

## **The role played by gender, household income and age in factors contributing to consumers' attitudes towards short message service advertisements**

### *ABSTRACT*

The exponential growth in the use of mobile phones has seen companies investing heavily in mobile marketing to exploit the advertising opportunities presented by this medium. This study investigated the role that gender, household income and age play with regard to factors contributing to the attitudes of consumers towards SMS advertisements. The contributing factors reviewed in this study are content appeal, perceived personalisation, interactivity of SMS advertisements, attitudes towards advertising in general, consumers' innovativeness, perceived consumer knowledge, perceived control, fear of spamming, perceived incentives and location-based advertising. A convenience sample was drawn from staff and students of three private institutions of higher learning. The findings indicate that gender, household income and age tend to affect consumers' attitudes towards SMS advertisements. More specifically, of all the contributing factors, household income emerged as the most significant differentiator.

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## **INTRODUCTION**

Consumers are being flooded with messages from a wide range of sources and through a variety of channels (Wright, 2011:48). One relatively new innovative channel for communication is mobile phones. The use of mobile phones continues to grow exponentially, not only in Africa, but across the globe. It is expected that by the end of 2018, the number of worldwide users of mobile phones will be over 6.2 billion (Radicati, 2014). The growth in the use of mobile phones in developing countries has reached a level where subscriptions account for 78% of the world's total usage (ITU, 2014). South Africa, as a developing country, has one of the largest telecommunication markets on the African continent (SAARF, 2011). The high mobile phone penetration rates have surpassed the 100% mark with more than 50 million subscribers, resulting in an increasing use of short message service (SMS) advertisements to market products and services (SAARF, 2011). Evidently, the mobile phone has become a valuable channel for transmitting advertising messages to consumers (Liu, Sinkovics, Pezderka & Haghirian, 2012:21).

A number of theories could serve as a framework for discussing the adoption of technology – SMS advertising, in this case. Some of the well-known theories include the technology acceptance model (Davis, 1989), the theory of planned behaviour (Ajzen, 1991) and the diffusion of innovation theory (Rogers, 2003). For the purpose of this study, Roger's (2003) diffusion of innovation theory is relevant for two reasons: Firstly, because part of the diffusion process is the adoption of something that is different than what was previously available (in our case mobile technology, which is one of the fastest growing innovations of our time); and secondly, the communication process in which participants create and share information with one another (SMS advertising, in our case).

SMS advertisements are increasingly referred to as a boon for advertisers (Riquelme, Enezi & Rios, 2011:1). As a result, many factors contributing to consumers' attitudes towards SMS advertisements have been identified and investigated. While it is important to investigate these contributing factors, it is just as important to determine the role specific demographic variables play in the determination of consumers' attitudes towards SMS advertisements. This study is valuable because there are currently very few studies being done on this topic (Chinomona & Sandada, 2013:2).

A few local (South African) studies investigated consumers' attitudes towards SMS advertisements (Beneke, Cumming, Stevens & Versfeld, 2010:77-96; Radder, Pietersen, Wang & Han, 2010:29-40; Van der Waldt, Rebello & Brown, 2009:444-452; Chinomona & Sandada, 2013:1-12). However, none of the studies investigated the role of gender, household income and age in relation to factors that contribute to consumers' attitudes towards SMS advertisements.

There is empirical evidence from international studies to suggest that young consumers are technologically literate and innovative, and are generally more receptive to SMS advertisements than their older counterparts (Radder et al., 2010:37). Again, despite several international studies, very few studies report on the role of demographic differences (Karjaluo, Leppaniemi, Standing,

Kajalo, Merisavo, Virtanen & Salmenkivi, 2006; Mukherjee, 2012). Yet, many researchers agree that demographics should be taken into account when planning SMS marketing and advertising strategies (Karjaluoto et al., 2006:5; Mukherjee, 2012:73). The few studies that have investigated differences in demographics and consumers' attitudes towards SMS advertisements reported contrasting views. Consequently, further studies on demographic variables are required to clarify the role of these variables on the factors that contribute to consumers' attitudes towards SMS advertisements. Thus, the aim of this study is to understand how gender, household income and age groups differ in terms of the factors that contribute to positive or negative attitudes toward SMS advertisements.

This study makes two important contributions. Firstly, it contributes to the body of academic knowledge regarding the use and application of mobile phones by considering the factors that contribute to the attitudes of consumers towards SMS advertisements. More specifically, this study outlines the role that demographics play with regard to the factors that contribute to the attitudes of consumers towards SMS advertisements. Secondly, the results could be useful in guiding marketers to develop targeted SMS advertising strategies that can obtain measurable responses and could therefore serve as a basis according to which markets can be segmented.

This research firstly puts SMS advertising into perspective, followed by the role demographics play in the factors that contribute to consumers' attitudes towards SMS advertisements. Next, the research methodology is presented, after which the results are reported. This is followed by a discussion of the results and a brief conclusion highlighting the limitations of the study and identifying future research opportunities.

## **1. SMS ADVERTISING IN PERSPECTIVE**

Integrated marketing communications aim to provide a consistent message across all the different types of available media such as television, radio, magazines, the internet, social media and mobile phones (Rossouw, 2014). With changes in communication technology, as well as more consumers being interested in interactive media, the focus is increasingly on communication through the electronic media. Focusing on communication through electronic devices like online and mobile, has been referred to as "digital integrated marketing communications" or "digital marketing" (Communication Advertising and Marketing Foundation, 2015).

Mobile marketing is considered to be one of the growth areas in digital marketing (Zeendo, 2012). Companies are investing heavily in mobile marketing in order to exploit the opportunities presented by this medium. With a higher than 100% penetration rate of mobile phones in South Africa, this medium has created many opportunities for the industry and consumers in general (ITU, 2014).

Mobile advertising entails all the messages that connect advertisers with consumers through mobile devices such as phones, tablets and personal digital assistants (PDAs). Mobile advertising increases the probability that the advertisement will reach the target market, as consumers

generally have one cell phone which is used for private personal purposes only and is carried around with them at all times (Gao, Rohm, Sultan & Huang, 2012: 215). There is a 97% read rate for all SMS messages; most being read within four to five minutes of having been received (Rossouw, 2014). Rossouw (2014) reported that the average person can withstand the urge to read their messages for only 120 seconds, after which the message will be read.

SMS advertising is when companies communicate with their audience by means of text messages in a relevant, interactive way through their mobile devices (Zabadi, Shura & Elsayed, 2012:78). Consumers' mobile devices differ from being able to receive only text messages (SMSs), to receiving multimedia messages (MMSs) (Marketing-schools.org, 2012). When developing a mobile marketing campaign, the safest channel is the short message service – basically texting customers, since it will be compatible with all types of mobile devices (Morrissey, 2014). For this reason, this study focuses on SMS advertisements only.

The theory of diffusion of innovation originated in communication to explain how innovation gains momentum and spreads through certain channels among the members of a social system (Rogers, 2003:5). This diffusion finally results in individuals exhibiting different degrees of willingness to adopt this new innovation; it also reflects the extent to which this innovation is integrated into their contexts (Straub, 2009:626). This is particularly relevant to SMS advertising, where consumers make choices to accept or reject SMS advertising, based on whether it is appropriate for their situation. Furthermore, the diffusion of innovation theory addresses, amongst other aspects, behavioural changes which stem from beliefs and attitudes formed over time (Straub, 2009:628). It is for this reason that this study considers consumers' attitudes towards SMS advertisements.

According to Rogers (2003), the diffusion effect is most powerful when mass media spreads to a large audience very quickly. This diffusion effect becomes more effective when interpersonal connections shape strongly held attitudes, which are mainly formed through communication exchanges. When marketers communicate with consumers by means of SMS advertising, this communication is to a consumer's personal handheld device, making the connection interpersonal. This interpersonal connection shapes the consumer's attitude towards advertising; and therefore factors contributing to consumers' attitudes towards SMS advertising are investigated in this study.

One of the elements in the diffusion of innovation process is communication channels. For Rogers (2003:5), communication takes place when participants create and share information with one another to reach a mutual understanding. This is exactly what SMS advertising aims to do: The advertiser aims at creating and sharing a message with a consumer, in the hope that they will reach a mutual understanding.

### ***1.1 The role of demographics in SMS advertisements***

The diffusion of innovation theory states that the use of new technologies is influenced by those who have more resources, thus those with a higher economic status (Mutengezanwa & Ngoma, 2013:147; Rogers, 2003; Choudrie & Dwivedi, 2005). Research by Trocchia and

Janda (2000) supports this theory and reports that income is positively related to the approval of innovation. Similarly, the diffusion of innovation theory also claims that adopters of new technology are typically younger, with good incomes (Rogers, 2003). In general, older age groups are more reluctant to use information technologies (Niehaves & Plattfaut, 2014:722; Al Somali, Gholami & Clegg, 2009:136). The Technology Acceptance Model (TAM) reports that gender plays a significant role in technology use (Venkatesh & Morris, 2000); it can therefore be expected that the same would apply to diffusion of innovation.

The diffusion theory further suggests that individual differences predispose a person to making certain choices – in this case, to having a positive or negative attitude towards SMS advertising. There is evidence that certain characteristics may cause some people to adopt innovation faster, such as the lifecycle or lifestyle of the individual (Agarwal & Prasad, 1998; Wood & Swait, 2002). One of the benefits of mobile marketing is that it can be targeted, based on the demographics of users (Zeendo, 2012).

There has been conflicting reports on the impact of demographic variables on factors that determine consumers' attitudes towards SMS advertisements. For example, Zabadi et al. (2012:86) reported that gender, household income and age do not significantly influence consumers' attitudes towards mobile marketing activities. Yet Wells, Kleshinski and Lau (2012:8) found that age, household income and gender have a significant impact on the factors that contribute to consumers' attitudes towards SMS advertisements.

With regard to gender, specifically, Mukherjee (2012:65) reported that male consumers have a more favourable attitude towards mobile advertising than women. The results of his study indicated that males make their decisions based on the credibility of the sender and the attractiveness of the message. On the other hand, women make decisions based on the content of the cognitive and affective cues provided in the marketing communication messages. Reports by Karjaluoto et al. (2006:9), indicated the opposite, namely that females are a more promising segment of mobile phone users than males. They reported that, on average, females send 27 SMSs per week, while males send only 19 SMSs. Despite these contrasting reports, the literature suggests that gender does seem to play a role in consumers' attitudes towards SMS advertisements (Riquelme et al., 2011:5; Mukherjee, 2012:65).

More specific to income, a study by Baructu (2007:35) reported that those with higher incomes have a more positive attitude towards mobile marketing than non-professionals. And with regard to age, a study amongst Turkish respondents showed that age does not affect the attitude of consumers towards SMS advertisements (Baructu, 2007:35).

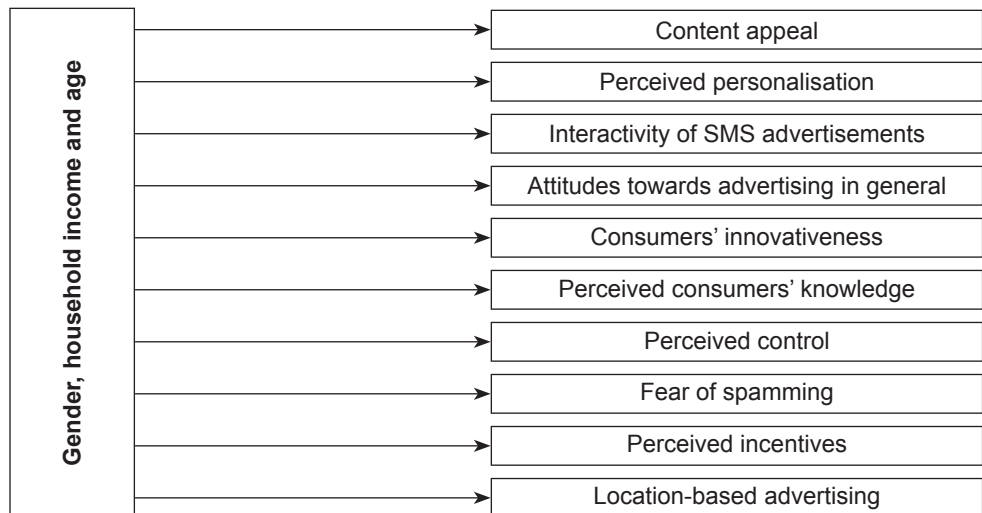
These inconsistent reports warrant further research to understand the role demographics play in the factors that contribute to consumers' attitudes towards SMS advertisements. Recognising the demographic differences is important to explain individuals' propensity to respond to SMS advertisements (Gao et al., 2012:214).

The following section discusses consumers' attitudes towards SMS advertisements and the various contributors to these attitudes, against the backdrop of the role demographics play in the use and acceptance of SMS advertisements.

**1.2 Consumers' attitudes towards SMS advertisements**

Consumer attitudes are conventionally regarded as an indicator of the effectiveness of advertising (Phau & Teah, 2009:100). Consumers' attitudes towards SMS advertisements can be defined as "favourable or unfavourable predispositions towards an SMS advertisement which has been learned or influenced by previous experience" (Gao et al., 2012:214). According to Van der Waldt et al. (2009:446), a stimulus such as an SMS advertisement of a particular brand has an effect on a consumer's belief system, which in turn influences and leads to the consumer developing a specific attitude towards the advertised brand. The attitude the consumer has with regard to a brand has an impact on his/her intention to purchase the brand offering.

The conceptual framework of the factors that contribute to consumers' attitudes towards SMS advertisements tested in this study is shown in Figure 1. The framework is derived from a study by Beneke et al. (2010), in which they tested eight factors contributing to consumers' attitudes towards SMS advertisements among youths in Cape Town. The current study will include the same eight factors assessed by Beneke et al. (2010), to determine whether these factors will still have the same validity in the case of older consumers. The results of the two studies should be useful to marketers, as they cover a wider spectrum of age groups, reflecting their respective attitudes towards SMS advertisements.



**Figure 1: A conceptual framework of the role that demographics play in the factors contributing to consumers' attitudes towards SMS advertisements**

Many local and international studies have been conducted to examine consumer attitudes towards SMS advertisements and several factors have been empirically tested (Riquelme et al., 2011; Unal, Ercis & Keser, 2011). Despite these studies, no study has focused on the adult population. To address the paucity of academic research in this area (Gao et al., 2012:212), this study extended the framework developed by Beneke et al. (2010:77-98), to include two additional factors, namely perceived incentives and location-based advertising. The reason for including these two additional factors is that although they have been found to play a significant role in determining consumers' attitudes towards SMS advertisements in international studies (Unal et al., 2011:366), their contribution in a South African context is unknown, therefore warranting further investigation.

As mentioned, the current study draws on the diffusion of innovation theory (Rogers, 2003). This is because attitudes and behavioural intentions often predict adoption of diffusion rates (Wells et al., 2012:6). The diffusion of innovation model was developed to explain how new innovations are adopted and accepted by the target population or a group of consumers (Mpinganjira, Dos Santos, Botha, Du Toit, Erasmus, Maree & Mugobo, 2013:176). For the purpose of this study, innovation refers to communication by means of mobile technology, whereas diffusion refers to the sharing of information via SMS.

Each contributing factor is briefly discussed below, with corresponding hypotheses formulated for each factor.

#### *1.2.1 Content appeal*

Content appeal, also described as informativeness, can be defined as the ability of SMS advertisements to provide up-to-date, timely and easily accessible information (Unal et al., 2011:365). Content appeal can be seen as a basic factor in the acceptance of the advertisement by consumers. Therefore, information that is sent to consumers via mobile devices should be correct, sent on time, and provide benefits to consumers. If an advertisement satisfies a consumer's need for information and knowledge about a service or product, then the advertisement may be favourably perceived or regarded by the consumer (Van der Waldt et al., 2009:447).

Although literature may reveal divergent findings on the relevance of demographic variables and their role in factors contributing to consumers' attitudes towards SMS advertisements, there is enough evidence to suggest that content appeal significantly contributes to consumers' attitudes towards SMS advertisements. Based on the above, it was hypothesised that:

- H1a: Males and females differ with regard to the content appeal of SMS advertisements.
- H2a: Respondents with differing household income levels differ with regard to the content appeal of SMS advertisements.
- H3a: Age groups differ with regard to the content appeal of SMS advertisements.

### 1.2.2 *Personalisation of SMS advertisements*

In the literature, personalisation of SMS advertisements has been identified as the key to accelerating mobile advertising acceptance. This is because the loyalty of consumers can be established by one-to-one marketing. According to Chen and Hsieh (2012:546), personalised SMS advertising influences consumers' willingness to purchase products and services, and also serves as the major differentiator between mobile advertising and other advertising media. Riquelme et al. (2011:10), reported that one of the most important factors determining whether consumers will take an offer or purchase after having received an SMS advertisement, is perceived personalisation. Their findings ratify the importance of messages being perceived as personalised in predicting the response to accept an offer. The studies referred to suggest that age, household income and gender do have an impact on how SMS advertisements are processed (Chen & Hsieh, 2012:546; Riquelme et al., 2011:10).

It was therefore hypothesised that:

- H1b: Males and females differ with regard to their perceived personalisation of SMS advertisements.
- H2b: Respondents with differing household income levels differ with regard to their perceived personalisation of SMS advertisements.
- H3b: Age groups differ with regard to their perceived personalisation of SMS advertisements.

### 1.2.3 *Interactivity of SMS advertisements*

Another contributor to SMS advertisements is the interactivity of SMS advertisements, which is defined as "a two-way communication between marketers and potential customers" (Beneke et al., 2010:82). A consumer has a higher probability of acting upon an advertisement that has an embedded interaction response application, as opposed to an advertisement that must be remembered, retrieved and acted upon later. SMS advertisements that contain interactive elements can convince the potential customer to search for more information concerning the advertised product and can convince the potential consumer to give feedback to the advertiser (Chinomona & Sandada, 2013:3). Prior studies have shown that youths, males and consumers with low incomes are more interactive than older consumers, females and consumers with higher incomes (Zabadi et al., 2012:84; Karjaluoto et al., 2006:6). Based on the above, it was hypothesised that:

- H1c: Males and females differ with regard to their perceived interactivity of SMS advertisements.
- H2c: Respondents with differing household income levels differ with regard to their perceived interactivity of SMS advertisements.
- H3c: Age groups differ with regard to their perceived interactivity of SMS advertisements.



#### *1.2.4 Attitudes towards SMS advertising*

Attitudes towards SMS advertising in general can be determined by the values that consumers attribute to all types of advertisements. Attitudes toward advertising in general will have an effect on consumers' attitudes toward mobile advertising and, in turn, on a specific SMS advertisement (Beneke et al., 2010:83). It was illustrated by Zabadi et al. (2012:81), that SMS advertisements targeting specific individuals will affect the attainment of advertising campaign objectives. Interestingly, a report by Karjaluoto et al. (2006:6), reveals that demographic variables such as gender, household income and age are strong determinants of mobile phone service usage. They reported that younger consumers, females, and those with lower incomes were more active in responding to SMS advertisements. It was therefore hypothesised that:

- H1d: Males and females differ with regard to their attitudes towards SMS advertisements in general.
- H2d: Respondents with differing household income levels differ with regard to their attitudes towards SMS advertisements in general.
- H3d: Age groups differ with regard to their attitudes towards SMS advertisements in general.

#### *1.2.5 Consumer innovativeness*

Consumer innovativeness is "the extent to which consumers perceive themselves as early adopters of new mobile applications or as opinion leaders with respect to new mobile phones, games and other downloads" (Gao et al., 2012:215). Gao et al. (2012), conducted a study to compare the youth markets in the United States of America and China. They found that there is a positive correlation between innovativeness and young consumers' acceptance of SMS advertisements. Reports by Gao et al. (2012), support prior research by Baructu (2007:35), who reported that individuals with high levels of innovativeness in mobile phone usage are expected to develop more positive attitudes towards the technology. Gaining a better understanding of gender, household income and age differences is important, because it relates to user acceptance and response to SMS advertisements (Baructu, 2007:35).

Based on the above, the following hypotheses were formulated:

- H1e: Males and females differ with regard to their perceived innovativeness of SMS advertisements.
- H2e: Respondents with differing household income levels differ with regard to their perceived innovativeness of SMS advertisements.
- H3e: Age groups differ with regard to their perceived innovativeness of SMS advertisements.

#### *1.2.6 Perceived knowledge*

Perceived knowledge, also described as perceived ease of use by Yang, Kim and Yoo (2013:1346), is "the degree to which a person believes that using a particular system would be free of effort". Consumers' previous knowledge of a technology increases their

adoption thereof, especially when they believe that the technology is useful and easy to use. As a result, consumers' perception, knowledge and use of mobile phones to communicate, access and download information will have an effect on their attitudes towards SMS advertisements (Beneke et al., 2010:84). A report by Zabadi et al. (2012:84), indicates that younger consumers tend to use their mobile phones for texting more than older consumers do. These previous reports indicate that demographics must be considered in the design of SMS advertisements. It was therefore hypothesised that:

- H1f: Males and females differ with regard to their perceived knowledge of SMS advertisements.
- H2f: Respondents with differing household income levels differ with regard to their perceived knowledge of SMS advertisements.
- H3f: Age groups differ with regard to their perceived knowledge of SMS advertisements.

#### *1.2.7 Perceived control*

Perceived control has invariably been connected to consumer privacy, perceived risk, and permission-based marketing (Gao et al., 2012:211-224; Radder et al., 2010:29-40; Dolnicar & Jordaan, 2007:123). Empirical research suggests that people's concerns about privacy include their being unaware of data collection, and the ways in which the data is used (Beneke, 2010:85). Dolnicar and Jordaan (2007:130) reported that consumers differ across age groups, household income and gender with regard to their attitudes towards different forms of direct marketing, and that a manager must use consumer heterogeneity to actively manage consumer control or privacy issues. However, the general agreement in the literature is that if consumers give prior consent to receiving messages from marketers regarding product information, they will voluntarily participate in the marketing initiatives. In light of the above, the following hypotheses were proposed:

- H1g: Males and females differ with regard to their perceived control of SMS advertisements.
- H2g: Respondents with differing household income levels differ with regard to their perceived control of SMS advertisements.
- H3g: Age groups differ with regard to their perceived control of SMS advertisements.

#### *1.2.8 Fear of spamming*

Fear of spamming is described by Unal et al. (2011:365), as the "fear of unwanted intrusions, unsolicited, mass marketing advertisements that are viewed as interrupt marketing". The literature indicates that obtaining permission beforehand increases consumers' acceptance of SMS advertisements, because consumers will not regard the messages as spam (Beneke et al., 2010:86; Unal et al., 2011:366). Because the mobile phone is seen to be more personal, it is crucial to be sensitive to consumers' fears of receiving unwanted messages through abiding by policies that regulate the distribution of such advertisements (Beneke et al., 2010:86). As reported, fear of spamming has a significant impact across different demographic variables.

Based on this, the following hypotheses were proposed:

- H1h: Males and females differ with regard to their fear of spamming of SMS advertisements.
- H2h: Respondents with differing households income levels differ with regard to their fear of spamming of SMS advertisements.
- H3h: Age groups differ with regard to their fear of spamming of SMS advertisements.

#### *1.2.9 Perceived incentives*

Another element that can be used to enhance the efficiency of mobile advertising is perceived incentives. In a study by Nittala (2011:50), 56% of the young respondents indicated that they would be interested in viewing mobile advertisements with incentives, with only 37% of the adults feeling the same. These findings suggest that young consumers are more likely than adults to switch their mobile supplier if they were offered free talk time and texting in return for receiving mobile advertisements (Unal et al., 2011:374). This assertion is in line with reports by Nittala (2011:50), who reported that there is a direct and positive relationship between incentives and consumer attitudes towards SMS advertisements across different demographic groups. Users of mobile phones expect a reward for receiving text messages. It was therefore hypothesised that:

- H1i: Males and females differ with regard to their perceived incentives embedded in SMS advertisements.
- H2i: Respondents with differing household income levels differ with regard to their perceived incentives embedded in SMS advertisements.
- H3i: Age groups differ with regard to their perceived incentives embedded in SMS advertisements.

#### *1.2.10 Location-based advertisements*

Although research on the contribution of location-based advertisements is limited, a few studies reported that location-based advertisements significantly contribute to the attitudes of consumers towards SMS advertisements (Riquelme et al., 2011:232; Unal et al., 2011:366). Location-based advertising entails consumers electing to receive or request location-specific marketing information (Chen & Hsieh, 2012:545). According to Chen and Hsieh (2012:546), location-based SMS advertisements provide huge business opportunities, because such advertisements are no longer limited by time, place or other factors when conducting real-time interactive communication. Consumers, in general, list location-based SMS advertising as having considerable appeal. Based on the above, it was hypothesised that:

- H1j: Males and females differ with regard to their perception of location-based SMS advertisements.
- H2j: Respondents with differing household income levels differ with regard to their perception of location-based SMS advertisements.
- H3j: Age groups differ with regard to their perception of location-based SMS advertisements.

## **2. RESEARCH METHODOLOGY**

### **2.1 Target population and sample**

The target population for this study were individuals, aged 25 years and older, living in the Gauteng province. The sample was drawn from three private institutions of higher learning that offer postgraduate studies, from which permission was granted. Participants included both staff and postgraduate students from the identified institutions. The postgraduate students were appropriate respondents for this study, because they were expected to be older. As mentioned earlier, the aim was to include older respondents to complement the study that Beneke et al. (2010), conducted among young consumers. The sample size of 304 respondents was based on sample sizes of other published studies in which the same or a closely-related topic was investigated (Gao et al., 2012; Radder et al., 2010). The targeted adult age group was considered techno savvy and suitable for the survey. In the absence of a sampling frame, a quota-sampling technique was used, focusing on gender and ethnicity. Judgemental sampling was used to draw the respondents into the specified quotas of 52% female and 70% African, in an attempt to mirror South Africa's population distribution (Statistics South Africa, 2012).

### **2.2 Questionnaire design**

The survey instrument used in this study consisted of 44 items. Section A in the questionnaire contained 37 statements intended to measure the factors contributing to attitudes towards SMS advertisements. The factors included (a) content appeal, (b) perceived personalisation, (c) consumers' interactivity, (d) attitudes towards advertising in general, (e) perceived innovativeness, (f) perceived knowledge, (g) perceived control, (h) fear of spamming, (i) perceived incentives, and (j) location-based advertisements. All items in Section A used a 7-point Likert scale ranging from strongly disagree (1) to strongly agree (7). Section B in the questionnaire contained demographic questions. Prior to administering the questionnaire, ethical clearance was obtained and the survey instrument was pre-tested amongst a sample of 20 postgraduate students from the target population. The 10 contributing factors outlined in Figure 1 were measured with multiple scale items adapted from different sources. The items for the three constructs, namely consumer attitudes towards advertising in general, consumer innovativeness and consumer knowledge, were adapted from Radder et al. (2010). The scale items for content appeal, perceived incentives, perceived control and perceived personalisation were adopted from Unal et al. (2011). Scale items for fear of spamming and perceived interactivity were adopted from Gao et al. (2012). The scale items for location-based SMS advertisements were adopted from Chen and Hsieh (2012).

### **2.3 Data collection**

The data were collected by means of a self-completion questionnaire, which was administered to 350 respondents at three private institutions of higher learning. A total of 304 returned questionnaires were deemed suitable for analysis after eliminating questionnaires with errors

and missing responses. Two techniques were used to collect the data. Firstly, questionnaire distribution points were set up at the three private institutions of higher learning. With permission from lecturers, the postgraduate students were approached during lecture periods to enlist their cooperation in completing the questionnaires at the end of their lectures. Secondly, individuals were approached in offices at the same higher learning institutions to provide them with a questionnaire to complete. No incentives were offered to respondents to participate in the study.

### **3. RESULTS**

#### **3.1 Respondent profile**

The demographic profiles of respondents are presented in Table 1. More females (55%) participated in the survey than males (45%). With regard to age spread, 36% of the respondents were in the 25-30 age group, 40% fell into the 31-40 age group and 24% were 41 years or older. With regard to respondents' household gross income per month, the majority of the respondents (35%) were in the high income bracket of R20 000 and above.

**Table 1: Demographic profile of respondents**

<b>Demographic variables</b>	<b>n</b>	<b>%</b>
<b>Gender</b>		
Males	136	45
Females	168	55
<b>Monthly income</b>		
<R5 000	40	13
R5 001-R10 000	59	19
R10 001-R15 000	56	18
R15 001-R20 000	43	14
R20 001+	106	35
<b>Age</b>		
25-30 years	109	36
31-40 years	122	40
41 years and older	73	24

#### **3.2 Principal component analysis**

A components analysis was performed in order to establish the constructs used in the survey. The 37 items measuring the factors contributing to the attitudes of consumers towards SMS advertisements were subjected to principal component analysis (PCA), using the SPSS Version 21 for Windows. Prior to performing the PCA, the suitability of the data for analysis was

assessed through the Kaiser-Meyer-Olkin measure of sampling adequacy, and Bartlett's test of sphericity. The Kaiser-Meyer-Olkin value of 0.86 indicated statistical significance (Pallant, 2011:192), thus supporting the factorability of the component matrix. The PCA revealed the presence of eight components with eigenvalues exceeding one, explaining a total of 66% of the variances. The first component explained 25.4%, while the second component explained 10.1% of the variance. The other components explained variances below 9% with component eight explaining 3%. To aid in the interpretation of the eight components, a Varimax rotation with Kaiser Normalisation was performed.

Initially, ten components were expected to correspond to the ten factors or constructs that were identified from the literature review. The results of the analysis indicated an eight-component solution, with component loadings between 0.57 and 0.86. The items measuring content appeal, personalisation and location-based advertising loaded together on the first component. As these items all measured the extent to which an SMS advertisement could draw the attention of consumers; this component was labelled "perceived SMS attractiveness". The solution thus invalidated the constructs "content appeal", "personalisation" and "location-based advertisements". The final rotated eight-component solution which was generated comprised (a) perceived SMS attractiveness, (b) fear of spamming, (c) perceived incentives, (d) consumer innovativeness, (e) interactivity of SMS advertisements, (f) perceived control, (g) consumer knowledge and (h) attitudes towards advertising in general.

To summarise, the results confirmed eight factors instead of the expected ten. As the items for the three contributing factors, namely content appeal, personalisation and location-based SMS advertisements all loaded onto one component, these factors were combined to reflect the "new" contributing factor which led to the following hypotheses (replacing the original H1a,b,j, H2a,b,j, H3a,b,j):

- H1a: Males and females differ with regard to the perceived SMS attractiveness of SMS advertisements.
- H2a: Respondents with differing household income levels differ with regard to the perceived SMS attractiveness of SMS advertisements.
- H3a: Age groups differ with regard to the perceived SMS attractiveness of SMS advertisements.

### **3.3 Reliability**

The eight components resulting from the component analysis were subjected to reliability testing. The Cronbach's Alpha coefficients for six components that were above 0.7 were: perceived SMS attractiveness (0.89), fear of spamming (0.81), perceived incentives (0.80), consumer innovativeness (0.83), consumer knowledge (0.73) and attitudes towards advertising in general (0.70). The remaining two components had Cronbach alpha coefficients below 0.7. These were perceived control (0.62) and interactivity of SMS advertisements (0.68). According to Pallant (2011:97), it is common to find Cronbach alpha values below 0.7 with short scales consisting of 10 items or less. Therefore, as a rule of thumb, researchers often accept values that range between 0.6 and 0.7 (Hair, Black, Babin, Anderson & Tatham, 2006:137), hence the scales used in this study that were below 0.7 were retained for further analysis.

### 3.4 Hypotheses testing

The significance level for the hypotheses testing was set at five per cent ( $\alpha=0.05$ ). Hypothesis 1 was analysed using the independent samples t-test. Hypotheses 2 and 3 were analysed using one-way analysis of variance (ANOVA), which assesses the differences amongst three or more groups with regard to the mean value of the variables of interest. Tukey's post hoc tests were used in cases where the ANOVA results indicated statistical significance to determine specific statistical significant mean differences amongst the groups.

#### 3.4.1 Gender differences

Hypotheses 1 (1a, 1c-h) aimed to determine whether statistical differences existed between males and females on any of the eight factors contributing to overall consumers' attitudes towards SMS advertisements. The results of all the independent-samples t-tests are presented in Table 2, with the significant results highlighted in bold print.

**Table 2: Summary of independent-samples t-tests for the contributing factors with respect to gender differences**

Contributing factors	Gender			
	Male (M)	Female (M)	t-test	p-value
Perceived attractiveness of SMSs (H1a)	4.64	4.43	1.33	0.185
Perceived interactivity (H1c)	3.94	3.68	1.27	0.205
Attitudes towards advertising in general (H1d)	4.93	4.81	0.72	0.472
Perceived innovativeness (H1e)	3.69	3.32	2.01	<b>0.045</b>
Perceived knowledge (H1f)	5.62	5.7	-0.52	0.607
Perceived control (H1g)	5.4	5.52	-0.78	0.437
Fear of spamming (H1h)	5.51	5.67	-1.05	0.294
Perceived incentives (H1i)	3.67	3.4	1.5	0.14

From Table 2 it is clear that there is only one significant difference between the scores for males ( $M=3.69$ ,  $SD=1.56$ ) and females ( $M=3.32$ ,  $SD=1.64$ ) with regard to one factor, namely perceived consumer innovativeness: ( $t(203)=2.01$ ,  $p=0.045$ , two-tailed). The magnitude of the differences in the means of perceived consumer innovativeness was very small (eta squared = 0.013). Perceived innovativeness measured the extent to which consumers perceive themselves as early adopters of new mobile applications (such as Facebook or Twitter), or as opinion leaders with respect to new mobile phones, games and other downloads (Gao et al., 2012:215). The results suggested that males are more innovative than females. No other significant differences existed between males and females with regard to any of the other contributing factors relating to consumer attitudes towards SMS advertisements. Thus there was support for H1e only.

3.4.2 Household income group differences

Hypotheses 2 (2a, 2c-h) were measured by means of one-way between-groups analysis of variance, to explore the impact of income levels on the factors contributing to attitudes towards SMS advertisements. Respondents were divided into three groups according to five income categories: R5 000 or less; R5 001-R10 000; R10 001-R15 000; R15 001-R20 000; R20 001 and above. The results, as reported in Table 3, show statistically significant differences between the income groups for three of the factors (printed in bold). These factors are perceived interactivity ( $F(2, 299)=3.39, p=0.010$ ), perceived control ( $F(2, 299)=3.30, p=0.011$ ) and fear of spamming ( $F(2, 299)=2.3, p=0.021$ ).

**Table 3: Summary of ANOVA results with respect to household income**

	Income levels						F-value	P-value
	R5000 or less	R5001-R10000	R10001-R15000	R15001-R20000	More than R20000			
Contributing Factors	Mean	Mean	Mean	Mean	Mean			
Perceived attractiveness of SMSs (H2a)	4.72	4.62	4.31	4.62	4.46	0.776	0.541	
Perceived interactivity (H2c)	4.33 <sup>b</sup>	4.28 <sup>a</sup>	3.72 <sup>b</sup>	3.64 <sup>b</sup>	3.43 <sup>a</sup>	3.387	<b>0.010</b>	
Attitudes towards advertising in general (H2d)	5.36	4.85	4.75	5.09	4.65	2.036	0.089	
Perceived innovativeness (H2e)	3.45	3.88	3.09	3.64	3.43	1.888	0.112	
Perceived knowledge (H2f)	5.80	5.84	5.67	5.88	5.43	1.269	0.282	
Perceived control (H2g)	5.06 <sup>b</sup>	5.06 <sup>a</sup>	5.66 <sup>b</sup>	5.60 <sup>b</sup>	5.69 <sup>a</sup>	3.300	<b>0.011</b>	
Fear of spamming (H2h)	5.11 <sup>a</sup>	5.33 <sup>b</sup>	5.77 <sup>b</sup>	5.76 <sup>b</sup>	5.78 <sup>a</sup>	2.925	<b>0.021</b>	
Perceived incentives (H2i)	3.64	3.66	3.67	3.45	3.34	0.669	0.614	

*a and/or b: The results of the Tukey HSD post hoc tests are indicated with <sup>a</sup> and/or <sup>b</sup> (only in the case of a significant p-value). All mean values containing the same letters (for example <sup>a</sup>), indicate that the groups differ significantly from one another. All mean values containing different letters (for example <sup>b</sup>) indicate that these groups do not differ significantly from one another.*



From Table 3 and the post hoc comparisons, it was evident that respondents who earn more than R20 000 have a higher fear of spamming ( $M=5.78$ ,  $SD=1.28$ ) than those who earn R5 000 or less ( $M=5.11$ ,  $SD=1.24$ ). With regard to perceived interactivity, there was a statistically significant difference between consumers who earn between R5 001-R10 000 ( $M=4.28$ ,  $SD=1.65$ ) and those who earn more than R20 000 ( $M=3.43$ ,  $SD= 1.68$ ). These results showed that consumers in the low to middle income brackets are more inclined to act upon advertisements with an embedded interaction response than those in high income brackets. In terms of perceived control, there was a statistically significant difference between consumers earning between R5 001-R10 000 ( $M=5.05$ ,  $SD=1.44$ ) and those who earn more than R20 000 ( $M=5.69$ ,  $SD=1.28$ ). It appeared that consumers in high income brackets wanted to take charge of the terms of their relationship with marketers with regard to their information usage and the volume of advertisements that they received, more so than those in low income brackets. However, despite reaching statistical significance for three of the contributing factors, the actual difference in mean scores amongst the groups were relatively small, with effect sizes (using eta squared) ranging between 0.03 and 0.04. To summarise, the hypotheses results showed support for H2c, H2g and H2h.

#### *3.4.3 Age group differences*

Hypotheses 3 (3a, 3c-h) investigated the differences between the different age groups and the factors contributing to consumers' attitudes towards SMS advertisements. This was measured by using one-way between-group analysis of variance. Respondents were divided into three age groups: 25 to 30 years; 31 to 40 years; and 41 years and older. The ANOVA results, as reported in Table 4, showed a significant difference for fear of spamming (H3h), which is printed in bold. The post hoc comparisons using the Tukey HSD test indicated that the differences were between the 25-30 year age group and the 31-40 year age group, with the older group having a higher fear of spamming. Similar to the other demographic differences, the actual differences in mean scores between the two age groups were small, with effect sizes (using eta squared) being 0.02 in this case. As mentioned, no statistically significant differences could be found for any of the other factors. There is thus support only for H3h.

**Table 4: Summary of Mean and ANOVA of factors with respect to age**

	Age groups			F-value	P-value
	25-30 years	31-40 years	41+ years		
Contributing Factors	Mean	Mean	Mean		
Perceived attractiveness of SMSs (H3a)	4.38	4.51	4.75	1.747	0.176
Perceived interactivity (H3c)	3.87	3.74	3.78	0.180	0.835
Attitudes towards advertising in general (H3d)	4.80	4.81	5.05	0.775	0.462
Perceived innovativeness (H3e)	3.61	3.31	3.60	1.268	0.283
Perceived knowledge (H3f)	5.76	5.66	5.54	0.504	0.604
Perceived control (H3g)	5.34	5.59	5.44	0.878	0.417
Fear of spamming (H3h)	5.32 <sup>a</sup>	5.80 <sup>a</sup>	5.68 <sup>b</sup>	3.986	<b>0.020</b>
Perceived incentives (H3i)	3.53	3.48	3.56	0.065	0.937

<sup>a</sup> and/or <sup>b</sup>: The results of the Tukey HSD post hoc tests are indicated with <sup>a</sup> and/or <sup>b</sup> (only in the case of a significant p-value). All mean values containing the same letters (for example <sup>a</sup>) indicate that the groups differ significantly from one another. All mean values containing different letters (for example <sup>b</sup>) indicate that these groups do not differ significantly from one another.

#### 4. DISCUSSION

This study identified three demographic variables, namely gender, household income and age, and determined their role with regard to factors that contribute to consumers’ attitudes towards SMS advertisements. Findings from this study suggest several implications for marketers who wish to develop effective SMS advertising strategies. Foremost, managers should recognise that no two customers are alike. People behave differently, even across similar age, income and gender groups (Unal et al., 2011:362).

As indicated in this study, gender groups felt more or less the same about most of the contributing factors towards SMS advertisements except for one factor, namely perceived innovativeness. According to Beneke et al. (2010:83), consumers who display a high degree of innovativeness are usually very open to new experiences and tend to make constructive use of information received. The results of this study indicated that males considered SMS advertisements to be more innovative than do females. This finding is in line with previous research (Beneke et al., 2010:83). The results suggested that males may be regarded as opinion leaders with respect to new mobile phone applications compared to females – at least for the age respondents in this study. Opinion leaders are individuals who are knowledgeable about a product category and who are sought out by family, friends and colleagues to provide advice relating to products in that category (Mpiganjira et al., 2013:180). As reported by Mpiganjira et al. (2013:180), marketers are able to identify opinion leaders because they exhibit certain identifiable characteristics such

as gregariousness and sociability, as well as exposing themselves to specialist media – mobile phones, in this case.

With regard to household income, differences did appear in three contributing factors towards SMS advertisements, namely perceived interactivity, perceived control, and fear of spamming. Consumers who earn more than R20 000 had a higher fear of spamming and wanted a higher degree of control over the information they receive on their mobile phones. To act on these results, marketers firstly need to obtain accurate information about the potential consumers to enable them to tailor-make messages according to their needs. Seeking permission from consumers before sending SMS messages should lower their fear of spam and increase their perceived control. Addressing these needs was highlighted by Beneke (2010:86), who reported that consumers get even more annoyed by spam on their mobile phones than on their e-mails, in part because they view their mobile phones as more private.

The results indicated that the high income group did not like the two-way communication that SMS advertisements offer, and therefore did not act on interactive advertisements. This finding is consistent with reports stating that consumers with higher incomes are less interactive than consumers with low incomes (Karjaluoto et al., 2006:9). One suggestion could be that marketers should not implement SMS advertisements in isolation. Since SMS advertisements serve as a call to action, such advertisements can be used to reinforce other traditional media, such as broadcast and print media (Phau & Teah, 2009:99).

This study also investigated the impact of age differences on factors contributing to consumers' attitudes towards SMS advertisements. Of the eight factors investigated, significant age differences were found only with regard to fear of spamming. Consumers between 31-40 years of age had a higher fear of spamming than relatively younger consumers (25-30 years of age). It is interesting that the "middle" age group (31-40 years) was the group with the highest fear of spamming. One can only speculate where this group's fear of spamming comes from – perhaps it stems from being bombarded by more spam, compared to the oldest age group – who displayed a lower fear of spam. Whatever the reason, one could probably suggest a few options to marketers, in particular with regard to the 31-40 year age group. Firstly, SMS messages should be personalised. When receiving a personalised message, many consumers consider the specific message not to be spam. In addition, there is evidence that personalising a message to suit an individual's needs would be likely to increase the consumer's purchasing intentions of the advertised product (Liu et al., 2012:23). Secondly, permission must be sought before sending the messages. Past research suggests that explicit consumer permission to receive SMS advertisements can lead to relatively high acceptance levels (Beneke et al., 2010:85).

## **5. LIMITATIONS AND DIRECTIONS FOR FUTURE RESEARCH**

The sample of 304 respondents, which was drawn exclusively from participants residing in Gauteng, implies that respondents from other provinces were omitted. As a result, the sample is not representative of the broader population of adult consumers in South Africa.

The research focused on demographic differences with respect to income levels, age and gender variables. This excluded other demographic variables such as ethnicity, marital status and education, as well as psychographic variables such as personality and lifestyles. These aforementioned factors may be worthy of further investigation in terms of their impact on consumers' response to SMS advertisements.

Only literature relating to contributing factors of SMS advertisements was reviewed. The effect of popular new mobile phone applications such as Multimedia Messaging Service (MMS), Mxit, WhatsApp instant messaging and Twitter were not explored in this study. Other types of advertising that go beyond merely text-based messages, such as multimedia location-based advertising, may also be studied in future as a new avenue to communicate with consumers.

## **6. CONCLUSION**

The results of this study indicated that demographic variables do play a role in some of the contributing factors of SMS advertisements. Amongst the three demographic variables, household income emerged as the most significant differentiator of contributing factors – specifically with regard to fear of spamming, perceived interactivity and perceived control. Although age and gender differences were each significant in only one factor in this study, these two demographic variables need to be given due consideration. This could be done, firstly in the design of SMS advertisements, as this will have an impact on perceived innovativeness (important to males) and, secondly, by connecting with customers, as some age groups (31-40 years) exhibit a higher fear of spamming. Companies that recognise demographic differences may achieve a differential advantage as they can communicate in a more meaningful way with their target market.

## **REFERENCES**

- Agarwal, R. & Prasad, J. (1998). A conceptual and operational definition of personal innovativeness in the domain of information technology. *Information Systems Research*, 9:204-215.
- Ajzen, I. (1991) The theory of planned behaviour. *Organizational Behavior and Human Decision Processes*, 50:179-211.
- Al- Somali S.A., Gholami, R. & Clegg, B. (2009). An investigation into the acceptance of online banking in Saudi Arabia. *Technovatic*, 29:130-141.
- Baructu, S. (2007). Attitudes towards mobile marketing tools: A study of Turkish consumers. *Journal of Targeting, Measurement and Analysis for Marketing*, 16(1):26-38.
- Beneke, J., Cumming, G., Stevens, A. & Versfeld, M. (2010). Influences on attitude towards mobile text message advertisements: An investigation of South African youth. *International Journal of Mobile Marketing*, 5(1):77-98.
- Chen, P.T. & Hsieh, H.P. (2012). Personalised mobile advertising: Its key attributes, trends, and social impact. *Technological Forecasting & Social Change*, 79:543-557.
- Chinomona, R & Sandada, M. 2013. The influence of market related mobile activities on the acceptance of mobile marketing and consumer intention to purchase products promoted by SMS in South Africa. *The Journal of Applied Business Research*, 29(6)1-12.

- Choudrie, J. & Dwivedi, Y.K. (2005). Research design: Investigating the research approaches for examining technology adoption issues. *Journal of Research Practice*, 1(1):1-12.
- Communication Advertising and Marketing Foundation. (2015). *Elements of digital marketing: the digital marketing communications "mix"*. Retrieved May 06, 2015, from <http://www.camfoundation.com/elements-digital-marketing-digital-marketing-communications-%E2%80%9Cmix%E2%80%9D>
- Davis, F.D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly*, 13(3):319-340.
- Dolnicar, S & Jordaan, Y. 2007. A market-oriented approach to responsibly managing information privacy concerns in direct marketing. *Journal of Advertising*, 36(2):123-149.
- Gao, T., Rohm, A.J., Sultan, F. & Huang, M. (2012). Antecedents of consumer attitudes toward mobile marketing: A comparative study of youth markets in the United States. *Thunderbird International Business Review*, 53(2):211-224.
- Hair, J.F., Black, W.C., Babin, B.J., Anderson, R.E. & Tatham, R.L. (2006). *Multivariate data analysis*. (6th ed.). Upper Saddle River, NJ: Pearson Prentice Hall.
- International Telecommunications Union (ITU). (2014). ICT Facts and figures 2014: Statistics. Retrieved June 06, 2014, from <http://www.itu.int/en/ITU-D/Statistics/Pages/default.aspx>
- Karjaluoto, H., Leppaniemi, M., Standing, C., Kajalo, S., Merisavo, M., Virtanen, V. & Salmenkivi, S. (2006). Individual differences in the use of mobile services among Finnish consumers. *International Journal of Mobile Marketing*, 1(2):4-10.
- Liu, C.L.E., Sinkovics, R.R., Pezderka, N. & Haghirian, P. (2012). Determinants of consumer perceptions towards mobile advertising: A comparison between Japan and Austria. *Journal of Interactive Marketing*, 26:21-32.
- Marketing-schools.org. 2012. *Mobile marketing: Explore the strategy of mobile marketing*. Retrieved May 05, 2015, from <http://www.marketing-schools.org/types-of-marketing/mobile-marketing.html>
- Morrisey, A. (2014). South Africa Mobile report. *Interactive Advertising Bureau South Africa*. Retrieved July 01, 2014, from <http://www.effectivemeasure.com/mobile-ads-need-part-integrated-marketing-strategy-drive-consumer-engagement>
- Mpinganjira, M., Dos Santos, M.A.O., Botha, E., Du Toit, D., Erasmus, A.C., Maree, T. & Mugobo, V.V. (2013). *Consumer behaviour: South African psychology and marketing applications*. Oxford: Oxford University Press.
- Mukherjee, J. (2012). Exploring the demographic differences in adoption of mobile marketing in India. *Management & Change*, 6(1&2):61-78.
- Mutengezanwa, M. & Ngoma, M.F. (2013). Socio-demographic factors influencing adoption of internet banking in Zimbabwe. *Journal of Sustainable Development in Africa*, 15(8):145-154.
- Niehaves, B. & Plattfaut, R. (2014). Internet adoption by the elderly: employing IS technology acceptance theories for understanding the age-related digital divide. *European Journal of Information Systems*, 23:708-726.
- Nittala, R. (2011). Registering for incentivized mobile advertising: Discriminant analysis of mobile users. *International Journal of Mobile Marketing*, 6(1):53.
- Pallant, J. (2011). *SPSS Survival manual: A step by step guide to data analysis using SPSS program*. (4th ed.). Crows Nest, NSW: Allen & Unwin.

- Phau, I. & Teah, M. (2009). Young consumers' motives for using SMS and perceptions towards SMS advertising. *Direct Marketing: An International Journal*, 3(2):97-108.
- Radder, L., Pietersen, J., Wang, H. & Han, X. (2010). Antecedents of South African high school pupils' acceptance of universities' SMS advertising. *International Business & Economics Research Journal*, 9(4):29-40.
- Radicati, S. (2014). *Mobile Statistics Report, 2014 -2018*. Retrieved October 30, 2014, from <http://www.radicati.com/wp/wp-content/uploads/2014/01/Mobile-Statistics-Report-2014-2018-Executive-Summary.pdf>
- Riquelme, H.E., Enezi, S.O. & Rios, R.E. (2011). Drivers of three SMS ad responses. *Journal of Targeting, Measurement and Analysis for Marketing*, July:1-15.
- Rogers, E.M. (2003). *The diffusion of innovations*. (5th ed.). New York: Free Press.
- Rossouw, C. (2014). Now is the time for SMS marketing. *Bizcommunity*. Retrieved April 17, 2014, from <http://www.bizcommunity.com/Article/196/78/112212.html>
- South African Advertising Research Foundation (SAARF). (2011). *Amps readership*. Retrieved March 23, 2014, from <http://www.saarf.co.za/amps-&20Newspaper20Readership20Jun11.pdf>
- Statistics South Africa. (2012). *Population Statistics - 2012 Statistical Release*. Retrieved June 18, 2014, from <http://www.statssa.gov.za>
- Straub, E.T. 2009. Understanding technology adoption: Theory and future directions for informal learning. *Review of Educational Research*, 79(2):625-649.
- Trocchia, P.J. & Janda, S. (2000). A phenomenological investigation of internet usage among older individuals. *Journal of Consumer Marketing*, 17(7):605-616.
- Unal, S., Ercis, A. & Keser, E. (2011). Attitudes towards mobile advertising: A research to determine the differences between the attitudes of youth and adults. *Procedia Social and Behavioural Sciences*, 24:361-377.
- Van der Waldt, D.L.R., Rebello, T.M. & Brown, W.J. (2009). Attitudes of young consumers towards SMS advertising. *African Journal of Business Management*, 3(9):444-452.
- Venkatesh, V. & Morris, M.G. (2000). Why don't men ever stop to ask for directions? Gender, social influence, and their role in technology acceptance and usage behavior. *MIS Quarterly*, 24(1):115-139.
- Wells, R., Kleshinski, C.E. & Lau, T. (2012). Attitudes towards and behavioural intentions to adopt mobile marketing: Comparisons of Generation Y in the United States, France and China. *International Journal of Mobile Marketing*, 7(2):5-25.
- Wood, S. L. & Swait, J. (2002). Psychological indicators of innovation adoption: Cross-classification based on need for cognition and need for change. *Journal of Consumer Psychology*, 12:1-13.
- Wright, B. (2011). Beyond product placement: A model for advergaming as viral marketing tool in South Africa. *Communicare*, 30(1):47-65.
- Yang, B., Kim, Y. & Yoo, C. (2013). The integrated mobile advertising model: The effects of technology - and emotion-based evaluations. *Journal of Business Research*, 66:1345-1352.
- Zabadi, A.M.A, Shura, M & Elsayed, E. (2012). Consumer attitudes towards SMS advertising among Jordanian users. *International Journal of Marketing Studies*, 4(1):77-94.
- Zeendo, H. 2012. *Mobile in integrated marketing communication*. Retrieved May 06, 2015, from <http://zeendo.com/info/mobile-in-integrated-marketing-communication/>