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Factors affecting attitudes and behavioral intentions towards in-app mobile advertisements: A cross-cultural comparison between India and the United Kingdom

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Declaration of Research Work Integrity

This work has not previously been accepted in substance for any degree and is not being concurrently submitted in candidature of any degree. This thesis is the result of my own investigations, except where otherwise stated. Other sources are acknowledged by giving explicit references. A bibliography is appended.

By signing the present document I confirm and agree that I have read RU's ethics code of conduct and fully understand the consequences of violating these rules in regards of my thesis.

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Abstract

The number of people using smartphones has increased dramatically in the last couple of years, which in turn has led to rapid growth in mobile advertising spending. But despite the popularity of smartphones, limited research is available on the factors affecting consumer attitudes towards in-app advertisements. Using and theory of reasoned action as a theoretical framework, the purpose of this research is therefore to examine the attitudes of smartphone users towards in-app mobile advertising and investigate the variables that influence their attitudes. The relationship between attitude and consumers' behavioral intention is also studied and the variance between the United Kingdom and India. These two countries were chosen for this study as they receive different scores on Hofstade's cultural dimensions' theory and Hall's cultural factors theory. According to these theories, United Kingdom shares similar values and attributes with other Western countries while India is more similar to Asian countries. To collect data from the two countries, a quantitative study was conducted using an online survey. Partial Least Squares Structural Equation Modeling (PLS-SEM) was used to analyze the data from 251 participants recruited through a company called CrowdFlower. The results suggest that smartphone users generally hold rather negative attitudes toward in-app advertisements and that there is a strong positive relationship between attitudes and the intention to pay attention, read and click on the advertisements. Perceived entertainment of in-app mobile advertisements has a strong positive effect on attitudes toward the advertisements while credibility and informativeness had a moderate effect. Irritation, on the other hand, had a negative impact on attitudes while personalization did not have a significant effect on attitudes. The results also reveal that there is a significant cultural difference as Indian consumers held more favorable attitudes toward in-app advertisements and believed that they were more likely to use them. Perceived entertainment of the advertisements had also more impact on attitudes among the Indian smartphone users while credibility had more impact on users in the United Kingdom. These findings help advertisers to understand which factors they should focus on when implementing both local and international advertising strategies.

Key words: in-app mobile advertising, marketing, theory of reasoned action, attitudes.

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1. Introduction

As a social phenomenon, advertising is undeniably an important part of most modern societies as it can have a significant effect on consumption and economic activities and is closely tied to cultural values (Hong, Muderrisoglu & Zinkhan, 1987; Pollay & Mittal, 1993). Recently a so-called new media with numerous different advertisement channels and formats have been developed, leaving marketers with an increased amount of different ways to communicate with current and potential customers. Of all of the different channels available, advertising through smartphones is particularly worthy of attention as people are in general constantly spending more time looking at their phones, in such activities as playing games, using apps and browsing the internet. Although the smartphone technology is relatively young, the number of people using smartphones has increased dramatically over the last couple of years and it is estimated that the number of smartphone users will surpass 2 billion in 2016 ("2 Billion Consumers", 2014). This increase of smartphone adoption has opened up many new alternatives and possibilities for marketers and some even claim that the mobile phone is one of the most influential and fastest growing marketing medium after the introduction of the internet (Hanley & Becker, 2008; Russo, 2016). Companies can now interact with their customers through this relatively new type of marketing communications, such as through SMS messages, in-app and in-game advertisements, web-banners and other types of graphic and display formats and location-based communications. For advertisers, mobile marketing has many advantages, such as the possibility of a two-way communication, personalization, rather low cost, more accurate targeting and live measurements (Jayawardhena, Kuckertz, Karjaluoto & Kautonen 2009; Bauer, Reichardt, Barnes & Neumann, 2005). Mobile phones are also personal devices that are often used by one single person rather than many different household members (Bauer et al., 2005). The user also often provides personal information to the marketer, such as location and demographic data, which allows companies to create personalized and tailored advertisements according to the consumer's interest (Xu, 2006; Bauer et al., 2005). Unlike mobile phones, computers, televisions, radios and other mediums are commonly used by more than one family member (Turban, King, Lee, Liang & Turban 2015) which could decrease the probability that the marketing message reaches the right target.

Although the number of smartphone users has been increasing rapidly for the last couple of years, many companies are still hesitant to allocate their marketing budget to mobile marketing as they have mixed beliefs regarding the effectiveness of their current mobile marketing programs (Bart, Stephen & Sarvary; Okazaki & Barwise, 2011). Consumers generally have negative attitudes toward mobile advertisements (Tsang, Ho & Liang, 2004), which is a concern for marketers, as attitudes have shown to be one of the most important factors for successful advertising campaigns (Cheng, Blankson, Wang & Chen, 2009). The reason for its importance is the strong positive relationship between attitudes toward the advertisements and desirable behavior. Previous studies have shown that attitude can have a strong influence on consumer's attention and reaction to the advertisements (Alwitt & Prabhakar, 1992). This relationship between attitude and behavior has been confirmed in many different situations by studies using the theory of reasoned action and theory of planned behavior as theoretical frameworks (Ting, De Run & Thurasamy, 2015; Billore & Sadh, 2015). But despite the negative attitudes toward mobile advertising, many marketers are positive about the future of mobile advertising and aim to keep searching for more efficient ways to use this new format. It is still a relatively new way to advertise and the technology has developed rapidly during the last couple of years (Okazaki & Barwise, 2011; Rowles, 2013).

Out of all the different mobile advertising formats available, advertisements displayed on mobile applications (in-app advertisements) have received especially limited attention among researchers despite the fact that mobile users spend on average 37 hours each month using various different mobile apps (Nielsen, 2015). Even though mobile apps are increasing in importance and in-app advertising are the fastest growing format within mobile advertising activities (Russo, 2016), previous research conducted on mobile advertisements have mainly focused on older formats, such as SMS and MMS advertisements (Tsang et al., 2004; McCarthy & Rowley, 2013; Moynihan, Kabadayi & Kaiser, 2010). Their findings are then generalized for various types of mobile advertising, such as web-banners, in-game and in-app advertisements, despite the fact there is a substantial difference between earlier types of mobile advertisements and more recent forms. SMS and MMS advertisements are, for example, often pushed towards the consumer while newer types of advertisements, such as in-app and mobile web advertisements are categorized as pull advertisements, where the communication is

initiated by the consumer instead of the advertiser (Valvi & West, 2014; Constantinescu & Tanasescu, 2014). Scholars have pointed out the need of paying more focus on pull-type marketing strategies as there are limited studies available on these types of advertisements despite its rapid growth (Valvi & West, 2014). Another limitation with previous researchers is that because of the accessibility and low cost, many of the studies have only used university and/or college students as a sample (Choi, Hwang & McMillan, 2008; Liu et al., 2012; Parreño, Sanz-Blas, Ruiz-Mafe, & Aldás-Manzano, 2013). Since there can be a significant difference between university students and the general population, it is important to use samples that consist out of a broader range of mobile consumers profiles to be able to generalize over to the population (Choi et al., 2008; Liu et al., 2012).

Along with this growth in smartphone usage, there has been a considerable growth in international business which has, in turn, put more emphasis on efficient international marketing communication (Khang, Han, Shin, Jung & Kim, 2015). This has increased the desire among companies to implement standardized advertising campaigns across different countries as it can reduce cost, save time and other valuable resources. Standardized messages make it easier to access new markets as companies don't have to create different marketing strategies for each country (Duncan & Ramaprasad, 1995; Tansey, Hyman & Zinkhan, 1990). However However, although most marketers agree that being able to implement standardized advertisement campaigns across the world can be beneficial, there are still some cultural differences that can make it difficult (Biswas, Olsen & Carlet, 1992). Because of the relationship between advertisements and culture, understanding cultural differences is therefore considered to be essential for implementing effective international advertising campaigns (Zhang & Neelankavil, 1997). Several researchers have suggested that advertisement effectiveness might be influenced by cultural factors and that values, appeals, symbols and themes in the communication content have to be customized towards the targeted culture (Kanso & Nelson, 2002; Singh, Zhao & Hu, 2003; Liu et al., 2012). But despite the fact that mobile media has been growing in importance in the global context, there are still very few studies available that have examined the cross-cultural difference in the mobile advertising context (Billore & Sadh, 2015; Liu et al., 2012).

Based on the available literature and the limitations mentioned above, the previous studies might therefore not be able to explain the current market situation and consumers' attitudes towards new types of mobile advertising formats, such as in-app mobile

advertisements. Thus, the objective of this research is to fill in this gap and examine the attitudes of smartphone users towards in-app advertisements, the variables that influence them and the effect of attitudes on the intention to pay attention, read and click on the advertisements. This research will also investigate whether there is a difference between two different nations by comparing India and the United Kingdom. The reason these two countries were selected is that they score significantly different on all of the Hofstede's cultural dimensions and Hall's theory of high- and low-context cultures, which have been used to predict the influence of culture on values, communication, attitudes and behaviors of its members in many different scenarios, such as advertisements (Nishimura, Nevgi & Tella, 2008; Hofstede, 2011). According to these theories, India shares similar attributes that are typical of many other Eastern countries while the United Kingdom has more in common with Western countries (Hofstede, 2011). Although each country, and groups within the country differ, the study might provide some valuable information for scholars and businesses that seek to implement both local and international mobile advertising campaigns using in-app mobile advertisements. Based on the objectives mentioned above, this thesis seeks to answer the following questions:

> *What are consumers' attitudes toward in-app mobile advertisements?*
> *What factors affect the attitudes of mobile advertisements?*
> *Does positive attitude towards in-app advertising affect the intention to use in-app advertisements?*
> *Is there a cultural difference in the terms of how people perceive in-app advertisements?*

To answer these questions, a conceptual model is developed based on theory of reasoned action and the theory of planned behavior which has been widely used to explain the link between beliefs, attitudes, intentions and behavior toward advertisements (Billore & Sadh, 2015). The belief factors chosen for this study are drawn from the uses and gratifications theory, which has helped to understand the motives and values toward different types of media, such as advertisements. These belief factors are; perceived entertainment, informativeness, credibility and irritation (Liu et al., 2012; Haghirian & Madlberger, 2005; Zabadi, Shura & Elsayed, 2012; Tsang et al., 2004). In addition to these

factors, perceived personalization of the advertisements has also been chosen as it's showed to have strong positive effect on attitudes toward SMS advertisements (Xu, 2006; Saadeghvaziri & Hosseini, 2011).

1.1. Structure of the thesis

The thesis consists of six chapters. The introduction provides a brief overview and introduction of mobile advertising and the importance of the study for both academics and professionals. It also discusses the limitations of previous studies, the aim and the objective of the study. In the following chapter, the literature review, the concept of mobile and in-app advertising is explained, followed by an explanation of attitudes. The chapter will describe the theoretical frameworks that have been used in related studies. It will also provide a brief review of previous research conducted on attitudes towards both traditional and mobile advertisements. After that, antecedents of attitudes towards mobile advertising are explained, followed by the research hypotheses. The third chapter provides a detailed description of the methodology used, explaining the research approach, data collection, survey formation and design. In the fourth chapter, findings of the hypotheses tested in this research are presented. The fourth chapter is about results of the study and the fifth chapter about discussing the main findings and implications. The sixth and final chapter includes conclusion, limitations and recommendations for further research.

2. Literature review

In this chapter, the concept of attitude will be defined along with a definition of mobile advertising in general and in-app advertising. This chapter will also provide an overview of the main theoretical frameworks that the conceptual model of this study is based on, such as the theory of reasoned action, theory of planned behavior and uses and gratification theory. The literature review also provides an overview of research conducted on consumer attitudes towards both advertising in general and mobile advertising and the factors that have been shown to affect the attitudes. Finally, the cultural difference will be discussed in the context of Hofstede's cultural dimensions and Hall's theory of high- and ow-context cultures. This review should provide a comprehensive understanding of the antecedents of consumer attitudes towards mobile advertising and the research that have been conducted.

2.1. Mobile advertising

There is no one agreed upon definition of mobile advertising and often the terms mobile advertising and mobile marketing are used interchangeably while in some cases mobile advertising is considered as just one part of mobile marketing (Billore & Sadh, 2015). This study will make a clear distinction between mobile marketing and advertising and refer to mobile advertising as a subset of mobile marketing. De Reyck & Degraeve (2003) defined mobile advertising as: *"targeting well-identified potential customers with text messages, thereby increasing the response-to-advertisement ratio"*. However, the mobile phone technology has changed significantly since this definition was published. With the emerge of smartphones, text messages aren't the only form of marketing communication through mobile phones, which makes many earlier definitions obsolete. A newer and more relevant definition was made by the Mobile Marketing Association (2016), which defined mobile advertising as: *"form of advertising that is communicated to the consumer via a handset"*.

There are also many different types of mobile advertising, which can be useful to reach different goals. According to Park, Shenoy & Salvendy (2008) these types can be categorized by; communication type (push and pull), presentation type (SMS/MMS, mobile banner and in-app), business purpose (direct purchase, promotion, information transfer and brand imaging) and message type (pure advertisement and attached advertisements). In previous studies, the mobile advertisements are usually categorized into push and pull

(Barnes, 2002). In this thesis, the focus will however, be on in-app mobile advertisements, which would be categorized in the *pull* category, as the communication is initiated by the consumer. This type of advertising is more similar to web banner advertising rather than SMS advertising (Richarad & Meuli, 2013), which allows marketers to provide consumers with more interactive and richer experience that contain multimedia features. However, although there is a possibility that there is a crucial difference between attitudes towards different types of apps and different types of in-app advertisements, this research will examine in-app advertisements as a whole.

2.1.3. In-app advertising

Although mobile apps have gained popularity in recent years, they have existed since the late 1990's (Sharma, 2010). Mobile apps can be defined as: "software running on a mobile device that performs certain tasks and provides value to users" (Valvi & West, 2015). Today here is an abundance of mobile apps available, which can be used to satisfy various of different needs and interests. There are over two million mobile apps available through five major providers; Google Play, Apple's iOS App Store, Amazon, Windows Phone and Blackberry World. According to data from Pocketgamer.biz, there are more than 1,000 new apps submitted to these stores each day, compared to only 32 a day in 2008 ("Count of Application Submissions", 2016). Along with the growth of app submissions, in-app advertisements have become a more popular way of advertising. It is for example estimated that in-app advertising spending will reach $17 billion by 2018, which is a significant increase from the $3.5 billion spent in 2013 ("Spend on In-app Advertising", 2014). As the name suggests, in-app advertisements can be described as ads that are displayed through mobile applications (Bhave, Jain & Roy, 2013). Furthermore, in-app advertisements can be split into two groups; In-application displays (banner and coupons) and sponsored (paid for by an advertiser) to promote a brand or product (Valvi & West, 2015). Out of the many forms of in-app mobile advertisements, mobile banner ads are the most common ones (Bhave et al., 2013). Similar to newspapers, magazines, and internet browser banners, advertisements through mobile applications depend on the mobile user to open them up and consumers are only exposed to the apps they have agreed to download (Bellman, Potter, Treleaven-Hassard & Robinson 2011).

As mentioned before, in-app advertisements and mobile advertisements, in general, have provided marketers with many new possibilities and ways to communicate with their

consumers. However, in-app advertisements have also provided developers a new way to monetize their apps as they can make their apps available for free for those consumers that are reluctant to pay for them. The advertisers are then usually charged for impressions (views), clicks or per acquisition (Bhave et al., 2013). Companies such as Facebook, Twitter, Google and Pinterest, for example, get a large portion of their revenues from in-app advertisements and it's estimated that around 35 percent of mobile app developers rely on in-app advertisements for revenue (Wilcox, 2014; Developer Economics, 2015).

But to be able to get paid for impressions and clicks, the apps need to have users and advertisements that these users are willing to interact with. In a study by the advertising company AppsFlyer, 29 percent of the participants said that the main reason they uninstalled particular apps was because they did not like the advertisements (O'Kelley, 2016). As mentioned above attitudes toward advertisements have been shown to be an effective way to measure advertisement effectiveness, it is therefore important to examine the perceptions and attitudes of consumers towards in-app advertisements. The following chapters will provide a definition of attitudes, studies of attitudes towards advertisements in general and attitudes towards mobile advertisements.

2.2. Attitudes

Attitudes have played a vital part in understanding how and why different communication factors influence individual's behavior. The concept of attitude has even been described as the most unique and essential concept in contemporary social psychology (Priester, Wegener, Petty & Fabrigar, 1999). Although no universally agreed upon definition exists and there have been various attempts to define attitudes, most researchers share the view that understanding attitudes is highly important (Paul, 2012). One of the first definitions was made by Allport (1935) where he described attitudes as: "a mental and neural state of readiness, organized through experience, exerting a directive and dynamic influence upon the individual's response to all objects and situations with which it is related". Early definitions by Allport (1935) and other researchers, such as Krech and Crutchfield (1948) described attitudes as something stable and unchanging, something that persist from childhood until the end of life and focuses on the strong relationship between attitudes and behavior (Schwarz & Bohner, 2011; Eagly & Chaiken, 2007).

Since the early research on attitudes, the interest of the concept has spread from

social psychology to other fields of research, such as political science, public health, communications and marketing (Priester et al., 1999). In more recent studies, the width of the concept has however been reduced and the focus on the enduring part of attitudes has been decreased as results suggest that they aren't as enduring at they seemed in the first place. People change their attitudes and studies have also shown that although attitudes can often predict behavior, people sometimes behave inconsistently to their attitudes (Martin & Tesser, 2013). A newer and more widely used definition was made by Fishbein and Ajzen (1975) where they described a person's attitude as a: "function of his salient beliefs at a given point in time", while Mitchell and Olson (2000) described attitudes as an: "individual's internal evaluation of an object such as a branded product". In the context of advertising, attitudes have been defined as a tendency to react in continuous favor or unfavorable mode towards advertising in general (Mackenzie and Lutz, 1989). However, although the definition varies between researchers, most of them agree that attitudes are evaluative reactions to stimuli (Priester et al., 1999). It is important to note that in this study, attitude towards advertising with mobile devices refers to consumers' attitude towards in-app mobile advertisements overall, and not to the exposure to one particular ad.

2.2.1. Attitudes towards advertising in general

To gain a better understanding of consumer attitudes towards in-app mobile advertising, it's important to make a general overview of consumer attitudes towards advertising in general. Consumers attitudes and perception towards advertisements has been an important research subject in marketing for some time, providing various outcomes. Results from previous researchers suggest that favorable attitudes towards advertisements can lead to various positive outcomes and can be a good measure of advertisement effectiveness (Mehta, 2000). For example, individuals who react favorably towards advertisements, in general, have shown to be more involved in the advertisements, recall more advertisements the day after exposure and are more persuaded by them (Mehta, 2000). Furthermore, according to Lutz, MacKenzie & Belch (1983), attitude towards specific advertisements can affect attitude towards the advertised brand and purchase intentions (as cited in Gardner, 1985).

While numerous researchers agree that attitudes can have a significant effect on advertisement effectiveness, studies examining general attitudes towards advertisements have however found conflicting results. Results from one of the first research to study

attitudes towards advertising, conducted by Gallup in 1959 (as cited in Shavitt, Lowrey & Haefner, 1998) using a sample of 1,600 adults, showed that people generally liked advertisements and majority of participant found them to be informative and preferred advertised products over unadvertised products. Bauer and Greyser found similar results in 1968, showing that majority of participants held more positive attitudes towards advertisements than negative and even believed that they were an essential part of the society But although they had positive attitudes towards advertisements, they considered them to be misleading and thought that the advertisements would lead to higher prices (as cited in Tsang et al., 2004).

However, since these early studies of advertisements, various studies have been conducted using different research methods and sampling techniques. While the earlier research showed positive attitudes towards advertisements, feelings began to shift and studies started to show mixed results in the 60's and mainly negative attitudes towards advertisements in the 1970's (Dutta-Bergman, 2006). Results from a study conducted by Mittal (1994) showed that twice as many people disliked advertisements than liked them. According to the results, 60-75% of the participants believed that they increased materialism, over sold sex and promoted un-wholesome values (Mittal, 1994).

There also seems to be a difference between forms of media. Results suggest that out of six types of media, (television, radio, magazines, newspapers, Yellow Pages, and direct mail) television and magazines show the highest level of communication problems, such as perceived clutter, hindered search and disruption, which lead to more negative attitudes and advertising avoidance (Elliot & Speck, 1998). Similar results have been reported by Mittal (1994) where participants felt that television advertisements were more annoying and interrupting than radio and printed ones. However, although negative attitudes seem to be increasing, mixed results are visible in recent studies that found substantial evidence that majority respondents are positive about advertising (Yyakop, Hemsley-Brown & Gilbert, 2011; Shavitt et al., 1998).

2.2.2. Attitudes towards mobile advertising
Since the introduction of the mobile phone, many studies have been conducted on acceptance and attitudes towards mobile advertisements. However, since then there have been significant technology advancements and changes in how the consumers use their mobile phones. Because of the technological limitation of mobiles, early studies have

mainly focused on SMS-advertisements while later studies include more types of mobile advertisements, such as web-banner, in-app, in-game, QR codes and location-based advertisements. Because of technology advancements and the launch of the smartphones, mobile phones are becoming increasingly important to consumers' lives (Watson, McCarthy, & and Rowley, 2013).

Although mobile advertising has some advantages for marketers, studies have shown that consumers have a different view and should therefore be used cautiously. Studies suggest that consumers have generally negative overall attitudes towards SMS advertisements. They have also shown that consumers find them to be irritating (Waldt, Rebello & Brown, 2009), annoying, intrusive (Monk, Carroll, Parker & Blythe, 2004) and even an invasion of privacy (Siyavooshi, Sanayei & Fathi, 2013). Although many of these studies were conducted some years before the first smartphones were introduced and became such a big part of people's lives, more recent researches conducted in the *smartphone era* have shown that consumers are *still* unwilling to accept marketing text messages to their phones (Watson et al., 2013). The reason behind these negative attitudes might be because of the fact that SMS advertisements are pushed to the consumers. The communication between the consumer and the marketer is initiated by the marketer without the consumer request, and commonly without permission (Barnes, 2002; Yang, Kim & Yoo, 2013). Push advertising can be thought of as a one-way street, where there's a little to no interaction and feed-back elements. In this situation, the consumer has often little control over the frequency of advertisements and promotion he receives from the marketers (Constantinescu & Tanasescu 2014). These unwanted messages can make the receiver become irritated and provoke a feeling of intrusion which can lead to negative attitudes towards the brand. This has caused many European countries to implement new laws to prevent companies from doing so (Kautonen, Karjaluoto, Jayawardhena & Kuckertz, 2007). Companies should therefore be careful when using push mobile marketing unless they have built a strong relationship with the consumer and received his permission to send messages (Barwise & Strong, 2002; Truong & Simmons, 2010). However, acquiring this permission is s often difficult (Barwise and Strong, 2002) which has lead marketers to find other ways to communicate with customers, such as in-app advertisements.

Unlike SMS advertisements, in-app advertisements are categorized as pull advertisements. These advertisements usually ask consumers permission before sending the

advertisements and the communication is originated from the consumer instead of the advertiser (Unni & Harmon, 2007) Some argue that using this approach, mobile advertising is more successful and appropriate than any other media channel and it blurs the line between marketing and service (Peterson & Groot, 2009; Scharl, Dickinger & Murphy, 2005). This approach gives the customers much more power since they can choose whether they open the advertisement and because of this fundamental difference between these advertisement formats, results from older studies focusing on SMS advertisements or mobile advertising as a whole, can't be applied to in-app advertisements. Mobile users can hold different and even positive attitudes towards in-app mobile advertisements. This was supported in a study by Bhave et al. (2013) where the results suggest that the participants did not mind in-app advertisements. However, their study used focus groups and in-depth interviews and noted that quantitative research is needed to provide further information on attitudes towards in-app advertisements.

2.3. Theoretical framework and conceptual model

When studying attitudes, their causes and the factors that influence them, researchers have mainly based their models on two theories: Theory of reasoned action and the theory of planned behavior (Billore & Sadh, 2015). These theories have been shown to be useful to explain the relationship between beliefs, attitudes, behavioral intention and behavior. The relationship has been confirmed in various types of situations, including in advertising (Billore and Sadh, 2015; Okazaki & Barwise, 2011; Scharl, et al., 2005). To answer the hypotheses proposed in this study, a conceptual model was developed based on these two frameworks along with the uses and gratifications theory, which has been used to study customers' motivations and explain the reason behind the usage of different types of media. The following section will discuss these three theories in the context of the study and present the conceptual framework that will be used to answer the hypotheses.

2.3.1. Theory of reasoned action and theory of planned behavior

The antecedents and determinants of behavior have been widely studied by researchers (Tsang et al., 2004). To study the process that leads to particular behavior, Martin Fishbein and Icek Ajzen developed a theoretical framework called theory of reasoned action. According to the theory, behavior is determined by the intention to perform that particular behavior. Individuals decide whether to perform behaviors by evaluating various of factors

before performing them. If the intention of doing the behavior is strong, it's more likely that the behavior is performed. The intention is therefore a good predictor of behavior. Ajzen and Fishbein (1975) also argue that there are two main factors that influence behavioral intention: attitudes towards the behavior subjective norms. According to the theory, attitudes are defined as a personal opinion, which can be either positive or negative while subjective norms refer to the perceived social pressure the individual feels to perform or not to perform the behavior. However, although both of the factors determine the influence on the behavioral intentions, it depends on the individual and the context which of these two factors weights more (Ajzen & Madden, 1986). Numerous studies have been conducted using this framework and confirmed the correlation of attitudes and subjective norms to behavioral intention and then behavior (Sheppard, Hartwick & Warshaw, 1988; Coursaris, Sung, Swierenga, 2010; Izquierdo-Yusta, Alicia, Olarte-Pascual, & Reinares-Lara, 2015). But despite the strong relationship, some researchers have criticized the theory and have pointed out that the behavioral intention isn't an adequate predictor of behavior. It for example fails to deal with behaviors that people don't have volitional control over (Semin & Fiedler, 1996). To improve the predictive power of the theory, Ajzen made an extension of the theory called theory of planned behavior (Ajzen, 1991). According to the new theory, an individual's behavior can still be explained by his or her behavioral intention, which is still influenced by attitude and subjective norms. But it also includes a new construct called perceived behavioral control as an antecedent of behavior. According to Ajzen, perceived behavioral control refers to: "*an individual's perceptions of how easy or difficult it is for the individual to perform the behavior and availability of resources or opportunities that are necessary for performing a behavior*" (Ajzen, 1991). Results suggest that using this construct improves the prediction of intention and behavior, especially where the behavior involved is one which the individual has less than perfect control over (Semin and Fiedler, 1996). Figure 1. shows how the process and the antecedents of behavior.
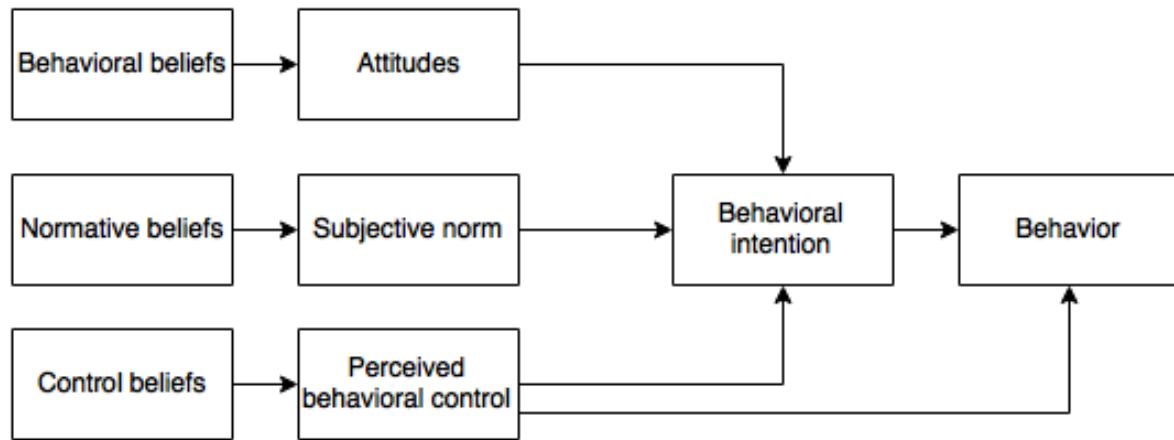
Figure 1. Theoretical framework of the theory of planned behavior (Ajzen, 2005).

As shown in Figure 1, there are many factors that can have effect on behavior. However, to reduce the scope the study, the focus will only be on factors affecting attitudes and the relationship between attitudes and behavioral intention.

2.3.2. Uses and gratifications theory
Another important theory in the context of this study is the uses and gratifications theory. which was originally developed in the 1940's to examine the effectiveness of the radio medium (Luo, 2002). Since then, the theory has been used to study the consumers' psychological motives, behaviors and value generations from different media such as television, magazines, websites, social media, video games and mobile advertising (Eighmey & McCord 1998; Luo, 2002; Wu, Wang & Tsai, 2010; Leung, 2013; Liu et al., 2012). What differentiates the theory from previous theoretical perspectives is that it focuses on the audience rather than the media itself. It asks why the audience uses the media and what they do with it instead of what the media does to the audience. The theory assumes that the audience isn't just a passive receiver of information, but rather they are actively involved in the process and they choose the media themselves (Katz, 1959). People select the media from various alternatives in accordance with their preferences and interest to meet their desires and needs to achieve gratification. Media that doesn't fit a social and a psychological context with the individual doesn't influence them as they have no "Use" for it (Katz 1959).

The media types mentioned above are considerably different in various ways and the audience has changed along with them since the theory was first used about 70 years ago,

and it is still being used. Researchers investigating different types of media have found that there are few main factors that are valuable to explain the benefits and motivations behind the usage of different types of media; entertainment, informativeness, credibility & irritation (Liu et al., 2012; Sundar & Limperos, 2013; Tsang et al., 2004; Haghirian & Madlberger, 2005; Xu, 2006). In the context of in-app mobile advertising, mobile users might therefore choose which advertisements they view and open up and thus achieve gratification. Since the objective of this study is to find the factors that affect the behavioral intentions of users to *pull* the in-app advertisements to them, the factors drawn from the uses and gratifications theory provide a helpful foundation for the research along with theory of reasoned action and theory of planned behavior. Each of these factors will be explained in more detail in the hypotheses section.

2.4. Conceptual model

To examine the factors affecting the consumers' attitudes towards mobile advertisements and the relationship between attitudes and behavioral intention, a research framework based on existing literature on attitudes toward advertising is constructed. As mentioned above, the framework and approach used in this study are based on studies that have used the theory of reasoned action and theory of planned behavior which link beliefs, attitude, subjective norms and behavioral intention to behaviors. As mentioned above, to reduce the scope of the study, the impact of subjective norms and behavioral control will not be tested.

As shown in Figure 2, behavioral intention serves as a dependent variable and refers to the willingness to click on, pay attention and read the advertisement. Attitude serves as an intervening variable and refers to the overall attitude towards in-app advertisements while entertainment, informativeness, credibility, irritation and personalization are the independent variables. As mentioned above, previous research suggest that these five factors are the main antecedents of attitudes toward mobile advertising (Tsang et al., 2004; Haghirian & Madlberger, 2005; Haron, Mun & Ahmad, 2015; Liu et al., 2012; Xu, 2006). Finally, the study will investigate the impact of cultural difference on the effect of the aforementioned variables.
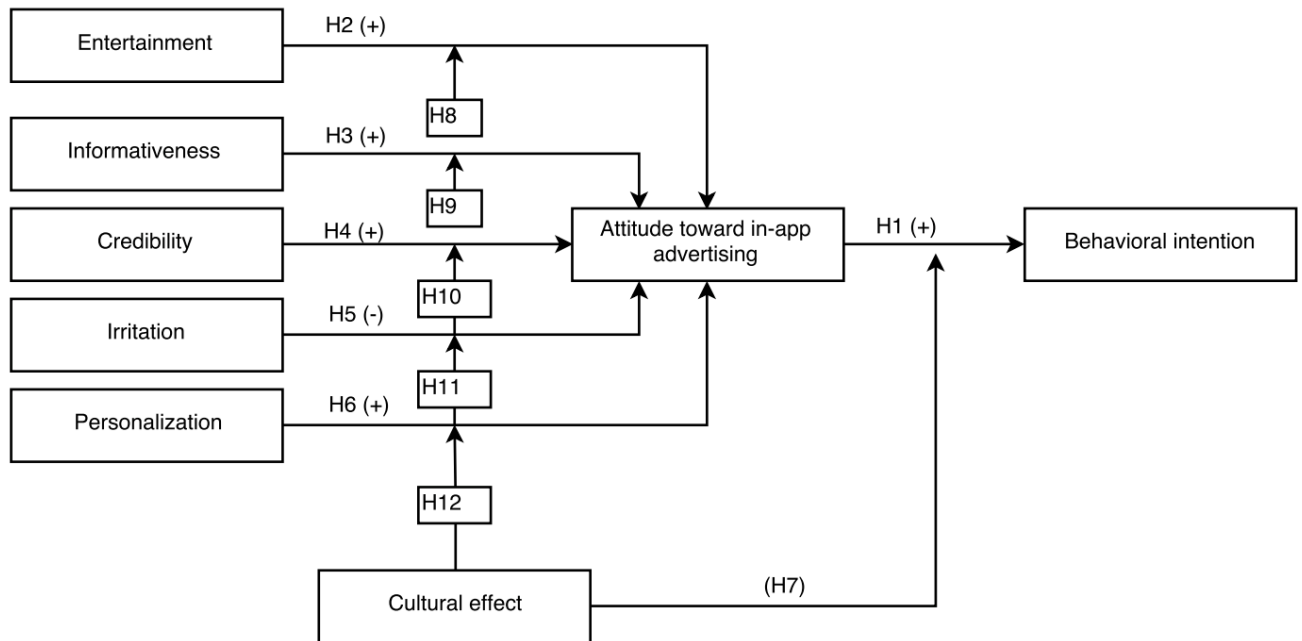
Figure 2. The conceptual model used in the study.

2.5. Hypotheses

2.5.1. The relationship between attitudes and behavioral intention

As mentioned above, attitude is one of the most important concepts in theory of reasoned action and theory of planned behavior as they predict the individual's behavioral intention. This relationship has been confirmed in multiple studies - when participants have a positive attitude towards advertising, they tend to have a favorable behavioral intention towards advertising and are likely to behave in accordance with that intention (Izquierdo-Yusta et al., 2015; Jun & Lee, 2007; Wang & Sun, 2012). Based on these results, the following hypothesis is formulated:

H1: *Favorable attitude towards in-app advertising will have a positive effect on the behavioral intention toward in-app advertisements.*

2.5.2. Entertainment

In the context of uses and gratification theory, McQuail (1983) defines entertainment as the "ability to fulfill an audience's needs for escapism, diversion, aesthetic enjoyment, or emotional enjoyment". Entertainment can be an action, activity or an event with the

purpose of entertaining, satisfying or attract one or more users ("The entertainment industry" 2004). Various studies have shown that high perceived entertainment can have numerous benefits on advertisements. Stern and Zaichowsky (1991) for example, suggest that consumers who perceive advertisements as entertaining become more loyal to the brand, are more likely to purchase the advertised product and it motivates them to use the media more often (as cited in Luo, 2002). Previous research also has found a strong relationship between perceived entertainment and advertising value of both traditional advertisements and mobile advertisements (Hagharian & Madleberger, 2005). The results also suggest that perceived entertainment of advertisements have more effect on advertisement value than other factors such as informativeness, irritation and credibility (Ducoffe 1995; Ducoffe 1996; Haghirian et al., 2005) As with value, enjoyment linked to advertisements has shown to have significant effect on overall attitude towards traditional advertisements and SMS advertisements (Haron et al., 2015; Shavitt et al., 1998; Tsang et al., 2004).

But despite the majority of researchers finding that entertainment influences people's attitudes, there are some inconsistencies in the literature. According to Peng and Spencer (2006), mobile phones are sensitive and private devices. If they are used for advertising, consumers might not be concerned with entertainment, but rather the information of the message. This claim was supported by a study by Jun and Lee (2007), where they found that entertainment did not have a significant impact. However, the researchers suggested that the results could be explained by cultural difference. But despite the conflicting results the following hypothesis is formulated:

H2: Perceived entertainment will have positive influence attitude towards in-app advertising.

2.5.3. Informativeness

In the perspective of uses and gratification theory, informativeness refers to the extent to which the advertisement provides the consumer with resourceful and useful information. It increases the consumers' knowledge and understanding and satisfies his cognitive needs for information about the advertised product or service (Ducoffe 1995; Katz, Haas & Gurevitch, 1973). Information quality on companies websites and mobile advertisements have shown to have a considerable impact on customers perceptions towards the company

(Fung & Lee, 1999; Kaasinen, 2003; Siau & Shen 2003). If the information is accurate, correct, up-to-date and useful it can also have a high influence on customers trust towards the company and its products (Fung & Lee, 1999; Siau & Shen 2003). Advertisements that provide relevant information can also reduce the risk of being perceived as annoying (Chodwhury, Parvin, Weitenberner & Becker, 2006) and has shown to have a positive impact on consumers' satisfaction and buying decisions (Ducoffe, 1996). Previous studies also suggest that informativeness is strongly related to the value towards the advertising when it's addressing consumers with traditional media (Ducoffe 1995), the web (Ducoffe, 1996) and SMS advertisements (Liu et al., 2012; Hagharian & Madleberger, 2005). Further, various studies have also shown that informativeness can be positively associated with consumers attitudes towards SMS advertising (Zabadi et al., 2012; Tsang et al., 2004; Haghirian & Madlberger, 2005).

Several researchers have found that informativeness and entertainment are often highly correlated in many newer models, entertainment and informativeness are therefore integrated into one construct called "infotainment" (Liu et al., 2012). The possible reason behind the correlation could be that the consumer feels entertained by receiving relevant information and that entertaining advertisements provide proper information. However, Schlosser, Shavitt and Kanfer (1999) found that although internet advertisement was considered as more informative than traditional advertising, people did not find them as entertaining as the traditional ones. In a similar note, Jun and Lee (2007) found that information had an impact on attitude while entertainment did not have a significant effect. Inconsistent with these results, another study by Le and Nyguyen (2014) found that entertainment was a significant predictor of attitudes towards mobile advertising while informativeness did not have any significant effect. This study will therefore refer to informativeness and entertainment as two different constructs and despite the conflicting results, the following hypothesis is formulated:

H3: Perceived informativeness will have positive influence attitude towards in-app advertising.

2.5.4. Credibility

Results from previous research suggest credibility is also a highly important factor of advertisements. Consumers are likely to avoid and ignore advertisements that are lacking in

credibility (Moore & Rodgers, 2005) and if individuals perceive the source credible, they are more likely to change their attitude (Kelman, 1958). Scholars have used many definitions of credibility and one of the most frequently used definition of credibility in advertising research was made by McKenzie and Lutz where they describe credibility as "the extent to which the consumer perceives claims made about the brand in the ad to be truthful and believable". According to the uses gratification theory, people want to strengthen credibility, confidence, stability and status (Katz et al., 1973). Hovland, Janis and Kelly claim that credibility is made up of two components: expertness and trustworthiness. The message can be perceived as credible if the communicator is likely to know the truth or because he is likely to tell the truth. Trustworthiness could be the result of an overall respect of the company or the endorser, comparable opinions or a similar financial or a personal interest (as seen in Kelman, 1961; Lafferty, Goldsmith, & Newell, 2002).

Credibility has shown to vary between advertising mediums. In a study conducted by Moore and Rodgers (2005), the results showed that participants considered advertisements in newspapers were the most credible types of advertisements while internet advertisements were considered as the least credible unless the message came from a strong brand. However, this has shifted dramatically in the last decade. A more recent survey, conducted using a sample from over 60 countries, found out owned online channels are the second most trusted advertising formats, right after recommendations from friends. This same study found that mobile advertisements showed the least credibility and out of all the different mobile formats, text advertisements were the least credible (Nielsen, 2015). The reason behind this change could be explained by the fact the digital advertisements are fairly new compared to other formats and experience with a channel has shown to increase the perception of credibility (Ganesan, 1994).

Results indicate that that a high perceived credibility of the advertising message is positively associated with advertising value in traditional media, web advertisements (Bracket and Carr, 2011) and SMS advertisements (Hagharian, 2005; Liu et al., 2012). Further, previous studies have shown that credibility is directly related to attitudes towards traditional advertisements, web advertisements and mobile advertisements (Xu, 2006; Tsang, 2004; Bracket & Carr, 2011). Also, although the majority of studies have shown that entertainment and informativeness are the most important antecedent of attitudes

towards advertisements some studies suggest that credibility most significant factor (Chowdhury, Parvin, Weitenberner & Becker, 2010). Based on the literature mentioned, the following hypothesis is formulated:

H4: Perceived credibility will have positive influence attitude towards in-app advertising.

2.3.5. Irritation

In the context of advertising marketing, irritation refers to the state of being annoyed, impatient and even moderately angry (Ducoffe, 1996). The feeling of having your intelligence insulted, annoying messages and irritating stimuli are elements of irritation (Bracket & Carr, 2001). Using mobiles as a marketing tool, companies can provide consumers with a variety of information which can be useful for both the company and the recipient. However, because of the relatively low cost of mobile advertising, companies often use them carelessly without considering the receiver's personal information (Ducoffe, 1996) This abundance of information can distract and confuse the recipient and can be perceived as offensive, insulting, manipulative and annoying. In turn, this can lead to irritation and make the consumer ignore the message and therefore reduce the advertising effectiveness (Ducoffe, 1996; Xu, 2006). According to Bauer and Greyser (1968), irritation and annoyance is the biggest cause of criticism toward advertisements.

To reduce the irritation, companies have started to use permission-based marketing where they only send messages to individuals who have indicated that they are willing to receive the message (Tsang et al., 2004). Studies have also shown that irritation depends on the media, internet advertisements have been perceived to be less irritating than traditional advertisements. This could be because internet advertisements are often more interactive, which provides consumers with customized advertisements that fit their needs (Schlosser et al., 1999). According to this information, it doesn't come to a surprise that irritation has shown to have a negative influence on attitudes toward advertisements and perceived value of advertisements (Tsang et al., 2004; Ducoffe, 1996). The following hypotheses is therefore proposed:

H5: Perceived irritation will have negative influence attitude toward in-app advertising.

2.5.6. Personalization

Personalized mobile advertising refers to sending advertising messages to mobile devices, based on user demographics (e.g. income), user preference (e.g. preferred product), context (e.g. location and user activities) and content (e.g. brand name) factors (Xu, 2006). When an advertisement is personalized it, means that it's customized to fit the individual's preferences (Bauer et al., 2005). Although personalization is an important factor in other types of advertising, it's especially important in mobile marketing (Xu & Liao, 2008). Because of the personal nature of mobile phones, receiving mobile advertisements is often perceived to be more intrusive compared to other channels (Leppaniemi & Karjaluoto, 2005). Personalizing the message can be an effective way to reduce the irritation and enhance the perceived entertainment of the advertisement (Kim & Han, 2014). According to Robins (2003), consumers expect the content of mobile services to be personalized according to their own interests. Randomly sending advertisement messages to all available mobile phones can therefore make the user dissatisfied and annoyed (Xu & Liao, 2008).

But despite the perception of intrusiveness when receiving advertisements through the mobile phone, it's the ideal channel for direct and personalized customer communication (Bauer et al., 2005). Because of the personal nature of cell phones, it can help companies to profile and target the right customers (Barwise & Strong, 2002). By making customized mobile advertisements, in accordance with the consumer's interest, it can allow companies to increase the relationship with the customer (Robins, 2003). Some even claim that the success of mobile advertising campaigns depends on whether the advertiser manages to create and send relevant and personalized content to the mobile users (Xu, 2006).

In a study conducted on attitudes towards SMS advertisements, the results showed that personalization is one of the most important factor affecting consumers' attitude towards the advertisement and an effective way to prevent mobile advertising from being perceived as intrusive (Xu, 2006). However, the author noted that further research was needed. Advertisers at that time weren't fully using personalized messages and customers weren't used to receiving personalized advertisements. Newer studies might therefore yield different results. Based on the previous studies, the following hypothesis is formulated:

H6: Perceived personalization will have positive influence attitude towards in-app advertising.

2.6. Cultural difference

Culture is a rather complex concept and therefore it has many different definitions. It has been described as "common characteristics that influence a group's response to its environment" (Hofstede, 1980). It's shared ideas, beliefs, customs, educational background, art, laws and social behavior of a certain people, societies or countries (Pheng & Yuquan, 2002; Oxford online dictionary, n.d.).

Among researchers, there has been some debate whether cross-cultural research regarding advertisements is necessary. Some argue that while people living in the same societies can have many similar things in common, individuals from different cultures share the same needs and motivations and cross-cultural research is irrelevant. Advertisements that are created around these needs and motivations can therefore use a standardized universal approach (Green, Cunningham & Cunningham, 1975). Others, however, claim that even though consumers across cultures share the same needs, they characterize the products that can satisfy those needs differently (Jones, 2000). Research conducted on various aspects of advertisements have shown that there can be a significant difference across cultures, particularly between Western and Eastern cultures (Choi et al., 2008; Hong et al., 1987). As advertising can be considered as a form of social communication, it is closely related to cultural norms and can be a reflection of the culture (Hong et al., 1987). It is an influential force that forms people's motivations, lifestyles and choices (Tse, Belk & Zhou, 1989).

In one of the first study to examine the cross-cultural difference in the effectiveness of advertisements, Singh and Huang (1962) found that using the same print media advertisements in America and India is not effective in India because they often run against their native cultural values. In a more recent study, the results suggest that advertisements that focus on individualistic benefits are more effective in America than in China while advertisements focusing on collectivistic benefits are more effective in China (Zhang & Neelankavil 1997). Ferle, Edwards and Lee (2008) also found out that consumers in China and Taiwan showed more favorable attitudes towards advertising compared to American consumers. Cultural difference has also been found across countries that share more common cultural features. In a study conducted in Bulgaria and Romania, two neighboring countries which share more similar historical traits, participants in Romania were rather positive towards advertising and thought that they were informative, entertaining and

fulfilling a social role. In contrast, participants from Bulgaria were skeptical and held more negative attitudes (Petrovici & Marinov, 2007).

Although there are numerous factors that could explain the difference between the countries (such as social, economic and political factors), culture has been shown to have a considerable effect on attitudes, beliefs and behavior. To predict differences in advertising and describe the similarities and difference between countries, several approaches have been used (Albers-Miller, Nancy & Gelb, 1996). After reviewing the literature, Hofstede's cultural dimensions, and Hall's cultural factors have been chosen to explain the cultural difference as they seem most relevant in the context of this study. These theories have been used as frameworks in numerous different research in various fields, such as marketing, communication, management psychology and sociology (Kibria, 2013; Albers-Miller et al., 1996; Hofstede, 2010). The following section provides a brief explanation of Hofstede's cultural dimension and Hall's cultural factor theory.

2.6.1. Hofstede's cultural dimensions

According to Hofstede's theory there are five different dimensions that are useful to explain and predict how countries differ (Hofstede, 2011) These dimensions are:

- Individualism versus Collectivism
- Power Distance
- Masculinity versus Femininity
- Uncertainty Avoidance
- Long-Term Orientation
- Indulgence

Out of these factors, power distance, individualism, collectivism and uncertainty avoidance could be used to predict the difference between the countries in this study. According to Hofstede (2011), *power distance* refers to which extent members of the country expect and accept that they have less in power than other more powerful members. In countries that have large power distance, it's accepted that this power is unequally distributed, not only by those who are in power, but also those who have less power. Consequently, these countries show a higher level of inequality. Individuals from higher power distance cultures are less likely to question the authorities (Hofstede, 2011).

Uncertainty avoidance refers to how individual's tolerance, ambiguity and to which

extent they feel uncomfortable or comfortable in unstructured, unknown and surprising situations. Cultures that have strong uncertainty avoidance try to minimize uncertainty by maintaining strict codes, laws and rules and are intolerant of unconventional behavior and ideas that are contrary to traditional ones. Individuals show strong uncertainty avoidance and need clarity and structure in their life. They are also more emotional, anxious and are motivated by inner nervous energy.

Individualism and collectivism are the extent to which the individuals in the culture are integrated into groups. Collectivist countries emphasize the importance of groups. The relationship between individuals are close and people are usually members of tight family groups. People are born into extended families that protect them in exchange for loyalty. Other people are either classified as in-group or out-group and harmony should always be maintained. In individualism countries, the focus is however on the opposite. Everyone is supposed to take care of himself and the close family, not the extended family (Hofstede, 2011).

2.6.2. High and low-context cultures

High and low-context culture are terms presented by Hall in 1976, which he used to describe and predict cultural differences in communication. As advertising is a form of communication, it could be helpful to predict the cultural difference in this study.

According to Hall, individuals in low-context cultures prefer to communicate using straightforward and easily understandable communication statements in both text and speech communication (as cited in; Choi et al., 2008). People are more individualized and there is less interaction with others, compared to high-context cultures. Interaction in these cultures are less personal and rationality is preferred than emotionality. On the other hand, in high context cultures, communication involves more emotions and close relationships. Messages include implicit cues such as facial expressions and other types of nonverbal language. The speaker doesn't have to give all the information to the listener, letting him fill in the remaining information by using nonverbal signs, context and other cues (Salleh, 2005; Kim, Pan, & Park, 1998). Although individuals in countries can vary and it's difficult to generalize over such a large group. Countries such as China, Korea, India, and Japan are often defined as low-context cultures. On the opposite end of the continuum, Western countries such as Sweden, Norway, United States and the United Kingdom are defined as high-context countries (Kim et al., 1998; Cho and Cheo, 2013; Nishimura et al.,

2008).

2.6.3. Hypotheses regarding cultural difference

The main reason for the choice of these nations for the study is that they represent different cultural values and orientations. As mentioned in the introduction, United Kingdom was chosen as it shares similar values as other Western countries while India shares some of its values with Eastern countries.

Table 1. Comparison between United Kingdom and India according to Hofstede and Hall.

Country	Power distance	Uncertainty Avoidance	Individualism	High/Low context
United Kingdom	35	35	89	Low
India	77	44	48	High

As seen in Table 1, India and the United Kingdom show a significant difference on according to Hall and Hofstede's cultural dimension. The United Kingdom scores 35 on the power distance index, which means that people believe that inequalities amongst people should be minimized. India, on the other hand, scores 77, which means that people tend to not question authority and accept the hierarchical order with little need for further justification. According to Wang and Sun (2008), this might indicate that they are easier to persuade using advertisements. Conversely, individuals from cultures with lower power distance are less likely to accept authorities' orders, are more skeptical and therefore hold more doubts towards advertising claims (Wang & Sun, 2008; Hofstede, 2011). Based on this, the following hypothesis is proposed:

H7: Attitude has more impact on behavioral intention to use in-app advertising for India compared to the United Kingdom.

In the literature, the Western countries, such as the United Kingdom are characterized as low context cultures while Eastern countries such as India are likely considered to be high context culture (Miracle, Chang & Taylor, 1992; Nishimura et al., 2008). High-context cultures, such as India, also place more emphasis on non-verbal cues, such as body language rather than exclusively on oral communication (Miracle et al., 1991). In a study conducted by Oh, Cho, and Leckenby (1999), the results showed that websites in high-

context cultures contain less information than US websites (low-context culture) (as cited in Choi et al., 2008). Consumers in low-context cultures prefer more information in advertisements while high-context cultures prefer more entertaining and transformational messages (Choi, et al., 2008). Advertisements in the low-context cultures contain more information, facts and evidence to persuade their consumers while advertisers in eastern cultures that have high-context tend to use emotions (Zandpour & Harich, 1996).

There is also a significant difference between India and the United Kingdom on the individualism dimension. The United Kingdom scores 89, which is one of the highest in the world. This means that individuals in the United Kingdom tend to be private with more focus on the individual rather than on the group. Researchers have shown that people in individualistic countries prefer more clarity in conversations compared to collectivist countries. They are more concerned about the facts of the advertisements rather than in which manner it's communicated (Kim, 1994; Ferle et al., 2002) Although not confirmed, these findings could possibly be explained due to the fact that individualistic countries put more emphasis on individual decision-making rather than collective decision-making (Zandpour et al., 1994). Based on the literature, the following hypotheses are therefore proposed:

H8: Entertainment has more impact on attitudes towards in-app advertising among consumers from India than the United Kingdom.

H9: Information has more impact on attitudes towards in-app advertising among consumers from the United Kingdom than India.

Although the difference on the uncertainty avoidance dimension is rather low and both countries would be considered as low uncertainty cultures, India scores somewhat higher on the dimension than the United Kingdom. Previous studies have found a significant difference between consumers' countries showing high uncertainty compared to low uncertainty avoidance. For example, consumers in countries that show high uncertainty avoidance are more likely to prefer brands that are more credible and consistent (Dawar & Parker 1994; Robinson, 1996). In a study by Erdem, Swait and Valenzuela (2006), brands that show high credibility had more effect on choice and provide more value to their consumers in high uncertainty avoidance countries. In another study that compared mobile

users in Austria (low avoidance culture) to consumers in Japan (high avoidance culture) found out that credibility had a higher impact on SMS advertising value in Japan than in Austria. The following hypothesis is therefore proposed:

H10: *Credibility has more impact on attitudes towards in-app advertising among consumers from India than the United Kingdom.*

In a study by Everdinger and Waarts (2003), both high power distance and uncertainty avoidance had a significant negative effect on people's adoption of new technology. Furthermore, individuals showing high uncertainty avoidance are more resistant to what is different and new technology (Hofstede, 2010; Tellis, Stremersch, & Yin 2003). Since in-app advertising is a rather relatively new format of advertising, the following hypothesis is proposed:

H11: Irritation has more impact on advertising attitude for India compared to the United Kingdom.

The individualism dimension has also shown to affect the personalization of the communication messages. According to Mooij (2004), advertisements in individualistic cultures are more direct, explicit and personal and consumers prefer more personalized 'lecture' style in advertising. Pronouns like "you" and "we" are more commonly used while collectivist cultures prefer more indirect style of communication (Mooij, 2004) Company websites in America for example (high individualistic culture) show significantly more personalization compared to Chinese websites (collectivist culture) (Singh, Zhao, & Hu, 2005). Further, results show that in highly individualistic cultures, such as the United Kingdom, personalization has a more positive impact advertising effectiveness while it leads to negative effects in collectivist cultures (Yu, Hudders, & Cauberghe, 2015). Additionally, in a research conducted by Moon, Chadee, and Tikoo (2008), the results showed that people from cultures that were highly individualistic were more likely to buy personalized products compared to others. Based on these studies, the following hypothesis is proposed:

H12: Personalization has more impact on attitudes towards in-app advertising among consumers from India than the United Kingdom.

3. Method

This chapter offers an overview of the scientific methodology used in this thesis. It explains the research design, sampling, data collection, procedure and measurement.

3.1. Participants

In order to test the aforementioned hypotheses, a convenience sample was used. As getting sufficient amount of participants from two different countries can be expensive, difficult and time-consuming, it was decided to use the service of an online company called CrowdFlower, a crowdsourcing platform that allows individuals and businesses to outsource various of small tasks that computers are unable to do for a small payment. This service is increasingly being used by researchers as a source of participants for experimental research and recent studies have shown that these services provide high quality and even more representative data compared to more traditional methods of data collection (Berinsky, Huber & Lenz, 2012; Paolacci, Chandler & Ipeirotis, 2010; Buhrmester, Kwang & Gosling, 2011). Studies have even shown that using this method allows researchers to recruit participants that are more diverse than university students, which are often the main participants of many studies (Buhrmester et al., 2011). The company allows for the specification of the target country. In this case, only participants from United Kingdom and India were allowed to participate and were limited to one IP address to make sure that participants did not answer multiple times. Participants that stated that they had never owned a smartphone, did not know what in-app mobile advertisements were and had never received in-app mobile advertisement messages were excluded from the survey. To ensure valid responses and reduce the risk of participants answering without actually looking at the content of a survey, three attention filters were used. Participants were simply asked to answer "I strongly agree", "I strongly disagree" and the answer to "What is 2+1?". Furthermore, those participants who answered the questionnaire under a realistic amount of time were also removed. Fortunately, most of the participants took a reasonable amount of time to complete the survey and the mean time was just under 3 minutes. The company also offers respondents the option to answer an extra satisfaction survey regarding the task. According to the results, the participants were generally satisfied with the survey, the instructions, payment, fairness and ease of job. Out of 300 participants, 49 were excluded as they failed to meet the requirements.

3.2. Research design

As the constructs have been confirmed in previous studies on other types of advertisements, a quantitative method was determined to be the most appropriate design for this research. Numerical data was gathered from smartphone users from the United Kingdom and India using closed question survey based on previous studies conducted on other types of advertising formats. The relationship between the variables was analyzed using Partial Least Squares-Structural Equation Modeling.

3.3. Measurement

Based on the existing literature of various types of advertisements, five constructs were identified as the most relevant in the context of this study. The questionnaire used in the study consists of 32 questions. Out of these questions, four questions were used to assess demographic information about age, education, gender and nationality of participants. Six filters were also used to filter out participants that did not qualify for the study or were not reading the questions carefully. Finally, the rest of the items were based on previous studies conducted on various types of advertising formats. Two to four items were used to measure each construct as one item might not be enough to represent the construct while an additional number of items could dissuade people from taking the survey (Churchill, 1979; Drolet & Morrison, 2001). The items were in the form of statements and were participants asked to answer on a five-point Likert scale ranging from Strongly disagree to Strongly agree. Table 2 shows the measurement items for each construct.

Table 2. Constructs, indicators, questions and references.

Constructs	Indicators	Questions	References
Attitude	ATT1	I'm favorable toward in-app mobile advertising	Yang et al. (2013)
	ATT2	Overall, in-app mobile advertising is positive	Yang et al. (2013)
Behavioral Intention	BI1	I'm willing to pay attention and read in-app mobile advertisements	Self-created
	BI2	I'm willing to click on in-app mobile advertisements	Self-created
	BI3	I think it's likely that I will pay attention and read in-app mobile advertisements in the future	Self-created
	BI4	I think it's likely that I will click on in-app mobile advertisements in the future	Self-created
Credibility	CRE1	I belief that in-app mobile advertising is	Chowdhury et al.

		credible	(2010)
	CRE2	I feel that in-app mobile advertising has no risk	Chowdhury et al. (2010)
	CRE3	I trust in-app mobile advertisements	Chowdhury et al. (2010)
Entertainment	ENT1	In-app mobile advertisements are enjoyable	Wang & Sun (2010)
	ENT2	In-app mobile advertisements are pleasing	Wang & Sun (2010)
	ENT3	In-app mobile advertisements are entertaining	Wang & Sun (2010)
Informativeness	INF1	In-app mobile advertisements provide the information I need	Tsang et al.(2004)
	INF2	In-app mobile advertisements are a good source of product/service information	Wang & Sun (2010)
	INF3	In-app mobile advertisements supply relevant information	Wang & Sun (2010)
Irritation	IRR1	Contents of in-app mobile advertisements are often annoying	Xu (2006)
	IRR2	I feel that in-app mobile advertisement is irritating	Xu (2006)
	IRR3	In-app mobile advertisements disturbs my use of the mobile devices.	Xu (2006)
Personalization	PER1	In-app mobile advertisements display personalized messages	Gao & Zang (2011)
	PER2	I feel that in-app mobile advertisements I receive are relevant to my job and activities	Gao & Zang (2011)
	PER3	In-app mobile advertisements are customized to my needs	Gao & Zang (2011)

To measure the attitude construct, two items from a Yang et al. (2013) study on Korean mobile users were used and changed to fit in-app mobile advertisements specifically. This scale was originally developed by McKenzie and Lutz (1989) to measure if individuals have a positive or negative attitude towards traditional types of advertisements. The entertainment construct was measured using three items from a Wang and Sun (2009) study on attitudes towards online advertising. Two items from Wang and Sun (2009) were also used to measure informativeness, along with one item from a Tsang et al. (2004) study on SMS advertisements. The perceived credibility of in-app mobile advertisements was measured using items from a study conducted by Chowdhury et al. (2010) which were adjusted for the purpose of this study. To measure the perceived irritation, three items from Xu (2006) were used to examine consumer attitudes towards SMS and in order to measure the effect of personalization, three items from a study conducted by Gao and Zang (2014) were used. Finally, the behavioral intention was

measured by using four self-created items. Behavioral intention towards in-app mobile advertising was conceptualized as a combination of paying attention to the advertisement, reading the advertisement and clicking on it.

3.4. Evaluation of the structural model

Before providing evidence supporting the theoretical model and testing the proposed hypotheses, it is important to focus on the reliability and validity of the item measures used. It is important to demonstrate a satisfactory level of reliability to assess if the constructs are measuring what they are supposed to measure. If adequate validity and reliability values are not reached, there is little reason to use them to test the theoretical model in question (Chin, 2010). To test the construct reliability of the scale and measure if items are all measuring the same underlying attribute, three types of criteria are recommended when conducting partial least squares analysis (Chin, 2010). First, the internal consistency is evaluated using Cronbach's alpha. Cronbach's alpha measures the average correlation between all of the items that make up the scale. Depending on the nature and purpose of the scale, minimum level of 0.7 is recommended (Pallant, 2013). Secondly, average variance extracted (AVE) is measured. To confirm there is an acceptable high level of variance among the constructs, the values should exceed the threshold of 0.5. Finally, the composite factor reliability (CFR) values should pass the recommended threshold of 0.70 (Chin, 2010). As seen in Table 3, 4 and 5, all of the indices are above the minimum requirements, except for the irritation construct in the United Kingdom group. The constructs fail to meet the minimum alpha levels. However, the construct is retained due to acceptable AVE and CFR values (Chin, 2010).

Table 3. Reliability and validity of both countries.

Constructs	Cronbach's Alpha	Composite Reliability	Average Variance Extracted
Attitude	0.90	0.95	0.91
Behavioral intention	0.94	0.96	0.85
Credibility	0.83	0.90	0.74
Entertainment	0.93	0.95	0.88
Informativeness	0.91	0.95	0.85
Irritation	0.72	0.84	0.64
Personalization	0.80	0.88	0.71

Table 4. Reliability and validity: India.

Constructs	Cronbach's Alpha	Composite Reliability	Average Variance Extracted
Attitude	0.90	0.95	0.91
Behavioral intention	0.93	0.95	0.83
Credibility	0.79	0.88	0.70
Entertainment	0.91	0.95	0.85
Informativeness	0.89	0.93	0.82
Irritation	0.78	0.87	0.70
Personalization	0.71	0.83	0.63

Table 5. Reliability and validity: United Kingdom.

Constructs	Cronbach's Alpha	Composite Reliability	Average Variance Extracted
Attitude	0.91	0.95	0.91
Behavioral intention	0.95	0.96	0.87
Credibility	0.86	0.91	0.78
Entertainment	0.94	0.96	0.90
Informativeness	0.93	0.95	0.87
Irritation	0.68	0.82	0.61
Personalization	0.86	0.92	0.78

Another criteria that has to be assessed is the discriminant validity, which is the extent to which the latent variables are distinct. To estimate the discriminant validity, the square root of the AVE value of each construct should be higher than the correlation values of the construct with other constructs. As shown in Table 6, the square root of AVE passes the correlation between it and all other latent variables which mean that they are distinct from each other which provides evidence of their discriminant validity (Chin, 2010).

Table 6. Correlations and AVE for each country.

Both Countries							
Construct	Attitude	Behavioral intention	Credibility	Entertainment	Information	Irritation	Personalization
Attitude	0.96						
Behavioral intention	0.9	0.92					
Credibility	0.79	0.75	0.86				
Entertainment	0.91	0.88	0.77	0.94			
Informativeness	0.83	0.81	0.77	0.83	0.92		

	Attitude	Behavioral intention	Credibility	Entertainment	Information	Irritation	Personalization
Irritation	-0.66	-0.61	-0.57	-0.66	-0.57	0.8	
Personalization	0.71	0.71	0.65	0.74	0.81	-0.4	0.84

India

	Attitude	Behavioral intention	Credibility	Entertainment	Information	Irritation	Personalization
Attitude	0.95						
Behavioral intention	0.91	0.91					
Credibility	0.75	0.71	0.84				
Entertainment	0.92	0.87	0.76	0.92			
Informativeness	0.79	0.74	0.72	0.78	0.9		
Irritation	-0.61	-0.58	-0.5	-0.63	-0.53	0.84	
Personalization	0.73	0.71	0.6	0.72	0.8	-0.41	0.79

United Kingdom

	Attitude	Behavioral intention	Credibility	Entertainment	Information	Irritation	Personalization
Attitude	0.96						
Behavioral intention	0.89	0.93					
Credibility	0.82	0.77	0.88				
Entertainment	0.9	0.88	0.78	0.95			
Informativeness	0.85	0.87	0.81	0.87	0.93		
Irritation	-0.7	-0.64	-0.63	-0.7	-0.62	0.78	
Personalization	0.69	0.69	0.68	0.74	0.79	-0.39	0.89

Finally, to ensure convergent validity, confirmatory factor analysis was conducted. As seen in Table 7, all of the outer loadings are greater than 0.5, as recommended by Hair, Anderson, Tatham and Black (1995), and most of them even show strong loadings exceeding 0.7. All of the items are significant at $p < 0.1$.

Table 7. Factor Loadings of scale items.

Construct	Indicator	Both countries Loadings	India Loadings	United Kingdom Loadings
Attitude	ATT1	0.96	0.95	0.96
	ATT2	0.95	0.95	0.96
Behavioral intention	BHI1	0.92	0.92	0.92
	BHI2	0.90	0.88	0.93
	BHI3	0.93	0.92	0.94
	BHI4	0.93	0.92	0.94
Credibility	CRED1	0.86	0.85	0.88
	CRED2	0.82	0.77	0.84
	CRED3	0.91	0.89	0.92
Entertainment	ENT1	0.95	0.93	0.96
	ENT2	0.94	0.94	0.95

	ENT3	0.92	0.90	0.93
Informativeness	INF1	0.92	0.90	0.94
	INF2	0.92	0.89	0.94
	INF3	0.93	0.92	0.92
Irritation	IRR1	0.84	0.83	0.84
	IRR2	0.86	0.87	0.83
	IRR3	0.70	0.81	0.66
Personalization	PER1	0.72	0.57	0.82
	PER2	0.89	0.90	0.89
	PER3	0.90	0.87	0.94

3.5. Procedure and analysis

The survey was pre-tested using family members, friends and 20 random participants from CrowdFlower. The purpose of the pre-test was to identify errors and problems in the survey. The pre-test revealed that two participants showed acquiescence bias, where they answered "Strongly agree" to all of the questions. Because of this, attentional filters were added to the questionnaire and those who failed to answer them correctly were excluded from the study. The final survey was launched on CrowdFlower on March 18th and was closed March 21st. Participants were informed that they were participating in a survey regarding in-app mobile advertisements that was a part of a master thesis at Reykjavík University. They were also informed that it would take around 3 minutes to answer the questionnaire and that the answers would not be traced back to them. Each participant was offered $0.25 for completing the survey which made the total cost around $75. Although there was a prerequisite that participants had to be familiar with in-app advertisements, those who were not familiar were still paid and allowed to submit the survey to minimize the likelihood of people lying in order to receive the payment.

For the analysis, it was decided to use partial least squares analysis structural equation modeling (PLS). The reason that PLS was used instead of other types of structural equation modeling is because of the objective of the research. As recommended by Hair, Ringle and Sarstedt (2011), PLS should be used when the goal is to identify the key constructs affecting the dependent variable. PLS is also recommended as it does not require multivariate normal data and doesn't require as large sample size (Chin, 2010). The analysis was conducted using the SmartPLS 3.0 professional edition, an open source software developed by the University of Hamburg.

4. Results

In this chapter, the results of the analysis will be presented. To examine the beliefs, attitudes and behavioral attention of the participants towards in-app advertisements, the mean scores of each construct is presented. An independent T-test was used to measure if there is a significant difference between the two groups. After that, the measurement model is evaluated for its reliability and validity, and finally, the results from the structural model and the hypotheses testing is presented.

4.1. Descriptive statistics

A total of 300 people participated in the survey. However, only 251 returns were usable, as 49 did not meet the requirements for the study. As shown in Table 8, participants were ranging in age from 15 to 75 years, with a mean age of 33.45 and standard deviation of 10.78. 169 participants were males (67.33%) and 82 females (32.67%). However, there were significantly fewer female participants from India (8.37%) compared to United Kingdom (24.30%).

Table 8. Sample Description.

| | India | | | | United Kingdom | | | |
| | Male | | Female | | Male | | Female | |
Age	N	Percent	N	Percent	N	Percent	N	Percent
Under 21	9	3.59	1	0.40	6	2.39	4	1.59
22-34	68	27.09	13	5.18	34	13.55	19	7.57
35-44	16	6.37	0	2.79	20	7.97	18	7.17
45-54	5	1.99	0	0.00	6	2.39	10	3.98
55-64	2	0.80	0	0.00	3	1.20	8	3.19
Over 65	0	0.00	0	0.00	0	0.00	2	0.80
Total	100	39.84	21	8.37	69	27.49	61	24.30

4.2. Attitudes towards in-app advertisements

Beyond testing the hypotheses, T-test was conducted to measure the participants' beliefs, attitudes, and behavioral intentions. As shown in Table 9, the mean score on the overall attitude was significantly different between the countries. India scores 2.587 while United Kingdom scores 2.218 (t = 2.64, p < 0.001). This means that respondents from India hold more favorable attitudes towards in-app advertisements compared to the respondents from the United Kingdom. Also, the respondents from both countries score on average below the

natural point (3) on all of the scales, except irritation. Based on that we can assume that the participants from both countries hold negative attitudes towards in-app advertisements in general, they do not regard them as entertaining, a good source of information or personalized and that they are not likely to click on and pay attention to in-app advertisements.

Table 9. Beliefs, attitudes and behavioral intentions towards in-app advertisements.

	India			United Kingdom		
	N	Mean	Std. Deviation	N	Mean	Std. Deviation
Attitude	121	2.59	1.13	130	2.22	1.09
Entertainment	121	2.56	1.10	130	2.19	1.07
Irritation	121	3.74	0.99	130	3.80	0.88
Credibility	121	2.68	0.93	130	2.41	0.97
Information	121	2.88	0.99	130	2.40	1.02
Personalization	121	2.77	0.88	130	2.37	0.93
Behavioral Intention	121	2.74	1.09	130	2.29	1.10

The highest mean value for both countries was irritation which means that most of the respondents regard mobile advertising as irritating, intrusive and disturbing. However, the difference between the countries regarding irritation was non-significant.

4.3. Structural model and hypotheses results

Having established the appropriateness of the measures by focusing on the reliability and validity, the next step is to provide evidence supporting the theoretical model (Chin, 2010). Partial least square path analysis is used to examine the relationship between the constructs presented in the research framework and to examine the hypotheses. To be able to identify how well the regression model predicts the data, R-square of each dependent construct has to be greater than 0.1 (Chin, 2010). As shown in Figure 3, attitudes explained 81% of the variance in the intention to read, pay attention and click on mobile advertisements while the independent variables explained 86% of the variance in attitude toward advertisements.
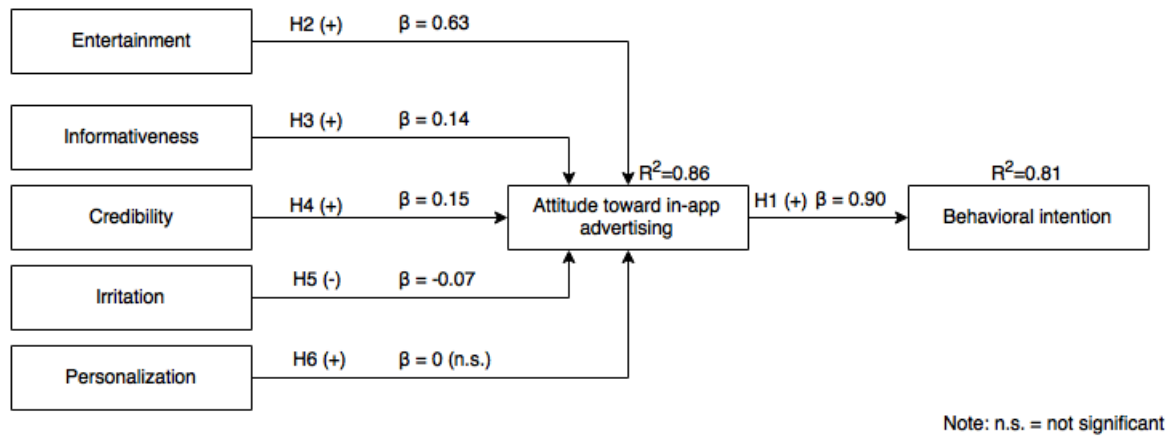
Figure 3. Structural model with results.

Table 10. Path coefficients for whole sample.

Relationship	Path coefficient	T-Statistics	P-Values
Attitude -> Behavioral intention	0.90	65.82	0
Entertainment -> Attitude	0.63	9.1	0
Informativeness -> Attitude	0.14	2.65	0.01
Credibility -> Attitude	0.15	2.68	0.01
Irritation -> Attitude	-0.07	2.2	0.03
Personalization -> Attitude	0	0.09	0.93

The results confirm the important role of attitude towards in-app mobile advertising and show intense effect on behavioral intentions ($\beta = 0.90$, $p < 0.01$). This confirms *H1* and is consistent with previous research (Izquierdo-Yusta et al., 2015; Tsang, ho and Liang, 2004). Regarding the factors influencing attitudes, entertainment has the most impact on attitudes and shows strong effect ($\beta = 0.63$, $p < 0.01$), confirming *H2*. The factor showing the second most impact on attitude is credibility, which has a moderate impact on attitude ($\beta = 0.15$, $p < 0.01$), confirming *H4*. Informativeness has also a significant impact on attitude ($\beta = 0.14$, $p < 0.01$), which is slightly less than credibility, confirming *H3*. *H5* was also supported by the results, as irritation showed the marginal negative effect on the attitude towards in-app advertisements ($\beta = -0.07$, $p < 0.05$). Finally, personalization of in-app advertisement did not have a significant effect on attitudes.

4.4. Cross cultural comparison

To answer the remaining hypotheses and to examine the difference between the countries, the two countries were compared together. As shown in Figure 4, there is a considerable difference between the countries.
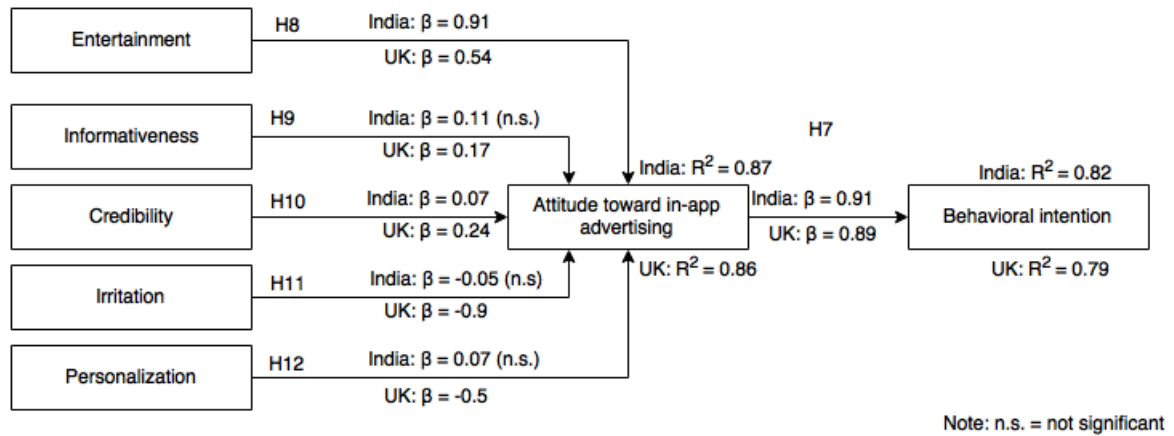

Figure 4. Structural model comparing India and United Kingdom.

Table 11. Path coefficients for India.

	Path coefficient	T Statistics	P Values
Attitude -> Behavioral intention	0.91	51.68	0.00
Credibility -> Attitude	0.07	0.87	0.39
Entertainment -> Attitude	0.70	6.87	0.00
Informativeness -> Attitude	0.11	1.73	0.09
Irritation -> Attitude	-0.05	1.13	0.26
Personalization -> Attitude	0.07	0.97	0.33

Table 12. Path coefficients for United Kingdom.

	Path coefficient	T Statistics	P Values
Attitude -> Behavioral intention	0.89	41.20	0.00
Credibility -> Attitude	0.24	2.92	0.00
Entertainment -> Attitude	0.54	6.37	0.00
Informativeness -> Attitude	0.17	1.70	0.09
Irritation -> Attitude	-0.09	1.42	0.16
Personalization -> Attitude	-0.05	0.66	0.51

Attitude has more impact on behavioral intention in India ($\beta = 0.91$, $p < 0.01$) compared to the United Kingdom ($\beta = 0.89$, $p < 0.01$), confirming *H7*. Entertainment also has more impact on attitudes towards in-app mobile advertisements in India ($\beta = 0.70$ $p < 0.01$) compared to the United Kingdom ($\beta = 0.54$, $p < 0.01$), which confirms *H8*. Furthermore, credibility had a moderate effect on attitude in the United Kingdom ($\beta = 0.24$, $p < 0.01$) while it did not have a significant effect in India, which is contrary to the predictions of *H10*. Finally, the remaining constructs; informativeness, irritation and personalization did not show a significant difference between the two countries.

5. Discussion

The main goal of the study was to examine the antecedents of attitudes towards in-app mobile advertisements and the relationship with the intention to pay attention, read and click on in-app advertisements. The study has shown a significant relationship between beliefs, attitude and intention towards advertising among smartphone users. Belief towards advertising significantly predicted attitude and such attitude significantly predicted the intention to click on and pay further attention to in-app advertisements. Overall, the participants did not hold favorable attitudes towards in-app advertisements and did not perceive them to be entertaining, credible, informative or personalized. Instead, the participants considered them to be rather irritating, disturbing and annoying. The results also showed a significant difference between the two countries. Participants from India generally held more favorable attitudes towards in-app advertisements and found them to be more entertaining, informative, personalized and credible.

Regarding the relationship between the constructs and attitude towards in-app advertisements, perceived entertainment of in-app mobile advertising had the most impact. This is consistent with previous results (Xu, 2006; Haghirian & Madlberger, 2005; Zabadi et al., 2012; Liu et al., 2012) which also showed that entertainment had a strong positive effect on attitudes towards various types of advertisements. This means that consumers could be more likely to hold positive attitudes towards in-app advertising if the advertising messages are perceived as fun and entertaining. To increase the success of in-app advertising campaigns, companies should therefore put an emphasis on making them more entertaining and enjoyable. There was also a significant difference between the countries, participants from India found them to be more entertaining and entertainment had more impact on attitudes compared to the United Kingdom. This is consistent with previous cross-cultural studies that compare high-context countries to low-context countries. As mentioned in the literature review, low-context countries generally prefer transformational messages with entertaining components (Choi, et al., 2008) and use more emotions (Zandpour & Harich, 1996).

As predicted, informativeness also had a marginal impact on attitudes. This is consistent with the hypotheses that when consumers think that in-app advertisements are a good source of information and provide them with information they need, the more positive

attitudes they have towards the advertisements. Compared to other studies, informativeness did not have a relatively strong effect on attitudes. As mentioned in the literature review, there have been some conflicting results regarding the effect of perceived informativeness on attitudes towards various types of advertisements. A possible reason is that some in-app advertisements are designed to catch the eye rather than contain much information because of the limited size of smartphone screens. The results also showed that although informativeness seemed to have more impact in the United Kingdom sample, the hypotheses were not supported as the effect was non-significant.

In previous researches, credibility has shown to have a strong effect on attitudes towards advertisements and is sometimes even the driving factor (Chowdhury et al., 2010). However, in this study, the contribution was only small, which means that when the participants find in-app advertisements to be trustworthy and credible, they have slightly more positive attitudes towards them. This difference could be because of many different factors such as the difference between in-app advertisements and other types of formats, the sample or the measurement items. The results also showed that there is a cultural difference. Participants from India found in-app advertisements to be more credible, however, credibility had more impact on participants from the United Kingdom, which was opposite to what was expected as India scores higher on the uncertainty avoidance dimension. As discussed before, the higher people score on the dimensions, the less willing they are to take risks. However, the difference between India and the United Kingdom on the dimension is quite small, so it could be unreasonable to predict the outcome solely on the scores on the uncertainty avoidance dimension and there are other factors that could influence the participants.

According to the results, participants also thought that advertisements were irritating, annoying and disturbing. As expected irritation had a negative impact on attitudes when both groups were examined together which is consistent with previous studies. However, there was not a significant impact when the countries were examined separately which suggests that there is not a cultural difference regarding this construct.

Finally, although personalization is considered to be an important feature of mobile advertisements as it allows the usage of demographic and behavioral information, personalization did not have a significant effect on attitude. A possible reason could be that advertisers are not fully implementing personalization in their advertising campaigns as it

could be expensive and time-consuming. Participants might therefore be unfamiliar with personalized advertisements. Also, informativeness did not have a significant impact on attitudes among the participants from the United Kingdom. The possible reason could therefore be that smartphone users don't consider personalization to be positive because of privacy issues. To make personalized in-app advertisements, advertisers have to collect data that users could find to be an invasion of their privacy.

6. Conclusion

This study provides valuable insights into consumers' perceptions and attitudes toward online advertising in two different countries. The study adds to the literature on advertising by expanding the scope of application of the theory of reasoned action and theory of planned behavior to the field of in-app mobile advertising and cross-cultural research. The findings suggest that beliefs and attitudes can have a strong impact on consumers' behavioral intention to click on, pay attention and read in-app mobile advertisements. It also suggests that there might be a cultural difference on how consumers perceive in-app advertisements and the relationship between the constructs. These findings are important for both scholars and advertisers that seek to gain a better understanding of mobile advertisements. While the cultural difference was not as apparent as expected and the Hofstede's cultural dimensions' theory failed to predict some of the hypotheses, the results still showed that there is a notable difference between the two groups. It is therefore essential for advertisers that are implementing international campaigns to be aware of what factors are important to each country and be careful when implementing standardized advertising campaigns. Knowing what is shared and what is not for different cultures is essential and helps businesses and organizations to implement global advertisement campaigns more efficiently and effectively.

6.1. Limitations and further research

The study has several limitations that provide avenues for further research. One of the most important limitation is the data sampling method used. Some have argued that samples gathered through crowdsourcing services, such as CrowdFlower are not a good

representation of the population. They are generally younger and more educated than the general population (Shapiro, Chandler & Mueller, 2013; Kang, Brown, Dabbish & Kiesler, 2014) and it is therefore impossible to generalize these findings over the population. However, it could provide a valuable information on in-app mobile advertisements as young people are more likely to own smartphones (Nielsen, 2013). Also, compared to university students and data collected through social media sites, crowd sourced samples have shown to be significantly more socio-economically and ethnically diverse. Using this method can therefore be as valid, and even better than more widely used data collection methods (Casler, Bickel & Hackett, 2013). Another serious limitation of the study is the gender distribution of participants. Considerably more males participated in the study, especially in the Indian sample, which might cause some bias in the results. Future studies should therefore use larger sample size and equal distribution of females and males to be able to fully understand the factors affecting attitudes and provide better generalization and to see if there is a difference between demographic groups.

In this study, behavioral intention served as a dependent variable. Although previous studies have found a strong relationship between behavioral intention and behavior, the relationship could be different in the context of in-app mobile advertisements. Since this study was based on a questionnaire, it is impossible to determine whether participants would click on, read or pay closer attention to the advertisements. Further research, using different experimental methods is therefore needed to examine if intention really leads to behavior. Also, this research focused on in-app mobile advertisements as a whole even though there are many different types of in-app advertisements, apps and mobile phones available. It would be interesting to see if attitudes would differ between various types of advertisements, such as a banner or pop-up advertisements and video, image or text based advertisements.

Finally, according to the results, personalization did not have a significant impact on attitude despite that previous researchers found that it had a positive relationship. As mentioned before, personalization might cause consumers to be concerned about their privacy. Since personalization is one of the main features that differentiates in-app advertisements from traditional ones, further research is needed to understand the relationship between personalization and attitudes, and even other constructs. Okoe and Boetang (2015) for example, suggest that personalized advertisements can reduce the

irritating nature of mobile advertising, increase perceived informativeness and enhance entertainment. Applying qualitative research methods could also reveal the reason why personalization did not have any significant results and even find additional constructs that could affect attitudes and behavioral intentions. Nevertheless, despite the shortcomings of the study, it should provide some insight into cultural difference and attitudes towards in-app mobile advertisements and evidence of cultural differences.

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Appendix
Questionnaire

This questionnaire is a part of a Msc. thesis in marketing from the University of Reykjavík. The purpose of this study is to examine attitudes towards in-app mobile advertisements, or advertisements displayed within a mobile phone application. If you you've newer owned a smartphone or are not familiar with in-app mobile advertisements, please don't participate. There is no right or wrong answer, but please answer honestly in order to get the most accurate results. You are not required to answer all of the questions and you can stop participating whenever you want. You can be assured that all answers you provide will be kept in the strictest confidentiality.

Thank you for your participation. Best regards, Atli Geir Hallgrímsson.

Do you own, or have you owned a smartphone before?

Yes
No
I don't know

Are you familiar with in-app mobile advertisements?
Yes
No

Have you received in-app mobile advertisements?
Yes
No
I don't know

Please read the following statements carefully and mark the box that corresponds to your personal opinion of the statement. The possible answers range from Strongly Disagree to Strongly Agree

In-app mobile advertisements are entertaining
1) Strongly Disagree 2) Disagree 3) Neither agree nor disagree 4) Agree 5) Strongly Agree

Contents of in-app mobile advertisements are often annoying
1) Strongly Disagree 2) Disagree 3) Neither agree nor disagree 4) Agree 5) Strongly Agree

I trust in-app mobile advertisements
1) Strongly Disagree 2) Disagree 3) Neither agree nor disagree 4) Agree 5) Strongly Agree

Please answer strongly agree here (5)
1) Strongly Disagree 2) Disagree 3) Neither agree nor disagree 4) Agree 5) Strongly Agree

In-app mobile advertisements display personalized messages
1) Strongly Disagree 2) Disagree 3) Neither agree nor disagree 4) Agree 5) Strongly Agree

I feel that in-app mobile advertisemenst are irritating
1) Strongly Disagree 2) Disagree 3) Neither agree nor disagree 4) Agree 5) Strongly Agree

Please answer strongly disagree here (1)
1) Strongly Disagree 2) Disagree 3) Neither agree nor disagree 4) Agree 5) Strongly Agree

I am willing to click on in-app mobile advertisements
1) Strongly Disagree 2) Disagree 3) Neither agree nor disagree 4) Agree 5) Strongly Agree

I am willing to pay attention and read in-app mobile advertisements
1) Strongly Disagree 2) Disagree 3) Neither agree nor disagree 4) Agree 5) Strongly Agree

Overall, in-app mobile advertising is positive
1) Strongly Disagree 2) Disagree 3) Neither agree nor disagree 4) Agree 5) Strongly Agree

In-app mobile advertisements are customized to my needs
1) Strongly Disagree 2) Disagree 3) Neither agree nor disagree 4) Agree 5) Strongly Agree

I belief that in-app mobile advertising is credible
1) Strongly Disagree 2) Disagree 3) Neither agree nor disagree 4) Agree 5) Strongly Agree

In-app mobile advertisements are a good source of product information
1) Strongly Disagree 2) Disagree 3) Neither agree nor disagree 4) Agree 5) Strongly Agree

In-app mobile advertisements disturbs me
1) Strongly Disagree 2) Disagree 3) Neither agree nor disagree 4) Agree 5) Strongly Agree

I think it is likely that I will click on in-app mobile advertisements in the future
1) Strongly Disagree 2) Disagree 3) Neither agree nor disagree 4) Agree 5) Strongly Agree

What is 1 + 2?
1) Strongly Disagree 2) Disagree 3) Neither agree nor disagree 4) Agree 5) Strongly Agree

In-app mobile advertisements are enjoyable
1) Strongly Disagree 2) Disagree 3) Neither agree nor disagree 4) Agree 5) Strongly Agree

I feel that in-app mobile advertisements I receive are relevant to my job and activities
1) Strongly Disagree 2) Disagree 3) Neither agree nor disagree 4) Agree 5) Strongly Agree

In-app mobile advertisements provide the information I need
1) Strongly Disagree 2) Disagree 3) Neither agree nor disagree 4) Agree 5) Strongly Agree

I feel that in-app mobile advertising has no risk
1) Strongly Disagree 2) Disagree 3) Neither agree nor disagree 4) Agree 5) Strongly Agree

I think it is likely that I will pay attention and read in-app mobile advertisements in the future
1) Strongly Disagree 2) Disagree 3) Neither agree nor disagree 4) Agree 5) Strongly Agree

I am favorable toward in-app mobile advertising
1) Strongly Disagree 2) Disagree 3) Neither agree nor disagree 4) Agree 5) Strongly Agree

Please answer strongly agree in this question
1) Strongly Disagree 2) Disagree 3) Neither agree nor disagree 4) Agree 5) Strongly Agree

In-app mobile advertisements supply relevant information
1) Strongly Disagree 2) Disagree 3) Neither agree nor disagree 4) Agree 5) Strongly Agree

In-app mobile advertisements are pleasing
1) Strongly Disagree 2) Disagree 3) Neither agree nor disagree 4) Agree 5) Strongly Agree

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Background information

What is your gender?

_____

What is your age?

_____

What is the highest degree or level of school you have completed?

No schooling completed
◯ Elementary/primary school
◯ High school
◯ Trade/technical/vocational training
Bachelor's degree
◯ Master's degree
◯ Doctorate degree
◯ Other

What country are you from?

_____

Thank you for your participation