that influence of irritation is not as strong as the influence of the variables entertainment and informativeness. Irritation is a phenomenon that is similar to reactance, i.e. consumers tend to refuse advertisements if they have the feeling that the advertisement is too intrusive (Kroeber-Riel and Weinberg, 2003). In the context of web-based advertising reactance, consumers tend to avoid web sites that show interrupting advertisements like pop-ups. The perception of intrusiveness can, however, be decreased if the advertisements are relevant to the target group and if they provide value to the recipient (Edwards, Li and Lee, 2002). Thus, perceived irritation can be influenced by an advertisement's message.

Hypotheses 5a and 5b indicate that a high credibility of the advertising message is positively associated with advertising value. These hypotheses could also be confirmed. The correlation coefficient shows a strong relationship between the advertising value and perceived credibility. Credibility is based on the extent to which consumers believe that the marketer has the expertise and honesty to perform a transaction effectively and reliably. Is the base of consumer trust (Ganesan, 1994). Building this trust is a complex process that involves technology and business practices but it is crucial for growth and success of mobile commerce (Siau and Shen, 2003). Experience with a channel partner increases trust (Ganesan, 1994). Since communication with consumers via their mobile devices is a very young phenomenon, marketers are requested to build and breed trust. It is therefore advisable to build awareness via other media as well.

The results indicate that attitude toward advertising via mobile devices strongly depends on message characteristics. The message characteristics need to be developed carefully. Marketers can not only rely on the fact that an advertising message sent via a mobile devices will be read and remembered automatically. The mobile device may be an attention getter, but an attention getting device that is unrelated to the message will not attract consumers' interests in the message or the product (Ogilvy, 1963). This creates new challenges for marketers in the future. Cyriac Roeding, the European chair of the Mobile Marketing Association indicates that "as bandwidth increases, advertisers will have to be innovative in their campaigns to overcome the limitations of handsets with small screens" (DeZoysa, 2002).

Hypothesis 6a states that frequency of exposure is negatively associated with perceived advertising value. This hypothesis was supported by data, whereas hypothesis 6b referring to a negative influence on attitude toward advertising via mobile devices was not. A high frequency of exposure seems to decrease the value of advertising. This result is also supported by scientific literature (Ducoffe, 1995) which assumes that consumers who are confronted with ads repeatedly are less informed since they are already familiar with the content. Apparently a high frequency of exposure does not reflect negatively on consumers' attitude toward advertising via mobile devices.

Hypotheses 7a and 7b suggest that customers who consider privacy very valuable are less likely to attribute a high value and a positive attitude towards advertising via mobile devices. These hypotheses were also supported. This result is not surprising since numerous studies have indicated similar results for other permission marketing tools, e.g. e-mails. According to Ackerman, Darrel and Weitzner (2001), a trade-off between perceived privacy intrusion and user benefit is also possible. They assume that consumers accept a certain degree of privacy loss if benefit is considered being sufficient and satisfying (Ackerman, Darrel and Weitzner, 2001). But still, privacy concerns can not be dismissed. Especially the sharing of user information will be a major issue of discussion in the near future (Varshney, 2003). Unauthorized resale of personal information, intrusion and theft of customer databases, and unauthorized use of lost or stolen mobile devices present threats to the successful usage of mobile advertising (Rao and Minakakis, 2003).

Hypotheses 8 to 10 dealt with relevant demographic variables of the consumer. Hypotheses 8a and 8b state that the age of the advertising recipient reflects on the perceived advertising value and on their attitude toward advertising via mobile devices. Surprisingly, these hypotheses could not be supported. Age does not influence the advertising recipients' perception of mobile marketing significantly. These results are supported by Brackett and Carr's (2001) findings who showed in their study investigating web ads that age did not influence the attitude either (Brackett and Carr, 2001).

Hypotheses 9a and 9b indicated that gender influences both of the dependent variables. Neither of the hypotheses could be supported. There were no significant differences found in neither perceived value nor in attitude toward advertising via mobile devices. The results are similar to those of Bracket and Carr (2001) who also report gender to be relevant for consumers' attitude toward the advertising type but not for their perceived value.

Hypotheses 10a and 10b proposed that a higher education level is positively associated with the dependent variables. Only hypothesis 10a could be supported. Interviewees with higher education did not show a more positive attitude toward advertising via mobile devices, but did perceive it as more valuable. These results are also contradicted by Bracket and Carr's study (2001) who report different results for web advertising, namely no influence on advertising value but on attitude toward web advertising.

## 7 CONCLUDING REMARKS

The paper at hand presents antecedents of advertising value integrating mobile marketing into the marketing activities of a company. Specifically, the effectiveness of mobile advertising is investigated. The focus of the study are influencing factors on consumers' perceived advertising value of mobile marketing. The results show that the consumers' attitude toward advertising via mobile devices and advertising value are strongly related to the content and the frequency of the advertising message sent via mobile devices. Most surprisingly, consumers' attributes (apart from the educational level) do not play such a dominant role regarding advertising value and attitude towards advertising via mobile devices. As a consequence, it is mainly the advertising message itself that influences its value and consumers' attitude. Hence, advertising companies are well advised to carefully design their mobile advertising messages and also plan their mobile advertising campaigns and target groups thoroughly.

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