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Acceptance of mobile advertising by consumers in public service institutions in Lagos, Nigeria

Acceptance of mobile advertising by consumers

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265

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Abstract

Purpose – The purpose of this paper is to investigate the acceptance of mobile advertising by consumers in public service institutions in Lagos Nigeria from the perspective of non-permission-based nature of advertising practice in Nigeria.

Design/methodology/approach – Guided by the theory of reasoned action, data were collected from 389 respondents in a sample survey using a structured questionnaire, and the variables were measured on ordinal scale.

Findings – The respondents reported that the mobile advertising is informative; they also strongly agreed that the media is ubiquitous but irritating. Attitude of consumers towards mobile advertising, behavioural control and subjective norm have correlations with acceptance. Irritation and informativeness significantly and positively predicted acceptance of mobile advertising, while credibility and ubiquity predicted acceptance of the technology negatively. Age has a negative relationship with acceptance; both gender (male =1) and tertiary education have a significant relationship with acceptance of mobile advertising just as marital status.

Research limitations/implications – The study focused only on public service mobile consumers in Lagos, Nigeria.

Practical implications – Mobile adverts are ubiquitous in Nigeria, but consumers do not trust or use the adverts, although they consider them informative. The telecomm regulatory body needs to control deployment of mobile technologies for produce and service ads, so that ads will be subject to individual choices and discretion, and thereby reducing the ubiquity and increase the trust consumers have on the strategy.

Social implications – There is hype that mobile advert has penetrated Nigerian market, but the strategy is not credulous to the people.

Originality/value – There is no study focusing on the acceptance of this ad strategy in the public service sector in Nigeria.

Keywords Nigeria, Telecommunications, Mobile phones, Mobile advertising

Paper type Research paper

Introduction

Advertising practices have changed rapidly since the expansion of digital technologies in the 1990s. A typical example of these technologies is mobile technology, which offers richer possibilities to reach and interact with people at an individual level (Tanner and



The authors wish to thank the staff of local government areas in Lagos state, Nigeria, for cooperating and completing the questionnaire; they also acknowledge the anonymous referees for their inputs.

Raymond, 2010; Thorbjørnsrud *et al.*, 2014; Varaprasad, 2014). Mobile devices facilitate accurate targeting of prospective clients, as well as the distribution of highly personalised content. According to Lawer and Knox (2006), mobile advertisements generally enable people to make a quick comparison of products and their prices before purchasing decisions are made. The most popular mobile advertising medium is the mobile phone. Chang and Villegas (2008) argued that the mobile phone has a tremendous potential for delivering advertisements because of its high penetration rate. Depending on the capacity of the mobile phone, people can receive digital photographs, moving images, text messages and high-quality audio. Mobile SIM card technology facilitates the exact identification of each mobile phone and, therefore, its user. The mobile phone offers a bidirectional and individual connection to the consumer, and this makes it a highly interactive advertising channel (Park *et al.*, 2008). In fact, the mobile phone is an advertising media that consumers carry with them everywhere they go, thereby extending the time and space opportunities of mobile advertising over traditional mass media advertising. Mobile phones are, thus, an ideal, flexible and ready medium for direct and personalised communication with customers.

The telecommunications industry in Nigeria has grown rapidly with a consequent explosion in the number of mobile phone users (Nigerian Communications Commission, 2013). This development has expanded the channels for businesses to offer a variety of personalised services through the mobile phone. According to InMobi (2012) – the largest independent mobile advertising network in Africa – there was a 37 per cent growth of mobile advertising impressions on Nigerian mobile networks for the first three months of 2012. InMobi further opined that the large increase in ad impressions from 5.8 billion in the last quarter of 2011 to over 8 billion in the first three months of 2012 is clear proof of the rising popularity of the medium in Nigeria, and shows that marketing professionals and brand managers across the country are increasingly embracing mobile media as a viable and effective advertising channel. Macleod (2013) indicated that Nigeria ranks third in the number of mobile banner ads served in the world, even above the UK.

However, mobile advertising in Nigeria occurs in a manner that is sometimes not in consonance with best practices – that is, it is not permission-based. Unlike the situation in many countries, such as South Africa, where advertisers mostly adopt solicited or permission-based approaches and prospective customers are allowed to exercise discretion on what they wish to be exposed to, mobile advertisers in Nigeria adopt unsolicited approaches. Users of mobile phones in Nigeria do not have any discretion about whether or not they receive information about certain goods and services; instead, information about every good and service constantly bombards phone owners. Advertisers simply send information about goods and services to individuals' mobile phones, believing that some of the recipients of the advertisement will be prospective buyers of their goods or services. The most common strategy has been short messaging services (SMS). A recent and growing trend is that advertisers use recorded calls to inform mobile subscribers whose numbers they have access to about new products and services that are available in the market.

It is necessary to understand the attitude and acceptance of consumers towards mobile advertising, as this understanding could aid in designing policies aimed at improving advertisement delivery through mobile technology (Chang and Villegas, 2008). As with other interactive advertising, consumer attitudes and intentions towards

mobile advertising are likely to influence the adoption and use of mobile advertising (Marek, 2006). An apt, but somewhat dated, definition of *attitude* is a mental readiness organised through experience that exerts directive or dynamic influence on an individual's response to objects and situations (Allport, 1935). Also important to note is Fishbein's (1967) later definition of *attitude* as a learnt predisposition of a human being upon which basis the individual responds to an object or a number of things. Attitude relates to emotional feelings and subsequent action towards some object or idea, and this disposition could result in favourable or unfavourable evaluations. Attitude is a complex combination of beliefs, values, behaviours and motivations. Attitude provides people with tools to interpret events in the world in which they live and to integrate new experiences into their lives, such as the way they relate, either with fellow human beings or with technology, or to one another.

Research problem

A core issue in human attitude in relation to advertising is the acceptance of the message and the medium used in passing the message. In Nigeria, mobile advertisements are commonplace, and they are sent to individuals without their consent, and without consideration of whether or not the individuals need or want the products or services being advertised. There are many factors that may influence people's attitudes towards mobile advertising and they include the following: trust; beliefs about the technology and the veracity of the message; attitude towards new technologies and the experiences of people with technology; and demographic characteristics (Bart *et al.*, 2014; Bauer *et al.*, 2005; Edelman and Brand, 2015; Goh *et al.*, 2015; Leppäniemi and Karjaluoto, 2005; Yang *et al.*, 2010). Although a great deal of research has been conducted on the adoption and usage of mobile phones in Nigeria (Nwagwu and Odetunmbi, 2011), there is a gap in the understanding of the acceptance of mobile advertising. Mobile advertisers often consider all users of mobile phones as their targets, without any discrimination according to people's needs (Tanner and Raymond, 2010). Specifically, it is not clear how people may feel about receiving advertising messages on their mobile phones without soliciting for them, and how this practice will affect attitude and patronage of the goods and services advertised. Despite the applicability of more recent research models, such as the technology acceptance model, theory of planned behaviour and unified theory of acceptance and utilisation of technology (UTAUT), Bauer *et al.* (2005); Karjaluoto and Alatalo (2007); Okazaki *et al.* (2007); Venkatesh *et al.* (2003) and Westerlund *et al.* (2009) have suggested that the theory of reasoned action (TRA) (Ajzen and Fishbein, 1980) is suitable for predicting consumers' attitudes towards, and acceptance of, mobile advertising.

Objectives of the study

The main objective of this study is to investigate whether employees of public service institutions in Lagos, Nigeria, accept current mobile advertisement practices, particularly in view of the untargeted and unsolicited approaches adopted by mobile advertisers. The specific objectives are captured in the following research questions:

- RQ1.* Do the individual beliefs about mobile advertisements of mobile phone users in public institutions in Lagos, Nigeria, have any relationship with their acceptance of mobile advertising?

- RQ2.* Does the attitude of the mobile phone user towards mobile advertising have any relationship to their acceptance of mobile advertising?
- RQ3.* Does the behaviour of the mobile phone user towards mobile advertising have any relationship with their acceptance of mobile advertising?
- RQ4.* Is there any relationship between the behavioural control of the mobile phone user and their acceptance of mobile advertising?
- RQ5.* Is there any relationship between the consumer's subjective norms and their acceptance of mobile advertising?
- RQ6.* Is there any relationship between the demographic characteristics of mobile phone users in Lagos, Nigeria, and their acceptance of mobile advertising?

In this study, data were collected on demographic characteristics, beliefs, attitudes, subjective norms, perceived behavioural control and behaviour. These variables, which are elements of the TRA, were then correlated with acceptance. The research questions formulated guided the discussion of the findings.

Literature review

Electronic business and mobile advertising

Business and commerce generally intersect because they deal with the organisation and exchange of goods and services, and associated issues. However, *commerce* relates especially to buying and selling of goods on a large scale, while at its basic level of understanding, *business* entails the activity of buying and selling commodities, products or services (Reynolds, 2000). This is why business is generally believed to encompass commerce. The differences and relationships between electronic business and electronic commerce bear from the above-mentioned background.

Electronic business can be defined as the application of electronic technologies for the purpose of conducting business activities. *Electronic business* encompasses direct business activities, such as marketing, sales and human resource management, as well as indirect activities, including business process re-engineering and change management, which impact the improvement in efficiency and integration of business processes and activities (Pateli and Giaglis, 2004; Zwass, 2001). A major driver in electronic business is the development of telecommunications technologies which link product and service providers with their activities and prospective clients. Telecommunications technologies have played a major role in all aspects of business, and their role in the marketing of goods and services is likewise very significant. With the use of telecommunications technologies, such as mobile devices, marketing strategies, such as advertising aimed at influencing consumer behaviour and cultures, have changed radically (Fellenstein and Wood, 2000; Zwass, 2001). Mobile technologies add yet another milestone in advertising strategies. In the past, advertising was used mainly door-to-door, at home parties and via mail order using catalogues or leaflets. Today, advertisers deploy mobile technologies to convey information about goods and services, and they have become crucial advertisement channels (Vargo and Lusch, 2004).

When compared with traditional advertising channels, such as television, print and radio, mobile phones offer possibilities for an entirely new consumer experience. According to Sultan and Rohm (2005), the value of the mobile channel stems from its

ability to allow interactivity and location-specific advertising simultaneously. The mobile phone offers a bidirectional and individual connection to the consumer, which makes it a highly interactive advertising channel, an attribute that has made the mobile channel a noteworthy medium in the changing field of advertising (Park *et al.*, 2008).

Mobile phones offer the possibility for accurate targeting as well as highly personalised content, characteristics that are also typical of the Internet. In the mobile context, these characteristics have a more significant impact because identification is facilitated by a personal mobile phone number (Park *et al.*, 2008). Chang and Villegas (2008) argued that the mobile phone has a tremendous potential for delivering advertisements because of its high penetration rate. In fact, it is the only advertising medium that consumers carry with them almost everywhere they go. The ubiquity of the mobile phone extends the time and space aspect of traditional mass media advertising – mobile phones and signals are everywhere. According to Tahtinen (2005), traditional advertising is designed for a certain target group or segment, whereas mobile advertisements are targeted at an individual, irrespective of where the individual is located.

According to a definition proposed by the Mobile Marketing Association (2009), *mobile advertising* is any form of marketing, advertising or sales promotion activity aimed at consumers and conducted over a mobile channel. Mobile advertising has been described as the process of encouraging people to buy products and services using the mobile channel (Leppäniemi and Karjaluoto, 2005). In its simplest form, mobile advertising can be defined as advertising that is sent and received on mobile devices, such as mobile phones and personal digital assistants. However, the main advantage of using mobile phones is that the technology provides an interactive and ubiquitous marketing medium which gives consumers personalised information according to where they are and what they need. This enables the receiver to take some action about products and services advertised now or in the future.

Characteristics of mobile advertising

The characteristics of mobile advertising can be identified as follows: entertainment, informativeness, credibility, personalisation and ubiquity. Lehmkuhl (2003) posited that these features can also be used to involve customers more intensely and familiarise them with the advertised services or products.

Entertainment. Entertainment is a way of amusing a person with messages, video, voice, music and pictures, and mobile phones provide the opportunity for achieving entertainment in a cheap and easy manner. According to Ducoffe (1996), the entertainment element in advertising can fulfil consumer's needs for aesthetics, enjoyment and emotional release. Entertainment is a crucial factor for mobile advertising. A person's experience of the enjoyment associated with advertisements determines his or her overall attitude towards advertisements. A significant relationship exists between entertainment and gender, with females honouring advertisements that are embedded in entertainment more than other advertisements (Tsang *et al.*, 2004).

Informativeness. Informativeness is described as the ability to adequately inform customers about an alternative product (Gao and Koufaris, 2006). Informativeness can also be interpreted as the ability of advertising to deliver information to consumers. One of the goals of advertising is to inform the audience about new products or features of

existing products, and also make them aware of changes in the price of products (Kotler and Keller, 2006). Information delivered to an audience via mobile devices also needs to show qualitative features such as accuracy, timeliness and usefulness for the consumer (Siau and Shen, 2003).

Irritation. Irritation is a feeling of impatience which may escalate into annoyance. Ducoffe (1996) emphasised the fact that when advertising employs techniques that annoy, offend, insult or are overly manipulative, consumers are likely to perceive them as unwanted and an irritating influence. According to Pavlou and Stewart (2000), mobile advertising may provide a range of information that confuses the recipient, which he or she may find distracting and overwhelming. Another source of possible annoyance is unwanted messages, commonly known as *spam*. Spam intrudes into consumer's privacy and negatively affects their acceptance of these messages. Hence, the irritation caused by an incomprehensible or unwanted advertising message may have a negative impact on the user's attitude towards mobile marketing.

Credibility. Credibility is the ability to inspire belief or trust. Pavlou and Stewart (2000) referred to credibility as predictability and the fulfilment of the implicit and explicit requirements of an agreement. Credibility is based on the extent to which consumers believe that the business has the expertise and honesty to perform a transaction effectively and reliably. It is the basis of consumer trust. Building customer trust is a complex process that involves adoption of appropriate technology and business practices which are crucial for the growth and success of a business. The credibility of advertising is an important predictor of a consumer's attitude towards advertising.

Personalisation. Personalisation is the ability to proactively tailor the purchasing experience of services and products to the taste of the individual, based on his or her preferred information. It requires changing or modifying messages to address a specific person and his or her needs. Obviously, product manufacturers and advertisers attempt to direct messages about the goods they produce or advertise to the right consumers. By the same token, consumers also prefer the content of mobile advertising to be customised to their interests and to be relevant to them. Personalisation enables marketers to reach their potential customers individually, and thus improve their relationship with consumers (Robins, 2003). Ho and Kwok (2003) stated that personalisation reduces the number of messages sent to customers, which means that consumers no longer receive numerous irrelevant messages. According to Rao and Minakakis (2003), personalisation is a better advertising strategy because it is based on the knowledge of customer profiles, history and needs. In personalised advertising, messages are sent to people on the basis of knowledge of their demographics, such as income, user preference and context, such as location and user activities, and content (including brand name factors). Mobile advertising fits into this required feature of effective advertising.

Ubiquity. In advertising, ubiquity means the presence of messages everywhere. It is one of the primary features of mobile advertising. Advertisements can be accessed by customers anytime and anywhere through their mobile devices. According to Bauer *et al.* (2005), mobile phones are intimate belongings, especially for young people. They regard mobile phones as a crucial communication tool and an expression of their personality, which means that messages about goods and services that mobile advertisements carry move around with the phone user.

Acceptance of mobile advertisements: the theory of reasoned action

Theories abound that could be used for study and describe the acceptance of electronic advertising, marketing and communication. They include the TRA (Ajzen and Fishbein, 1980), which was later extended to the technology acceptance model (Davis *et al.*, 1989), the theory of planned behaviour (Ajzen, 1991) and innovation diffusion (Rogers, 1995). TRA is embedded in human belief – a concept that occurs frequently in the study of mobile advertisements. Although there is a very recent modification of this theory in the form of UTAUT (Venkatesh *et al.*, 2003), TRA is a general social/psychological/behavioural theory that has proven useful for understanding a variety of behaviours in relation to technology use.

Ajzen and Fishbein (1980) formulated the TRA while trying to estimate the discrepancy between attitude and behaviour. *Behaviour* is the range of actions and mannerisms exhibited by an individual as a result of beliefs concerning a thing. Belief defines the state of the mind of an individual about whether or not something is true. TRA suggests that a person's behaviour is determined by his or her intention to perform the behaviour and that this intention is, in turn, a function of his or her attitude towards the behaviour and his or her subjective norm. Attitude is a psychological tendency that is expressed by evaluating a particular entity with some degree of favour or disfavour. According to TRA, the best predictor of behaviour is intention, which is the cognitive representation of a person's readiness to perform a given behaviour, which is also considered to be its immediate antecedent. Intention is determined by three things: attitude towards the specific behaviour, subjective norms and perceived behavioural control. In addition to attitude, there is also *subjective norm* representing an individual's response to behaviour as a result of the opinions of people he or she respects in relation to the behaviour. Finally, there is the concept of *perceived behavioural control*, which refers to people's perceptions of their ability to perform a given behaviour. All these predictors lead to intention. Generally, the more favourable the attitude, the greater the subjective norm and the perceived behavioural control, as well as the intention to perform the behaviour in question. TRA and its many variations are now ubiquitous models in studies of human behaviour towards information technology and related subjects.

Previous studies

Many studies have been conducted on attitudes towards, and acceptance of, mobile advertising, and there is no general pattern in the results. Among them is the study by Tsang *et al.* (2004), which investigated consumer attitudes towards mobile advertising and the relationships between attitude and behaviour towards the practice in Finland. The results showed that consumers generally have negative attitudes towards mobile advertising unless they have specifically consented to it. Tsang *et al.* (2004) also showed that entertainment was the most significant of the factors affecting respondents' attitudes, followed by credibility and irritation. Attitude was positively related to the intention to receive mobile advertising. Intention was affected by the incentive associated with the advertising. The respondents were more willing to accept incentive-based mobile advertising than non-incentive-based advertising. The authors showed further that intention significantly affected how and when the respondents read the message. Wongman (2010) investigated the factors that influenced consumer attitudes towards mobile advertising based on data collected from 781 mobile phone

users in Hong Kong. The results showed that mobile phone users had an unfavourable attitude towards SMS advertisements. Informativeness, entertainment, credibility, irritation, ubiquity and opt-out permission have significant effects on attitude, while entertainment has the strongest effect on attitude among the beliefs.

In another study, [Faraz and Hamid \(2010\)](#) investigated the factors that generate a positive attitude towards mobile advertising. The results showed that personalisation, informativeness, irritation, credibility, entertainment and the monetary benefits of mobile advertising play a key role in developing positive attitudes towards mobile advertising. [Leppäniemi and Karjaluoto \(2005\)](#) investigated the factors that influence the acceptance of mobile advertising from the perspective of both the industry and consumers in Finland. The authors proposed a conceptual model of consumers' willingness to accept mobile advertising. The study found that consumers' willingness to receive mobile advertisements on their handsets was primarily driven by four factors: the role of the mobile medium in the marketing mix, the development of technology, the one-to-one marketing medium and regulatory elements.

[Lee et al. \(2006\)](#) examined the factors that influence consumer behaviour in the context of mobile advertising in Taiwan by evaluating the correlation between consumers' motives for receiving mobile advertising and their attitude towards mobile advertisements, as well as the relationship between consumer intentions for receiving advertisements on their cellular phones and their subsequent actions once the mobile advertising has been received. It was found that positive actions stemming from the received advertisements were significantly influenced by strong intentions, strong intentions were significantly influenced by favourable attitudes and favourable attitudes were significantly influenced by strong motives. [Keshtgar and Khajepoury's \(2011\)](#) investigation of the factors influencing consumer attitudes towards mobile advertising and the relationship between their attitudes and behaviours in Iran indicated that entertainment was the main attribute affecting consumer attitudes towards mobile advertising. Consumers do not generally have negative attitudes towards mobile advertising, but prefer prior permission and incentives that offer free minutes on the phone, and this leads to a more positive influence on consumer intentions to receive and read mobile advertisements.

In their study, [Van der Waldt et al. \(2009\)](#) focused on determining the perceptions of the younger consumer segment in South Africa about SMS advertisements. It was found that the consumers' perceptions of the entertainment value, informativeness and credibility of SMS advertisements were positively correlated with their overall attitude towards SMS advertisements. The study further reported that consumers' perceptions of the irritation aspect of SMS advertisements negatively correlated with the consumers' attitudes towards SMS advertisements. Generally, consumers had negative overall attitudes towards SMS advertisements and this advertisement strategy must be used with caution when attempting to gain the attention of a younger segment of consumers. In another study, [Radde et al. \(2010\)](#) focused on the attitude of South African youth towards mobile advertising. They found that social influence is the major predictor of the target market's intentions to adopt SMS advertising. Behavioural intentions were also shown to be affected by consumer attitudes, social influences, innovation levels and perceived study utility.

[Tsang et al. \(2004\)](#) studied attitudes towards SMS advertising and their impact on intentions to receive further mobile advertisements. They presented a framework that

shows the factors affecting attitudes and the relationship between attitudes, intention to receive mobile advertisements and user behaviour. The results indicated that, in general, consumer attitudes towards mobile advertising are negative unless prior permission has been obtained. In addition, the results demonstrated that entertainment, informativeness and credibility are positively correlated to overall attitude, whereas irritation results in negative correlation. It was found that entertainment was the main factor contributing to overall attitude, followed by credibility and irritation. In a study conducted in New Zealand, *Carroll et al. (2005)* found that over half of the respondents did not favour mobile advertising. They found that even if consumers had given permission, even if the content of the message was relevant and even if the message came from a trusted channel, such as a wireless service provider, only 31 per cent of respondents would accept SMS adverts enthusiastically.

Jun and Lee (2007) studied consumer attitudes towards mobile advertising from a use and gratification perspective. The results of the study imply that the reasons for using mobile phones influence attitudes. More specifically, the researchers found that consumers who use a mobile phone because of mobility and convenience have more positive attitudes towards mobile advertising. In addition, the results indicated that use of multimedia services, such as ringtones, music and videos, is related to attitude. In contrast to the findings of *Tsang et al. (2004)*; *Jun and Lee (2007)* found that entertainment did not have a significant impact on attitudes. A possible reason for this could be that *Tsang et al. (2004)* studied consumers in Taiwan, while *Jun and Lee (2007)* conducted their research in the USA. This difference indicates that attitudes towards mobile advertising are culture-dependent and should be studied separately in different cultures.

Research framework

This study was based on the TRA. *Figure 1* illustrates the TRA model, with the demographic variables so important to studying human behaviours introduced.

In this model, belief is encapsulated in the views of consumers about the characteristics of mobile advertisements, namely: informativeness, entertainment, ubiquity, personalisation and credibility. The informativeness of advertising refers to the content, while entertainment refers to the form of the advertisement, and these have been found to be effective predictors of both the value and effectiveness of advertising

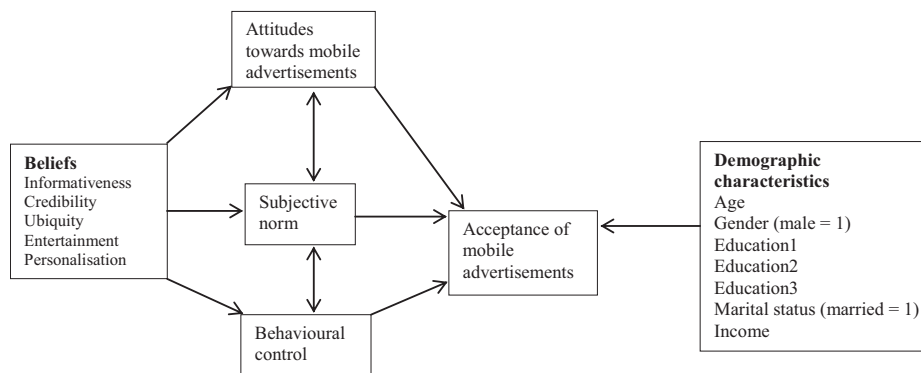


Figure 1.
Research framework

(Friman, 2010). Ubiquity and personalisation characteristics of advertisements also relate to consumer attitudes towards mobile advertisements. Heinman and Beringer's (2010) study in China found that there was a direct relationship between consumers' attitudes and their intentions, and that one of the primary factors affecting consumers, particularly women's attitudes towards mobile advertising, was personalisation. The question of whether the advertisements are credible could be an important issue in places, such as Nigeria, where there is a high susceptibility of electronic crime (Amosun and Ige, 2009). Advertisements may also be irritating when they are intrusive and not credible, and thus negatively influence people's attitudes towards them (Tsang *et al.*, 2004).

Uncertainties about credibility could be reduced if respectable individuals who have purchased goods or services on the basis of mobile advertisements volunteer information about their satisfaction with the adverts to other recipients of mobile advertisements. The range of actions an individual will take in respect of a mobile advertisement will also be related to whether the advertisement is acceptable to him or her, and vice versa. Most studies on mobile advertisements have shown that there is a significant relationship between acceptance of mobile advertisements and behaviour towards them. In the same way, acceptance of and attitudes towards mobile advertisements relate to demographic variables: females are most likely to patronise goods and services advertised in an entertaining manner (Friman, 2010; Tsang *et al.*, 2004). According to Yang *et al.* (2010), educational status and income also relate to the consumer's attitude towards and intention to accept mobile advertising.

Methodology

Location, research design, target and sampling for the study

This study was conducted in Lagos state in Southwest Nigeria, and a sample survey design was used. The study targeted workers in public sector organisations so that the results would apply to a well-defined and cognate group of respondents to facilitate application of results and implementation of recommendations. Lagos state has five administrative divisions – namely, Ikeja, Lagos, Badagry, Ikorodu and Epe – and these are further subdivided into 20 local government areas (LGAs). From each administrative division, five LGAs were selected using a simple random sampling technique. The LGAs selected were Ikeja, Apapa, Festac Town, Ikorodu and Epe. The Ministry of Local Government Affairs was approached for permission and provided a letter of authorisation to conduct the study in the LGAs. The Ministry wrote a letter requesting that the LGAs give the researchers access to these areas. Additionally, the Ministry supplied the researchers with a sampling frame to guide any simple random sampling technique.

Instrumentation

Development of the instrument began with a screening question to recruit current mobile phone users who would participate in the study. The researchers assumed that those who are not mobile phone users would be less likely to have been exposed to mobile advertising sent by advertisers. This study examined what consumers with a basic experience of mobile use thought about mobile advertising. The questionnaire comprised scales adapted from previous studies. Individual beliefs were measured with a scale used in Ducoffe's (1996) studies, while Brackett and Carr's (2001) scale was used

to measure attitude, subjective norms, perceived behavioural control, intention and behaviour. The variables were measured on a five-point Likert-type scale (1 = strongly disagree to 5 = strongly agree). Acceptance of mobile advertising was measured by the intention to use mobile advertising messages in the future.

The survey questionnaire

The questionnaire consisted of the following eight sections:

- (1) *Ownership of a mobile phone:*
 - Do you have a mobile phone?
 - Have you ever received a message to buy products or services on your mobile phone?
 - Have you received a message to buy products or services in the last six months?
- (2) *Individual beliefs:*
 - *Entertainment:* Mobile advertising is interesting; receiving mobile advertising is enjoyable and entertaining; I find receiving advertising messages via mobile phone exciting.
 - *Irritation:* The contents of mobile advertising are often annoying; I find receiving advertising messages via mobile phone deceptive; I find receiving advertising messages via mobile phone disturbing.
 - *Credibility:* I believe in my mobile advertising; I use mobile advertising as a reference for purchasing; I trust any advertisement on my mobile phone; mobile advertising is reliable.
 - *Informativeness:* Mobile advertising helps me keep up-to-date on information about products and services; I feel that mobile advertising is a good source of timely information; mobile advertising supplies relevant product information.
 - *Ubiquity:* Mobile advertising is received everywhere in Nigeria; mobile advertising covers everything in Nigeria.
 - *Personalisation:* Mobile advertising makes me think of how a product or service might be useful to me; mobile advertising makes me want to buy or not to buy a product or service; the contents of mobile advertising meet my personal needs.
- (3) *Attitude:* I think mobile advertising is good; I have a positive attitude towards mobile advertising; I feel that receiving mobile advertising is pleasant; I like to receive and read mobile advertisements.
- (4) *Subjective norms:* If I use mobile advertising, most of the people who are important to me will regard it as valuable; if I use mobile advertising most of the people who are important to me would regard it as wise; if I use mobile advertising most of the people who are important to me would regard it as useful; people who are important to me think I should use mobile advertising.
- (5) *Perceived behavioural control:* I would be confident using mobile advertising if I could ask someone for help when I have a problem; whether or not I use mobile advertising is entirely up to me; I have the knowledge and skills required to use

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276

mobile advertising; I am able to use mobile advertisements reasonably well on my own; I have the necessary means and resources to use mobile advertising.

- (6) *Intention*: I will consider using mobile advertising messages in the future; I will consider buying products or services based on mobile advertising messages in the future; I will definitely use mobile advertising messages in the future.
- (7) *Behaviour*: I retain mobile advertising messages on my phone for possible future transactions; I delete mobile advertising messages whenever I receive them; I consider buying products or services after reading mobile advertising messages on my phone.
- (8) *Demographic characteristics*: Gender, age, marital status, educational level, monthly income and occupation.

Administration of the questionnaire

The research targeted a sample size of 500. After obtaining permission from the Ministry of Local Governments, the researchers visited each of the five LGAs and dropped off 100 copies of the questionnaire at each LGA. An appeal was made to the staff of the LGAs to complete the instruments. The appeal was made in a short letter of invitation for participation distributed in the offices and also pasted on all notice boards. At least five visits were made to each of the LGAs to collect the completed copies of the questionnaire. At the end of the survey, 436 copies of the questionnaire were retrieved and 389 were usable. This figure represents a response rate of 77.8 per cent which is deemed acceptable for an unsolicited survey.

Method of data analysis

Data were coded, summarised and analysed using the Statistical Package for Social Sciences. Questions on irritation were cast in the negative and were reverse-coded for consistency with the other constructs. Logistic regression was carried out to examine the relationships between beliefs, attitude and behaviour, subjective norm and behavioural control (measured on a five-point Likert-type scale), and acceptance categories were computed and recoded on a binary scale of *agree* (1) or *disagree* (0), respectively. Agree and disagree are taken as proxies for accept and not accept.

Results and discussion of findings

Validation and reliability of the instrument

Cronbach's alpha correlation was used to test the constructs for internal consistency as shown in [Table I](#).

Variables	Cronbach's alpha	No. of constructs
Beliefs	0.706	18
Attitudes	0.698	4
Subjective norms	0.779	4
Perceived behaviour control	0.722	6
Behaviour towards mobile advertising	0.682	3
Intention towards mobile advertising	0.634	3

Table I.
Cronbach's alpha
correlation

Table I shows that the Cronbach's alpha coefficients for the constructs are higher than the ideal of 0.70. Hence, all the constructs were retained in the study.

Demographic characteristics of the respondents

All the respondents reported owning mobile phones; they had all received a message on their phones to buy products or services, and had also received such messages in the last six months. The majority of the respondents (42.7 per cent) were in the age group of 30 to 39 years; males accounted for 43.7 per cent of the respondents, while 54.5 per cent were females. Most of the respondents (41.7 per cent) had tertiary education; respondents with a secondary education accounted for 34.1 per cent, while only 11.9 per cent of the respondents had a primary education. Most of the respondents were married (42.9 per cent), while those who were single accounted for 38.9 per cent.

Inter-correlation of individual beliefs about mobile advertising

The mean score of the individual beliefs of mobile phone users towards mobile advertising are presented in Table II.

On a five-point scale in which 5 = SA, 4 = A, 3 = U, 2 = D, and 1 = SD, the range of mean scores (1.600-1.800) for entertainment, personalisation and credibility indicated that the respondents disagreed with the positive characteristics of mobile advertising. However, with a mean score of 3.605, the respondents agreed that the medium is informative. They also strongly agreed that the medium is ubiquitous (4.875) and irritating (4.703).

Table II also shows the cross-correlation results of the belief variables. The group correlation of all the categories was 0.431 and no pairs of the variables had a correlation up to or higher than 0.6, the threshold that is often accepted as sufficient for pooling categories of data into one. Thus, the categories are considered to differ and, hence, the need for the frequency distribution of the categories. This result differed completely from that of Tsang *et al.* (2004) which showed that informativeness has a high correlation with credibility and entertainment.

Inter-correlations and descriptive statistics of the theory of reasoned action variables

Table III contains the inter-correlations of pairs of all the TRA variables after each of the variables has been pooled.

Table II shows that attitude had a low correlation with belief, except for behaviour which had a high correlation with belief. The rest of the variables had correlations less than 0.500 with belief. Similarly, acceptance had a low correlation with attitude (0.409),

Individual's beliefs	Mean	SD	Spearman's cross-correlations						
			(1)	(2)	(3)	(4)	(5)	(6)	
Entertainment (1)	1.678	0.718	1						
Credibility (2)	1.651	0.689	0.22	1					
Personalisation (3)	1.732	0.727	0.022	0.216	1				
Informativeness (4)	3.605	0.778	0.412	0.129	0.112	1			
Ubiquity (5)	4.875	0.761	0.289	0.379	0.122	0.189	1		
Irritation (6)	4.703	0.709	0.099	0.049	0.190	0.307	0.078	1	

Table II.
Descriptive statistics
and inter-correlation
of individual beliefs

while behavioural control and subjective norm had correlations less than 0.600. Other inter-correlations were all less than 0.600.

Relationship between theory of reasoned action variables and acceptance of mobile advertisements

Table IV shows the relationship between the belief variables, the demographic variables and attitude towards mobile advertising.

Table IV shows the results of the direct binary logistic regression analysis of the relationship between demographic characteristics of consumers and their acceptance of mobile advertising. The likelihood ratio test ($\chi^2 = 11.702, p = 0.005$) and the score test ($\chi^2 = 6.5078, p = 0.007$) show that the logistic approach was effective. The Wald test ($\chi^2 = 7.646, p = 0.000$) supports the fact that the regression coefficients (β s) were good predictors of the acceptance of mobile advertisements. The Hosmer–Lemeshow goodness-of-fit test yielded a $\chi^2 = 5.711$ and $p > 0.05$, suggesting that a good model fit to the data collected was tenable. The model as a whole explained 43.33 per cent (Cox and Snell R^2) and 44.23 per cent (Nagelkerke R^2) of the variance in the acceptance of mobile advertisements by consumers, and correctly classified 63.78 per cent of the cases. Table IV shows further that four of the six belief variables – namely, irritation, informativeness, credibility and entertainment – made unique statistically significant contributions to the model, in addition to attitude and subjective norm. Four of the seven demographic variables – namely, age, gender and Education 1 (tertiary education) – also made unique statistically significant contributions to the model.

Table IV indicates that irritation had a non-fractional and significant slope ($B = 1.131, p < 0.05$), with the odds of its influence on acceptance of mobile advertising by consumers being 1.612. The response to the relationship between the informativeness characteristic of mobile advertising and acceptance of mobile advertising was a significant relationship ($p < 0.05$), although the slope ($B = 0.329$) and the odds ratio ($e^\beta = 0.493$) were fractional. With a negative and non-fractional slope ($B = -2.197$), the odds of irritation arising from mobile advertisements negatively influencing acceptance of mobile advertisements was $e^\beta = 1.710$ in comparison with the odds of its acceptance. This result was also significant ($p < 0.05$). Ubiquity made no significant contribution but entertainment did, with a significant ($p < 0.05$) negative and fractional slope ($B = -0.393$). For the other TRA variables in the study – namely, attitude, behaviour, subjective norm and behavioural control – behaviour and attitude significantly ($p < 0.05$) predicted acceptance of mobile advertising ($B = 0.177$).

TRA variables	Correlations R	Descriptive statistics		Inter-correlations						
		Mean	SD	1	2	3	4	5	6	
Beliefs	0.351	1.344	1.056	1						
Attitude	0.722	1.657	0.763	0.249	1					
Behaviour	0.690	1.692	0.757	0.654	0.698	1				
Behavioural control	0.677	1.732	0.773	0.432	0.599	0.506	1			
Subjective norm	0.598	1.669	0.691	0.430	0.533	0.511	0.399	1		
Acceptance	0.599	1.781	0.714	0.409	0.654	0.445	0.533	0.506	1	

Table III.
Inter-correlation and descriptive statistics of the TRA variables

In the demographic variables, age was significantly ($p < 0.05$) and negatively related to acceptance ($B = -0.221$), in the same way as gender ($B = -1.119$, $p < 0.05$). Tertiary education (Education 1) had a positive and significant relationship with acceptance of mobile advertising ($B = 2.112$, $p < 0.05$) in the same way as marital status ($B = 0.225$, $p < 0.05$). The relationship between secondary education (Education 2), primary education (Education 3) and income, and acceptance of mobile advertising was not significant.

Discussion of findings

The aim of this study was to examine the attitude of consumers towards mobile advertising among public servants in Lagos, Nigeria. What emerged was a picture that differs significantly from the results of much of the research reviewed in this study. Most studies on consumer attitudes towards mobile advertising separate permission-based from non-permission-based advertising. Typically, mobile

Independent variables	B	SE β	Wald χ^2	p	e ^B (odds ratio)	95% Confidence interval
<i>Beliefs</i>						
Personalisation	0.011	0.581	0.317	0.111	2.101	(14.382, 8.023)
Irritation	1.131	0.032	4.214	0.023	1.612	(4.031, 2.451)
Informativeness	0.329	0.442	2.108	0.041	0.493	(3.022, 1.191)
Credibility	-2.197	0.423	3.010	0.032	1.710	(1.343, 1.077)
Ubiquity/intrusiveness	-0.390	0.274	0.116	0.012	3.701	(2.111, 1.213)
Entertainment	-0.393	0.222	1.401	0.201	1.003	(1.423, 1.344)
<i>All</i>						
Attitude	-0.177	0.102	2.114	0.014	0.043	(1.003, 0.002)
Behaviour	-0.010	0.112	1.228	0.027	1.107	(1.326, 1.062)
Behavioural control	0.301	0.326	2.103	0.015	0.304	(2.217, 1.211)
Subjective norm	0.209	0.079	0.019	0.049	2.001	(1.547, 1.324)
<i>Demographic characteristics</i>						
Age	-0.221	0.109	0.300	0.000	2.310	(6.136, 3.011)
Gender (male = 1)	-1.119	0.032	1.211	0.331	1.552	(4.221, 2.331)
Education 1	2.112	0.042	1.324	0.004	0.172	(8.023, 12.101)
Education 2	-2.987	0.123	2.101	0.112	1.625	(1.310, 1.070)
Education 3	-2.170	0.224	2.717	0.645	0.711	(3.012, 1.713)
Marital status (married = 1)	0.226	0.121	1.440	0.402	0.203	(1.100, 1.002)
Income	-1.281	0.218	1.105	0.282	1.119	(1.330, 1.480)
<hr/>						
Overall model evaluation			χ^2		df	p
Likelihood ratio test			11.702			0.005
Score test			6.5078			0.007
Wald test			7.646			0.000
Goodness-of-fit test:						
Hosmer–Lemeshow:			5.711			0.512

Table IV.
Logistic regression
between TRA
variables and
acceptance of mobile
advertising

advertising in Nigeria is predominantly non-permission-based, and therefore, the need for splitting the respondents into these two categories did not arise:

RQ1. Do individual beliefs about mobile advertisements have any relationship with their acceptance of mobile advertising?

Personalisation was the first variable investigated in this category, and the result shows that this variable was not a significant predictor of acceptance of mobile advertisements. Mobile advertisements in Nigeria are really not personalised. As a practice, advertisers, in a contract with mobile operators, simply dispatch messages to people's numbers hoping that some of the recipients will be interested in the products they are advertising. The respondents were not inclined towards personalisation of adverts, and this situation might have accounted for the absence of a relationship with acceptance of mobile advertising messages. This result differs from the result of [Yang et al.'s \(2010\)](#) study in China, which found that personalisation was one of the most important predictors of Chinese consumers' acceptance of mobile advertising. The results also differed from those of [Unal et al. \(2011\)](#), who found that personalisation is a significant factor that influences the attitude of the youths in permission-based advertising in Turkey.

Irritation negatively explains acceptance of mobile advertising. Irritation relates to annoyance, deception and disturbances which people feel when they receive advertisements on their phones. [Islam et al. \(2012\)](#) had the same finding in their study in South Korea, in support of [Wang and Sun \(2010\)](#), who observed that advertising has generally been criticised for promoting needs and desires that consumers may not have previously recognised and for creating insecurity and greed in society. [Yang et al. \(2010\)](#) also found that the irritation caused by mobile advertising inhibits its acceptance as an appropriate advertising strategy. Most studies on mobile advertising found that mobile advertisements could be irritating. In practice, receiving a text message that advertises a product or service that is not related to one's need may cause distress. Text messages are always inviting and may contain vital messages a mobile user requires. Such a message is disappointing if it introduces a good or service not needed at the time of the message.

However, mobile phone users consider mobile advertisements informative. Merely knowing that a certain good or service exists, even if the product or service differs from the recipient's need, could be a piece of information that serves a purpose of learning and knowing in the present or future. The informativeness dimension is the ability of advertisements to provide updated, timely and easily accessible information ([Altuna and Konuk, 2009](#)). Mobile advertisements provide people with information that may be useful to them in the future; they also provide some form of current awareness information about products and services. [Islam et al. \(2012\)](#) and [Yang et al. \(2010\)](#) and other studies have also confirmed this finding.

Unlike many of studies referred to and discussed in this article, such as those of [Islam et al. \(2012\)](#); [Ünal et al. \(2011\)](#) and [Yang et al. \(2010\)](#), entertainment negatively predicted acceptance of mobile advertisements in the current study. Simply put, the respondents were irritated with mobile advertisements and did not feel that messages they do not need might be desired by them. In their study, [Ünal et al. \(2011\)](#) stated that the main factor affecting the attitudes of the consumers towards SMS advertisements was entertainment. [Ducoffe's \(1996\)](#) finding was the same, although he did not state whether entertainment had a positive or negative effect on the attitudes of mobile advertisement

recipients. *Tsang et al. (2004)* also showed that entertainment is a significant predictor of attitude and acceptance. *Bauer et al. (2005)*; *Faraz and Hamid (2010)* and *Wongman (2010)* all identified entertainment as the strongest driver of mobile advertising acceptance, and argued that consumers develop a positive attitude towards mobile advertising which, in turn, leads to the intention to use mobile advertising only if mobile advertising messages are creatively designed and entertaining or if they have a high information value. Basically, entertainment refers to whether the message is in the form of video, voice, music and pictures or whether the message is concise and funny enough to capture the consumers' attention. Do mobile advertisers in Nigeria adopt entertaining strategies in designing the advertisements they send out to consumers? One can also question whether the consumers have the type of phones that support advertisements in graphic and other interactive forms.

Credibility negatively predicted acceptance of mobile advertisements. This could explain the high deviation of the results of this study from the results in the literature. Generally, people do not trust messages received from unfamiliar and unexpected sources (*Pavlou and Stewart, 2000*). Many SMS advertisements are not predictable and receivers do not have confidence in the messages. A white paper issued by EMC's Security Division, *EMC RSA (2014)*, has reported that mobile crime has actually overtaken other crime strategies. In a country with a bad reputation for electronic crime, people are cautious about acting on messages they receive from the Internet or on their mobile phones. This finding is similar to that of *Wongman (2010)*, but *Tsang et al. (2004)* found that credibility contributes a certain degree of marginal variation in the acceptance of mobile advertisements in China.

As would be expected, ubiquity/intrusiveness negatively predicted acceptance of mobile advertising. In the solicited advertisement study by *Bauer et al. (2005)*, the results indicated that ubiquity supports acceptance of mobile advertising – most of the messages received by people appear to largely address their needs. In Nigeria, many of the messages people receive do not address their specific needs – receiving these messages every time and everywhere may, therefore, cause distress. Unlike the study of *Tsang et al. (2004)*, gender did not predict acceptance of mobile advertisement:

RQ2. Does the attitude of mobile phone users towards mobile advertising have any relationship with their acceptance of mobile advertising?

The result shows that the attitude of consumers predicted their acceptance of mobile advertising. All previous studies cited in this study supported this finding. As attitude is an accumulation of behaviours, this would suggest that consumers take action about the mobile advertisements they receive once they accumulate sufficient behaviours towards the technology. A key point addressed by attitude strength manifests in this finding. When an individual obtains and possesses, by frequent and direct experience, an abundance of relevant information about performing a behaviour, he or she will engage in careful and effortful consideration of the behaviour. This, in turn, affects the attitude towards the behaviour. *Lee et al. (2006)* also found that positive actions in response to the received advertisements were significantly influenced by strong intentions, strong intentions were significantly influenced by favourable attitudes and favourable attitudes were significantly influenced by strong motives. However, the empirical results of *Wongman (2010)* indicated that mobile phone users have an unfavourable attitude towards mobile advertising and intention relating to SMS

advertisements. According to this study, mobile phone users' attitudes were greatly influenced by their intention to accept mobile advertising, which implies that a positive attitude would result in a positive intention:

RQ3. Does the behaviour of consumers towards mobile advertising have any relationship with their acceptance of mobile advertising?

Behaviour towards mobile advertising predicts acceptance of mobile advertising. Behaviour addresses what an individual will do as soon as he or she receives a mobile advertisement. Given people's irritation with mobile advertisements as established in this study, individuals will delete, feel offended or ignore mobile advertisements, and this behaviour becomes more unfavourable with the increasing numbers of mobile advertisements received:

RQ4. Is there any relationship between behavioural control of mobile phone users and their acceptance of mobile advertising?

This study found that the influence of perceived behavioural control over the acceptance of mobile advertising was weak and positive but significant. Mobile phone users appear to possess personal preparation that enables them to respond adequately to mobile advertising. This result does not differ from the results reported in the literature study, which suggested that behavioural control is strongly and negatively significantly related to intention behaviour in respect of mobile advertising:

RQ5. Is there a relationship between the subjective norms of consumers and their acceptance of mobile advertising?

Subjective norms also predicted acceptance. In a construct assessment study, [Titah and Barki \(2009\)](#) indicated that attitude and subjective norm are highly correlated in technology acceptance studies. In their study, [Srisawatsakul and Papisratorn \(2013\)](#) found that attitude towards mobile advertising and subjective norms have weak significance in user intention to accept add-on advertising. One may, therefore, infer that mobile users develop a positive attitude towards mobile advertising if there are people they respect who have good testimonies about the use of mobile advertisements.

RQ6. Is there any relationship between the demographic characteristics of consumers and their acceptance of mobile advertising?

Acceptance of mobile advertising is significantly explained by age, with the indication that the younger the consumer is, the more likely he or she will be to patronise mobile advertisements. This result is supported by [Baltas \(2013\)](#) and [Yang *et al.* \(2010\)](#). As a rule, young people are more likely to use technologies in their lives than older people. Acceptance of mobile advertisements by males was not supported as compared with the acceptance of females. Several studies have shown that ratings by women on the use of mobile advertisements were higher than ratings by males. In a large-scale study, [Bulik \(2011\)](#) indicated why women use mobile advertisements more than men. According to him, women spend more money than men and they also engage on issues more than men do. A common finding in the literature is that having a tertiary education (Education 1) predicts acceptance of mobile advertising, although [Friman \(2010\)](#) found that acceptance of mobile

advertising cannot be segmented according to demographic variables. However, education is related to efficacy – the more educated a person is, the more likely he or she will be able to make informed decisions (Amaghionyeodiwe and Osinubi, 2007).

Concluding remarks

The aim of this study was to examine the factors that influence the acceptance of mobile advertising by consumers in Lagos, Nigeria. The results in this study differ significantly in many ways from the results of similar studies cited here, and highlight the relationship between certain environmental and societal factors in mobile advertising. In Nigeria, mobile advertising space is not regulated. The National Communication Commission (2012), which is the telecommunications regulatory body, has established guidelines on advertisements and promotions, but this document makes no mention of whether mobile advertisers may approach the mobile providers and negotiate access to the phone numbers of all subscribers, nor whether the subscribers' demographic characteristics suit the product. This differs from the researchers' first-hand experience in South Africa, where mobile phone operators would normally create icons for mobile advertisements and subscribers are solicited to visit such spaces for advertorials about goods and services. However, there are exceptions to this rule in the sense that individuals sometimes send out mobile advertisements by voice or texts. According to one commentator in the InMobi blog, one of the challenges that the mobile market faces in Europe is increasing data and privacy controls. People are not allowed to send messages to consumers unless they have the express permission of the consumers. Hence, the implications of this study are that the reported deep penetration of mobile advertising in Nigeria could stem from a lack of respect for personal data and privacy controls and, therefore, might not be sufficient. That is why many respondents reported mobile advertisements as intrusive and shocking, with the result that they often do not act on the information they receive from advertisers.

Recommendations, limitations and future research

The main recommendation from this study is that the Nigerian National Communication Commission which regulates telecommunication services should highlight individual privacy in the guidelines on advertisements and promotions. The irritation experienced by recipients of mobile advertisements is the result of the intrusive nature of mobile advertisements. This recommendation is crucial because advertisers send out messages with the expectation that recipients will read and apply the information supplied, but this is not, in fact, the case. The benefits of mobile advertisements thus fall away.

Owing to resource and time constraints, this study only covered Lagos state, although Lagos is the hub of commerce in Nigeria and could provide relatively useful information about the country at large. A nationwide survey would provide a better result. This study was based on TRA, which is an older version of technology use theories. Although this was done deliberately to reflect the general human socio-psychological factors embedded in TRA, the more recent perspectives of UTAUT might yield further insight. The use of moderation variables in a regression analysis in consumer behaviour studies could yield invalid results. However, in the current study, the data were adequately tested to rule out deficiencies, and adequate steps were taken

to ensure that the results were valid. Future research could focus on a larger population across the country and apply other statistical techniques.

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