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Can we compare SMS marketing to Traditional Marketing Communications?

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ABSTRACT

Nowadays most companies acknowledge the importance of SMS marketing in reaching and interacting with their customers (Kavassalis et al. 2003; Dickinger et al. 2004; Tsang, Ho & Liang 2004; Sharl, Dickinger & Murphy 2005; Muk 2007). However, there is much discussion in the press regarding the effectiveness when it comes to SMS marketing. Are customers willing to accept, reading and using SMS messages: how effective is SMS marketing compared to traditional marketing communications?

The goal of this study is to investigate, on the one hand, the effectiveness of SMS advertising compared to traditional marketing communication for different aspects and, on the other hand, to analyse to what extent consumers are willing to accept commercial messages on their mobile phone, since the effectiveness of SMS marketing highly depends on this.

The research results indicate that location and time, incentive, advertising appeal and product involvement have a significant positive influence on the attitude towards the ad, the attitude towards the brand and the consumers' purchase intention for SMS advertising and not for the traditional marketing communications. In addition, the research results indicate that an incentive is necessary (especially for young mobile phone users) to increase the willingness to accept these kind of messages.

KEYWORDS

SMS marketing, mobile phone, SMS advertising effectiveness.

INTRODUCTION

Consumers are confronted everyday with a large amount of advertisements, which exceeds their information-processing abilities. As a result, consumers filter out excess visual and aural marketing stimuli (Rumbo 2002), which contributes to the uncertainty of the marketeers of obtaining the consumers' attention. However, research has indicated that creativity can attract the consumers' attention. Both the advertising message and the choice of the advertising medium need to be creative (El-Murad & West 2004). Today, there is a shift away from traditional marketing to new, interactive, digital media based on a more targeted approach through personalized channels (Brengman, Cauberghe & Thielemans 2007). With the emergence of high speed wireless network technologies and the increasing penetration of the mobile phone, the global interest of the advertising industry in the use of this medium for marketing purposes, has increased significantly (Bauer et al. 2005).

This study aims to investigate the effectiveness of SMS advertising and to determine whether this new type of advertising is more effective than the traditional marketing communications for different kinds of messages. First, a brief overview of the literature of SMS advertising is given. Secondly, a preliminary research is conducted to analyse which traditional medium should be compared with the mobile phone. Afterwards different factors, to which the mobile literature refers, are identified and hypotheses are formulated and tested concerning these factors. Finally, the factors that contribute to the success of SMS advertising are discussed, as well as further research avenues.

OVERVIEW OF THE LITERATURE

The literature shows that there are different aspects that can have the potential to influence the effectiveness of SMS marketing (Drossos et al. 2005). The most important aspects are: location, time, interactivity, incentive, appeal and product involvement. In this brief literature overview, the different aspects are described.

For the first aspect, 'location and time', we notice that mobile phone users carry their phone all the time, wherever they go (Kavassalis et al. 2003; Bauer et al. 2005). Geo-location technologies, such as the Global Positioning System (GPS) or Cell of Origin (COO), provide

the marketers with the opportunity to locate a particular consumer and to target people in a certain location (Tsang, Ho & Liang 2004). By adapting a service that takes into consideration the position of the user, more meaningful and relevant advertisements or promotions can be sent to the potential customers (Sultan & Rohm 2005). In other words, prospects can be reached when and where it is most suitable for the effectiveness of the marketing campaign (Kavassalis et al. 2003). The mobile phone exceeds the time-space paradigm of traditional marketing: there is no longer a temporal and spatial separation between buyers and sellers (Watson et al. 2002). Therefore location-based advertising (LBA) is regarded as a very promising opportunity for marketers (Bauer et al. 2005).

SMS advertisement may or may not contain an interactive element. Interactive elements can convince the potential customer to search for more information concerning the advertised product or service and can convince the potential customer to give feedback to the advertiser. Interactive media exhibits a two-way communication enabling the recipient to affect the communication process actively. The mobile phone is a new, digital and interactive device, which allows the recipient of a message to reply to it immediately (Bauer et al. 2005). This leads to the creation of a continuous dialogue and the establishment of a relationship between the marketer and the consumer, allowing the marketer to better understand the target audience (Brengman, Cauberghe & Thielemans 2007), to use the consumers' feedback to customize messages and offerings and to improve future products and services (Haghirian, Madlberger & Tanuskova 2005). For the traditional marketing communications the interactive element is not always present.

SMS advertisements also have a range of possibilities to provide incentives to the mobile phone users. The effectiveness of incentives shows that individuals are greatly interested in acquiring financial benefits from direct marketing programs. Previous studies showed that price promotions change consumers' purchasing decisions (Chen, Monroe & Lou 1998) and that price discounts are particularly effective in generating product trial, purchase acceleration, additional spending and encouraging stockpile (Shi, Cheung & Prendergast 2005). Price discounts are also used to increase store traffic (Grewal, Monroe & Krishnan 1998 ; Lichtenstein & Bearden 1989) and stimulate purchases (Grewal et al. 1998).

Another aspect which can influence the effectiveness of SMS advertisements is the advertising appeal. Regarding this issue Drossos, Giaglos and Lekakos (2007) point out that

the quality of information sent on the mobile phone is crucial, because due to the absence of sound, image and motion SMS ads may not be effective in inducing a significant emotional appeal. However, the technological application, EMS (Enhanced Message Service) links different SMS messages to each other, which offers the opportunity to send formatted text, sound and pictures (Brengman, Cauberghe & Thielemans 2007). Newspapers, magazines, flyers, e.g. on the other hand do not contain sound either, but formatted text and pictures are commonly used.

Product involvement can also influence the effectiveness of marketing communication (De Pelsmacker et al. 2008). Whether consumers react to advertising communication in an active or passive way and whether they process this communication in a limited or extended way, depends on their level of involvement (Laurent & Kapferer 1985). Shiffman and Kanuk (2007) argue that the consumer's level of involvement depends on the degree of personal relevance of the product for that consumer. High-involvement purchases are those that hold great relevance or importance for the consumer and therefore incite extensive information processing (Shiffman & Kanuk 2007). With regard to highly involved consumers, the quality of the argument presented in the persuasive message has a great impact on the consumption decision (Shiffman & Kanuk 2007), since high involved consumers may be more likely to explore product-specific information (Drossos et al. 2005). Low-involvement purchases are those that hold little relevance or importance for the consumer and therefore incite very limited information processing (Shiffman & Kanuk 2007). In marketing to low involvement consumers the imagery of the promotional message has a great influence on the consumption decision (Shiffman & Kanuk 2007). An SMS has a 160-character text-only format. This limits the amount of information that can be transferred, which is often necessary for high involvement products. However MMS, the latest technological application, uses WAP (Wireless Application Protocol), which can lead to messages that are one hundred times greater than a traditional SMS (Brengman, Cauberghe & Thielemans 2007). For traditional marketing communications, especially for print advertisements, there is no limitation on the amount of characters used.

RESEARCH DESIGN

To determine which traditional medium (with emphasis on reaching the masses) would be compared to the mobile phone (a new, interactive and digital medium, with emphasis on a targeted approach) a preliminary research was conducted. Because the effectiveness of SMS advertising is examined and an SMS has a textual form, only textual media were taken into consideration. On the basis of the research results of the preliminary research, an empirical research was accomplished to compare the effectiveness of SMS marketing with traditional marketing communications.

Preliminary research

Sample

For the preliminary research a written questionnaire was used to collect data. The subjects were 40 students (22 females, 18 males) from master of Business Administration at a large urban university in Brussels, Belgium. We used a student sample, because in mobile advertising, the target group are young consumers (Nysveen et al. 2005; Pedersen 2005; Rohm & Sultan 2006; Bauer et al. 2005; Kavassalis 2003). The average age of the students ranged between 19 and 25 years old ($Average_{age}$ = 21.78; *s.d.* 1.31).

Measurement instruments

First, the general evaluation of the six different media (newspapers, magazines, posters, flyers, abri's and mupies) was measured in the written questionnaire, by using the seven point semantic differential scale of Lord, Lee and Sauer (1994) (α = .89).

In addition, the respondents' attitude towards advertising (Donthu & Gilliland 1996) (α = .75) was analysed. Furthermore, for each medium, the subjects were asked to indicate their opinion on a seven-point scale ranging from 'completely disagree' (1) to 'completely agree' (7) for the following statements: "Advertisements provide useful information", "I think that advertisements are often deceptive" and "I usually do not pay attention to advertisements".

To select the brand names of the products used in the ads to compare SMS advertising with traditional marketing communications, the subjects were kindly asked to evaluate different brand names for brand awareness, experience with the brand and attitude towards the brand.

We have selected the following products for high involvement: mobile phone, mp3 players, USB sticks, bags and backpacks and snacks as a low involvement product. These products are defined as commonly used in the daily life of young consumers (Forrester, 2003). After a depth interview with five experts separately, we selected seven brand names for mobile phones, mp3 players and USB sticks, for backpacks 13 brand names and for snacks 19 brand names. The choice of the advertised brands used in the ads in the empirical research was made on the basis of the preliminary research results.

Research results

The research results for the general evaluation (Lord, Lee & Sauer 1994) and attitude towards advertising are as follows:

- Newspaper: $avg_{evaluation}$ = 5.29, (*s.d.* = 1.06) ; avg_{aad} = 4.01, (*s.d.* = 0.65)
- Magazines: $avg_{evaluation}$ = 5.69, (*s.d.* = 1.01); avg_{aad} = 3.87, (*s.d.* = 0.74)
- Flyers: $avg_{evaluation}$ = 3.38, (*s.d.* = 1.55); avg_{aad} = 4.00, (*s.d.* = 0.83)
- Posters: $avg_{evaluation}$ = 4.38, (*s.d.* = 1.38); avg_{aad} = 3.75, (*s.d.* = 0.73)
- Abri's: $avg_{evaluation}$ = 4.06, (*s.d.* = 1.42); avg_{aad} = 3.78, (*s.d.* = 0.72)
- Muppies: $avg_{evaluation}$ = 3.72, (*s.d.* = 1.22); avg_{aad} = 3.98, (*s.d.* = 0.70).

On the basis of the research results of the general evaluation of the different media, newspapers and magazines were the most favourable media. The attitude towards advertising through the different media was also the most favourable for newspapers and magazines. Therefore, we chose the medium 'newspapers and magazines' for our final empirical research. The highest score for magazines was for the magazine 'Flair' 19.6% and for the newspapers the highest score was for 'Metro' (a free newspaper which can be found at most public places, schools and universities) with 56.8%. Based on this research result, we decided to compare the effectiveness of SMS advertising with the effectiveness of advertising through the newspaper 'Metro'.

For the brands which were used in the different advertisements in our preliminary research, we measured: the respondents' brand awareness, the experience of the respondents with the brand and their attitude towards the brand. Taking into account the research results, we decided to advertise those brands in the empirical research that were not extremely popular, but also not extremely unpopular. After all, these two extremes would lead to biased answers. It was suspected that the extremely popular brands would hide the effects on the constructs

that are examined (attitude towards the ad, attitude towards the brand and purchase intention). Also the least popular brand is not a good option, because this brand may not be known by a number of respondents (Anschuetz 1997). On the basis of our research results, the following brands were selected for the products: Siemens (mobile phone), Packard Bell (mp3 player), Memorex (USB-stick), Zara (bag and backpack) and Lion (snack).

Empirical research

The main research questions concern the effectiveness of SMS advertising compared to traditional marketing communications. Therefore, we formulated the following research questions:

Q1. Does SMS advertising lead to a more favourable attitude towards the advertisement in comparison to advertising through newspapers?

Q2. Does SMS advertising lead to a more favourable attitude towards the brand compared to advertising through newspapers?

Q3. Does SMS advertising lead to higher purchase intentions compared to advertising through newspapers?

In this study the respondents were exposed to an SMS or a newspaper advertisement consisting information that was based on their location, aiming to convince them to visit the nearest store where the advertised product was sold. Time and location were analysed as the perceived resources (money, time, effort) that are given up in order to obtain the advertised product (Cronin, Brady & Hult 2000). We therefore can translate our research questions into the following more detailed hypotheses:

H_1: SMS advertisements lead to more positive attitudes towards the advertisement and the brand and to more positive purchase intentions compared to advertisements to newspapers, when the perceived effort to buy the advertised product is low.

As mentioned earlier in this paper, the mobile phone offers the possibility to the marketers to interact with their customers. In this study the respondents are exposed to an SMS or a newspaper advertisement whether or not consisting an interactive element. Interactivity positively affects attitudes towards the advertisement and the brand (Sundar & Kim 2005,

Bauer et al. 2005, Sundar 2004, Liu & Schrum 2002). The mobile phone is a highly interactive medium (Bauer et al. 2005). However, for the traditional marketing communications, especially for print advertising, an interactive element is not always present. Therefore, we hypothesize that:

H_2: SMS advertisements that offer the possibility of interaction lead to more positive attitudes towards the advertisement and the brand and to more positive purchase intentions, compared to advertisements through newspapers.

Both SMS advertisements and traditional marketing communications have a range of possibilities to provide incentives. Because of the lack of literature, we hypothesize that the effectiveness of incentives is comparable for both advertising media instruments.

H_3: SMS advertisements that offer incentives lead to more positive attitudes towards the advertisement and the brand and to more positive purchase intentions than advertisements without incentives, but there are no significant differences between incentives provided by SMS advertising or advertising through newspapers.

Through the literature review we learned that the quality of information sent on the mobile phone in the form of an SMS is crucial, due to the absence of sound, image and motion (Drossos, Giaglos & Lekakos, 2007). Since advertisements in newspapers can contain pictures, we hypothesize that:

H_4: SMS advertisements that use a rational appeal lead to more positive attitudes towards the advertisement and the brand and to more positive purchase intentions compared to advertisements through newspapers of the same size.

As indicated in the literature overview, highly involved consumers may be more likely to explore product-specific information (Drossos et al. 2005). As the amount of information that can be transferred through an SMS is limited to 160 characters, it seems better to advertise a low-involvement product. However, for traditional marketing communications, especially for print advertisements, there is no limitation on the amount of characters used. Therefore we suggest that low involvement products are more effective through SMS advertising than high involvement products. Yet for traditional marketing communications, we cannot suggest a

significant difference between high and low involvement products. The following hypothesis can be formulated:

H_5: Attitudes towards the advertisement (Aad) and the brand (Ab) and purchase intentions (PI) will be more favourable for SMS advertisements when an advertisement of a low involvement product is compared to an advertisement for a high involvement product. For traditional marketing no significant difference between Aad, Ab and PI will be found between low and high involvement products.

RESEARCH METHODOLOGY

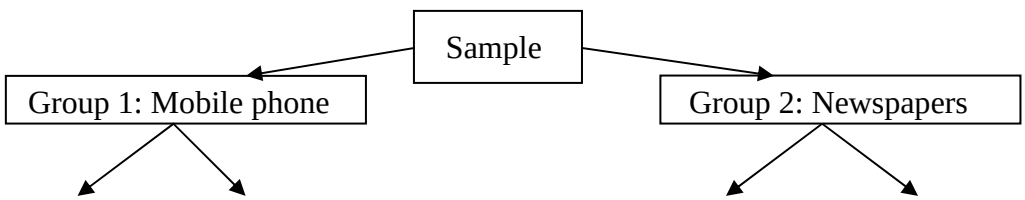
Sample

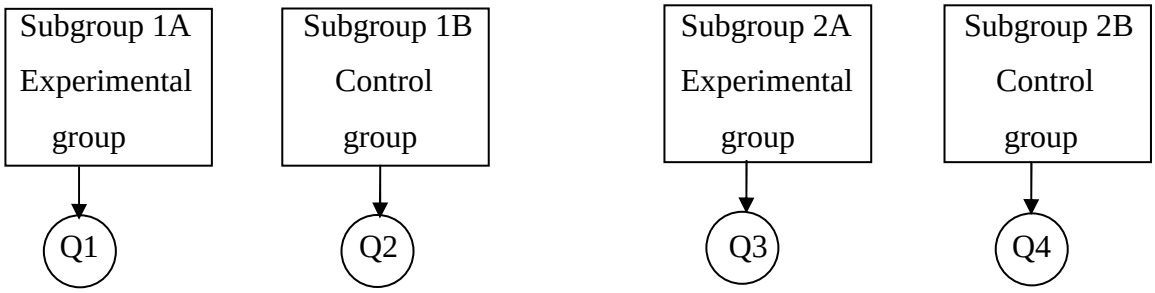
A student sample of 227 subjects (116 females, 111 males) in total participated in the survey. The students were within the age range of 18 to 25 years old ($Average_{age}$ = 21.3 year, *s.d.* = 1.6). This choice was deliberately made because research showed that SMS campaigns are particularly successful in the younger segments of the market, a difficult audience to approach through traditional marketing channels (Kavassalis et al. 2003). They formed a good target group, since mobile phone ownership reached 100% and most of the participants were heavy users of SMS: 85% of the respondents sent at least one SMS message per day. 59% of the respondents indicated that they had already received commercial messages on their mobile phone. Noteworthy is that only 11% of the respondents gave the permission to receive SMS advertisements.

Research Design

The 227 students were randomly assigned to two groups of approximately equal size. In the first group, on the one hand, the effectiveness of SMS advertising was analysed. In the second group, on the other hand, the effectiveness of advertising through newspapers was examined. Each of these groups was divided into two subgroups. In this way we could work on the basis of an experimental group and a control group. In Figure 1 an overview of our research design is given.

Figure 1: Overview of the Research Design





For each of the four groups, a questionnaire was designed. For group 1, the questionnaires consisted in different ads shown via a mobile phone screen to increase external validity (see Figure 2). Modifications were made between the questionnaires for the experimental and the control group, in order to examine the effectiveness of SMS advertising. For the second group, the same procedure was followed for designing the questionnaires, but this time the questionnaires consisted in different ads shown via a newspaper to increase external validity (Figure 2). The five experimental conditions, which were discussed in the overview of the literature, are illustrated in Table 1.

Figure 2: Example of an SMS advertising and a printed advertising





Table 1: Experminental conditions

	SMS advertising Advertising through newspapers		
	Experimental group Q1 and Q3	**Control group Q2 and Q4**	
Location and time	The advertisement was shown far from the point of sale.	The advertisement was shown near the point of sale.	**Effect on: - Attitude towards the Ad - Attitude towards the Brand - Purchase Intention**
Interactivity	Interaction: the user could send an SMS to learn more about the brand.	No interaction.	
Incentive	A 25% discount was advertised.	A 10% discount was advertised.	
Appeal	Factual information and focus on product attributes were communicated.	The product was advertised appealing to the customer's senses.	
Involvement	High involvement.	Low involvement.	
Credibility	Source Q1 and Q2: the mobile phone. Source Q3 and Q4: the newspaper.		
Attitude	Q1 and Q2: Attitude towards SMS advertising. Q3 and Q4: Attitude towards advertising through newspapers.		

Measurement and scaling

The constructs employed in the study were adapted from prior research. For 'location and time' we used a two-item, seven point semantic differential scale anchored by "The time required to buy the product is" and "The effort that I must make to buy the product is" (Cronin, Brady & Hult, 2000) (α = .899). For the construct 'interactivity' a single-item, seven point scale anchored by "The advertisement allows me to react very fast (is interactive)" was used (Sundar & Kim, 2005). For the construct 'incentive' we used a four-item, seven point semantic differential scale anchored by "bad buy/excellent buy", "no savings at all/extremely large savings", "extremely unfair price/extremely fair price" and "not a good value/extremely good value" (Berkowitz & , 1980) (α = .800). The 'appeal' of the advertisements was measured using a four-item, seven point semantic differential scale anchored by

"tangible/intangible", "logical/emotional", "objective/subjective" and "factual/nonfactual" (Liu & Stout, 1987) (α = .78). For the construct 'product involvement' we used a six-item, seven point semantic differential scale anchored by "unimportant/important", "of no concern/of concern to me", "irrelevant/relevant", "means nothing to me/means a lot to me", "trivial/fundamental" and "not involved/highly involved" (Zaichkowsky, 1985) (α = .95). 'Attitude towards the ad' was measured using a four-item, seven point semantic differential scale anchored by "negative/positive", "did not like it at all/liked it very much", "pleasant/not pleasant" and "bad/good" (Spears & Singh 2004) (α = .86). For the construct 'attitude towards the brand' we used an eight-item, seven point semantic differential scale anchored by "bad/good", "dislike/like", "poor quality/high quality", "unpleasant/pleasant", "unattractive/attractive", "useless/useful", "worthless/valuable" and "inferior/superior" (Gelb & Zinkhan 1986) (α = .91). Finally, the construct 'purchase intention' was measured using a three-item, seven point semantic differential anchored by "It is very likely that I will buy *(brand)*", "I will purchase *(brand)* the next time I need a *(product)*" and "I will definitely try *(brand)*" (Putrevu & Lord 1994) (α = .91).

The results of an exploratory factor analysis showed that the various items for the different constructs loaded on one underlying factor. In addition, the results of the Cronbach's Alpha analysis indicated that the various items had a high internal consistency. Based on these analyses, the different items were taken together for the measurement of the individual constructs.

Research results

The first hypothesis implicates that **SMS advertisements lead to more positive attitudes towards the advertisement and the brand and to more positive purchase intentions compared to advertisements in newspapers, when the perceived effort to buy the advertised product is low.**

- At first we analysed the effectiveness of SMS advertisements with regard to 'location and time'. Therefore we compared the first and the second questionnaire. The expectation that there would not exist a significant difference between the two questionnaires regarding the attitude towards the brand, could be confirmed on the basis of the research results ($t = 0.63$; $p = .533$). In addition, as we expected, there exists a significant difference between the two questionnaires in terms of attitude towards the ad. The attitude towards the ad is significantly better for the second

questionnaire in comparison to the first questionnaire ($t = 2.59$; $p = .011$). Although we expected that there would exist a significant difference in terms of purchase intention between the two questionnaires regarding the variable 'location and time', this could not be confirmed on the basis of our analysis ($t = 0.17$; $p = .862$).

- Secondly, we analysed the effectiveness of print advertising (more precisely, advertising through newspapers) with regard to 'location and time', by comparing questionnaires 3 and 4. Also here we made the same expectations with regard to attitude towards the ad, attitude towards the brand and purchase intention. Our expectation, that there would not exist a significant difference between the two questionnaires regarding the attitude towards the brand, could be confirmed on the basis of the research results ($t = 0.30$; $p = .766$). Against all expectations, we did not find a significant difference between the two questionnaires regarding the attitude towards the ad ($t = 0.30$; $p = .764$). The same goes for the purchase intention too ($t = 1.80$; $p = .075$).
- To compare the effectiveness of SMS advertising to the effectiveness of advertising through newspapers, we compared, on the one hand, questionnaire one to questionnaire three and, on the other hand, questionnaire two to questionnaire four. The only difference between these questionnaires is the type of advertising: SMS advertising and advertising through newspapers. The comparison of questionnaire one and three appears in the upper part of Table 2. The research results show that no significant differences (with regard to 'location and time') could be found between the two questionnaires in terms of attitude towards the ad, attitude towards the brand and purchase intentions. Although questionnaire two and four (bottom of Table 2) also place both types of advertising in relation to each other, significant differences were found regarding the variable 'location and time'. Questionnaire two (SMS advertising) leads to a significantly better attitude towards the ad compared to questionnaire four (advertising through newspapers) ($t = 2.21$; $p = .029$). Therefore, hypothesis 1 can only be supported partially. Although location-based advertising (LBA) is regarded as a very promising opportunity for marketers (Bauer et al., 2005), this research only reports a significant influence on the attitude towards the ad. As a consequence, additional research is necessary.

The second hypothesis runs as follows: **SMS advertisements that offer the possibility of interaction lead to more positive attitudes towards the advertisement and the brand and to more positive purchase intentions, compared to advertisements through newspapers**.

- Also here we first comment on the effectiveness of SMS advertising (Q1 & Q2) whether or not an element of interactivity is present. Furthermore, we make the same, previously-mentioned expectations with regard to the attitude towards the ad and towards the brand and the purchase intention. No significant difference could be found between the two questionnaires in terms of attitude towards the brand ($t = 1.67$; $p = .098$). As we expected, a significant difference exists between questionnaire one and two, with regard to the attitude towards the ad. However, this difference was observed in the opposite direction ($t = 2.91$; $p = .004$). The respondents that filled out questionnaire 1 were shown an SMS ad that aimed to convince the receiver to send an SMS to find out more information about the advertised product. Since there are costs united with responding to an SMS advertisement, which is irreconcilable with consumers' view that advertising should be free (Muk, 2007), this may have negatively affected the dependent variables. Furthermore, contrary to our expectations, no significant difference was found between both questionnaires with regard to the purchase intention ($t = 1.22$; $p = .224$).
- Regarding the effectiveness of advertising through newspapers (Q3 & Q4), no significant difference was observed in terms of attitude towards the brand, whether or not an element of interactivity was present ($t = 0.45$; $p = .654$). Although we expected to reveal a significant difference with regard to the attitude towards the ad, this was not the case ($t = 0.30$; $p = .766$). However, as expected, a significant difference was found with regard to the purchase intention. The research results show that the purchase intention is higher for questionnaire three, where an element of interactivity was present ($t = 2.63$; $p = .010$).
- With regard to our hypothesis, we compare both types of advertising (Q1 & Q3 ; Q2 & Q4). Although no significant differences could be observed through the comparison of questionnaire one and three, we found significant differences between questionnaire two and four, also placing both types of advertising in relation to each other. SMS advertising appears to be more interactive than advertising through newspapers ($t = 2.18$; $p = .031$). This interactivity has an effect on the attitude towards the ad, the attitude towards the brand and the respondents' purchase intention. The attitude towards the ad is more positive in the case of SMS advertising ($t = 2.98$; $p = .004$).

The attitude towards the brand also seems to be better for SMS advertising in comparison to advertising through newspapers (t = 3.05, p = .003). Finally, SMS advertising leads to higher purchase intentions compared to advertising through newspapers (t = 3.80; p = < .001). Since these results could only be found through the comparison of questionnaire two and four, we cannot draw a firm conclusion with regard to our second hypothesis.

The third hypothesis implicates that **SMS advertisements that offer incentives lead to more positive attitudes towards the advertisement and the brand and to more positive purchase intentions than advertisements without incentives, but there are no significant differences between incentives provided by SMS advertising or advertising through newspapers**.

- Also here we operate in the same way. The effectiveness of SMS advertising is analysed through the comparison of questionnaire one and two, with regard to the variable 'incentive'. As expected, there does not exist a significant difference between the two questionnaires in terms of attitude towards the brand (t = 0.70; p = .486). With regard to the attitude towards the ad and the purchase intention, we expected to find significant differences, but only in terms of purchase intention a significant difference could be observed (Aad: t = 0.70; p = .486) (PI: t = 2.35; p = .021). An incentive seems to have a positive influence on the purchase intention. This is conform to previous research in mobile advertising. Barwise and Strong (2002) go a step further by showing that many consumers require and even expect an incentive in order to accept commercial messages on their mobile phones. Tsang, Ho and Liang (2004) pointed out that providing incentives increases the intention to receive SMS ads, which is in line with the findings of Hanley, Becker and Martinsen who demonstrated that monetary incentives incite college students to take into consideration the acceptance of ads on their mobile phone. A more recent research showed that young mobile users are willing to switch their mobile phone supplier if they were offered free talk time and texts in return for receiving mobile advertisements (Bearne 2008).
- Regarding the effectiveness of advertising through newspapers, the variable 'incentive' does not seem to be a success factor for advertising effectiveness, since no significant differences were found in terms of attitude towards the brand (t = 0.27; p = .790), attitude towards the ad (t = 0.24; p = .811) and purchase intention (t = 1.02; .310).

- When we compare both types of advertising, the research results show no significant differences in effectiveness. Our hypothesis can therefore be supported.

The fourth hypothesis runs as follows: **SMS advertisements that use a rational appeal lead to more positive attitudes towards the advertisement and the brand and to more positive purchase intentions compared to advertisements through newspapers of the same size**.

- With regard to the effectiveness of SMS advertising (Q1 & Q2), we did not expect to find a significant difference in attitude towards the brand between the first en the second questionnaire, since the same brand was shown in each of the questionnaires. Nevertheless, the research results illustrate that a rational appeal leads to a more favourable attitude towards the brand, compared to an emotional appeal ($t = 7.88$; $p = < .001$). In addition, we observed a significant difference in terms of attitude towards the ad: an advertisement with an emotional appeal seems to have a positive influence on the attitude towards the ad ($t = 2.16$; $p = .033$). Furthermore, we can conclude that the advertisement's appeal influences the purchase intention, since the intention to purchase the advertised product is higher in the case of a rational advertisement's appeal ($t = 2.25$; $p = .027$). With regard to SMS advertising, we therefore can conclude that an advertisement using a rational appeal leads to a more favourable attitude towards the brand and to higher purchase intentions in comparison to an emotional advertising appeal.
- With reference to the effectiveness of advertising through newspapers (Q3 & Q4), no significant differences between questionnaire three and questionnaire four could be observed in terms of attitude towards the ad and towards the brand and purchase intention.
- When we compare both types of advertising (Q1 & Q3 – Q2 & Q4), the research results do not show any significant differences. Therefore, our hypothesis cannot be supported.

The fifth hypothesis implicates that **attitudes towards the advertisement and the brand and purchase intentions will be more favourable for SMS advertisements when an advertisement of a low involvement product is compared to an advertisement for a high involvement product. For traditional marketing no significant differences in Aad, Ab and PI will be found between low and high involvement products**.

- At first we analysed the effectiveness of SMS advertising with regard to ‘product involvement’. Since the advertisement in the first questionnaire illustrated a high involvement product (backpacks and bags of ‘Tommy Hilfiger’) and the advertisement in questionnaire 2 showed a low involvement product (snack ‘Lion’), we expected to find a significant difference between the two questionnaires in terms of attitude towards the brand. However, no difference was found ($t = 1.67$; $p = .097$). Nevertheless, in terms of attitude towards the advertisement we found a significant difference. The research results showed that the respondent’s attitude towards the ad in questionnaire 2 (low involvement product) was more favourable compared to the first questionnaire (high involvement product) ($t = 4.168$; $p = < .001$). Furthermore, as we expected, there exists a significant difference between the two questionnaires in terms of purchase intention. The purchase intention is significantly higher for the low involvement product ($t = 3.02$; $p = .003$). Therefore we can conclude that the attitude towards the advertisement and the purchase intention are more favourable for SMS advertisements when an ad of a low involvement product is compared to an ad for a high involvement product.
- Secondly, we analysed the effectiveness of print advertising with regard to ‘product involvement’, by comparing questionnaire 3 and 4. Although the third and the fourth questionnaire advertised another brand (Q3: HI ‘Tommy Hilfiger’ – Q4: LI ‘Lion’), no significant differences could be observed in terms of attitude towards the brand ($t = 0.98$; $p = .328$). However, the research results illustrated significant differences in terms of attitude towards the advertisement and purchase intention. The attitude towards the ad is significantly better for questionnaire 4, in comparison to questionnaire 3 ($t = 2.09$: $p = .039$). In addition, the purchase intention was significantly higher for the fourth questionnaire, in comparison to the third questionnaire ($t = 2.16$; $p = .033$). Since we had not expected to find significant differences in attitude towards the ad, attitude towards the brand and purchase intention between high- and low involvement products for traditional marketing, the second part of hypothesis 5 cannot be supported.
- When we compare both types of advertising, no differences can be found.

Table 2: Effectiveness of SMS advertising versus advertising through newspapers

		Aad		Ab		PI	
		t-value	p-value	t-value	p-value	t-value	p-value
Comparison Q1-Q3	Location and Time	0.70	.485	0.69	.492	1.09	.277
	Interaction	0.50	.616	0.56	.579	0.21	.831
	Incentive	1.37	.173	0.02	.982	0.01	.996
	Appeal	1.67	.098	0.41	.687	0.28	.781
	Involvement	0.07	.944	0.69	.495	1.02	.311
Comparison Q2-Q4	Location and Time	2.21	.029	0.53	.601	1.05	.298
	Interaction	2.98	.004	3.05	.003	3.80	< .001
	Incentive	0.72	.473	0.94	.348	1.05	.298
	Appeal	0.67	.506	1.36	.176	0.17	.864
	Involvement	1.94	.055	0.20	.840	1.38	.172

Discussion

SMS advertising provides many opportunities and challenges for the advertising industry. Because the mobile phone is a very personal device, using it for marketing purposes, would signify that marketers would be able to address the consumers individually and enter into a direct dialogue with customers. However, little investigation was conducted regarding the effectiveness of SMS advertising. The paper at hand attempts to complete this emptiness, by presenting antecedents of SMS advertising effectiveness: location and time, interaction, incentive, appeal and product involvement. Furthermore, we analysed whether these factors also contribute to the success of advertising through newspapers, a type of traditional advertising. Nowadays, a shift away from traditional marketing to new, interactive and digital media can be observed. Therefore, we examined whether SMS advertising tops advertising through newspapers, in terms of effectiveness.

With regard to the effectiveness of SMS advertising, the results show that the variable 'location and time' influences the attitude towards the ad. Although we expected that the extension of the possibility of interaction would lead to more favourable attitudes towards the ad and the brand and to higher purchase intentions, this could not be confirmed by our research. The attitude towards the ad is even better regarding an advertisement where no elements of interaction are present. This may be due to the costs associated with sending an

SMS. Offering an incentive appears to be successful, since the purchase intention is higher when a benefit can be gained by receiving an SMS ad. Also the advertisement's appeal is of influence. An emotional advertising appeal leads to a more favourable attitude towards the ad, whereas a rational advertising appeal leads to a more positive attitude towards the brand and a higher purchase intention. Finally, the results demonstrate that it is better to advertise products of low involvement, since the attitude towards the ad is more favourable and the purchase intention is higher in that case.

Regarding the effectiveness of advertising through newspapers, the results show that an advertising message where elements of interaction are present leads to a higher purchase intention. In addition, it appears that it is better to advertise products of low involvement, since they also lead to higher purchase intentions. Because the research only revealed these results, we decided that the investigated factors are not antecedents that contribute to successful advertising through newspapers. Therefore, additional research is necessary.

The research results of the comparison of SMS marketing and advertising through newspapers indicate that there are no significant differences for most of the factors. Unfortunately, the success of using this new, interactive, digital medium for marketing purposes depends on its acceptance by consumers. Therefore, additional research is necessary to analyse to what extent consumers are willing to accept commercial messages on their mobile phone. The following research questions were examined:

Q1. What is the attitude of consumers towards SMS advertising?
Q2. Can heavy mobile users be distinguished from light mobile users?
Q3. What kind of incentives are necessary to stimulate the effectiveness of SMS advertising?

Description of the sample

For this study we designed an online questionnaire. In this way people from different age groups could be reached. 310 people (191 females, 119 males) participated in the survey ($\leq$ 15 years old: 19.0% of the respondents; 16-20 years old: 29.0%; 21-25 years old: 30.3%; $\geq$ 25 years old: 21.6%).

Only two respondents did not have a mobile phone, which is in line with the penetration rate of Belgium (99.5%). 72.9% of the respondents sent at least one SMS message per day. Approximately one third of the respondents indicated that they had already received SMS advertisements on their mobile phone. Noteworthy is that only 4.5% of the respondents gave permission to receive SMS advertisements. Voting by using the mobile phone in the context of a TV programme and participating to games or contests with the mobile phone are popular commercial mobile applications, with respectively 36.8% and 25.8% users. Slightly more than one tenth of the respondents (12.3%) indicated that they had already paid through SMS, but only 4.5% of the respondents pointed out to have bought tickets (for concerts, festivals, …) via SMS.

Procedure

The survey utilized a questionnaire designed to collect data with regard to consumers' attitudes towards SMS advertising, willingness to accept commercial messages on the mobile phone and mobile phone usage rate. The questionnaire consisted of four major parts. The first part measured the respondents' general attitude towards SMS advertising. The second part of the questionnaire included questions about the usage rate of the mobile phone and the actual use of commercial mobile phone applications. The third part examined the willingness of the consumer to accept SMS advertisements whether or not an incentive is given. Finally, the last part of the questionnaire collected the respondents' demographic data: gender and age.

Research results

Q1: Attitude towards SMS advertising

The respondents' general attitude towards SMS advertising was measured by using a three-item seven-point Likert scale (Donthu & Gilliland 1996) (α = .75) anchored by "SMS advertising provides useful information", "I think that SMS advertisements are often deceptive" and "I usually do not pay attention to advertisements".

The average respondent score was 2.81 (*s.d.* = 1.20) on the first statement, 5.22 (*s.d.* = 1.77) on the second statement and 5.62 (*s.d.* = 1.88) on the last statement. On a Likert scale, with 1 the least favourable and 7 the most favourable, these are very low scores, since they are below the neutral score of 4 as the second and the third statement are negatively oriented. This implies that the respondents' attitude towards SMS advertising is negative, which is in line

with previous research. Tsang, Ho and Liang (2004) also found that consumers held a negative attitude towards mobile advertising. The research of Haghirian, Madlberger & Tanuskova (2005) showed that consumers are not comfortable with the concept mobile advertising, because of privacy issues. In addition Bauer et al. (2005) pointed out that consumers are concerned about data misuse and fear receiving unwanted mobile marketing messages.

Q2: Mobile phone usage rate

With regard to the mobile phone usage rate, we analysed whether a distinction can be made between heavy and light mobile phone users. Respondents were asked how frequently (daily, weekly, monthly, …) they use different mobile phone applications (SMS, call function, alarm, agenda, games, MMS, mp3, internet, WAP and video). On these frequencies a K-means cluster analysis was conducted to find out whether there exists a difference in mobile phone usage rate. The results indicated a significant difference in usage with regard to all mobile phone applications, except for the call function. This implies that heavy and light mobile phone users can be distinguished.

With reference to the socio-demographic information of the heavy and light mobile phone users, no significant difference can be found in gender ($\chi^2 = 2.27$, $p = .156$). However, a significant difference was found in age ($\chi^2 = 26.39$, $p = < .001$). On the basis of the research results, the expectation that heavy users would be mainly young people, could be confirmed. Teenagers and adolescents utilize mobile phone services to a larger extent (Nysveen et al 2005, Pedersen 2005). For many young consumers, the mobile phone is not only a communication tool, but also a way to express its unique personality, on the basis of, for example, a specific logo or ringtone (Rohm & Sultan 2006). Teenagers carefully take into consideration the choice for a particular brand, colour, logo or ringtone. They carry their mobile phone with them all the time and regard it as a status symbol that is an important part of their daily life (Bauer et al. 2005).

Q3: Willingness to accept commercial messages on the mobile phone

Table 3 presents the respondents' willingness to accept commercial messages on their mobile phone whether or not an incentive is given.

Table 3: Willingness to accept advertising messages on the mobile phone: incentive vs no incentive

		Willingness to accept			
		No incentive		Incentive	
Gender	Men	15.1 %	$\chi^2 = 8.73$	64.7 %	$\chi^2 = 0.27$
	Women	5.2 %	p = .004	61.8 %	p = .630
Age	≤ 15	10.2 %		76.3 %	
	16 – 20	6.7 %	$\chi^2 = 1.00$	72.2 %	$\chi^2 = 31.69$
	21 – 25	10.6 %	p = .801	66.0 %	p = < .001
	> 25	9.0 %		34.3 %	
Usage rate	Heavy user	15.7 %	$\chi^2 = 6.82$	80.9 %	$\chi^2 = 17.33$
	Light user	6.3 %	p = .015	55.8 %	p = < .001
Total		9.0 %		62.9 %	

Willingness when no incentive is given

Only 9,0% of the respondents is willing to accept SMS advertising. On the basis of a chi-square test we found that there exists a significant interconnection ($\chi^2 = 8.73$, p = .004) between the willingness to accept commercial messages on the mobile phone and the gender. The willingness of men is greater than the willingness of women. With regard to the respondent's age, no significant interrelationship could be revealed ($\chi^2 = 1.00$, p = .801). In addition, a significant association could be found between the willingness and the respondent's mobile phone usage rate ($\chi^2 = 6.82$, p = .015). The expectation that the willingness of the heavy mobile phone users to accept SMS ads would be greater than that of the light mobile phone users, can be confirmed on the basis of the research results.

Willingness when an incentive is given

The research results demonstrate that the respondents are more willing to accept commercial messages on their mobile phone when an incentive is given, since 62.9% of the respondents indicate to be disposed to accept SMS ads under these conditions. The mobile advertising literature denotes that providing incentives increases the willingness to accept commercial messages on the mobile phone (Tsang, Ho & Liang 2004). Haghirian, Madlberger & Tanuskova (2005) demonstrate that consumers who attach great importance to privacy, do not attribute a high value to mobile advertising. In the case of incentive-based mobile advertising, individuals who indicate that they agree to receive promotions and campaigns, are given

specific financial rewards (Tsang, Ho & Liang 2004). When individuals agree to accept promotions or campaigns, this signifies that they give the permission to external organisations to send them commercial messages on their mobile phone. When external organisations ask consumers permission to send SMS ads, the privacy concerns dwindle (Sheehan & Hoy 2000). Asking consumers' permission is the easiest way to tackle the privacy issue (Godin 1999).

On the basis of a chi-square test we found that there exists no significant interconnection (χ^2 = 0.27, p = .630) between the willingness to accept commercial messages on the mobile phone in exchange for an incentive and the gender. Nevertheless a significant interrelationship between the willingness and the respondent's age (χ^2 = 31.69, p = < .001) was revealed. The assumption that the willingness of the younger mobile phone users to accept SMS ads would be greater, can be confirmed on the basis of the research results. In addition, a significant interconnection (χ^2 = 17.33, p = < .001) could be found between the willingness to accept SMS ads and the mobile phone usage rate: heavy mobile phone users are more willing to accept commercial messages on their mobile phone.

Furthermore, the respondents who indicated that they are willing to accept commercial messages on their mobile phone in exchange for an incentive, were asked what kind of incentive they would like to receive. The respondents' preference goes out to free credit (92.8%) and free SMS messages (85.1%). 60.0% of the respondents indicate that they would like to receive commercial messages on their mobile phone in exchange for getting a discount for events such as festivals, concerts, museums, … . Also a coupon for the advertised product is a popular incentive among the respondents (35.9%).

On the basis of the survey we also identified the number of SMS ads respondents wish to receive. 46.2% of the respondents indicate that they are only willing to receive less than one message per week, whereas 37.9% of the respondents are prepared to receive two to three SMS ads per week. 15.9% of the respondents are disposed to receive four to seven commercial messages per week. It is quite remarkable that approximately 54.0% (37.9% + 15.9%) of the respondents are willing to receive multiple messages per week.

Through the online questionnaire, we also examined what type of information the respondents wish to receive on their mobile phone. The results show that the respondents especially

appreciate promotions (43.1%). The respondents are also open to receive information about a party or nightclub (36.4%) and some respondents (35.9%) indicate that they would like to receive the joke of the day. Newsflashes and information about traffic are appreciated in respectively 32.8% and 23.1% of the cases. 27.7% of the respondents indicate that they are interested in commercial messages containing information on new products.

Finally, the respondents, who indicated that they were willing to receive advertisements on their mobile phone in exchange for an incentive, were asked whether they would forward relevant commercial messages to family and friends. Since 56.9% of the respondents stated they were prepared to forward relevant SMS ads, we can conclude that viral marketing through SMS has a huge potential. Moreover, on the basis of a chi-square test, we found that the willingness of heavy mobile phone users to forward relevant commercial messages is higher than that of light mobile phone users ($\chi^2 = 5.78$, $p = < .017$)

Discussion

This last study aimed to determine whether consumers are willing to receive commercial messages on their mobile phone. The study revealed that consumers are not very enthusiastic about this new commercial medium. The respondents held a negative attitude towards SMS advertising. Moreover, only 9.0% of the respondents were willing to receive commercial messages on their mobile phone. However, it is noteworthy that this percentage increases considerably if an incentive is given for the willingness to receive SMS ads, since 62.9% of the consumers indicate to be prepared under these conditions. This shows that the respondent's critical attitude melts into thin air if an advantage is linked to the receipt of SMS advertisements. It should be noted that if no incentive is obtained for receiving commercial messages on the mobile phone, men are significantly more willing than women. When an incentive is given, no significant difference in gender can be observed. Although no significant interrelationship exists between the willingness to receive SMS ads and the consumer's age, a significant interconnection is revealed when an incentive is given to accept such messages. Young people appear to be much more willing compared to older age groups.

In addition, we can conclude that a difference exists between the respondents with regard to their mobile phone usage rate. Based on the research results, the following conclusions are drawn regarding the heavy and light mobile phone users:

- Although mobile phone users are not significantly different with regard to gender, a significant interrelationship was found between mobile phone use and age. Young people use their mobile phone considerably more.
- Heavy mobile phone users are more disposed to receive commercial messages on their mobile phone, compared to light mobile phone users. This is also the case if there is a reward obtained in exchange for the willingness to receive commercial messages on the mobile phone.
- With regard to viral marketing, heavy mobile phone users are more willing to forward relevant commercial SMS ads to family and friends.

CONCLUSION

The first research analysed the effectiveness of SMS advertising, in terms of attitude towards the advertisement, attitude towards the brand and purchase intention. On the basis of the research results we could conclude that the variable 'location and time' influences the attitude towards the ad. In addition, the advertising's appeal seemed to play an important role: an emotional appeal leads to a more positive attitude towards the ad, whereas a rational appeal leads to a more positive attitude towards the brand and to higher purchase intentions. The research results also showed that, in the case of SMS advertising, it is better to advertise low involvement products. Finally, giving incentives appeared to be effective in terms of purchase intentions. Based on these results, we can confirm that SMS advertising is effective. In addition, we also studied the effectiveness of advertising through newspapers, also in terms of attitude towards the advertisement, attitude towards the brand and purchase intention. Nevertheless, the factors (location and time, interactivity, advertising appeal, product involvement and incentive) did not appear to be success factors for this form of advertising. Finally, both types of advertising (SMS advertising and advertising through newspapers) were compared. SMS advertising appeared to be more interactive than advertising through newspapers and this interactivity had a positive impact on the attitude towards the advertisement, the attitude towards the brand and the consumer's purchase intention. However, as indicated previously, we ought to deal with some caution with these results, because our additional research showed that incentives are necessary to increase consumers' willingness to accept commercial messages on their mobile phone.

REFERENCES

- Anschuetz, N. (1997), Profiting of the 80-20 rule of thumb, *Journal of Advertising Research*, 37, 6, pp. 51-56.
- Bauer, H. H. et al. (2005), Driving consumer acceptance of mobile marketing, A theoretical framework and empirical study, *Journal of Electronic Commerce*, 6, 3, pp. 181-192.
- Berkowitz, E. N. & J. R. Walton (1980), Contextual influences on consumer price responses, an experimental analysis, *Journal of Marketing Research*, 17, 3, pp. 349-358.
- Brengman, M., V. Cauberghe & E. Thielemans (2007), SMS-marketing, Is de Vlaming er klaar voor?, in: Vanhaverbeke W., M. Vanhoucke, P. De Pelsmacker, J. Van den Driessche & E. Henderickx (red.), *Management Jaarboek 2007*, Kalmthout, Duyck, R. & C. Van Tilborgh, 142-149.
- Chen, S. S., K. B. Monroe & Y. C. Lou (1998), The effects of framing price promotion messages on consumers' perceptions and purchase intentions, *Journal of Retailing*, 74, 3, pp. 353-372.
- Cronin, J. J., M. Brady & G. T. M. Hult (2000), Assessing the effects of quality, value, and customer satisfaction on consumer behavioural intentions in service environments, *Journal of Retailing*, 76, 2, pp. 193-218.
- De Pelsmacker, P. & P. Van Kenhove (2006), *Marktonderzoek, Methoden en toepassingen*, Pearson Education Benelux, Amsterdam.
- Dickinger, A. et al. (2004), An investigation and conceptual model of SMS marketing, *Proceedings of the 37th Hawaii International Conference on System Sciences*, pp. 1-10.
- Donthu, N. & D. Gilliland (1996), The infomercial shopper, *Journal of Advertising Research*, 36, 2, pp. 69-77.
- Drossos, D. et al. (2005), Determinants of effective SMS advertising, An Empirical Study, *Journal of Interactive Advertising*, 7, 2, pp.1-23.
- Drossos, D. et al. (2007), Determinants of effective SMS advertising, An Empirical Study, *Journal of Interactive Advertising*, 7, 2, pp.1-23.
- Forrester (2003), Speaking to young consumers, *TWICE (This week In Consumer Electronics)*, 18, 25, pp. 22-24.
- Gelb, B. G. & G. M. Zinkhan (1986), Humor and advertising effectiveness after repeated exposures to a radio commercial, *Journal of Advertising*, 15, 2, pp. 15-34.

- Grewal D., K. B. Monroe & R. Krishnan (1998), The effects of price comparison advertising on buyer's perceptions of acquisition value, transaction value and behavioural intentions, *Journal of* Marketing, 62, 2, pp.46-59.
- Grewal et al. (1998), The effects of store name, brand name and price discounts on consumer's evaluations and purchase intentions, *Journal of Retailing*, 74, 3, pp. 331-352.
- Haghirian, P., M. Madlberger & A. Tanuskova (2005), Increasing advertising value of mobile marketing, An empirical study of antecedents, *Proceedings of the 38th Hawaii International Conference on System Sciences*, pp. 1-10.
- Kavassalis, P. et al. (2003). Mobile Permission Marketing, Framing the Market Inquiry, *International Journal of Electronic Commerce*, 8, 1, pp. 55-79.
- Laurent, G. & J. N. Kapferer (1985), Measuring consumer involvement profiles, *Journal of Consumer Research*, 22, 1, pp. 41-53.
- Lichtenstein D. R. & W. O. Bearden (1989), Contextual influences on perceptions of merchant-supplied reference prices, *Journal of Consumer Research*, 16, 1, pp. 55-66.
- Liu, Y. & L. J. Shrum (2002), What is interactivity and is it always such a good thing?, Implications of definition, person, and situation for the influence of interactivity on advertising effectiveness, *Journal of Advertising*, 31, 4, pp. 53-64.
- Liu, S. S. & P. A. Stout (1987), Effects of message modality and appeal on advertising acceptance, *Psychology & Marketing*, 4, pp. 167-187.
- Lord K., M. Lee & P. L. Sauer (1994), Program context antecedents of attitude towards radio commercials, *Journal of Marketing Science*, 22, 1, pp. 3-15.
- Muk, A. (2007), Consumers' intentions to opt in to SMS advertising, A cross-national study of young Americans and Koreans, *International Journal of Advertising*, 26, 2, pp. 177-198.
- Nysveen, H., P. E. Pedersen & H. Thorbjornsen (2005), Intentions to use mobile services, Antecedents and cross service comparisons, *Journal of the Academy of Marketing Science*, 33, 3, pp. 330-346.
- Putrevu, S. & K. R. Lord (1994), Comparative and noncomparative advertising, Attitudinal effects under cognitive and affective involvement conditions, *Journal of Advertising*, 23, pp. 77-90.
- Rohm, A. J. & F. Sultan (2006), An exploratory cross-market study of mobile marketing acceptance, *International Journal of Mobile Marketing*, 1, 1, pp. 4-12.
- Rumbo, J. D. (2002), Consumer resistance in a world of advertising clutter, The case of advusters, *Psychology & Marketing*, 19, 2, pp. 127-148.

- Scharl, A., A. Dickinger & J. Murphy (2005), Diffusion and success factors of mobile marketing, *Electronic Commerce Research and Applications*, 4, 2, pp. 159-173.
- Shi, Y. Z., K. M. Cheung & G. Prendergast (2005), Behavioural response to sales promotion tools, *International Journal of Advertising*, 24, 4, pp. 467-486.
- Shiffman, L. G. & L. L. Kanuk (2007), *Consumer Behaviour*, New Jersey, Pearson Education.
- Spears, N. & S. Singh (2004), Measuring attitude towards the brand and purchase intentions, *Journal of Current Issues & Research in Advertising*, 26, 2, pp. 53-66.
- Sultan, F. & A. Rohm (2005), The coming era of "brand in the hand" marketing, *MIT Sloan Management Review*, 47, 1, http://sloanreview.mit.edu, 12 april 2008, Online.
- Sundar, S. (2004), Theorizing interactivity's effects, *Information Society*, 20, 5, pp. 385-389).
- Sundar, S. S. & J. Kim (2005), Interactivity and persuasion, influencing attitudes with information and involvement, *Journal of Interactive Advertising*, 5, 2, pp. 1-16.
- Tsang, M. M., S. Ho & T. Liang (2004), Consumer attitudes towards mobile advertising, An empirical study, *International Journal of Electronic Commerce*, 8, 3, pp. 65-78.
- Watson, R. T. et al. (2002), U-commerce, Expanding the universe of marketing, *Journal of the Academy of Marketing Science*, 30, 4, pp. 329-343.
- Zaichkowsky, J. L. (1985), Measuring the involvement construct, *Journal of Consumer Research*, 12, 3, pp. 341-352.