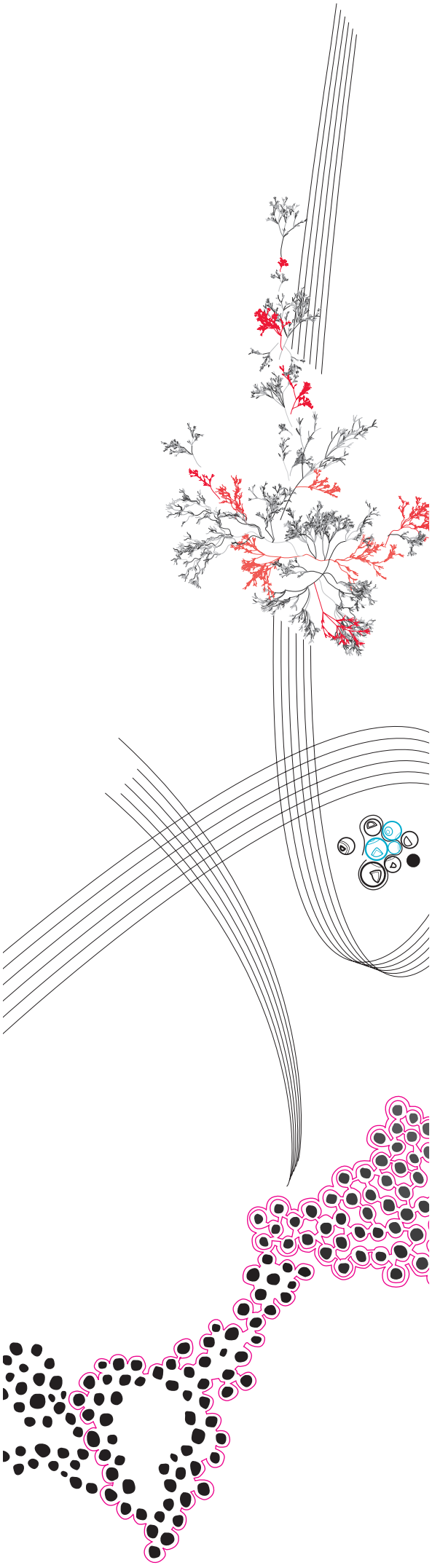

MOBILE LOCATION-BASED ADVERTISING

The effects of delivery-method, promotions and information sensitivity on advertisement evaluations

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ABSTRACT

The widespread adoption and use of mobile phones presents marketers with new opportunities to reach and serve consumers. This study investigates consumer evaluations of location-based advertising (LBA) on mobile phones. With mobile LBA, marketers can tailor their services, products and content based on the geographical location of mobile phone users, which might be beneficial and convenient for consumers. However, there are downsides such as consumer concern about information privacy and feelings of intrusion when presented with a location-based mobile advertisement.

The dilemma of how to react to mobile LBA is explored in an experimental study with Dutch participants (n=218), mainly aged from 18 to 35. In a 2x2x2 between-subjects design, the consumer evaluation of mobile LBA is explored by manipulating the type of delivery-method (push or pull), the level of information sensitivity used for personalizing the advertisement (low or high), and the type of promotion offered in the advertisement (price or premium). The effects are discussed in terms of attitude towards the advertisement and message, perceived benefits, perceived risks, perceived intrusiveness, and intention to use the advertised offer. Consumer characteristics such as general information privacy concern, previous privacy invasion experience and coupon proneness are included as moderating variables.

The results indicate that consumer evaluations of mobile LBA are significantly different for the two types of delivery-methods. Pull-based mobile LBA messages are perceived as more beneficial and less intrusive compared to push-based messages. Hence, pull-based mobile LBA messages evoke a more favourable attitude towards the advertisement. The type of personal information used for personalizing the advertisement, nor the type of promotional offering, led to different responses. In addition, no evidence was found for interaction effects of the moderating variables. The results of this study are relevant for marketers who are interested in implementing mobile LBA for their business.

Keywords: *location-based advertising, mobile advertising, push versus pull, sensitivity of information, promotions, privacy concern, benefits, risks, intrusiveness, consumer attitude*

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1. INTRODUCTION

Over the last decade, internet technologies have moved out of the home and into our pockets, purses, hands and onto our bedsides. Mobile devices are a constant companion to consumers and they are playing an increasingly intimate role in a consumer's everyday life. According to Forbes Insights (2016), by 2018 more than 2.5 billion people worldwide will own and use a mobile device. The widespread adoption and use of mobile devices presents marketers with new opportunities to reach and serve consumers. A fairly new developed advertising method is Location-Based Advertising (LBA). LBA involves the *"provision of advertising messages to cellular subscribers based on their location"* (Xu et al., 2009, p. 156). With this technology, companies can tailor mobile services, products and content not only based on a consumer's needs, but also on his geographical contexts (Bauer et al., 2005; Li & Uger, 2012; Ström et al., 2014).

LBA is continuously getting more more advanced and location-aware mobile applications are expected to triple by 2019 (Forbes Insights, 2016). With GPS, Geo-Fencing, iBeacons, RFID and WiFi-tracking techniques, marketers are able to reach consumers where and whenever they want with advertisements, promotions, coupons and other offerings that are uniquely personalized to consumer preferences, location and time of day. Previous research has shown that consumers are generally interested in personalized marketing services (Arora et al., 2008; Awad & Krishnan, 2006; Malthouse & Elsner, 2006). However, despite the many opportunities and benefits offered by personalized advertising based on location, there are downsides such as a consumer's concern about the confidentiality of his personal information and geographical location.

The constant internal debate between enjoying the benefits of personalized services, and on the other hand protecting the privacy of personal information is called the *personalization-privacy paradox* (Awad & Krishnan, 2006; Chellappa & Sin, 2005). Personalized advertising messages may be of great value for consumers, while at the same time concerns about companies using their personal information may result in negative responses and turn them away (Xu et al., 2010). Thus, personalized advertising can be both effective and ineffective, depending on the context (Aguirre et al., 2015). However, most studies about this paradox are focused on the web and these findings cannot be directly applied to mobile advertising (Ho, 2012). Consumers carry their phones with them at all time in many different environments. Therefore, with mobile LBA marketers have the possibility to use richer contextual information compared to traditional (internet) advertising.

The objective of this study is to examine consumer evaluations of different mobile LBA strategies. In addition, the aim is to explore the conflict between the benefits and convenience of mobile LBA and the intrusiveness and perceived privacy risks, which may create a dilemma of how to react to the mobile advertisement. To define the line between appropriate and controversial mobile LBA, three different advertising strategies are explored that might cause different responses towards the advertisement.

First, the effect of the delivery-method of the advertising message is explored (push versus pull). In the pull-based approach, the consumer actively requests information and is then served with an advertising message. In the push-based approach the marketer provides the consumer with a mobile advertising message based on his location without the consumer actively asking for it. The consumer's evaluation might differ for each delivery-method, because of the level of intrusiveness and the perceived risks and benefits associated with push- or pull-based advertising messages (Unni & Harmon, 2007). Second, the impact of personalization is examined by manipulating the sensitivity of the personal information being used for personalizing the mobile advertising message (high versus low information sensitivity). Highly personalized advertising messages based on sensitive types of personal information might be beneficial because of the tailored content, but it might also cause feelings of invasion and intrusiveness (Xu et al., 2008). Third, the effects of the commercial content of the message are explored by manipulating the type of promotion offered in the advertisement (price versus premium). Price or premium promotions may provoke different mental responses and influence the attitude towards the mobile advertisement (Banerjee & Yancey, 2010).

The research question addressed in this study:

To what extent do the type of delivery-method, level of information sensitivity and type of promotional offering influence consumer evaluations of mobile LBA messages?

An experimental study was designed to determine whether different advertising strategies influence consumer evaluations of mobile LBA. The results are discussed in terms of effects of (1) type of delivery-method, (2) personalization based on different levels of sensitive information, and (3) type of promotional offerings, on the dependent variables. The dependent variables in this study are (1) the perceived benefits, (2) the perceived risks, (3) the perceived intrusiveness, (4) attitude towards the (a) advertisement and (b) message, and (5) the intention to use the advertised offering. The results of this study might be interesting for organizations that are considering using mobile LBA for their business.

In the next section, prior literature on mobile LBA and the possible reactions towards the three different advertising strategies are discussed. Based on this literature, a research model and hypotheses are proposed. In the third section, the research methodology for this study is explained followed with the results of the experiment in the fourth section. Finally, in the discussion section, the findings, limitations and implications of this study are discussed.

2. THEORETICAL FRAMEWORK

The amount of literature on mobile advertising has been accumulating over the past years. However, the functional practice of mobile advertising based on a consumer's location is still in an early stage. Marketing executives are basing their decision mostly on anecdotal case studies (Persaud & Azhar, 2012; Ström et al., 2014). This study contributes to mobile LBA research by examining the effects of three different advertising strategies. In this theoretical framework, mobile LBA and its functionalities are described first (2.1). Second, the attitude towards the mobile LBA is discussed (2.2). Third, the three advertising strategies (type of delivery-method, personalization based on different levels of sensitive information, and type of promotional offering) and their effects are discussed (2.3). Fourth, the impact of the moderating variables is discussed (2.5). Finally, the chapter is concluded with the research model (2.5).

2.1 LOCATION-BASED ADVERTISING

The mobile phone is a device that many consumers cannot seem to do without, since it is a central gadget in the private and social lives of individuals to stay connected with friends and family. Persaud and Azhar (2012) describe the mobile phone as an extension to the self; a technological device as an addition to the user's personality. The widespread adoption and the continuous development of mobile technologies present a great opportunity for marketers to reach and serve consumers anytime and anywhere (Persaud & Azhar, 2012). A new form of mobile advertising is Location-Based Advertising (LBA), in which consumers are served with advertisements based on their location. Mobile devices are typically equipped with a GPS functionality (Global Positioning System) and other sensors to gather location data. Therefore, LBA can be viewed as a larger form of Location-Based Services (LBS) that utilize geographical position information to provide users with access to networks and services while on the move (Bauer & Strauss, 2016). LBS are, for example, mobile applications that offer information about route guides, public transport or traffic jams.

In the practice of LBA, marketers use location data of mobile devices to provide consumers with just-in-time, in-context, and personalized marketing offerings and services (Bauer & Strauss, 2016; Persaud & Azhar, 2012). The underlying concept of LBA is also known in traditional advertising. A traditional form of advertising that uses location are billboard signs on roadsides displaying advertising messages tailored to where they are placed. For example, the billboard signs used by McDonalds displaying 'turn left/right to McDonalds' to communicate that there is a restaurant branch nearby. However, the mobile variant of mobile LBA is different, because it addresses the consumer individually, based on his current location and dynamically in real-time. In addition, mobile LBA provides flexibility concerning content (Bauer & Strauss, 2016). Mobile LBA is comparable to other forms of personalized advertising since it is all about providing the right content in the right format to the right person at the right time (Tam & Ho, 2005).

2.2 ATTITUDE TOWARDS LOCATION-BASED ADVERTISING

Location-Based Advertising offers many benefits for marketers and consumers. For marketers, it can serve as a tool for integration, interaction, co-creation and personalization. For consumers the value lies in convenience, content relevance through personalization, and entertainment (Ström et al., 2014). However, LBA also has the potential to be intrusive and annoying, because mobile marketing is a relatively easy and inexpensive way to reach consumers (Persaud & Azhar, 2012). Several studies have focused on the factors that influence the acceptance and adoption of mobile LBA (Ho, 2012; Leppaniemi & Karjaluoto, 2005; Persaud & Azhar, 2012; Xu & Gupta, 2009; Xu et al., 2011). However, consumers do not always have a choice regarding the acceptance of advertising. Specifically, mobile advertisements may 'pop-up' while a consumer is using a mobile application, which can cause psychological reactance (Edwards et al., 2002). Therefore, it is important to gain insights into how consumers will react to certain types of mobile LBA (Persaud & Azhar, 2012). This research attempts to look into the consumer's attitude towards different mobile LBA strategies to explore how consumers perceive mobile advertisements, which could help in developing successful mobile advertising strategies.

A consumer's attitude towards mobile LBA explains the favourable or unfavourable assessment regarding a particular advertising strategy (Xu et al., 2009). In mobile LBA, the consumer 'gives up' or 'shares' personal information about his location in return for personalized offerings as the added value. Thus, the assessment of mobile LBA is based on the perception of what is received and what is given up. Zeithaml (1988) described this as the 'perceived value'. The process of determining the perceived value by assessing the perceived benefits and risks is explained by theories such as the *privacy calculus theory, the social exchange theory* and the *utility maximization theory* (Awad & Krishnan, 2006; Li, 2012). However, in the practice of mobile LBA, there is not always a choice or possibility to 'opt-out' and a consumer does not deliberately calculate the risks and benefits of disclosing his location information (Awad & Krishnan, 2006). Nevertheless, the perceived risks and benefits of mobile LBA are important in determining whether an advertisement will be assessed as favourable or unfavourable. In this study, attitude towards mobile LBA is measured in terms of liking and is divided into (1) attitude towards the ad, and (2) attitude towards the message. Furthermore, a consumer's attitude towards an advertisement directly influences the behavioural intention to use the advertised offer, as illustrated by *the theory of planned behaviour* (Azjen, 1991). Thus, a favourable attitude towards a particular mobile LBA strategy leads to a higher intention to use the advertised offer.

2.3 LOCATION-BASED ADVERTISING STRATEGIES

Mobile LBA is a new marketing tool and therefore it is important to understand the consumer's perception of different strategies. Mobile LBA offers great benefits as it is personal and flexible, which can help to build brand relationships and loyalty with consumers who consider this type of personalized advertising of high value. In addition, mobile LBA has the possibility to improve information processing and it can enhance better decision making, which leads to an increased probability of buying (Persaud & Azhar, 2012; Senecal & Nantel, 2003; Tam & Ho, 2005). In addition, mobile LBA enables marketers to reach and interact with consumers individually and provide them with just-in-time personalized advertisements. This type of

mobile advertising can be very convenient for the consumer, since the advertisements are tailored based on his needs and contexts. However, the consumer's perception of benefits may differ for different advertising strategies (Chellappa & Sin, 2005). The perceived benefits of mobile advertising can be defined as "*the perceived worth or value consumers attach to the degree of flexibility offered by a mobile application to specify his needs or preferences*" (Mothersbaugh et al., 2012, p. 77).

On the other hand, mobile LBA may turn consumers away when they believe they have no control over the use of their personal information by companies, or when they fear receiving unsolicited marketing messages, price discrimination or unauthorized access by third parties (Awad & Krishnan, 2006; Grant & O'Donohoe, 2007; Persaud & Azhar, 2012). The perceived risks of mobile advertising can be defined as *"the expectation of losses associated with the release of personal information to mobile applications"* (Xu et al., 2011, p. 46). Moreover, combining tracking technologies to deliver personalized content may be perceived as annoying or intrusive, because this technique enables delivering marketing messages from any company at any location without concern about appropriateness (Persaud & Azhar, 2012). Interfering with a person's goals may result in feelings of irritation or overstimulation which, in turn, may result in advertisement avoidance (Edwards et al., 2002). Perceived intrusiveness is defined in the literature as *"the degree to which a person deems the presentation of information as contrary to his goals (either functional or hedonic)"* (Edwards et al., 2002, p. 85). Therefore, it is not only important to understand the perceived benefits of mobile LBA, but also the perceived risks and perceived intrusiveness of certain strategies should be considered.

2.3.1 TYPE OF DELIVERY-METHOD

Location-Based Advertising may be performed using two approaches of delivering mobile advertising messages to consumers: the push-based or the pull-based approach (Bruner & Kumar, 2007; Paavilainen, 2002). In pull-based mobile LBA, a consumer requests information to use some service on a one-time basis. In the process he is exposed to a commercial message. In this approach, marketers only locate a user's mobile device when the he initiates the request himself. Pull-based mobile LBA can be seen as an 'on demand service' where the consumer asks for specific information, such as the nearest coffee store. The consumer 'pulls' information from the advertiser. In this situation, the location data is only used to complete the requested transaction (Bauer & Strauss, 2016). A comparable service that uses the pull mechanism is Google Adwords. When an individual initiates a search request on the search engine Google, the website generates advertising messages based on the search query.

The other approach, push-based mobile LBA, amounts advertisers using carriers and delivery networks to send push advertising messages to consumers. This may include sending mobile users advertisements based on their known proximity to a store. In the push-approach, the location data of a mobile phone is automatically send to marketers and they take the initiative to send personalized advertising messages to consumers (Bauer & Strauss, 2016; Xu et al., 2009). These messages are comparable to push notifications from mobile applications. For example, when the mail application alerts you when a new email message

arrives. In this situation, the request for an information transaction is initiated by the server or the publisher.

The underlying concept of push- and pull-approaches is not limited to mobile advertising. It is a well-known marketing strategy that is also applicable for other types of advertising, content delivery or services (Bauer & Strauss, 2016). In the traditional context of push- and pull-marketing, the push-approach means using advertising and promotions to push a product through the distribution channel to the consumer. Pull-marketing is described as advertising towards consumers in order to motivate consumers to ask retailers to stock a particular product (Dowling, 2004). Thus, the terms 'push' and 'pull' have a different meaning in mobile advertising. In mobile advertising, the push-based approach is communication initiated by the advertiser and in the pull-based approach, the initiative lies by the consumer.

EFFECTS OF TYPE OF DELIVERY-METHOD

The use of the push- and pull-approach in mobile advertising has been studied in an experiment by Unni and Harmon (2007). The results of their study indicated that pull-based messages are more effective because the perceived benefits are higher and the privacy concerns are lower compared to push-based messages. Unni and Harmon (2007) argue that pull-based mobile LBA messages are more likely to provoke a favourable attitude, because there is a 'need' or 'desire' that triggers the consumer to initiate the request. Hence, a pull-based message is more likely to match the need of the consumer and is therefore perceived as more beneficial. Moreover, in pull-based mobile LBA, the consumer has greater control over receiving the message. This feeling of control results in lower perceived risks and a more favourable attitude (Unni & Harmon, 2007). On the contrary, push-based messages lead to higher perceived privacy risks because consumers are more likely to experience some loss of control, which creates a feeling of discomfort (Unni & Harmon, 2007; Xu et al., 2011).

Furthermore, Unni and Harmon (2007) found that push-based advertising messages are perceived as more intrusive. Advertising messages that are pushed towards the consumer tend to interrupt. The feeling of a lack of control may result in a less favourable attitude towards mobile LBA, which eventually leads to advertising avoidance. Moreover, push-based mobile LBA would amplify the perceived risks, because when a consumer receives a push message he becomes more aware of being tracked which creates a discomfort or a sense of loss of privacy. On the other hand, pushing advertising messages towards consumers is a potentially more effective way to trigger impulse buying, and consumers would not have to search through advertising messages to find the right one (Ho & Kwok, 2003; Xu et al, 2011). Consumers are able to receive advertising messages and offers at any time which may result in a favourable attitude when the advertisement matches the need of the consumer. However, this only happens when the perceived benefits exceed the perceived intrusiveness and the perceived risks of the advertising message.

Based on the literature the following hypotheses are proposed:

H1a: The perceived benefits of mobile LBA are higher for pull-based advertising messages than for push-based messages.
H1b: The perceived risks of mobile LBA are higher for push-based advertising messages than for pull-based messages.
H1c: The perceived intrusiveness of mobile LBA is higher for push-based advertising messages than for pull-based messages.
H1d: The consumer's attitude towards mobile LBA is higher for pull-based advertising messages than for push-based messages.

2.3.2 LEVEL OF INFORMATION SENSITIVITY

With consumer data retrieved from location-tracking techniques, companies are able to learn about consumer preferences and consequently improve the quality of their advertising. When marketers have access to great amounts of personal information, they have the capability to personalize mobile advertising messages to a high extent. For example, Starbucks experimented with serving targeted advertising messages to drive store traffic by tracking device ID's and location, which resulted in a 60% increase in store visits (Banks, 2015). Amazon utilizes knowledge from their customer database to personalize recommendations based on a customer's preferences. In addition, companies can personalize search results on their website depending on a customer's purchase behaviour and search history (Chellappa & Sin, 2005). When companies combine location data with information from customer databases, such as demographic characteristics (i.e. gender, age) and consumer profiles (i.e. recent purchases, search history, contact information), advertising messages can be highly personalized for each customer.

However, the idea that personal information is used for advertising purposes may create discomfort and a sense of loss of privacy (Andrade et al., 2002; Chellappa & Sin, 2005; Mothersbaugh et al., 2012; Phelps et al., 2002; Sheehan & Hoy, 2009), which has a negative impact on a consumer's attitude towards services that use personal information for advertising purposes (Li et al. 2011). Mobile LBA might lead to negative evaluations when consumers believe they have no control of the use of their personal information, or when they assume companies have unauthorized access, sell their data or share their information with third parties (Malhotra et al., 2004). In particular, the use of sensitive data for marketing purposes is perceived as riskier by consumers, because of the higher vulnerability in potential losses (Mothersbaugh et al., 2012). Sensitivity of information is defined as *"the potential loss associated with the disclosure of that information"* (Mothersbaugh et al., 2012, p. 77). The concern about potential losses or risks vary between the information being used by companies, but it also depends on situational cues and personal characteristics (Xu et al., 2008).

In addition, Malhotra et al. (2004) described three factors that influence concerns about risks and information privacy: collection, control and awareness. *Collection* is about the consumer's response to

the act of data collection, whether it is legal or illegal. Collection can be defined as *"the degree to which a person is concerned about the amount of individual-specific data possessed by others relative to the value of benefits received"* (Malhotra et al., 2004, p. 338). Thus, concerns about the privacy of personal information are dependent on the amount of personal information and the type of personal information that is collected in return for personalized advertising. *Control* is about the influence that consumers have on the collection of personal information and the possibility to opt-out. *Awareness* refers to the consumer's understanding of how collected information is used by companies. Concerns about risks and privacy are higher when a consumer is not sure what data would be used and how it is used (Malhotra et al., 2004).

Hence, consumer concern about information privacy and the perceived risks of the usage of location data by advertisers is a critical and acute concern in the practice of mobile LBA. Therefore, next to the type of delivery-method, the different responses towards advertising messages that are personalized based on different levels of sensitive information are investigated.

EFFECTS OF INFORMATION SENSITIVITY

Marketers can gather different types of personal information in order to personalize mobile advertisements. Obviously, the most basic form of mobile LBA is personalized advertisements based only on a consumer's current location. When this data is combined with contextual knowledge and consumer preferences, a marketer can anticipate on the needs of a consumer and provide him with accurate and relevant advertising messages (Unni & Harmon, 2007). Phelps et al. (2000) distinguished five types of personal information: demographic characteristics, lifestyle characteristics, purchasing habits, financial data and personal identifiers. The results of their survey study indicates that consumers are more willing to share demographic and lifestyle information than information that is related to previous purchases or personal identifiable information. Consumers perceive the latter two information types as more sensitive and riskier to share with companies, because consumers feel that sharing this kind of information leads to more marketing offers (Phelps et al., 2000).

Chellappa and Sin (2005) explain the process of sharing personal information in return for personalized services as an example of social exchange. Individuals only participate in social exchanges when the rewards or benefits outweigh or compensate their loss due to participation. A consumer who is interested in or searching for a particular product is more likely to respond positively to an advertising message when it is from a retailer that he is interested in. In this situation, the benefits (i.e. convenience) compensate for the potential losses of personalized advertising based on sensitive information (Chellappa & Sin, 2005; Mothersbaugh et al., 2012). However, when an individual is generally more concerned about information privacy, the benefits of personalized advertisements may not overcome the potential losses (Chellappa & Sin, 2005; Mothersbaugh et al., 2012). Therefore, a consumer's general information privacy concern might have a moderating effect on the relationship between information sensitivity and perceived benefits (see paragraph 2.4.1).

Nevertheless, Mothersbaugh et al. (2012) found that the perceived benefits are generally higher when the information that is used for personalization is lower in sensitivity, rather than higher. They used prospect theory to explain this effect. In prospect theory, loss aversion refers to the tendency of consumers to prefer avoiding losses over gaining rewards. When the information being used for personalizing advertisements is lower in sensitivity, consumers perceive lower potential losses and higher benefits. Thus, the benefits gained from highly personalized advertising based on information that is higher in sensitivity, will not compensate for the potential losses. This is in line with privacy literature that suggest that the level of information sensitivity influences privacy concern and risk perception (Jones, 1991; Wang & Petrison, 1993). The perceived risk and intrusiveness of mobile LBA is dependent on the type and sensitivity of the information used by marketers, and whether a company plans to exchange information with third parties (Phelps et al., 2000). A high level of information sensitivity and uncertainty about information-sharing may result in a less favourable attitude towards the advertisement or a company that collects these types of personal information.

To conclude, the usage of low or high sensitive information by companies to personalize mobile LBA messages influences the perceived benefits, the perceived risks, feelings of intrusion, and the attitude towards the advertisement. The following hypotheses are proposed:

> H2a: Mobile LBA leads to higher perceived benefits when the ad is personalized based on a lower level of sensitive information as opposed to a higher level of sensitive information.
> H2b: Mobile LBA leads to higher perceived risks when the ad is personalized based on a higher level of sensitive information as opposed to a lower level of sensitive information.
> H2c: Mobile LBA leads to higher perceived intrusiveness when the ad is personalized based on a higher level of sensitive information as opposed to a lower level of sensitive information.
> H2d: Mobile LBA leads to a more favourable attitude when the ad is personalized based on a lower level of sensitive information as opposed to a higher level of sensitive information.

As mentioned earlier, a consumer who is searching for a particular product is more likely to have a favourable attitude towards an advertising message when it matches his needs. Thus, the combination of personalized advertisements based on sensitive information (high, low) with the type of delivery-method (push, pull) may lead to interaction effects. In a pull-based advertising message the consumer takes the initiative for the request and it is likely that a need or desire triggers the initiative. However, a highly accurate advertising message that is personalized based on information with a high level of sensitivity may result in negative reactions, especially when it is pushed towards the consumer. Aside from the perceived risks that are associated with high sensitive information, consumers might experience lack of control and feelings of intrusion when the advertisement is pushed towards them.

All in all, the following hypotheses are proposed:

H3a: Push-based mobile LBA leads to lower perceived benefits when the ad is personalized based on a higher level of sensitive information as opposed to a lower level of sensitive information.

H3b: Push-based mobile LBA leads to higher perceived risks when the ad is personalized based on a higher level of sensitive information as opposed to a lower level of sensitive information.

H3c: Push-based mobile LBA leads to higher perceived intrusiveness when the ad is personalized based on a higher level of sensitive information as opposed to a lower level of sensitive information.

H3d: Push-based mobile LBA leads to a less favourable attitude when the ad is personalized based on a higher level of sensitive information as opposed to a lower level of sensitive information.

2.3.3 TYPE OF PROMOTIONAL OFFERING

Next to the type of delivery-method and personalization based on different levels of sensitive information, also the content of the message is explored as it is the primary factor of mobile advertising. The content of a mobile advertising message can be used to raise brand awareness and brand salience (Barwise & Strong, 2002; Montgomery & Smith, 2009); the messages may include brand-building content, recommendations, special offers or promotions. One particular type of content is gaining interest as a marketing tool is the use of coupons to boost retail traffic (Dickinger & Kleijnen, 2008). Coupons are promotional offerings that serve several objectives: (1) trigger sales by price reduction, (2) target consumers at any time or location, and (3) improve company-customer relationships by offering customers service as a part of the customer retention strategy (Dickinger & Kleijnen, 2008). Promotional offerings serve several objectives to meet the needs of customers. In addition, the savings and value of promotional offerings may influence a consumer's perception of what he is receiving compared to what he has to give up – the privacy of his personal location and information. Personalized offerings may evoke feelings of exclusivity (Simonson, 2005) and it increases shopping efficiency by saving money and time (Persaud & Azhar, 2012). In addition, consumers carry their mobile phones with them at all time which means they can use their coupons at all time.

EFFECTS OF TYPE OF PROMOTIONAL OFFERING

In this study, two types of promotional offerings are distinguished: price promotions and premium promotions. A premium promotion is a product or a service offered for free or at a relatively low price in return for the purchase of one or many products (Palazon, Delgado-Ballester, 2009). Price promotions include price reductions, coupons and rebates. Hence, price promotions are monetary and premium promotions are nonmonetary (Yi & Yoo, 2011). In this study, a price reduction is used as a price promotion and a free gift is used as a premium promotion, as these are the most popular types (Palazon, Delgado-Ballester, 2009; Yi & Yoo, 2011).

Campbell and Diamond (1990) argue that monetary promotions are more likely to be encoded as a reduced loss and nonmonetary promotions as a gain. In addition, Sinha and Smith (2000) found that price promotions are perceived as providing a higher value than premium promotions, as it entails the lowest absolute cost to consumers. Thus, the perceived benefits of a price promotion are more likely to be higher for price promotions than for premium promotions. In addition, the reduced loss associated with price promotions may compensate for privacy concerns and lead to lower perceived risks of mobile LBA. Moreover, when a consumer is offered a premium promotion, he is 'forced' to buy a particular product in order to receive the reward (Sinha & Smith, 2000), which may be perceived as intrusive or annoying.

Hence, the following hypotheses are proposed:

H4a: The perceived benefits of mobile LBA are higher when a price promotion is offered as opposed to a premium promotion.
H4b: The perceived risks of mobile LBA are lower when a price promotion is offered as opposed to a premium promotion.
H4c: The perceived intrusiveness of mobile LBA is higher when a premium promotion is offered as opposed to a price promotion.
H4d: The consumer's attitude towards mobile LBA is higher when a price promotion is offered as opposed to a premium promotion.

Chandon et al. (2000) argue that price and premium promotions have different psychological benefits for consumers. Price promotions offer utilitarian benefits, such as savings or more quality for the same price. On the other hand, premium promotions offer hedonic benefits, such as entertainment or expression of personal values. Büttner et al. (2015) found that task-focused consumers evaluate price promotions as more attractive, because they are fixated on maximizing utilitarian shopping value. Thus, the combination of type of promotional offering (price, premium) with type of delivery-method (push, pull) might lead to interaction effects. Consumers who actively seek for a product or service are more likely to perceive a mobile advertisement with a price promotion as beneficial because of its utilitarian benefits, and thus have a more favourable attitude towards the advertisement.

The following hypotheses are proposed:

H5a: Pull-based mobile LBA leads to higher perceived benefits when a price promotion is offered as opposed to when a premium promotion is offered.
H5b: Pull-based mobile LBA leads to a more favourable attitude when a price promotion is offered as opposed to when a premium promotion is offered.

2.4 MODERATING VARIABLES

Many studies on mobile advertising focus on consumer demographics in explaining their attitude towards Location-Based Advertising (Baratcu, 2007; Persaud & Azhar, 2012). However, there are several non-demographic consumer characteristics that have been suggested as key variables to explain differentiating findings in the relationships between the independent en dependent variables (Xu & Gupta, 2009; Xu et al., 2009; Xu et al., 2011). Despite the opportunities offered by all three mobile LBA strategies, many consumers are still concerned about the confidentiality of their personal information. Therefore, consumers' general information privacy concern and their previous privacy invasion experiences are included as moderating variables (Xu et al., 2009, Smith et al., 1996). In addition, not all consumers are susceptible to promotional offerings in advertising messages (Dickinger & Kleijnen, 2008). Therefore, coupon proneness is also included as a moderating variable.

2.4.1 CONSUMER INFORMATION PRIVACY CONCERN

Marketing in the online environment poses information privacy threats that differ from the issues addressed in traditional marketing. Malhotra et al. (2004) define internet user's information privacy concern as "*the degree to which an internet user is concerned about online marketers' collection of personal information, the user's control over the collected information, and the user's awareness of how the collected information is used*" (p. 338). However, the concern about information privacy varies between individuals (Smith et al., 2011; Xu et al., 2008). Dinev and Hart (2006) found that individuals with high social awareness are more likely to be aware of privacy policies and follow privacy issue development. Consumers with a higher level of privacy concern will likely perceive personalized offerings to be of less value compared to consumers with a lower level of privacy concern, because they are more concerned about the risks of personalization. In addition, consumers with high information privacy concerns may attach more value to perceived intrusiveness and perceived risks of mobile LBA, regardless of the perceived benefits of useful personalized advertisements.

Based on the literature, the following hypotheses are proposed:

H6a: The perceived benefits of all mobile LBA strategies are lower when a consumer has a high concern for information privacy concern, as opposed to a low concern for privacy.

H6b: The perceived risks of all mobile LBA strategies are higher when a consumer has a high concern for information privacy concern, as opposed to a low concern for privacy.

H6c: The perceived intrusiveness of all mobile LBA strategies is higher when a consumer has a high concern for information privacy concern, as opposed to a low concern for privacy.

H6d: The consumers' attitude towards all mobile LBA strategies is less favourable when a consumer has a high concern for information privacy concern, as opposed to a low concern for privacy.

2.4.2 PREVIOUS PRIVACY INVASION EXPERIENCE

Smith et al. (1996) state that individuals who have been exposed to or been the victim of personal information abuses, have stronger concerns regarding information privacy. Privacy invasion can range from unsolicited marketing spam to identity theft (Awad & Krishnan, 2006) Hence, consumers who experienced privacy invasions might not attach any value to personalized advertisements, regardless of the benefits offered. Thus, a consumer's previous experiences might influence his evaluation of mobile LBA.

The following hypotheses are proposed:

H7a: Consumers who had their information privacy invaded perceive mobile LBA as less beneficial compared to consumers who do not have these experiences.
H7b: Consumers who had their information privacy invaded perceive mobile LBA as riskier compared to consumers who do not have these experiences.
H7c: Consumers who had their information privacy invaded perceive mobile LBA as more intrusive compared to consumers who do not have these experiences.
H7d: Consumers who had their information privacy invaded have a less favourable attitude towards mobile LBA compared to consumers who do not have these experiences.

2.4.3 COUPON PRONENESS

Individuals who are 'coupon prone' and enjoy collecting coupons might perceive mobile LBA as more beneficial. Coupon proneness is described as *"the propensity to respond to a purchase offer because the coupon form of the purchase offer positively affects purchase evaluations"* (Xu et al., 2009, p. 162). Dickinger and Kleijnen (2008) state that consumers who enjoy the search for coupons feel a sense of accomplishment when they save money, they are also called 'value seekers'. Consumers who are less involved with coupons can be described as 'coupon apathetics'. Value seekers are more likely to perceive mobile LBA as beneficial from an economic perspective. However, Dickinger and Kleijnen (2008) also found that coupon prone consumers are also more likely to fear spam and experience a lack of control when receiving offerings via mobile advertisements. While it might seem that value seekers are more open to offerings via their mobile phone and worry less about spam, they do fear an overload of offerings. These individuals enjoy the process of searching and collecting coupons and mobile advertising messages might undermine their feelings of control regarding coupon redemption.

All in all, the following hypotheses are proposed:

H8a: The perceived benefits of mobile LBA are higher for value seekers than for coupon apathetics in all mobile LBA strategies.
H8b: The perceived risks of mobile LBA are higher for value seekers than for coupon apathetics in all mobile LBA strategies.
H8c: The perceived intrusiveness of mobile LBA is higher for value seekers than for coupon apathetics in all mobile LBA strategies.

2.5 RESEARCH MODEL

This study proposes that the type of delivery-method (push, pull), level of information sensitivity used for personalization (low, high) and type of promotional offering (price, premium) in mobile Location-Based Advertising affect the perceived benefits, perceived risks, perceived intrusiveness, the consumer's attitude towards mobile LBA and, in turn, the intention to use the advertised offer. The relationships between the independent and dependent variables are moderated by information privacy concern, previous privacy invasion experience and coupon proneness. In Figure 1, the research model with hypotheses is presented.

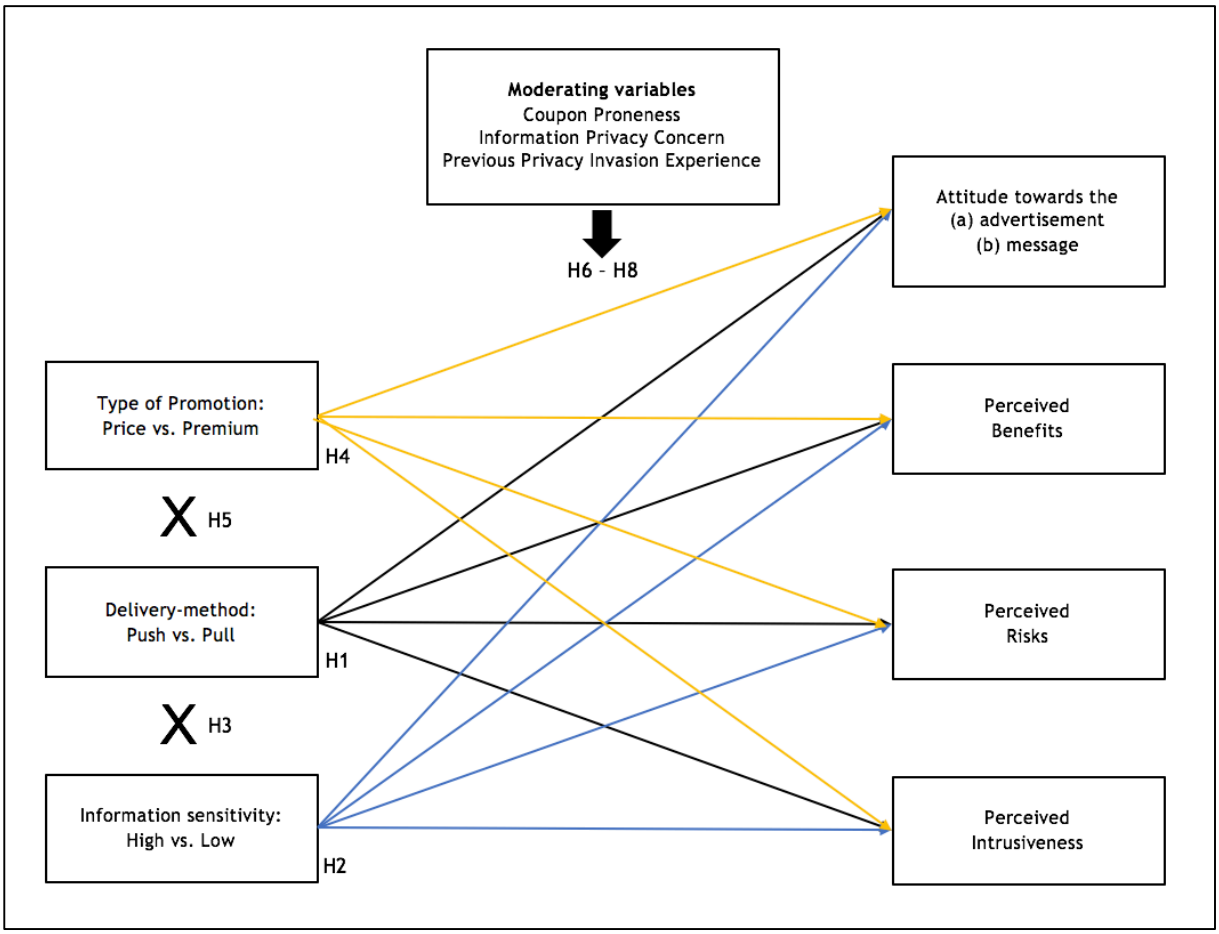


Figure 1. Research model

3. METHODOLOGY

The aim of this study was to examine the consumer's evaluations of different mobile LBA strategies. A 2x2x2 between-subjects design was conducted to test the hypotheses. The factors were: (1) delivery method: push vs. pull, (2) information sensitivity: low vs. high, and (3) type of promotional offering: price vs. premium. In this chapter, the scenarios (3.1) and pre-test study (3.2) are described, followed by the procedure of the experiment and the stimulus materials (3.3). Then, the characteristics of the participants are described (3.4) followed by the measurements of the dependent variables (3.5) and the moderating variables (3.6). Finally, the methodology section is concluded with the manipulation checks (3.7).

3.1 SCENARIOS

In order to test the hypotheses, a scenario study was conducted in which the delivery-method, level of information sensitivity and type of promotional offering were manipulated. The participants of the study were randomly assigned to one of the eight scenarios in which they were exposed to a story enriched with a mobile phone screen to visualize the story and to improve the comprehensibility of the scenario. The eight scenarios are presented in Table 1.

Table 1. Eight conditions of the experiment

	Level of information sensitivity			
	Type of promotion		Type of promotion	
Delivery-method	(1) push x high information sensitivity x price promotion	(2) push x high information sensitivity x premium promotion	(3) push x low information sensitivity x price promotion	(4) push x low information sensitivity x premium promotion
	(5) pull x high information sensitivity x price promotion	(6) pull x high information sensitivity x premium promotion	(7) pull x low information sensitivity x price promotion	(8) pull x low information sensitivity x premium promotion

Delivery-method. First, the the type of delivery-method was manipulated (push, pull). In the push-based condition, the scenario described a situation in which the participant was presented with a mobile advertisement with an offer without them actively asking for it. The mobile advertisement was pushed towards the consumer. In the pull-based condition, the scenario described and presented a mobile advertisement that was shown to the participant after he initiated a search for a particular service.

Level of information sensitivity. Second, the level of information sensitivity was manipulated (low, high). Each scenario story included a sentence that described the type of personal information being used for personalizing the mobile advertisement. The mobile advertisement with low information sensitivity appeared to be more privacy-friendly, with using only the location data and no other types of personal information. The high information sensitivity condition included more sensitive types of personal information in addition to the location data. In order to decide what types of personal information are perceived as more sensitive, a pre-test study was conducted (see paragraph 3.2).

Type of promotional offering. Finally, the type of promotional offering was manipulated (price, premium). In the price condition, the mobile advertisement that was shown to the participant included a

discount of 50% for a lunch menu. In the the premium condition, the participant was offered a free drink with the lunch menu.

3.2 PRE-TEST

A pre-test study was conducted to determine the sensitivity of different types of personal information. In total, 15 individuals participated in the pre-test study. Based on the five types of personal information distinguished by Phelps et al. (2000), participants were asked to rate different information types from (1) *very uncomfortable to provide to mobile applications* to (10) *very comfortable to provide to mobile applications*.

The results of the pre-test study indicated that gender (8.38), email address (6.45), interests (5.88) and educational level (5.61) are perceived as the least sensitive type of personal information. The participants were the least comfortable with sharing their bank account information (0.21), annual income (0.47), browser history (0.76), search history (0.81), recent online purchases (1.78) and their location history (1.98). The sensitivity of location data appeared to be on an average level (4.06) compared to the other types of personal information. Thus, purchasing habits and financial data were perceived as most sensitive, and demographic characteristics and lifestyle information as least sensitive.

Based on the pre-test results, the information sensitivity was manipulated on two levels: a low level of information sensitivity (only location data was used for personalizing the advertisement) and a high level of information sensitivity (location history, search history and recent online purchases were used for personalizing the advertisement). The pre-test questions are presented in Appendix B.

3.3 PROCEDURE

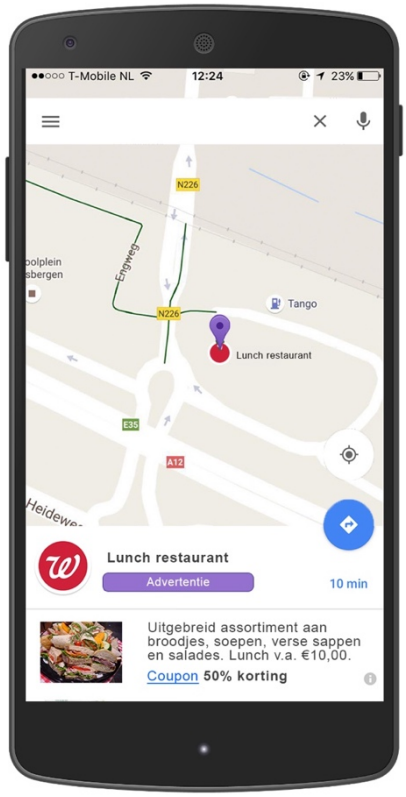
Dutch speaking mobile phone users were recruited via convenience sampling on social networking sites, such as Twitter, Facebook and LinkedIn. People were asked to share the survey link to their networks via sharing or retweeting. After a short introduction that explained the basic concepts of the study, the participants were randomly presented to one of the eight scenarios. The participants were asked to read the scenario carefully and to imagine that they were in this situation. All scenarios were based on the Google Maps application, considering that this is a familiar application that is pre-installed on all Android devices. Moreover, Google announced that it will add Location-Based Advertising to the Maps application, thus the scenarios are based on a realistic case. Two example scenarios with visualizations are shown in figure 2 and 3. All scenarios are presented in Appendix A.

After reading the scenario, the participants were asked to fill in a questionnaire with the items of the five different constructs specified in the research model: attitude towards the advertisement and message, perceived benefits, perceived intrusiveness, perceived risks and intention to use the advertisement. Then, the participants were asked to fill in three questions about their demographics: gender, age and educational level. In order to anticipate on possible priming effects, the items of the three moderating

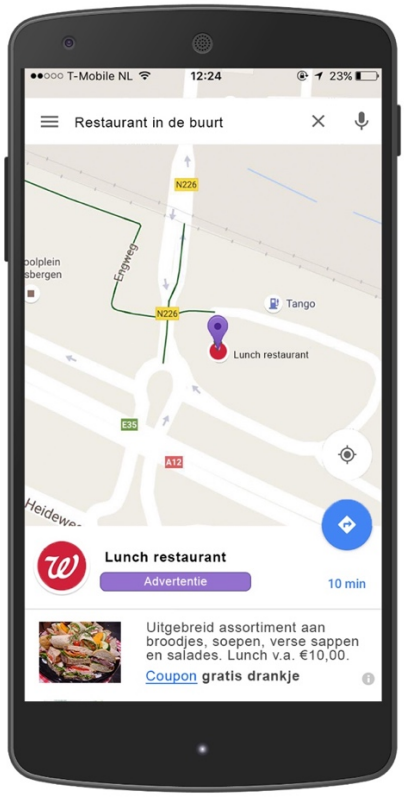
variables were presented after the demographic measures: general information privacy concern, previous privacy invasion experiences and coupon proneness. The survey questions are presented in Appendix C.

Scenario 1 [push-based x high level of information sensitivity x price promotion] "Consider the following scenario. You are making a road trip. You plug your destination into Google Maps and you start cruising down the road. It's almost lunch time and you start to feel hungry. Then **suddenly** a purple promoted pin appears on the map on your phone screen, showing you the location of your **favourite restaurant** and offering a **50% discount** if you stop. Google Maps knows this is your favourite restaurant because of your **location history, search history and previous purchase activities**."
Scenario 8 [pull-based x low level of information sensitivity x premium promotion] "Consider the following scenario. You are making a road trip. You get into your car and start cruising down the road. When it's almost lunch time you start to feel hungry. You decide to stop to search for a restaurant nearby. You open your Google Maps app and **fill in in your search query 'restaurant'**. After clicking on the search button, the application is showing you the location of the nearest restaurant and offering you a **free drink** if you stop. Google Maps displays this restaurant based only on your **current location**. Your location data will **not be shared with third parties**."

Figure 2. Example scenario stories



Scenario 1, 3



Scenario 6, 8

Figure 3. Example scenario visualizations

3.4 PARTICIPANTS

In total, 379 participants started the online questionnaire and 218 were completed and useful for analysis. The 161 uncompleted questionnaires were excluded from the analysis. The majority of the participants were women (female: 149, male: 69). The age of participants ranged from 16 to 64 years, with a mean age of 27.1 (SD = 8.64). The characteristics of the participants in each condition are presented in Table 2.

Table 2. Demographic characteristics per condition

	Participants	Age	Gender		Education	
Scenarios	N	Mean (SD)	Male %	Female %	Low %	High %
Push-based						
Price x HSI	26	27.38 (6.92)	23.1	76.9	7.7	92.3
Premium x HSI	28	23.68 (5.61)	28.6	71.4	21.4	78.6
Price x LSI	32	25.75 (7.78)	40.6	59.5	21.9	78.1
Premium x LSI	28	28.71 (9.61)	39.3	60.7	21.4	78.6
Pull-based						
Price x HSI	25	31.00 (11.58)	32.0	68.0	32	68
Premium x HSI	26	28.46 (11.47)	23.1	76.9	30.8	69.2
Price x LSI	27	25.96 (6.63)	33.3	66.7	11.1	88.9
Premium x LSI	26	31.00 (11.58)	30.8	69.2	23.1	76.9
Total	218	27.11 (8.64)	31.7	68.3	21.1	78.9

*HSI = High level of information sensitivity, LSI = Low level of information sensitivity

3.5 DEPENDENT MEASURES

After reading one of the eight scenarios, the participants answered questions pertaining to the key dependent measures. All items in the questionnaire were derived from earlier studies and were measured on a seven-point scale: *attitude towards advertisement* (Bauer et al., 2005; Caîc et al., 2014), *intention to use the advertised offer* (Caîc et al., 2014; Edwards et al., 2002), *perceived risks* (Malhotra et al., 2004), *perceived benefits* (Xu et al., 2009), and *perceived intrusiveness* (Edwards et al., 2002). All items were measured on a seven-point scale, unless stated otherwise. Cronbachs alpha and factor analyses confirmed the reliability and validity of these constructs.

Attitude towards ad. The first dimension *attitude towards the advertisement* was measured using two subscales. The first subscale, *attitude towards the advertisement*, was measured using a semantic differential scale that consisted out of five items (α = .94). The participants were asked to rate their attitude towards the advertisement from: good to bad, undesirable to desirable, unfavourable to favourable, negative to positive and dislike to like. In addition, the second subscale to measure *attitude towards the message* was a Likert-scale consisting out of three items (α = .86). The participants were asked to indicate how much they agree or disagree with the statements "I find the message (1) convenient, (2) beneficial, (3) relevant".

Perceived intrusiveness. The second construct in the questionnaire, *perceived intrusiveness* of the advertisement, was measured using a Likert scale with five items (α = .85), such as "When the message was shown, I thought it was (1) distracting, (2) disturbing, (3) forced (4) interfering, (5) intrusive".

Perceived benefits. The third construct, *perceived benefits*, was measured with a Likert scale consisting out of six items (α = .89). The participants were asked to indicate their agreement with statements such as "With this application, I am able to access the relevant information at the right place" and "This application can provide me with personalized information tailored to my activity context".

Perceived risks. The fourth construct, *perceived risks,* was measured using a Likert scale with five items (α = .86) such as "It would be risky to share this type of personal data with online companies in return for personalized offers" and "There would be too much uncertainty associated with sharing this type of personal data to firms in return for personalized offers".

Intention to use the advertised offer. The final construct of de dependent variables, *intention to use the advertised offer,* was measured with a Likert scale consisting out of one item, namely "I would use the offer provided on my smartphone".

3.6 MODERATING MEASURES

Items to measure external factors, the moderating variables, were also derived from earlier studies. It was made clear to the participants that these questions were not related to the scenario. Therefore, these items were presented in the questionnaire after the demographic measures.

Information privacy concern. The consumer information privacy concern was measured using a Likert scale developed by Chellapa and Sin (2005). The construct was measured using three items (α = .76) such as "I am sensitive about giving out information regarding my location", "When the location services option of my phone settings is turned on, I have the feeling that all my movements are being tracked and monitored" and "I am concerned that a person or company can find information about my past and real-time location".

Privacy invasion experience. The second moderating factor, previous privacy invasion experience, was measured using a semantic differential scale with two items (α = .87) developed by Smith et al. (1996). The participants were asked to indicate how many times they experienced a particular situation, such as "How often have you personally experienced incidents whereby your personal information was used by some service provider or website without your authorization?" and "How often have you personally been victim of what you felt was an improper invasion of privacy?".

Coupon proneness. The final construct, coupon proneness, was measured with a seven item Likert-scale (α = .87) developed by Dickinger and Kleijnen (2008). The construct included items such as "Redeeming

coupons makes me feel good", "I am more likely to buy products for which I have a coupon" and "I enjoy redeeming coupons, regardless of the amount of money I save by doing so".

Factor analysis of the items resulted in an eight component matrix (loadings shown in Table 3).

Table 3. Constructs, items and reliability

	Loadings	(α)
Attitude towards the advertisement		.92
Bad - good	.786	
Negative - positive	.822	
Undesirable - desirable	.738	
Unfavourable - favourable	.778	
Dislike very much – like very much	.639	
I find this message convenient	.287	
I find this message beneficial	.354	
I find this message relevant	.206	
Perceived benefits		.89
With this application, I am able to get the up-to-date information whenever I need to	.807	
With this application, I am able to access the relevant information at the right place	.817	
With this application, I am able to access the relevant information wherever I want to	.787	
This application can provide me with personalized information tailored to my activity context	.663	
This application can provide me with more relevant information tailored to my preferences	.613	
This application can provide me with the kind of information or service that I might like	.587	
Perceived risks		.85
I would feel save sharing this type of personal data with online firms in return for personalized offers	.611	
It would be risky to share this type of personal data with online companies in return for personalized offers	.753	
Providing online firms with this type of personal data in return for personalized offers would involve no unexpected problems	.700	
There would be high potential for loss associated with sharing these type of personal data to firms in return for personalized offers	.841	
There would be too much uncertainty associated with sharing this type of personal data to firms in return for personalized offers	.733	
Perceived intrusiveness		.85
When the message was shown, I though it was distracting	.662	
When the message was shown, I though it was disturbing	.591	
When the message was shown, I though it was forced	.787	
When the message was shown, I though it was interfering	.786	
When the message was shown, I though it was intrusive	.817	
Intention to use advertised offer		
I would use the offer provided on my smartphone	.341	
Information privacy concern		.76
I am sensitive about giving out information regarding my location	.768	
When the "location services" option of my phone settings is turned on, I have the feeling that all my movements are being tracked and monitored	.730	
I am concerned that a person or company can find information about my past and real-time location	.646	
Previous privacy invasion experience		.87
How often have you personally experienced incidents whereby your personal information was used by some service provider or website without your authorization?	.835	
How often have you personally been victim of what you felt was an improper invasion of privacy?	.823	
Coupon proneness		.87
Redeeming coupons makes me feel good	.762	
When I use coupons I feel like I'm getting a good deal	.800	
I enjoy redeeming coupons, regardless of the amount of money I save by doing so	.710	
I have favourite products, but most of the time I buy products I have a coupon for	.613	
I am more likely to buy products for which I have a coupon	.787	
Coupons have caused me to buy products I normally would not buy	.631	
Beyond the money I save, redeeming coupons gives me a sense of joy	.808	

3.7 MANIPULATION CHECKS

Manipulation checks were conducted in order to ensure that the independent variables, delivery-method, level of information sensitivity and type of promotional offering, were perceived as intended. The participants were asked to answer three questions regarding the delivery-method of the advertising message, the content of the promotional offering and the type of personal information being used by the mobile application. The type of delivery-method was checked against a true/false question, namely "The message showed up on my screen after I typed "restaurants nearby" in the search bar". For the type of promotion, participants were asked to indicate whether the message included a 50% discount or a free drink. The level information sensitivity was checked against a true/false question, namely "The application used only my current location, no other kinds of personal information".

Chi-square tests were conducted to determine whether the manipulations delivery-method, type of promotional offering and level of information sensitivity were noticed by the participants. The results of the chi-square tests indicate significant differences for the type of delivery method ($p < .001$), with mean scores of 1.88 (SD = .33) and 1.12 (SD = .33). Second, the means for the type of promotions were significantly different ($p < .001$), with mean scores of 1.97 (SD = .16) and 1.14 (SD = .35). Finally, the means of the information sensitivity condition were significantly different ($p < .001$), with mean scores of 1.76 (SD = .43) and 1.10 (SD = .30) The significant effects indicate that the manipulations were strong enough. However, some participants answered one or more manipulation check questions incorrectly.

In order to decide what to do with the data that failed the manipulation check, all analyses were first conducted using the complete dataset, including the participants who answered one or more manipulation check questions wrongly. Second, the analyses were conducted using the dataset in which all these participants were deleted. No strong differences were found between the outcomes of the analyses. Therefore, the data that failed the manipulation check was not dropped, but it must be taken in into account that not all participants perceived the manipulations correctly.

4. RESULTS

To test the hypotheses of this study, first a multivariate analysis of variance (MANOVA) was conducted to measure the main effects and interaction effects of the independent variables (4.1). Thereafter, another multivariate analysis of variance (MANOVA) was conducted to test the impact of the three moderating variables (4.2). Finally, additional regression analyses were conducted to examine the relations between the dependent variables (4.3).

4.1 EFFECTS OF THE INDEPENDENT VARIABLES

The main effects of the independent variables were measured using a multivariate analysis of variance. The analysis was conducted with delivery-method (push, pull), type of promotion (price, premium) and level of information sensitivity (low, high) as the factors. *Attitude towards ad and message, intention to use ad, perceived benefits, perceived risks* and *perceived intrusiveness* were included as the dependent variables. After performing MANOVA, Wilks' Lambda value showed significant results for main effects of type of delivery-method ($F(6, 205) = 3.042$, $p = .009$, $\eta^2 = .080$). In addition, significant results for interaction effects were found for type of delivery-method and level of information sensitivity ($F(6, 205) = 2.465$, $p = .025$, $\eta^2 = .067$). The results of the multivariate analysis of variance are presented in Table 4.

Table 4. Effects of the independent variables

Independent variables		df	F	p	η^2
Delivery-method					
	Attitude towards advertisement (1)	1, 210	9.620	.002**	.044
	Attitude towards advertisement (2)	1, 210	2.809	.095	.013
	Intention to use advertised offer	1, 210	1.703	.193	.008
	Perceived benefits	1, 210	5.166	.024*	.024
	Perceived risks	1, 210	2.155	.144	.010
	Perceived intrusiveness	1, 210	13.293	.000**	.060
Level of information sensitivity					
	Attitude towards advertisement (1)	1, 210	.000	.994	.000
	Attitude towards advertisement (2)	1, 210	.236	.628	.001
	Intention to use advertised offer	1, 210	1.001	.318	.005
	Perceived benefits	1, 210	1.133	.288	.005
	Perceived risks	1, 210	1	.387	.535
	Perceived intrusiveness	1, 210	.542	.462	.003
Type of promotion					
	Attitude towards advertisement (1)	1, 210	.706	.402	.003
	Attitude towards advertisement (2)	1, 210	2.015	.157	.010
	Intention to use advertised offer	1, 210	.131	.718	.001
	Perceived benefits	1, 210	.738	.391	.004
	Perceived risks	1, 210	1.789	.182	.008
	Perceived intrusiveness	1, 210	.563	.454	.003

The delivery-method of the mobile advertisement, push- versus pull-based, has a significant main effect on *attitude towards advertisement* ($F = 9.620$, $p = .002$), with participants exposed to the pull-based mobile advertisement has a significantly higher score on attitude towards the ad ($M = 4{,}60$, $SD = 1.38$) compared to the push-based mobile advertisement ($M = 3.95$, $SD = 1.58$). The type of delivery-method also has a significant main effect on the *perceived benefits* of the mobile advertisement (5.166, $p = .024$). Participants perceived the pull-based mobile advertisement as significantly more beneficial ($M = 4.82$, $SD = 1.03$) than the push-based mobile advertisement ($M = 4.45$, $SD = 1.32$). In addition, a main effect of the delivery-method was found on *perceived intrusiveness* ($F = 13.293$, $p < .001$). The perceived intrusiveness is significantly higher for the push-based mobile advertisement ($M = 4.46$, $SD = 1.38$) than for the pull-

based mobile advertisement (M = 3.78, SD = 1.29). No significant main effects were found for effects of type of delivery-method on the the perceived risks and intention to use the advertised offer. All means and standard deviations for the independent variables are presented in Table 5.

Table 5. Means and standard deviations per condition

Conditions	Attitude towards ad (1) M (SD)	Attitude towards ad (2) M (SD)	Intention to use ad M (SD)	Perceived benefits M (SD)	Perceived risks M (SD)	Perceived intrusiveness M (SD)
Push-based						
Price x HSI	3.96 (1.56)	4.87 (1.16)	4.00 (1.96)	4.64 (1.26)	4.65 (1.52)	4.30 (1.31)
Premium x HSI	4.13 (1.63)	4.90 (1.40)	3.96 (2.08)	4.42 (1.34)	4.79 (1.05)	4.15 (1.40)
Price x LSI	3.65 (1.61)	4.81 (1.38)	3.28 (1.87)	4.41 (1.43)	**5.28 (1.10)**	**4.79 (1.46)**
Premium x LSI	4.15 (1.51)	4.55 (1.54)	3.43 (1.73)	4.54 (1.27)	4.91 (1.12)	4.48 (1.31)
Pull-based						
Price x HSI	4.45 (1.56)	5.16 (1.03)	3.88 (1.51)	**5.03 (1.10)**	4.94 (0.96)	3.92 (1.45)
Premium x HSI	4.58 (1.39)	4.92 (1.30)	3.68 (1.63)	4.99 (0.87)	4.60 (1.17)	3.82 (1.06)
Price x LSI	**4.71 (1.15)**	**5.35 (1.24)**	**4.26 (1.43)**	4.74 (0.91)	4.74 (1.05)	3.73 (1.27)
Premium x LSI	4.62 (1.48)	4.82 (1.25)	3.81 (1.88)	4.51 (1.21)	4.44 (1.33)	3.71 (1.41)
Delivery-method						
Push	3.95 (1.58)**	4.78 (1.37)	3.64 (1.92)	4.45 (1.32)*	**4.93 (1.21)**	**4.46 (1.38)****
Pull	**4.60 (1.38)****	**5.07 (1.21)**	**3.97 (1.60)**	**4.82 (1.03)***	4.68 (1.13)	3.78 (1.29)**
Information sensitivity						
High	4.27 (1.54)	4.96 (1.22)	3.93 (1.79)	4.71 (1.19)	4.75 (1.18)	4.05 (1.31)
Low	4.25 (1.50)	4.88 (1.37)	3.67 (1.76)	4.55 (1.22)	4.87 (1.17)	4.21 (1.43)
Type of promotion						
Price	4.17 (1.53)	5.04 (1.23)	3.83 (1.73)	4.69 (1.21)	4.92 (1.18)	4.21 (1.42)
Premium	4.36 (1.50)	4.80 (1.37)	3.77 (1.83)	4.56 (1.20)	4.69 (1.17)	4.05 (1.32)

HSI = High information sensitivity, LSI = Low information sensitivity
* p < .05, ** p < .005

After performing follow-up analyses for the interaction effects, only marginally significant interaction effects were found for the type of delivery-method and level of information sensitivity on the perceived intrusiveness of the mobile advertisement (F(1, 210) = 2.892, p = .090, η^2 = .014). An independent sample T-test indicated that the type of delivery-method has a significant effect on the perceived intrusiveness when presented with an advertisement with low information sensitivity (F(111) = .080, p < .001). Participants who were presented with a pull-based advertisement (M = 4.68, SD = 1.37) perceived the ad as more intrusive than participants who were presented with a push-based advertisement (M = 3.79, SD = 1.32).

In addition, a marginally significant interaction effect was found for the type of delivery-method and level of information sensitivity on the perceived risks of the mobile advertisement (F(1, 210) = 3.148, p = .077, η^2 = .015) and intention to use the advertised offer (F(1, 210) = 2.953, p = .087, η^2 = .014). An independent sample T-test indicated that the type of delivery-method has a significant effect on the perceived risks when presented with an advertisement with low information sensitivity (F(111) = .073, p = .016). Participants who were presented with a push-based advertisement (M = 5.12, SD = 1.12) perceived the ad as riskier than participants who were presented with a pull-based advertisement (M = 4.59, SD = 1.81). In addition, the results of an independent sample T-test indicated that the type of delivery-method has a

significant effect on the intention to use the advertised offer when presented with an advertisement with low information sensitivity (F(111) = 2.538, p = .026). The intention to use the advertised offer was higher for the pull-based advertisement (M = 4.06, SD = 1.65) than for the push-based advertisement (M = 3.32, SD = 1.80). Furthermore, no significant interaction effects were found, as presented in Table 6.

Table 6. Interaction effects of de independent variables

Independent variables	df	F	p	η^2
*Delivery-method * Level of information sensitivity*				
Attitude towards advertisement (1)	1, 210	.643	.423	.003
Attitude towards advertisement (2)	1, 210	.655	.419	.003
Intention to use advertised offer	1, 210	2.953	.087	.014
Perceived benefits	1, 210	1.492	.223	.007
Perceived risks	1, 210	3.148	.077	.015
Perceived intrusiveness	1, 210	2.892	.090	.014
*Delivery-method * Type of promotion*				
Attitude towards advertisement (1)	1, 210	.497	.482	.002
Attitude towards advertisement (2)	1, 210	.418	.519	.002
Intention to use advertised offer	1, 210	.223	.637	.001
Perceived benefits	1, 210	.000	.989	.000
Perceived risks	1, 210	.490	.480	.002
Perceived intrusiveness	1, 210	.103	.749	.000
*Level of information sensitivity * Type of promotion*				
Attitude towards advertisement (1)	1, 210	.013	.911	.000
Attitude towards advertisement (2)	1, 210	.711	.400	.003
Intention to use advertised offer	1, 210	..088	.766	.000
Perceived benefits	1, 210	.255	.614	.001
Perceived risks	1, 210	.480	.489	.002
Perceived intrusiveness	1, 210	.005	.943	.000
*Delivery-method * Level of information sensitivity * Type of promotion*				
Attitude towards advertisement (1)	1, 210	.374	.542	.002
Attitude towards advertisement (2)	1, 210	.014	.907	.000
Intention to use advertised offer	1, 210	.309	.579	.001
Perceived benefits	1, 210	1.135	.288	.005
Perceived risks	1, 210	.672	.413	.003
Perceived intrusiveness	1, 210	.031	.861	.000

4.2 EFFECTS OF THE MODERATING VARIABLES

Another aim of this research was to determine how a person's general information privacy concern, his previous experiences with privacy invasion and his level of coupon proneness affects the relationship between the independent variables and the dependent variables. To determine the moderating effects of (1) information privacy concern, (2) previous privacy invasion experience and (3) coupon proneness, a multivariate analysis of variance (MANOVA) was performed. In order to test the moderating effects of these three variables, the variables were transformed from continuous to categorical variables through a median split. The participants could either have a low or high concern for information privacy (Median = 4.67, SD = 1.51), a low or high level of previous privacy invasion experience (Median = 2.00, SD = 1.33), and a low or high level of coupon proneness (Median = 3.86, SD = 1.78). After performing the median split, three different MANOVAs were conducted that included one of the three categorical variables as factors in addition to type of delivery-method, type of promotion and level of information sensitivity. The dependent variables were the participant's *attitude towards ad and message*, *intention to use advertised offer*, *perceived benefits*, *perceived risks* and *perceived intrusiveness*.

The results of the multivariate analysis of variances indicate main effects for information privacy concern ($F(6, 197) = 11.349$, $p < .001$, $\eta^2 = .257$). The Wilks' Lambda value showed no significant results for interaction effects, which indicates that information privacy concern has no moderating effect on the relation between the independent and dependent variables. Main effects were also found for previous privacy invasion experience ($F(6, 197) = 3.585$, $p = .002$, $\eta^2 = .098$). Wilks' Lambda value indicated no significant interaction effects. Thus, previous privacy invasion experience has no moderating effect on the relation between the independent variables and dependent variables. Finally, main effects were found for coupon proneness ($F(6, 197) = 6.609$, $p < .001$, $\eta^2 = .168$). The Wilks' Lambda value showed no significant results for interaction effects, which indicates that coupon proneness has no moderating effect on the relation between the independent and dependent variables. The results of the multivariate tests are presented in Table 7 and the main effects of the moderating variables in Table 8. The means of the moderating variables per condition are presented in Table 9.

Table 7. Multivariate effects of the moderating variables

Moderating variables	Wilk's Λ	df	F	p	η^2
Information privacy concern					
Information privacy concern	.743	6, 197	11.349	.000**	.257
Information privacy concern * delivery-method	.992	6, 197	.279	.946	.008
Information privacy concern * promotion	.971	6, 197	.972	.446	.029
Information privacy concern * information sensitivity	.960	6, 197	1.367	.230	.040
Previous privacy invasion experience					
Previous privacy invasion experience	.902	6, 197	3.585	.002**	.098
Previous privacy invasion experience * delivery-method	.964	6, 197	1.237	.289	.036
Previous privacy invasion experience * promotion	.995	6, 197	.151	.989	.005
Previous privacy invasion experience * information sensitivity	.978	6, 197	.726	.629	.022
Coupon proneness					
Coupon proneness	.832	6, 197	6.609	.000**	.168
Coupon proneness * delivery-method	.980	6, 197	.664	.679	.020
Coupon proneness * promotion	.961	6, 197	1.323	.248	.039
Coupon proneness * information sensitivity	.971	6, 197	.968	.448	.029

** $p < .005$

Table 8. Main effects of the moderating variables

Moderating variables	Low M(SD)	High M(SD)	df	F	p	η^2
Information privacy concern						
Attitude towards advertisement (1)	4.66 (1.38)	3.73 (1.53)	1, 202	20.493	.000	.092
Attitude towards advertisement (2)	5.10 (1.23)	4.68 (1.36)	1, 202	4.978	.027	.042
Intention to use advertised offer	4.27 (1.68)	3.17 (1.71)	1, 202	20.721	.000	.093
Perceived benefits	4.80 (1.11)	4.40 (1.29)	1, 202	6.352	.012	.030
Perceived risks	4.31 (1.12)	5.46 (.91)	1, 202	62.019	.000	.235
Perceived intrusiveness	3.79 (1.33)	4.59 (1.29)	1, 202	16.881	.000	.077
Previous privacy invasion experience						
Attitude towards advertisement (1)	4.64 (1.48)	4.00 (1.49)	1, 202	5.661	.018	.027
Attitude towards advertisement (2)	5.14 (1.23)	4.77 (1.34)	1, 202	3.016	.084	.015
Intention to use advertised offer	4.25 (1.70)	3.49 (1.77)	1, 202	7.588	.006	.036
Perceived benefits	4.80 (1.18)	4.51 (1.21)	1, 202	2.049	.154	.010
Perceived risks	4.36 (1.10)	5.11 (1.14)	1, 202	20.017	.000	.090
Perceived intrusiveness	3.75 (1.36)	4.40 (1.33)	1, 202	7.792	.006	.037
Coupon proneness						
Attitude towards advertisement (1)	3.74 (1.52)	4.81 (1.31)	1, 202	36.421	.000	.153
Attitude towards advertisement (2)	4.57 (1.40)	5.28 (1.09)	1, 202	22.270	.000	.099
Intention to use advertised offer	3.25 (1.79)	4.36 (1.58)	1, 202	26.457	.000	.116
Perceived benefits	4.33 (1.28)	4.94 (1.04)	1, 202	15.428	.000	.071
Perceived risks	5.00 (1.18)	4.61 (1.41)	1, 202	6.030	.015	.029
Perceived intrusiveness	4.33 (1.51)	3.93 (1.18)	1, 202	7.199	.008	.034

Table 9. Means and standard deviations of the moderating variables per condition

Scenarios	General privacy concern Mean (SD)	Previous privacy invasion Mean (SD)	Coupon proneness Mean (SD)
Push-based			
Price x HSI	4.42 (1.50)	2.42 (1.09)	3.96 (1.41)
Premium x HSI	3.62 (1.75)	2.41 (1.35)	3.68 (1.27)
Price x LSI	4.81 (1.42)	2.92 (1.58)	3.56 (1.31)
Premium x LSI	4.77 (1.36)	2.41 (1.41)	4.21 (1.01)
Pull-based			
Price x HSI	4.64 (1.06)	2.32 (1.31)	3.53 (1.29)
Premium x HSI	4.14 (1.44)	2.40 (1.26)	3.96 (0.83)
Price x LSI	4.56 (1.21)	2.11 (1.24)	3.75 (0.86)
Premium x LSI	3.69 (1.82)	2.15 (1.29)	3.69 (1.26)
Total	4.37 (1.51)	2.41 (1.33)	3.79 (1.18)

4.3 ADDITIONAL ANALYSES

In this paragraph, the relations between the independent variables are measured with a regression analysis. In order to test the relations between *attitude towards advertisement and message*, *intention to use advertised offer, perceived benefits, perceived risks* and *perceived intrusiveness,* several regression analyses were conducted. To predict *intention to use the advertised offer* a multiple regression analysis was calculated with attitude towards the ad and message, and with the perceived benefits. A significant regression equation was found ($F(3, 214) = 76.257$, $p < .001$) with an R^2 of .517. Regression coefficients and standard errors are shown in table 10.

Table 10. Multiple regression analysis of intention to use advertised offer

Variable	*B*	*Std. Error*	*Beta*	Sig.
(Constant)	-.878	.365		.017
Attitude towards ad	.543	.077	.463	.000
Attitude towards message	.261	.091	.191	.004
Perceived benefits	.233	.100	.158	.020

4.4 OVERVIEW OF THE RESULTS

The main focus of this study was to determine to what extent the type of delivery-method, type of promotional offering and level of information sensitivity in location-based mobile advertising affects the perceived benefits, risks, intrusiveness and the attitude towards the advertisement. The results of the experiment show that the type of delivery-method of mobile LBA (push, pull) had a significant main effect on attitude towards the advertisement and on the perceived benefits and intrusiveness. No effects were found for the additional independent variables, type of promotional offering and level of information sensitivity. Marginally significant interaction effects were found for type of delivery-method and level of information sensitivity. In addition, no interaction effects were found for the moderating variables, which indicates that information privacy concern, previous privacy invasion experience and coupon proneness do not affect the relation between the independent and dependent variables. An overview of the hypotheses is presented in Table 11.

Table 11. Overview of the hypotheses

H#	Hypotheses	Result
H1	a. The perceived benefits of mobile LBA are higher for push-based advertising messages than for pull-based messages	Supported
	b. The perceived risks of mobile LBA are higher for push-based advertising messages than for pull-based messages	Rejected
	c. The perceived intrusiveness of mobile LBA is higher for push-based advertising messages than for pull-based messages	Supported
	d. The consumer's attitude towards mobile LBA is higher for pull-based advertising messages than for push-based messages	Supported
H2	a. Mobile LBA leads to higher perceived benefits when the ad is personalized based on a lower level of sensitive information as opposed to a higher level of sensitive information	Rejected
	b. Mobile LBA leads to higher perceived risks when the ad is personalized based on a higher level of sensitive information as opposed to a lower level of sensitive information	Rejected
	c. Mobile LBA leads to higher perceived intrusiveness when the ad is personalized based on a higher level of sensitive information as opposed to a lower level of sensitive information	Rejected
	d. Mobile LBA leads to a more favourable attitude when the ad is personalized based on a lower level of sensitive information as opposed to a higher level of sensitive information	Rejected
H3	a. Push-based mobile LBA leads to lower perceived benefits when the ad is personalized on a higher level of sensitive information as opposed to a lower level of sensitive information	Rejected
	b. Push-based mobile LBA leads to higher perceived risks when the ad is personalized on a higher level of sensitive information as opposed to a lower level of sensitive information	Rejected
	c. Push-based mobile LBA leads to higher perceived intrusiveness when the ad is personalized on a higher level of sensitive information as opposed to a lower level of sensitive information	Rejected
	d. Push-based mobile LBA leads to a less favourable attitude when the ad is personalized on a higher level of sensitive information as opposed to a lower level of sensitive information	Rejected
H4	a. The perceived benefits of mobile LBA are higher when a price promotion is offered as opposed to a premium promotion	Rejected
	b. The perceived risks of mobile LBA are lower when a price promotion is offered as opposed to a premium promotion	Rejected
	c. The perceived intrusiveness of mobile LBA is higher when a premium promotion is offered as opposed to a price promotion	Rejected
	d. The consumer's attitude towards mobile LBA is higher when a price promotion is offered as opposed to a premium promotion	Rejected
H5	a. Pull-based mobile LBA leads to higher perceived benefits when a price promotion is offered as opposed to when a premium promotion is offered	Rejected
	b. Pull-based mobile LBA leads to a more favourable attitude when a price promotion is offered as opposed to when a premium promotion is offered	Rejected
H6	a. The perceived benefits of all mobile LBA strategies are lower when a consumer has a high concern for information privacy concern, as opposed to a low concern for privacy	Rejected
	b. The perceived risks of all mobile LBA strategies are higher when a consumer has a high concern for information privacy concern, as opposed to a low concern for privacy.	Rejected
	c. The perceived intrusiveness of all mobile LBA strategies is higher when a consumer has a high concern for information privacy concern, as opposed to a low concern for privacy	Rejected
	d. The consumers' attitude towards all mobile LBA strategies is less favourable when a consumer has a high concern for information privacy concern, as opposed to a low concern for privacy	Rejected
H7	a. Consumers who had their information privacy invaded perceive mobile LBA as less beneficial compared to consumers who do not have these experiences	Rejected
	b. Consumers who had their information privacy invaded perceive mobile LBA as riskier compared to consumers who do not have these experiences	Rejected
	c. Consumers who had their information privacy invaded perceive mobile LBA as more intrusive compared to consumers who do not have these experiences	Rejected
	d. Consumers who had their information privacy invaded have a less favourable attitude towards mobile LBA compared to consumers who do not have these experiences	Rejected
H8	a. The perceived benefits of mobile LBA are higher for value seekers than for coupon apathetics in all mobile LBA strategies	Rejected
	b. The perceived risks of mobile LBA are higher for value seekers than for coupon apathetics in all mobile LBA strategies	Rejected
	c. The perceived intrusiveness of mobile LBA is higher for value seekers than for coupon apathetics in all mobile LBA strategies	Rejected

5. DISCUSSION

Mobile devices offer marketers a new channel to reach consumers. Phone functionalities, such as location-services can be combined with other data resources such as contextual data (i.e. time of day, device type) and consumer data (i.e. search- and purchasing behaviour). With the combination of data resources, marketers are able to build consumer profiles and provide the right content in the right format to the right person at the right time (Tam & Ho, 2005). Despite the growing attention given to mobile advertising, little is known about a consumer's attitude towards different mobile Location-Based Advertising (LBA) strategies. This study provides a further understanding of a consumer's evaluation of different mobile LBA strategies, both positive (perceived benefits) and negative (perceived risks and intrusiveness). The goal of this study, as described in the research question, was to investigate consumer evaluations of different mobile Location-Based Advertising strategies. In particular, the effects of type of delivery-method (push, pull), level of information sensitivity (low, high), and type of promotional offering (price, premium) on the perceived benefits, risks, intrusiveness and attitude towards the advertisement. After the discussion of the findings, the practical implications (5.1) for marketers are described. Third, the limitations and future research directions are discussed (5.2). Finally, this chapter ends with a short conclusion (5.3).

The first aim of this study was to investigate the effect of type of delivery-method. The findings show that consumers have a more favourable attitude towards pull-based than towards push-based mobile advertising messages. This is in line with previous research reporting that pull-based mobile advertising messages fare better than push-based messages (Beldona et al., 2012; Unni and Harmon, 2007). A possible explanation for this effect is that when the advertising message is 'pulled' by the consumer, the advertisement is based on a specific request and therefore tailored to the demands and needs of the consumer (Xu et al., 2010). This can also be concluded from the fact that the perceived benefits appeared to be significantly higher for pull-based messages than for push-based messages. The decision to initiate a request is volitional; the mobile phone user exercises greater control over the interaction (Xu et al., 2010). In addition, the perceived intrusiveness was found to be significantly higher for push-based advertising than for pull-based advertising. Unni and Harmon (2007) argue that privacy concerns become more salient with push-based advertising. Consumers are more likely to experience loss of control when a message is pushed towards them. The unexpected appearance of mobile advertisements may cause irritation and disturbance which leads to feelings of loss of control. These negative emotions influence the perceived intrusiveness of a mobile advertisement (Lee et al., 2015). Moreover, push-based messages tend to interrupt the consumer's goal and are more likely to result in advertisement avoidance which decreases the overall advertisement effectiveness (Xu et al., 2010)

The second aim was to find out the effects of the type of information being used for personalizing the mobile advertisement. A distinction was made between high and low sensitive information. The higher the level of information sensitivity, the more potential loss associated with the disclosure of that information. The findings revealed no significant effects of information sensitivity (high vs. low) on the attitude towards the advertisement, nor on the perceived benefits, risks and intrusiveness. This is not in line with research of Mothersbaugh et al. (2012), who found that a higher level of information sensitivity

leads to lower perceived customization benefits. A possible explanation for the absence of significant effects could be the growing consumer comfort with personal information being used to increase the value of personalized services (Aguirre et al., 2015; Forbes Insights, 2016). In addition, personalization quality can overcome a consumer's concern about possible privacy risks (Mothersbaugh et al., 2012). In the experiment of the current study a Google application was used, which is a familiar application for most phone users. Andrade et al. (2002) argue that consumers share sensitive information more easily with trusted and well-known companies. Another explanation could be the privacy-personalization paradox (Awad & Krishnan, 2006). Highly personalized advertising based on sensitive types of information might trigger privacy concerns, but consumers might also recognize the benefits of personalized mobile advertising which creates uncertainty on how to react (Aguirre et al., 2015). A third possible explanation might be the influence of the delivery-method which might overrule the effects of the type of information being used for personalizing the mobile advertisement.

The third aim of this study was to determine the effect of type of promotional offering (price vs. premium). This study was the first to investigate different responses towards these types in the context of mobile LBA. The findings failed to reveal significant effects for type of promotion on all dependent variables. This is not in line with findings of Sinha and Smith (2000), who found that price promotions are perceived as providing a higher value than premium promotions. They argue that consumers are more capable of processing price in absolute rather than unit terms, and price promotions entail the lowest absolute cost. An explanation for the absence of effects could be that the consumer perceived both promotional offerings not as valuable enough to have a significant effect on their evaluation of the mobile advertisement, or both promotion types are not perceived differently in worth. In addition, Bacile et al. (2014) found that consumers are more likely to respond to mobile coupons when they can indicate their preferences beforehand. In this study, the participant was presented with a coupon for a restaurant, which might not appeal to all individuals. Another explanation might be, as mentioned before, the influence of the delivery-method which might overrule the effects of the type of promotional offering.

The fourth and final aim of this research was to explore whether information privacy concern, previous privacy invasion experience and coupon proneness, influence consumer's evaluations of the different LBA strategies. Main effects for all moderating variables were found. Thus, these personal characteristics influence consumers' evaluations of mobile LBA. Surprisingly, no support was found for interaction effects of the moderating variables, which means that these characteristics had no influence on the relation between the independent and dependent variables of this study. Additionally, relations between the dependent variables were found. In line with the theory of planned behaviour, the results indicated that the behavioural intention to use the advertised offer can be predicted with the attitude towards the advertisement (Azjen, 1991) and the perceived benefits.

5.1 PRACTICAL IMPLICATIONS

The results of this study have several implications for marketers who are interested in implementing mobile LBA for their business. First, the findings suggest that the delivery-method of mobile

advertisements is important to consider. Pull-based advertising methods are perceived as less intrusive and more effective when it comes to a consumer's attitude towards the advertisement. Marketers need to recognize this fact when designing or implementing mobile LBA. In addition, since LBA is a fairly new advertising method, marketers have to get consumers to request or 'pull' this type of advertising and ensure that it is beneficial for the consumer without being too intrusive. Although push-based advertising messages are perceived as more intrusive and less beneficial, consumers' negative evaluations could be changed if permission is obtained (Ström et al., 2014), when the mobile phone user has the possibility to opt-out (Tucker, 2014), or when the consumer's experience is enhanced by offering them relevant, personalized and contextual information (Persaud & Azhar, 2012). In addition, the perceived risks of mobile LBA in both pull- and push-based advertising were not significantly different, but marketers should still treat it as a potential concern.

Second, the findings revealed that the the level of information sensitivity and the type of promotion being offered in the advertisement had no significant effects on consumer evaluation of mobile LBA. This might indicate that the promotional content and personal data being used by marketers are inferior to the type of delivery-method. Consumers are more susceptible to how the mobile advertisement is delivered to them. Third, to successfully offer mobile LBA, marketers should take consumer characteristics into account. Privacy-minded individuals generally perceive mobile LBA as less beneficial, riskier and more intrusive compared to people who value their information privacy to a lower extent. Privacy concerns increase scepticism and avoidance of advertising, which reduce the overall effectiveness of advertising (Aguirre et al., 2015). Therefore, marketers should bear these concerns in mind when implementing mobile LBA. For example, by proactively protecting consumer's data privacy with privacy enhancing technologies whereby personally identifiable information is securely stored and processed to prevent unauthorized access (Xu & Gupta, 2009). In addition, not all consumers attach the same value to mobile LBA or mobile coupons. Therefore, it is recommended to give consumers the possibility to state their preferences (Bacile et al., 2014) or to opt-out (Tucker, 2014).

5.2 LIMITATIONS AND FUTURE RESEARCH DIRECTIONS

Like other empirical research, the results of this study should be read within its limitations. The first limitation is the use of a convenience sampling. When replicating the study, a more diverse sample that includes all ages, an equal distribution of both males and females and both low and high educated individuals should be used. Second, a scenario-based approach was used in the experiment which is appropriate in the initial adoption stage of new advertising methods. Nevertheless, it represents a simplification of the real context, which limits the generalizability of the results. Moreover, a field experiment in which participants are able to gain a more realistic experience of mobile LBA will produce more reliable and meaningful results since the behavioural intention to act in some manner does not always prove the actual behaviour. Third, the scenario described which types of personal information were being used for personalizing the mobile advertisement. In a real-life-setting this information is often not provided when presented with a mobile advertisement. Therefore, the responses to the different construct items could be biased.

Based on the findings, some ideas for future research on the topic of mobile LBA are suggested. This study investigated the influence of different mobile LBA strategies on the perceived benefits, risks and intrusiveness and the attitude towards the advertisement. The perceived benefits were focused on utilitarian and monetary benefits, whereas hedonic or social benefits might also play a role in the perceived value of mobile advertising (Ström et al., 2014). The perceived risks in this study were focused on privacy risks, whereas concerns over collection, errors and combining data from different datasets could also be examined as possible risks (Smith et al., 1996). Also perceived control (Unni & Harmon, 2007) and perceived vulnerability (Aguirre et al., 2015) are interesting factors to explore in future research.

In the experiment, a restaurant was used as the advertised 'product'. Barwise and Strong (2002) found that the effectiveness mobile advertising differs for the type of product. Mobile advertising would be more fruitful for low-priced and frequently bought products than for expensive products. It would be interesting to study consumer responses to different product types. When investigating the effects of personalized mobile advertising, it would be an option to ask the participants what their interests are and based on this the advertisement can be tailored. Aguirre et al. (2015) argue that personalization works best when there is a match between the message appeal and the consumer's motivation state. Tucker (2014) stated that when consumers are given the opportunity to indicate their preferences, they tend to express more positive attitude and find more value in advertising.

Ström et al. (2014) proposed that credibility also plays a role in consumer evaluation of mobile advertising. Well-known brands might have an advantage over unfamiliar brands since they are perceived as more credible and trusted. Thus, the role of brand credibility, familiarity, trust and level of personalization are also important factors in the effectiveness of mobile advertising and should be included in future research on mobile LBA. Furthermore, characteristics such as personal innovativeness (Beldona et al.,2012), risk avoidance, personal attachment (Gao et al., 2013) and shopping style (Persaud & Azhar, 2012) would be interesting to include in future research. Innovative individuals attach a higher value to personalization because they have a higher need to distinguish themselves from others and they are more likely to be attracted to mobile advertisements that acknowledge their 'uniqueness' (Gao et al., 2013).

5.3 CONCLUSION

The findings of this experimental research provide insight into consumer evaluation of different mobile LBA strategies. This study contributes to existing literature by examining the effects of the type of delivery-method (push, pull), type of promotion (price, premium) and personalization based on different levels of sensitive information (low, high). It is important for marketers to consider the balance between convenience (benefits) and risks (privacy, intrusion) of mobile LBA. This study examined some aspects of this dilemma of how to react to mobile advertisements. The findings that consumer evaluations are dependent on the type of delivery-method of mobile LBA, suggest that consumers evaluate pull-based advertising messages on their mobile phone more positively than push-based advertising messages. This finding is important for marketers to consider when implementing mobile LBA. Future research is needed to delve further into the different factors that influence consumer evaluation of mobile LBA strategies.

REFERENCES

Andrade, E.B., Kaltcheva, V., Weitz, B. (2002) Self-Disclosure on the Web: The Impact of Privacy Policy, Reward, and Company Reputation. *Advances in Consumer Research,* 29, 350 - 353.

Arora, N., Dreze, X., Ghose, A. (2008) Putting One-to-one Marketing to work: Personalization, Customization, and Choice. *Marketing Letters,* 19, 305 – 321.

Aguirre, E., Mahr, D., Grewal, D., De Ruyter, K., Wetzels, M. (2015) Unravelling the Personalization Paradox: The Effect of Information Collection and Trust-Building Strategies on Online Advertisement Effectiveness. *Journal of Retailing,* 91 (1), 34 – 49.

Awad, N.F., Krishnan, M.S., (2006) Personalization Privacy Paradox. *MIS Quarterly*, 30 (1), 13 – 28.

Azjen, I. (1991) The Theory of Planned Behavior. *Organizational Behavior and Human Decision Processes,* 50 (2), 179 – 211.

Bacile, T.J., Ye, C., Swiley, E. (2014) From Firm-controlled to Consumer-contributed: Consumer Co-production of Personal Media Marketing Communications. *Journal of Interactive Marketing,* 28 (2), 117 – 133.

Baratcu, S. (2007) Attitudes towards Mobile Marketing Tools: A study of Turkish consumers. *Journal of Targeting, Measurement and analysis for Marketing*, 16(1), 26 - 38.

Banerjee, S.Y., Yancey, S. (2010) Enhancing Mobile Coupon Redemption in Fast Food Campaigns. *Journal of Research in Interactive Marketing,* 4 (2), 97 - 110.

Banks, R. (2015) Location Based Mobile Marketing. Retrieved from: http://www.mobileindustryreview.com/2015/02/location-based-mobile-marketing.html (05-10-2016).

Bauer, H., Barnes, J., Reichardt, T., Neumann, M. (2005) Driving Consumer Acceptance of Mobile Marketing: A Theoretical Framework and Empirical Study. *Journal of Electronic Commerce Research*, 6 (3), 181 - 192.

Bauer, C., Strauss, C. (2016) Location-based Advertising on Mobile Devices. A literature review and analysis. *Management Review Quarterly,* 66 (6), 159 – 194.

Barwise, P., Strong, C. (2002) Permission-based Mobile Advertising. *Journal of Interactive Marketing,* 16 (1), 14 – 24.

Beldona, S., Lin, K., Yoo, J. (2012) The roles of Personal Innovativeness and Push vs Pull Delivery Methods in Travel-oriented Location-based Services. *Journal of Hospitality and Tourism Technology*. 3 (2), 86 – 95.

Büttner, O.B., Florack, A., Göritz, A.S. (2015) How Shopping Orientation influences the Effectiveness of Monetary and Nonmonetary promotions. *European Journal of Marketing,* 49 (1/2), 170 – 189.

Bruner, C.G., Kumar, A. (2007) Attitude toward Location-Based Advertising. *Journal of Interactive Advertising, 7 (2), 3 - 15.*

Caic, M., Mahr, D., Aguirre, E. De Ruyter, K., Wetzels, M. (2015) Too Close for Comfort: The Negative Effects of Location-Based Advertising. *Advanced in Advertising Research,* 5, 103 – 111.

Campbell, L., Diamond, W.D. (1990) Framing and Sales Promotions: The Characteristics of a Good Deal. *Journal of Consumer Marketing,* 7, 25 – 31.

Chandon, P., Wansink, B., Laurent, G. (2000) A Benefit Congruency Framework of Sales Promotion effectiveness. *Journal of Marketing,* 64 (4), 65 – 81.

Chellappa, R.K., Sin, R. (2005) Personalization versus Privacy: An Empirical Examination of the Online Consumer's Dilemma. *Information Technology and Management,* 6 (2,3), 181 - 202.

Dickinger, A., Kleijnen, M. (2008) Coupons going Wireless: Determinants of Consumer Intentions to redeem Mobile Coupons. *Journal of Interactive Marketing,* 22 (3), 23 – 39.

Dinev, T., Hart, P. (2004) Internet Privacy Concerns and their Antecedents: Measurement Validity and a Regression Model. *Behavior and Information Technology,* 23 (6), 413 – 422.

Dowling, G.R. (2004) The Art and Science of Marketing. *Oxford University Press.*

Edwards, S.M., Li, H., Lee, L.H. (2002) Forced Exposure and Psychological Reactance: Antecedents and consequences of the perceived intrusiveness of pop-up ads. *Journal of Advertising,* 31 (3), 83 – 95.

Forbes Insights (2016) Location, a Strategic Marketing Imperative. Retrieved from: http://www.forbes.com/sites/forbespr/2016/03/23/location-based-marketing-is-fast-becoming-essential-to-remain-competitive-says-new-study/#23f8f56817b4 (01-06-2016).

Gao, T., Rohm, A.J., Sultan, F., Pagani, M. (2013) Consumers Untethered: A Three-market Empirical Study of Consumers' Mobile Marketing Acceptance. *Journal of Business Research,* 66 (12), 2536 – 2544.

Grant, I., O'donohoe, S. (2007) Why Young Consumers are not open to Mobile Marketing Communication. *International Journal of Advertising*, 26 (2), 223 - 246.

Ho, S.Y. (2012) The effects of Location Personalization on Individuals' Intention to use Mobile Services. *Decision Support Systems*, 53, 802 – 812.

Ho, S.Y., Kwok, S.H. (2003) The Attraction of Personalized Service for Users in Mobile Commerce: An Empirical Study. *ACM SIGecom Exchanges*, 3 (4), 10 – 18.

Jones, M.G. (1991) Privacy: A Significant Marketing Issue for the 1990s. *Journal of Public Policy Marketing*, 10 (1), 133 – 148.

Lee, S., Kim, K.J., Sunder, S.S. (2015) Customization in Location-Based Advertising: Effects of Tailoring Source, Locational Congruity, and Product Involvement on Ad Attitudes. *Computers in Human behavior,* 51, 336 – 343.

Leppaniemi, M., Karjaluoto, H. (2005) Factors Influencing Consumers' willingness to accept Mobile Advertising: A Conceptual Model. *International Journal of Mobile Communications,* 3 (3), 197 – 213.

Li, H., Sarathy, R., Xu, H. (2011) The role of Affect and Cognition on Online Consumers' Decisions to disclose Personal Information to Unfamiliar Online Vendors. *Decision Support Systems,* 51 (3), 434 - 445.

Li, T., Unger, T. (2012) Willing to pay for Quality Personalization? Trade-off between Quality and Privacy. *European Journal of Information Systems,* 21, 621 – 642.

Li, Y. (2012) Theories in Online Information Privacy Research: A Critical Review and an Integrated Framework. *Decision Support Systems*, 54, 471 – 481.

Malhotra, N.K., Kim, S.S., Agarwal, J. (2004) Internet Users' Information Privacy Concerns (IUIPC): The Construct, the Scale, and a Causal Model. *Information Systems Research,* 15 (4), 336 – 355.

Malthouse, E. C., Elsner, R. (2006). Customisation with Cross-basis Sub-segmentation. *Database Marketing & Customer Strategy Management*, *14*(1), 40 – 50.

Montgomery, A.L., Smith, M.D. (2009) Prospects for Personalization on the Internet. *Journal of Interactive Marketing,* 23 (2), 130 - 137.

Mothersbaugh, D.L., Foxx, W.K., Beatty, S.E., Wang, S. (2012) Disclosure Antecedents in an Online Service Context: the role of sensitivity of information. *Journal of Service Research,* 15 (1), 76 – 98.

Paavilainen, J. (2002) Mobile Business Strategies, *IT Press,* London.

Palazon, M., Delgado Ballester, E. (2009) Effectiveness of Price Discounts and Premium Promotions. *Psychology and Marketing,* 26 (12), 1108 – 1129.

Persaud, Z., Azhar, I. (2012) Innovative Mobile Marketing via Smartphones – Are Consumers Ready? *Marketing Intelligence and Planning*, 30 (4), 418 - 443.

Phelps, J., Nowak, G., Ferrell, E. (2002) Privacy Concerns and Consumer Willingness to provide Personal Information. *Journal of Public Policy Marketing*, 19, 27 – 41.

Senecal, S., Nantel, J. (2004) The influence of Online Product Recommendations on Customers' Online Choices. *Journal of Retailing,* 80 (2), 159 - 169.

Sheehan, K., Hoy, M. (2000), Dimension of Privacy Concern Among Online Consumers. *Journal of Public Policy and Marketing,* 19, 62 - 73.

Simonson, I. (2005) Determinants of Customer's Responses to Customized Offers: Conceptual framework and Research propositions. *Journal of Marketing,* 69 (1), 32 – 45.

Sinha, I. Smith, M.F. (2000) Consumers' Attitudes of Promotional Framing of Price. *Psychology & Marketing,* 17, 257 – 275.

Smith, H.J., Milberg, S.J., Burke, S.J. (1996) Information privacy: Measuring Individuals' Concerns about Organizational Practices. *MIS Quarterly,* 20(2), 167 - 196.

Smith, H.J., Dinev, T., Xu., H. (2011) Information privacy research: an interdisciplinary review. *MIS Quarterly*, 35 (4), 989 – 1015.

Ström, R., Vendel, M., Bredican, J. (2014) Mobile marketing: A Literature Review on its Value for Consumers and Retailers. *Journal of Retailing and Consumer Services*, 21 (6), 1001 – 1012.

Tam, K.Y., Ho, S.Y. (2005) Web Personalization as a Persuasion Strategy: an Elaboration Likelihood Model Perspective. *Information Systems Research,* 16(3), 271 - 291.

Tucker, C.E. (2014) Social Networks, Personalized Advertising, and Privacy Controls. *Journal of Marketing Research,* 51, 546 – 562.

Unni, R., R. Harmon (2007) Perceived Effectiveness of Push vs. Pull Mobile Location-Based Advertising. *Journal of Interactive Advertising*, 7 (2), 28 - 40.

Wang, P., Petrison, L.A. (1993) Direct Marketing Activities and Personal Privacy: a Consumer Survey. *Journal of Direct Marketing*, 7 (1), 7 – 19.

Xu, H., Dinev, T, Smith, H.J., Hart, P. (2008) Examining the Formation of Individual's Privacy Concerns: toward an Integrative View. *ICIS 2008 Proceedings,* Paper 6.

Xu, H., Gupta, S. (2009) The effects of Privacy Concerns and Personal Innovativeness on Potential and Experienced Customers' Adoption of Location-Based Services. *Electron Markets,* 19, 137 - 149.

Xu, H., Luo, X., Carroll, J.M., Rosson, M.B. (2011) The Personalization-Privacy Paradox: An Exploratory study of Decision Making Process for Location-Aware Marketing. *Decision Support Systems,* 51, 42 - 52.

Xu, H., Teo, H.H., Tan, B.C.Y., Agarwal, R. (2009) The role of Push-Pull Technology in Privacy Calculus: The case of Location-Based Services. *Journal of Management Information Systems,* 26 (3), 135 - 173.

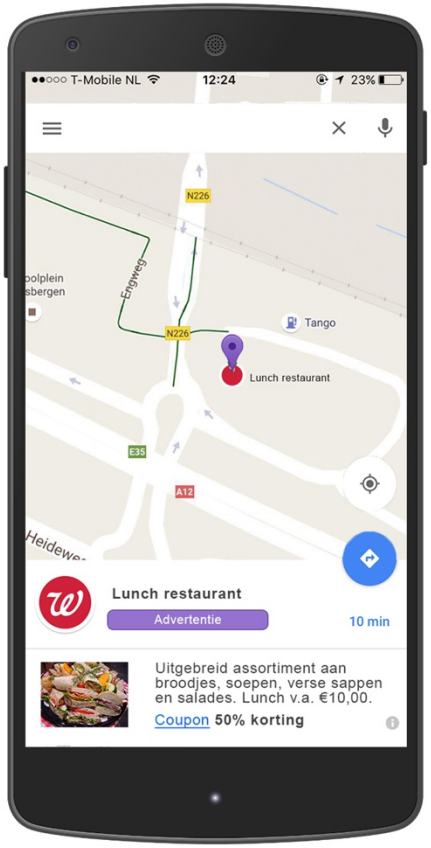
Yi, Y., Yoo, J. (2011) The long-term Effects of Sales Promotions on Brand Attitude across Monetary and Non-Monetary Promotions. *Psychology & Marketing,* 28 (9), 879 - 896.

Zeithaml, V.A. (1998) Consumer Perceptions of Price, Quality and Value: A Means-End Model and Synthesis of Evidence. *Journal of Marketing*, 52, 2 - 22.

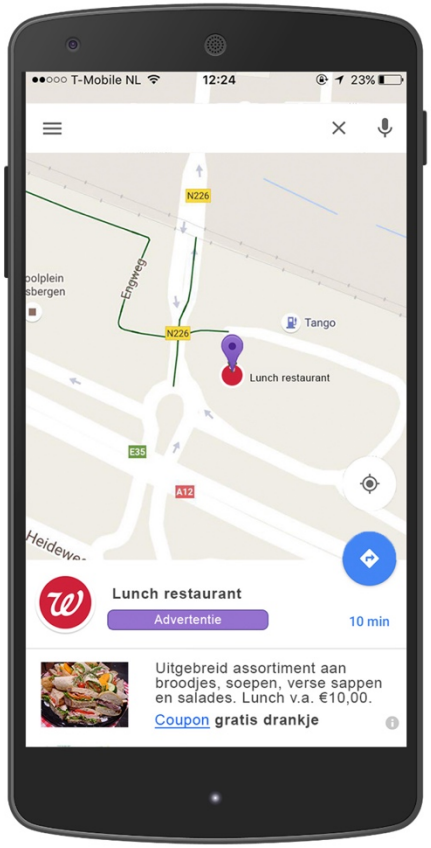
APPENDICES

APPENDIX A - SCENARIOS

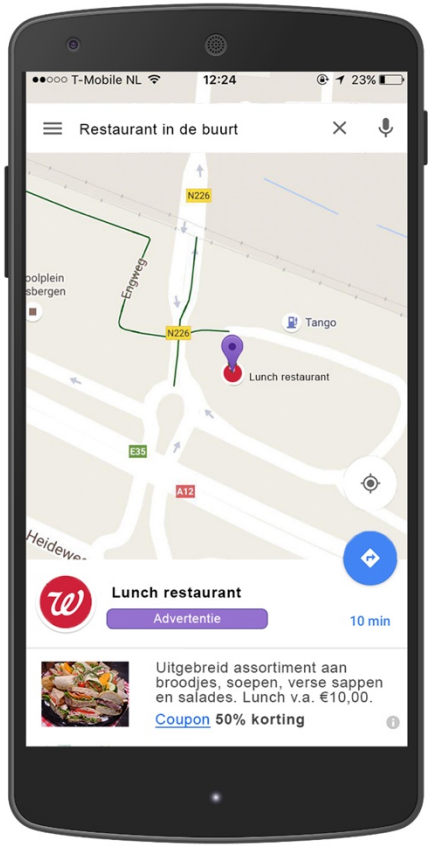
Scenario 1 (push-based, high privacy concern, price promotion): "Consider the following scenario. You are making a road trip. You plug your destination into Google Maps and you start cruising down the road. It's almost lunch time and you start to feel hungry. Then **suddenly** a purple promoted pin appears on the map on your phone screen, showing you the location of your **favorite restaurant** and offering a **50% discount** if you stop. Google Maps knows this is your favorite restaurant because of your **location history, search history and previous purchase activities**."
Scenario 2 (push-based, high privacy concern, premium promotion): "Consider the following scenario. You are making a road trip. You plug your destination into Google Maps and you start cruising down the road. It's almost lunch time and you start to feel hungry. Then **suddenly** a purple pin appears on the map on your phone screen, showing you the location of your **favorite restaurant** and offering you a **free drink** if you stop. Google Maps knows this is your favorite restaurant because of your **location history, search history and previous purchase activities**."
Scenario 3 (push-based, low privacy concern, price promotion): "Consider the following scenario. You are making a road trip. You plug your destination into Google Maps and you start cruising down the road. It's almost lunch time and you start to feel hungry. Then **suddenly** a purple promoted pin appears on the map on your phone screen, showing you the location of your **favorite restaurant** and offering a **50% discount** if you stop. Google Maps displays this restaurant based only on your **current location**. Your location data will **not be shared with third parties**."
Scenario 4 (push-based, low privacy concern, premium promotion): "Consider the following scenario. You are making a road trip. You plug your destination into Google Maps and you start cruising down the road. It's almost lunch time and you start to feel hungry. Then **suddenly** a purple pin appears on the map on your phone screen, showing you the location of the nearest restaurant and offering you a **free drink** if you stop. Google Maps displays this restaurant based only on your **current location**. Your location data will **not be shared with third parties**."
Scenario 5 (pull-based, high privacy concern, price promotion): "Consider the following scenario. You are making a road trip. You get into your car and start cruising down the road. When it's almost lunch time you start to feel hungry. You decide to stop to search for a restaurant nearby. You open your Google Maps app and **fill in your search query 'restaurant'**. After clicking on the search button, the application is showing you the location of your **favorite restaurant** and offering you a **50% discount** if you stop. Google Maps knows this is your favorite restaurant because of your **location history, search history and previous purchase activities**."
Scenario 6 (pull-based, high privacy concern, premium promotion): "Consider the following scenario. You are making a road trip. You get into your car and start cruising down the road. When it's almost lunch time you start to feel hungry. You decide to stop to search for a restaurant nearby. You open your Google Maps app and **fill in your search query 'restaurant'**. After clicking on the search button, the application is showing you the location of your **favorite restaurant** and offering you a **free drink** if you stop. Google Maps knows this is your favorite restaurant because of your **location history, search history and previous purchase activities**."
Scenario 7 (pull-based, low privacy concern, price promotion): "Consider the following scenario. You are making a road trip. You get into your car and start cruising down the road. When it's almost lunch time you start to feel hungry. You decide to stop to search for a restaurant nearby. You open your Google Maps app and **fill in your search query 'restaurant'**. After clicking on the search button, the application is showing you the location of the nearest restaurant and offering you a **50% discount** if you stop. Google Maps displays this restaurant based only on your **current location**. Your location data will **not be shared with third parties**."
Scenario 8 (pull-based, low privacy concern, premium promotion): "Consider the following scenario. You are making a road trip. You get into your car and start cruising down the road. When it's almost lunch time you start to feel hungry. You decide to stop to search for a restaurant nearby. You open your Google Maps app and **fill in your search query 'restaurant'**. After clicking on the search button, the application is showing you the location of the nearest restaurant and offering you a **free drink** if you stop. Google Maps displays this restaurant based only on your **current location**. Your location data will **not be shared with third parties**."



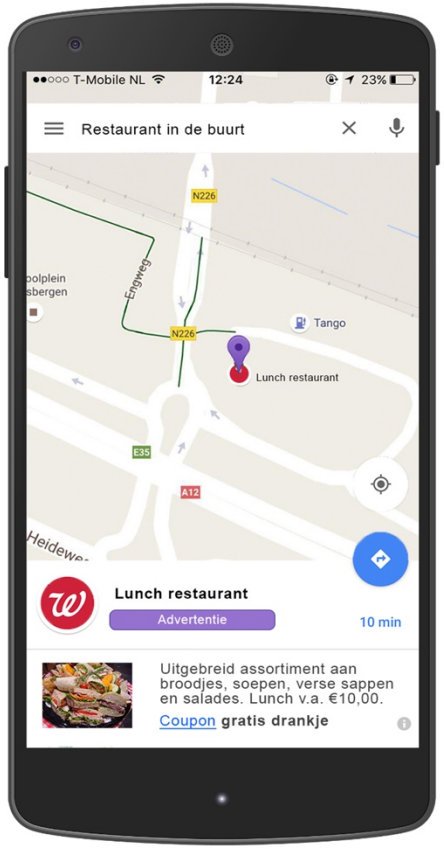
Scenario 1 +3



Scenario 2 + 4



Scenario 5 + 7



Scenario 6 + 8

APPENDIX B – PRETEST

To what extent are you comfortable with sharing these types of information with smartphone applications?

Name	0%	O	O	O	O	O	O	O	100%
Gender	0%	O	O	O	O	O	O	O	100%
Place of residence	0%	O	O	O	O	O	O	O	100%
Phone number	0%	O	O	O	O	O	O	O	100%
Email address	0%	O	O	O	O	O	O	O	100%
Bank account	0%	O	O	O	O	O	O	O	100%
Education	0%	O	O	O	O	O	O	O	100%
Annual income	0%	O	O	O	O	O	O	O	100%
Sexual preference	0%	O	O	O	O	O	O	O	100%
Weight	0%	O	O	O	O	O	O	O	100%
Date of birth	0%	O	O	O	O	O	O	O	100%
Phone contacts	0%	O	O	O	O	O	O	O	100%
Smartphone type	0%	O	O	O	O	O	O	O	100%
Photo’s and videos	0%	O	O	O	O	O	O	O	100%
Serial number	0%	O	O	O	O	O	O	O	100%
Agenda	0%	O	O	O	O	O	O	O	100%
Hobbies	0%	O	O	O	O	O	O	O	100%
Product preferences	0%	O	O	O	O	O	O	O	100%
Recent online purchases	0%	O	O	O	O	O	O	O	100%
Location data (GPS)	0%	O	O	O	O	O	O	O	100%
Location history	0%	O	O	O	O	O	O	O	100%
Browser history	0%	O	O	O	O	O	O	O	100%
Access to camera	0%	O	O	O	O	O	O	O	100%
Access to microphone	0%	O	O	O	O	O	O	O	100%

APPENDIX C – SURVEY QUESTIONS

[introduction text]

Voor mijn masteropleiding aan de Universiteit Twente doe ik onderzoek naar **gepersonaliseerde advertenties op uw mobiel**. Deze vragenlijst is onderdeel van mijn scriptie. Ik zou het enorm waarderen als u even de tijd wilt nemen om deze vragenlijst in te vullen.

Het onderzoek werkt als volgt: allereerst krijgt u een korte beschrijving te zien van een bepaalde situatie. Het is de bedoeling dat u zich **zo goed mogelijk probeert in te leven in deze situatie**. Vervolgens worden er een aantal stellingen aan u voorgelegd.

Onthoud dat het gaat om **uw mening**, er zijn geen goede of foute antwoorden.

Het invullen van de vragenlijst duurt ongeveer **10 minuten**. Uiteraard worden de gegevens anoniem verwerkt.

Alvast hartelijk dank voor uw deelname aan dit onderzoek.

Erica Hokse
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[random assignment of one of the eight scenarios]

[questions dependent variables]

1. In hoeverre beoordeelt u het bericht dat u net te zien kreeg op uw mobiel als:
(7-punts semantic differential schaal)
Slecht - Goed
Negatief - Positief
Ongewenst - Gewenst
Onaangenaam - Aangenaam
Totaal niet fijn - Heel erg fijn

2. Ik vind het bericht op mijn mobiel
(7-punts schaal “zeer mee oneens” tot “zeer mee eens”)
Praktisch
Handig
Relevant
Afleidend
Verontrustend
Dwingend
Storend
Opdringerig

3. Geef aan in hoeverre u het eens bent met de volgende stellingen
(7-punts schaal “zeer mee oneens” tot “zeer mee eens”)
Met deze app krijg ik up-to-date informatie wanneer ik nodig heb.
Met deze app heb ik toegang tot relevante informatie op de juiste locaties.

Met deze app krijg ik toegang tot relevante informatie wanneer ik maar wil.
Deze app geeft me aanbiedingen die passen bij mijn activiteiten.
Deze app geeft me relevante aanbiedingen aangepast aan mijn wensen.
Deze app geeft me de service die ik fijn vind.

4. Het bericht dat u te zien kreeg op uw smartphone was gebaseerd op uw persoonlijke gegevens (locatie…)
Geef aan in hoeverre u het eens bent met de volgende stellingen
(7-punts schaal "zeer mee oneens" tot "zeer mee eens")
Het is veilig om dit soort persoonlijke informatie te delen met apps in ruil voor aanbiedingen.
Het is risicovol om dit soort persoonlijke informatie te delen met apps in ruil voor aanbiedingen.
Het verstrekken van dit soort persoonlijke informatie aan apps geeft onverwachte problemen.
Er is kans op een beveiligingslek bij het verstrekken van dit soort persoonlijke informatie aan apps.
Er is te veel onzekerheid wat betreft het verstrekken van dit soort persoonlijke informatie aan apps.

5. Geef aan in hoeverre u het eens bent met de volgende stelling:
(7-punts schaal "zeer mee oneens" tot "zeer mee eens")
Ik zou de aanbieding op mijn mobiel gebruiken.

[manipulation checks]

De volgende vragen worden gesteld om te controleren of u de situatie die beschreven was in het begin goed heeft begrepen.

6. Het bericht op mijn mobiel verscheen op mijn scherm nadat ik "restaurants in de buurt" intypte in de app. Is dit juist of onjuist?
O Juist
O Onjuist

7. In het bericht stond een link naar een coupon voor:
O Een gratis drankje
O 50% korting

8. De app gebruikte alleen mijn huidige locatie, geen andere soorten persoonlijke informatie. Is dit juist of onjuist?
O Juist
O Onjuist

[moderating variables]

De volgende vragen gaan over uzelf.

9. Geef aan in hoeverre u het eens bent met de volgende stellingen
(7-punts schaal "zeer mee oneens" tot "zeer mee eens")
Ik ben wel gevoelig over het delen van mijn locatie met apps
Wanneer de "locatievoorzieningen" aanstaan op mijn smartphone, dan heb ik altijd het gevoel dat al mijn bewegingen worden gevolgd en gecontroleerd.
Ik maak me zorgen dat een persoon of een bedrijf informatie over mijn huidige locatie en locaties uit het verleden kan vinden.

10. Geef aan hoe vaak u dit heeft meegemaakt
(7-punts schaal "nog nooit" tot "altijd")
Hoe vaak heeft u persoonlijk incidenten ondervonden waarbij persoonlijke informatie was gebruikt zonder uw toestemming?
Hoe vaak bent u slachtoffer geweest van wat volgens u een inbreuk op uw privacy was?

11. Geef aan in hoeverre u het eens bent met de volgende stellingen
(coupon = kortingscode of kortingsbon)
(7-punts schaal “zeer mee oneens” tot “zeer mee eens”)
Het gebruiken van coupons geeft me een goed gevoel.
Wanneer ik coupons gebruik geeft me dat het gevoel dat ik een goede deal krijg.
Ik geniet van het gebruik van coupons, ongeacht hoeveel geld ik daarmee bespaar.
Ik koop sneller producten als ik daar een coupon voor heb.
Coupons zorgen ervoor dat ik producten koop die ik normaal gesproken niet zou kopen.
Naast het geld dat ik bespaar, geeft het gebruiken van coupons me een goed gevoel.

[demographic measures]

Tot slot worden er nog drie vragen over uzelf gesteld.

12. Wat is uw geslacht?
O Man
O Vrouw

13. Wat is uw leeftijd?
…

14. Wat is uw hoogst genoten opleiding (inclusief huidige opleiding)?
O Geen
O Basisschool
O Vmbo, mavo
O Havo
O Vwo
O Mbo
O Hbo
O Wo
O Anders, namelijk …