THE INFLUENCE OF ADS' PERCEIVED INTRUSIVENESS IN GEO-FENCING AND GEO-CONQUESTING ON PURCHASE INTENTION: THE MEDIATING ROLE OF CUSTOMERS' ATTITUDES

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ABSTRACT

Aim/Purpose	This study focuses on two targeting strategies of out-store Location-Based Mobile Advertising (LBMA): the geo-fencing strategy (i.e., targeting customers who are near the focal store) and the geo-conquesting strategy (i.e., targeting those who are near competitors' stores to visit the focal store). To the authors' knowledge, no previous studies have compared the perceived intrusiveness of advertisements (ads) in geo-fencing and geo-conquesting settings, despite the accumulating literature on out-store LBMA. Hence, the aim of this study is to determine which targeting strategy is more effective in terms of reducing the perception of ads' intrusiveness and increasing positive customers' attitudes and purchase intention.
Background	The intrusive nature of LBMA is perceived negatively by some customers, impacting their attitudes toward the ad, purchase intention, and even their perception of the brand. Therefore, identifying the targeting strategy under which ads are perceived as less intrusive is essential. Additionally, brick-and-mortar clothing stores in Jordan are facing challenges due to the rise of online shopping and increased competition from nearby stores. Thus, examining geo-fencing and geo-conquesting might tackle these challenges and encourage local clothing retailers to adopt these strategies.

Methodology	A quantitative method was used in this study. A between-subjects experimental design was used to collect the data using a scenario-based survey distributed to Jordanians aged 18 to 45. A total of 531 responses were collected. After excluding those who do not belong to the targeted age group and those who did not pass the manipulation check, 406 responses were analyzed using the Statistical Package for the Social Sciences (SPSS) software version 28 and the Analysis of Moment Structures (AMOS) software version 26 to conduct Structural Equation Modeling (SEM).
Contribution	This work offers valuable contributions by investigating the impact of the perceived intrusiveness of ads on purchase intention in the contexts of geo-fencing and geo-conquesting, which has not been studied before. Additionally, it fills a gap by examining this phenomenon in Jordan, a developing country in which attitudes toward LBMA have not been previously explored.
Findings	The results revealed that location-based mobile ads sent under a geo-fencing strategy are perceived as less intrusive than those sent under a geo-conquesting strategy. In addition, customers' attitudes fully mediate the relationship between intrusiveness and purchase intention only under the geo-fencing strategy. Ultimately, neither of the strategies is more effective in terms of increasing positive customer attitudes and purchase intentions in the context of clothing retail stores in Jordan.
Recommendations for Practitioners	Clothing retailers in Jordan should consider adopting geo-fencing and geo-conquesting strategies to boost purchase intentions and tackle industry challenges. Additionally, to increase purchase intentions with geo-fencing, practitioners should focus on fostering positive customer attitudes toward ads, as simply perceiving them as less intrusive is not sufficient to drive purchase intention without the mediating effect of positive attitudes.
Recommendations for Researchers	This research is crucial for academics and researchers as geolocation technology and LBMA are expected to advance significantly in the future. Researchers can investigate this topic through a randomized field experiment, followed by a research questionnaire to collect data from a real-world setting.
Impact on Society	Utilizing LBMA is essential for local clothing retail stores that are trying to effectively reach and connect with their customers because searching the Internet for local goods and services is done primarily on mobile devices. Indeed, this study revealed that customers in both settings (i.e., geo-fencing and geo-conquesting) reported a high intention to visit the promoting store and to purchase from the advertised product category.
Future Research	Future research can apply this topic to different industries and cultural contexts, as the results may vary across industries and regions. Moreover, future research could build on this study by investigating additional constructs, such as product category involvement, customization, and content type of the message (e.g., informative, entertaining).
Keywords	mobile marketing, location-based mobile marketing, location-based mobile advertising, geo-fencing, geo-conquesting, perceived intrusiveness, attitudes, purchase intention

INTRODUCTION

In 2018, Location-Based Mobile Advertising (LBMA) spending in the United States reached US$21.4 billion, and it is projected that this figure will exceed US$32 billion by the end of 2023 (Statista, 2023). Unni and Harmon (2007) define LBMA as "targeted advertising initiatives delivered to a mobile device from an identified sponsor that is specific to the location of the consumer" (p. 28). LBMA operates on the integrated use of Global Positioning System (GPS) technology and Geographic Information System (GIS) technology to send personalized content through mobile devices to the right customers at the right time and place (Shieh & Hsieh, 2016). LBMA offers the opportunity to implement a successful advertising strategy as it increases the chance of gaining a high advertising response, considering that customers often perceive a location-based mobile advertisement (ad) as more alluring than a location-independent ad. This is because of its timeliness and relevance (Wang et al., 2017).

Location-based mobile ads are often delivered in the form of mobile Short Message Services (SMS), Multimedia Message Services (MMS), or in the form of mobile push notifications by branded applications (apps) (Bernritter et al., 2021; Wang et al., 2017). These branded apps are often connected to the company's loyalty program so that the company can collect insights regarding each user's purchase behavior, in addition to insights about their current and past location, via location tracking sensors. This "hyper-context" (Bernritter et al., 2021, p. 678) information allows marketers and advertisers to develop more relevant and useful location-based mobile ads (i.e., geo-behavioral marketing) (Kamiya & Branisso, 2021; Wočniczka, 2021). Customers benefit from such branded apps by receiving discounts and loyalty points as rewards for their repeat purchases. This research study will specifically address location-based mobile ads that are sent in the form of mobile push notifications by branded apps; as Kamiya and Branisso (2021) suggested, it is crucial for marketers to understand how mobile push notifications can drive sales and unplanned purchases. Push notifications delivered by branded apps increase unplanned purchases and store sales, particularly when customers are close to the store or at the point of purchase (Kamiya & Branisso, 2021). To receive location-based mobile ads in the form of push notifications by branded apps, a permission alert must be displayed to users to allow the branded app to send them push notifications and access their location.

While some customers find location-based mobile ads interesting and helpful, others perceive them to be intrusive and distracting (Gazley et al., 2015). These negative perceptions stem from the inherent nature of LBMA, which centers on actively persuading customers to engage in the act of purchasing by sending location-based ads via customers' mobile phones. This often leads to customers feeling that the retailer is dominant and aims to control their decisions externally (Bues et al., 2017). As a result, they start perceiving the mobile ad as intrusive (Bues et al., 2017), especially if the ad is delivered while the user is engaged in a task demanding significant mental effort. Hence, the perceived intrusiveness of ads is defined as "a psychological reaction to ads that interfere with a consumer's ongoing cognitive processes" (H. Li et al., 2002, p. 39). This definition is applicable to all contexts, regardless of where the interference occurred and at what time (H. Li et al., 2002).

Previous studies have reported that, when customers perceive a location-based mobile ad as intrusive, they react negatively toward it (S. Lee et al., 2015) which affects their attitude toward the ad (Gazley et al., 2015). A customer's attitude toward an ad is described as the thoughts and emotions experienced by consumers in response to an ad (Kirmani & Campbell, 2009). Due to technological advancements and the emergence of mobile phones with location-based services, scholars have modified this definition to fit the context of location-based mobile ads to become "a person's general predisposition toward commercial messages that are received on a personal mobile communication device and customized for one's geographic position" (Bruner & Kumar, 2007, p. 6). This study addresses attitudes because prior research has demonstrated that a customer's attitude toward an ad is a significant result of advertising (van 't Riet et al., 2016).

In addition, when customers perceive a location-based mobile ad as intrusive, it affects their image of the brand (i.e., the advertiser) and even their purchase intention (Gazley et al., 2015; Ketelaar et al., 2018). Purchase intention refers to the likelihood that customers will be willing to buy a good or service in the future (Ho Nguyen et al., 2022). Purchase intention does not mean actual purchase, but it can be an indicator of actual purchase (Kotler & Armstrong, 2013; Mirabi et al., 2015). In this study, purchase intention is referred to as the likelihood and willingness of customers to purchase the product mentioned in a location-based mobile ad, which is sent in the form of a mobile push notification.

Ho et al. (2020) emphasized that for location-based mobile ads to be successful and be perceived as less intrusive, advertisers need to leverage both context and content. For example, when a customer is in or near a store (i.e., context) and receives a location-based mobile ad from that store (i.e., content), the customer will most likely perceive the ad as less intrusive, more persuasive, and more relevant than receiving the same ad from a distant store. Thereby, there is a great chance that they will click on the ad and even buy the promoted product. This is because the ad's content is congruent with the customer's current context (Lian et al., 2019).

Context encompasses factors such as geographical proximity, competition, the surrounding environment, and the type of activity that the customer is engaged in when receiving the ad (Ho et al., 2020; Y. C. Lee, 2015). This study will concentrate on "geographical proximity" as a contextual factor in LBMA performance. In the LBMA literature, geographical proximity divides the implementation of LBMA into two main streams: in-store and out-store (Bernritter et al., 2021). When executing in-store LBMA, businesses target customers who are in-store and in the proximity of a certain product aisle in order to send them mobile promotional messages regarding particular products on that aisle. In out-store LBMA, businesses can either target customers who are in proximity to the focal store, which is a targeting strategy referred to as geo-fencing, or they can target those who are in proximity to the competitors' stores, in order to encourage customers to visit the focal store (Bernritter et al., 2021), which is a targeting strategy referred to as geo-conquesting. This study will examine out-store LBMA (i.e., geo-fencing and geo-conquesting) in clothing retail stores in Jordan.

The evaluation of existing studies has led to the identification of a number of gaps in the literature on out-store LBMA. Many scholars have examined the geo-fencing targeting strategy (Banerjee & Dholakia, 2012; Fang et al., 2013, 2016; Ho et al., 2020; Hühn et al., 2017; S. Lee et al., 2015; Luo et al., 2014; Sari et al., 2016; Zhu et al., 2017; Zou et al., 2016). However, the geo-conquesting targeting strategy has only been explored by a few scholars (Ding et al., 2023; Dubé et al., 2017; Fong et al., 2015). Additionally, previous studies (Ding et al., 2023; Dubé et al., 2017; Fong et al., 2015) investigated customers' purchasing responses under geo-fencing and geo-conquesting settings, but did not consider other factors, such as ads' perceived intrusiveness and customers' attitudes toward the ad. In particular, the perceived intrusiveness of ads is a major issue in the field of LBMA that needs to be further addressed (Zhu et al., 2017), as there has been an increasing call that urges future research to further address the perception of intrusiveness and its effects (Ketelaar et al., 2018).

Moreover, Bauer and Strauss (2016) recommended that future studies explore the effects of LBMA in different cultural contexts because its impact may differ in other regions and/or cultures. Furthermore, Kamiya and Branisso (2021) emphasized that further research should be conducted on how online and mobile marketing activities can facilitate offline purchases and that marketers' knowledge of how to reach their customers effectively using mobile marketing, specifically LBMA, is narrow and still evolving. According to Kamiya and Branisso (2021), "actions based on geolocation or geofencing represent one of the most fertile fields for Mobile Marketing" (p. 208).

In addition to the aforementioned gaps in the literature, clothing retail stores in Jordan are facing two main problems. First, traditional brick-and-mortar clothing stores are witnessing a decline in foot traffic and in-store sales due to the heightened demand for online shopping (Tayseer, 2023; Weldali, 2022). Second, competing clothing stores in Jordan are geographically close to each other and some

are even located on the same street which intensifies the level of competition. The President of the Textile, Readymade Clothes and Footwear Syndicate stated that "the local apparel sector is in 'urgent need' of effective solutions that would revive the sector and support apparel business operators" (Weldali, 2022, para. 2). To address these challenges and enhance competitiveness, brick-and-mortar clothing stores can leverage innovative mobile advertising strategies such as geo-fencing and geo-conquesting. By establishing geo-fences around specific geographic areas, including their own store and competitors' locations, clothing stores can target potential customers with highly relevant mobile messages, enticing them to visit the store and make purchases. Unfortunately, such LBMA strategies, specifically geo-conquesting, are not widely adopted by marketers in Jordan.

This research aims to fill the aforementioned gaps in the literature and encourage the adoption of out-store LBMA strategies among clothing retailers in Jordan. The primary objective of this study is to examine the influence of ads' perceived intrusiveness on customers' attitudes toward location-based mobile ads and their purchase intention. This will involve comparing the two targeting strategies of out-store LBMA (i.e., geo-fencing and geo-conquesting) to determine the most effective strategy that not only minimizes perceived intrusiveness but also enhances positive customer attitudes and purchase intentions.

To achieve the study's primary objective, the following research questions will be answered:

RQ1: Does ads' perceived intrusiveness affect customers' attitudes toward a location-based mobile ad and their purchase intention in geo-fencing and geo-conquesting settings?

RQ2: Which LBMA's targeting strategy (geo-fencing versus geo-conquesting) is more effective in terms of reducing the perception of intrusiveness and increasing positive customer attitudes and purchase intention?

This study makes a significant contribution to the existing literature. First, it investigates how the perceived intrusiveness of ads impacts purchase intention within the contexts of geo-fencing and geo-conquesting, which has not been explored before. Second, it provides a foundation for examining this phenomenon in a developing country like Jordan, where attitudes toward LBMA have not been previously studied. Therefore, this research offers valuable insights for marketers operating in Jordan, providing them with knowledge to enhance the effectiveness of their mobile marketing campaigns, particularly those employing geo-fencing and geo-conquesting strategies. Additionally, this study serves as a foundational resource for academics and researchers in the field, especially as geolocation technology and LBMA are expected to advance significantly in the future (Woěniczka, 2021), making the findings more relevant and impactful.

The rest of the paper is structured as follows. The next section presents the literature review and hypotheses development, followed by a section that explains the methodology used in this study. Next, the results obtained from the data analysis are presented. Finally, the paper ends with a discussion, conclusions, and implications.

LITERATURE REVIEW

ADS' PERCEIVED INTRUSIVENESS

Intrusiveness is a common complaint among customers in both offline and online advertising (Hühn et al., 2017; van 't Riet et al., 2016). For instance, in offline advertising, a commercial during an intense scene on a television show is perceived as intrusive (H. Li et al., 2002). In online advertising, an ad that suddenly appears while the user is reading content on a certain webpage (i.e., a pop-up ad) is perceived as intrusive. The ad itself is not intrusive, but the fact that it interferes with the customer's thoughts, activities, and goals makes it intrusive (H. Li et al., 2002). Intrusiveness is not a characteristic of an ad; it is an individual's perception toward it, even if the message is useful (Bruner & Kumar, 2007; Wehmeyer, 2007). Intrusiveness differs from irritation and avoidance. Perceived intrusiveness

causes irritation, which, in turn, causes advertising avoidance (S. Lee et al., 2015; H. Li et al., 2002; van 't Riet et al., 2016; Wehmeyer, 2007).

Some users perceive LBMA as intrusive due to privacy concerns and thoughts that someone is monitoring them when enabling apps to access their location (Banerjee et al., 2021; Ketelaar et al., 2018; Le & Wang, 2020; Yang et al., 2019), vibrations and sounds coming from a personal device (Ketelaar et al., 2018; Souiden et al., 2019), frequency of the ad (Bruner & Kumar, 2007), ads with irrelevant content (Gazley et al., 2015; Wehmeyer, 2007), and the time at which the ad is received, especially when customers are in the middle of a high-cognitive load task (Wehmeyer, 2007). These reasons increase the perception of intrusiveness that customers hold toward a location-based mobile ad. Consequently, this perception increases irritation and avoidance and decreases advertising effectiveness (Banerjee et al., 2021; Kamiya & Branisso, 2021; H. Li et al., 2002).

Several factors have been examined in previous literature that can aid in lowering customers' perceptions of intrusiveness toward location-based mobile ads. For instance, ads promoting products that customers are personally related to and highly involved in are more effective in reducing the perception of intrusiveness than those promoting low-involvement products (S. Lee et al., 2015). In addition, prior knowledge of LBMA (Gutierrez et al., 2019) and customization reduce ads' intrusiveness (S. Lee et al., 2015). However, it is important to note that when users receive ads that are too personalized, they feel as if someone is monitoring them (S. Lee et al., 2015; Zou et al., 2016). In addition, control options allow the user to adjust the type of ads to receive, lower ads' intrusiveness, and boost satisfaction (Sari et al., 2016). Moreover, Ketelaar et al. (2018) reported that "open" ads reduce the perception of intrusiveness than "closed" ads. This is because in "open" ads, customers have to think about the ad and generate its meaning by themselves, whereas a "closed" ad simply presents a compelling message and slogan. Furthermore, an ad sent when the customer is engaged in a low-cognitive-load activity (e.g., leisure-related activities) is perceived as less intrusive than an ad sent when the customer is in the middle of a high-cognitive-load activity (e.g., work-related activities) (Wehmeyer, 2007).

LOCATION AND CONTEXT

Today, technology has made the location of customers more dynamic and traceable by advertisers (Banerjee & Dholakia, 2008). The most common sensors that LBMA relies on to trace the location of customers are GPS, Wi-Fi, cellular networks, Bluetooth, Radio Frequency Identification (RFID), and beacons (Jaradat et al., 2015; Ryu & Park, 2020; Wočniczka, 2021). These sensors identify the geographical location of a user and provide real-time data. These data are valuable for marketers to enable the delivery of enhanced content and personalized experiences to each target segment (Ryu & Park, 2020; Wang et al., 2017).

However, one of the most poorly understood aspects of marketing is the use of location data (Bernritter et al., 2021). The word "location" does not only mean the absolute position of an entity. In fact, the absolute position of an entity is meaningless for marketers unless this geographical data is combined with information about other elements surrounding or near this entity (i.e., contextual factors) that might be useful for the marketer (Paay & Kjeldskov, 2005). To illustrate, a functional meaning can be added to the location of a person (e.g., at home or at work), and the distance from the position of a person to a certain place can also be meaningful (e.g., 100 meters close to store X). With whom this person is currently (i.e., co-location) is another meaningful data that can be combined with the absolute location of a person (e.g., person A is with person B) (Bauer & Strauss, 2016). Therefore, geolocation data congruent with the user's current situation convey greater value (S. Lee et al., 2015). For example, "in a shopping mall" versus "100 meters east," the former geolocation data is more useful than the latter. In other words, it is essential to consider the context of the mobile user in order to reduce ads' perceived intrusiveness (Ho et al., 2020) and maximize advertising effectiveness, especially since LBMA is "a real-time context-aware service" (S. Lee et al., 2015, p. 337).

Context refers to any information that can be utilized to delineate an entity's situation (S. Lee et al., 2015). Previous studies have investigated location-based mobile ads considering various contextual factors such as cognitive load (Banerjee & Dholakia, 2008; Wehmeyer, 2007), private versus public places (Banerjee & Dholakia, 2008), crowdedness (Andrews et al., 2016), time (Danaher et al., 2015; Luo et al., 2014), and weather (C. Li et al., 2017). As previously mentioned, this study focuses on "geographical proximity" as a contextual factor in LBMA performance, specifically examining out-store LBMA, which involves geo-fencing and geo-conquesting.

Geo-fencing is when a company uses customers' locational and behavioral data to send mobile messages to customers once they geographically enter a virtual fence. The company should identify this virtual fence and place it around its geographical location using software. Hence, those who enter this geo-fence will receive a mobile promotional message from the company (Dubé et al., 2017; Fong et al., 2015; Lian et al., 2019). A geo-fence has many shapes. It can be "either big as a city or small as a building. It can take different shapes. For straightforward use cases, it could be round. For complex situations, marketers could build a polygon shaped geofences" (Mohan, 2018, para. 4).

Geo-conquesting or competitive locational targeting is similar in concept to geo-fencing, although the virtual fence is around the competitor's geographical location rather than the company's location (Dubé et al., 2017; Fong et al., 2015; Lian et al., 2019). The essence of this targeting strategy is derived from ancient civilizations, where they used to conquer neighboring lands to gain territory, glory, and resources. Hence, the word "conquesting." Geo-conquesting allows an offline retail store to increase its awareness, drive store visits, and extend its reach "including on a competitor's doorstep" (Fong et al., 2015, p. 3).

Several studies have examined geographical proximity as a contextual factor (see Table 1). Despite the increasing interest in the field of out-store LBMA and geographical proximity, as reported in Table 1, there has been a lack of literature in several key areas. Specifically, previous papers (Hühn et al., 2017; S. Lee et al., 2015; Luo et al., 2014; Sari et al., 2016) have examined ads' perceived intrusiveness in a location-independent setting and a geo-fencing setting. However, ads' perceived intrusiveness in a geo-conquesting setting remains unexplored. Additionally, there is a gap in the understanding of the influence of ads' perceived intrusiveness on customers' attitudes and purchase intention under a geo-fencing setting versus a geo-conquesting setting. Previous studies (Ding et al., 2023; Dubé et al., 2017; Fong et al., 2015) have examined customers' purchasing responses under these two settings without considering factors such as perceived intrusiveness and customers' attitudes. Consequently, this study aimed to address these gaps in the literature.

Furthermore, LBMA's targeting strategies, particularly geo-conquesting, have not been explored in Jordan or other developing countries. Thus, Jordan was chosen as the research location due to the lack of exploration of LBMA's targeting strategies in the region. It is crucial to investigate these two targeting strategies to gain insights into how customers in developing countries react to out-store LBMA and how such innovative strategies can address the challenges faced by clothing retail stores in Jordan.

Table 1. Previous studies on geographical proximity

Study	Geographical proximity (out-store LBMA)		Ads' perceived intrusiveness	Results
	Geo-fencing	Geo-conquesting		
Fang et al. (2013)	✓	–	–	Location-based mobile ads lead to immediate mobile sales but lack significant long-term effects, whereas location-independent ads, such as pop-up ads, maintain sales impact for nine days.
Luo et al. (2014)	✓	–	✓	Sending a location-based mobile ad featuring a movie ticket to those who are close to the movie theater and close to the movie's show time leads to perceiving the ad as less intrusive. Perceiving the ad as less intrusive increases customer involvement and purchase intention.
Danaher et al. (2015)	✓	–	–	Customers will most likely redeem a mobile coupon if it is sent from a store close to the customer's current location and when it includes a high discount rate with a short expiration period.
Fang et al. (2015)	✓	–	✓	Sending location-based mobile ads to customers who entered the geo-fenced area around the promoting store leads to same-day sales and subsequent-days sales. Perceived intrusiveness has no statistically significant effect.
Fong et al. (2015)	✓	✓	–	If a store chooses to execute a geo-fencing strategy, it should offer customers a 20% or 40% discount rate. Deep discounts (e.g., 60%) lead to profit cannibalization. However, when a store chooses to implement a geo-conquesting strategy, it should offer deep discounts to cover customers' switching costs.
S. Lee et al. (2015)	✓	–	✓	Sending a location-based mobile ad to customers who entered the geo-fenced area around the promoting store leads to perceiving the ad as less intrusive. Perceiving the ad as less intrusive leads to positive attitudes toward it.
Sari et al. (2016)	✓	–	✓	Sending a location-based mobile ad to customers who entered the geo-fenced area around the promoting store leads to a feeling of disturbance and a perception of intrusiveness. This perception reduces customer satisfaction.
Zou et al. (2016)	✓	–	–	Sending a location-based mobile ad to consumers located within 200 m of the movie theatre leads to higher sales than sending the same ad to consumers located between 200 m and 2 km from the theater.
Dubé et al. (2017)	✓	✓	–	When a focal store implements a geo-conquesting strategy with a 60% discount, it can gain incremental profits and achieve a conversion rate close to 3%. However, when a competing store launches its own geo-fencing strategy (i.e., a defensive campaign) with only a 40% discount, the conversion rate drops below 1%, and the focal store loses around 80% of expected revenues.

Study	Geographical proximity (out-store LBMA)		Ads' perceived intrusiveness	Results
	Geo-fencing	Geo-conquesting		
Hühn et al. (2017)	✔	–	✔	No difference was found regarding intrusiveness between ads that are location-independent and ads that are sent to students who entered the geo-fenced area around the university. Hühn et al. (2017) justified that this is due to the high-cognitive load activity that university students are occupied with.
Ho et al. (2020)	✔	Instead of geo-conquesting, Ho et al. (2020) broadly considered the number of alternatives in consumer vicinity.	–	A 1-mile increase in the distance between the store's location and the user's location leads to a 17.64% decline in the conversion rate. Also, having one additional competitor within the customer vicinity zone leads to a 1.03% reduction in the click-through rate.
Molitor et al. (2020)	✔	–	–	Geographical proximity enhances the effectiveness and relevance of location-based mobile coupons.
Ding et al. (2023)	✔	✔	–	To increase profits, firms should adopt the geo-conquesting strategy when under a monopoly market structure. While the geo-fencing strategy should be adopted under head-to-head competition (i.e., duopoly market structure).
This study	✔	✔	✔	Location-based mobile ads sent under a geo-fencing strategy are perceived as less intrusive than those sent under a geo-conquesting strategy. In contrast, neither of the strategies is more effective in terms of increasing positive customer attitudes and purchase intention.

HYPOTHESES DEVELOPMENT AND RESEARCH MODEL

Prior LBMA studies employed different theories to explore behavioral responses. The most prominent theories used in the field of LBMA are the technology acceptance model (Schrage et al., 2022), the construal level theory (Bernritter et al., 2021), theory of reasoned action (Kurtz et al., 2021), the privacy calculus theory (Kurtz et al., 2021), uses and gratifications theory (Le & Wang, 2020), and Theory of Planned Behavior (TPB) (Le & Wang, 2020). This study employs the TPB and the Psychological Reactance Theory to develop the research model and answer the research questions posed in this study.

TPB focuses on explaining human behavior and actions in various situations (Ho Nguyen et al., 2022). This theory is widely used in consumer behavior research and the LBMA literature (Ho Nguyen et al., 2022; Le & Wang, 2020). It assumes that people behave rationally and make use of all information accessible to them. Their behavior is influenced by their intention to perform that behavior. The higher the intention to perform a behavior, the higher the chance that the behavior will be performed (LaMorte, 2022). In addition, the TPB suggests that people's intentions are determined by several antecedents, namely, their attitudes, social norms, subjective norms (i.e., peer pressure), perceived power, and perceived behavioral control (LaMorte, 2022).

This study focuses on the attitude factor to predict purchase intention. It is worth emphasizing that customers' attitudes differ from their intentions. While attitude refers to a person's general predisposition toward an ad, intention is the person's motivation in terms of their deliberate inclination to engage in specific behaviors (Rezvani et al., 2012). When customers form positive attitudes toward a

location-based mobile ad, their intention to purchase the advertised product increases. Consequently, this increases the probability of actual purchasing.

In addition to the TPB, the Psychological Reactance Theory was utilized to assist in developing the research model. The Psychological Reactance Theory was originally proposed by Brehm (1966). The theory states that "whenever people perceive that a free behavior is restricted or eliminated, they tend to experience reactance and are motivated to modify their attitudes and behaviors to reaffirm their freedom and autonomy" (Baek & Morimoto, 2012, p. 61). In the LBMA context, when customers perceive a location-based mobile ad as monitoring or tracking their location and controlling their freedom and autonomy (e.g., their purchase decision), they form a reactance toward it. This reactance leads to negative customers' attitudes toward the ad and to behavior that is contrary to the ad's intended message in order for them to regain their freedom and autonomy (Bernritter et al., 2021; Edwards et al., 2002).

Other factors related to the context of LBMA that may elicit reactance, such as too personalized ads (Baek & Morimoto, 2012), perceived privacy invasion (Bernritter et al., 2021), and ads' perceived intrusiveness (Edwards et al., 2002), are a primary focus in this current study. Hence, when ads disrupt a consumer's ongoing cognitive processes, they may perceive this as a threat to their autonomy. This perceived intrusiveness can trigger a defensive response, leading to reactance. Reactance can manifest in various ways, such as negative attitudes toward the ads, resistance to the intended message, or even avoidance of the advertised products or services.

The Psychological Reactance Theory and the TPB were integrated because solely using TPB might provide deficient insights regarding how the perception of intrusiveness can stimulate customers' attitudes and intentions. Therefore, by combining these two theoretical frameworks, researchers can explore the interplay between psychological reactance and cognitive processes in shaping consumers' behavioral responses to location-based mobile ads. This integrated framework yields a more unified model that can contribute to understanding how customers react to out-store LBMA and predicting their purchase intentions.

Perceived intrusiveness and purchase intention

Several studies have confirmed that LBMA has a positive impact on coupon redemption, brand choice, and store visits (Dubé et al., 2017; Ketelaar et al., 2017, 2018; S. Lee et al., 2015; Zhu et al., 2017). Luo et al. (2014) reported that when customers perceive an ad as less intrusive, their involvement with the advertised product increases, and their purchase intention increases. Therefore, based on the literature, the following hypothesis is formulated:

H1: Perceived intrusiveness has a statistically significant negative effect on purchase intention.

Perceived intrusiveness and customers' attitudes toward a location-based mobile ad

Prior literature has revealed that perceived intrusiveness significantly affects attitudes (Wibisurya, 2018). Low perceived intrusiveness leads to positive attitudes toward a location-based mobile ad (Gazley et al., 2015; Le & Wang, 2020; S. Lee et al., 2015) and, ultimately, toward brand choice (Ketelaar et al., 2018). Thus, based on the literature, the following hypothesis is formulated:

H2: Perceived intrusiveness has a statistically significant negative effect on customers' attitudes toward a location-based mobile ad.

Customers' attitudes toward a location-based mobile ad and purchase intention

Prior research that has examined purchase intention in the context of LBMA shows that customers' attitudes toward a location-based mobile ad have a significant positive influence on purchase intention (Gazley et al., 2015; Wibisurya, 2018; Wong & Guan, 2018). Indeed, some customers decide what products to buy based on their attitudes toward an ad without the need to go through all the product information (Ho Nguyen et al., 2022). Different attitudes toward an ad induce different levels of purchase intention. Thus, marketing scholars have included customers' attitudes as a research

construct in their studies because attitudes can predict customers' intentions. Accordingly, the following hypothesis is developed:

H3: Customers' attitudes toward a location-based mobile ad have a statistically significant positive effect on purchase intention.

Customers' attitudes as a mediating variable between perceived intrusiveness and purchase intention

Customers who have positive perceptions of an ad tend to form favorable attitudes toward it, which in turn has a positive influence on customers' intention to perform a behavior (Hühn et al., 2012). Gazley et al. (2015) examined the impact of intrusiveness on purchase intention and noticed an indirect relationship between the two constructs, where customers' attitudes play a mediating role in this relationship. Additionally, Ketelaar et al. (2018) reported that ads' "openness" lowers perceived intrusiveness and positively affects purchase behavior through positive customer attitudes (Ketelaar et al., 2018). A recent study by Le and Wang (2020) showed that perceived encroached risk (i.e., perceived intrusiveness) negatively impacts customers' attitudes, and in turn, attitudes positively impact purchase intention. Therefore, the following hypothesis is developed:

H4: Customers' attitudes toward a location-based mobile ad have a statistically significant mediating effect between perceived intrusiveness and purchase intention.

Based on the theoretical framework and the formulated hypotheses, Figure 1 illustrates the research model that stems from these hypotheses.
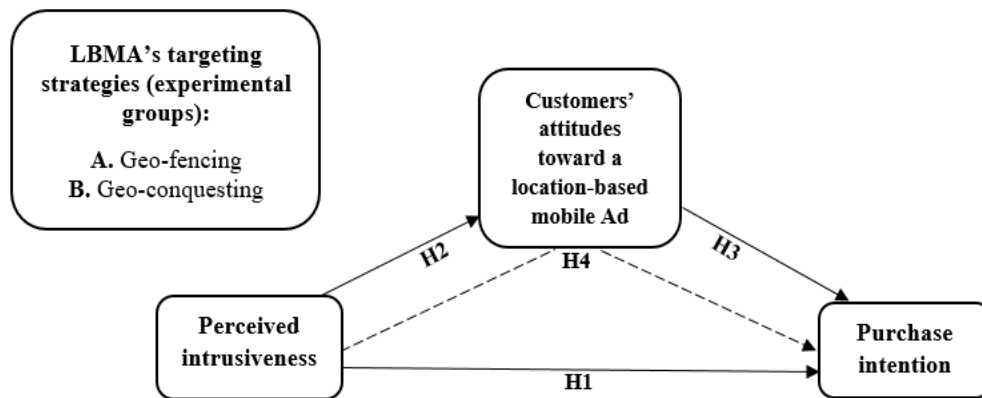

Figure 1. Research model

METHODOLOGY

RESEARCH DESIGN AND DATA COLLECTION

This study used a cross-sectional quantitative research design. This research design was chosen because the main aim of this study is to examine the statistical relationships between variables at a specific point in time (Sekaran & Bougie, 2016).

Moreover, in a systematic literature review, Bauer and Strauss (2016) concluded that it is pivotal to explore customer behavior toward LBMA from a non-technical perspective through social science experiments and questionnaires (Kamiya & Branisso, 2021; Wočniczka, 2021). Thus, a self-administered online questionnaire was distributed via social media platforms, such as Facebook, Instagram, and WhatsApp. The questionnaire was first written in English and then translated into Arabic. Subsequently, the Arabic translation was back-translated into English by two bilinguals to ensure the comparability and quality of the translations. Ultimately, the questionnaire was presented in both English and Arabic to correspond to the main language spoken in Jordan.

To answer the proposed research questions and test the hypotheses of this study, a between-subjects experimental design was used. Respondents were divided into two experimental groups. The first group tested how respondents reacted to receiving a location-based mobile ad in a geo-fencing setting. The second group tested how respondents reacted to receiving a location-based mobile ad in a geo-conquesting setting. Both experimental groups had an identical questionnaire, except that they differed only in the targeting strategy of LBMA. The online questionnaire was developed using Qualtrics survey software, which allowed for the random assignment of respondents to either group. The random assignment of respondents indicates that each individual in the sample had an equal chance of being assigned to either group.

The targeting strategies of LBMA were manipulated using a scenario-based method. Scenario-based methods have commonly been used in previous studies to explore emerging technologies and phenomena, such as geo-fencing (Banerjee & Dholakia, 2008; Gazley et al., 2015; Xu et al., 2009), given that "the scenario-based approach allows us to study this emerging phenomenon without the constraints of time and state-of-the-art technology" (Sheng et al., 2008, p. 367).

POPULATION AND SAMPLE OF THE STUDY

The population of this study is composed of respondents who live in Jordan, are mobile phone users, and belong to the age group of 18 to 45 years. This age group was selected in accordance with Hwang et al. (2016), whose study results indicated that this age group spends more time using location-based mobile apps than older age groups, such as those from 45 to 54 years and above 55 years. Additionally, Gupta et al. (2011) posit that individuals who have prior experience with mobile apps are more likely to use location-based services and redeem their offers. Consequently, the population size consists of around 4 million elements, according to the Department of Statistics (2023) in Jordan.

After conducting a sample size calculation, an estimated sample size of 385 respondents was determined with a confidence level of 95% and a 5% margin of error. The sample size was calculated using Raosoft, an online sample size calculation software that has also been used in previous studies (Ahmat et al., 2018; Saadatian et al., 2012). A purposive sampling technique was used in this study, as respondents with certain characteristics (i.e., inclusion criteria) were included in the sample because of their usefulness for the purpose of the study (Taherdoost, 2016). The purposive sampling method was executed by selecting respondents based on two inclusion criteria. The first inclusion criterion involved only respondents who live in Jordan to appeal to the local context of the study. The second inclusion criterion involved only respondents who belong to the age group of 18-45 years. Therefore, the study applied purposive sampling to select respondents who meet the defined inclusion criteria, indicating a purposeful selection process. Consequently, the research questionnaire was sent only to those living in Jordan, and a screening question was included to exclude participants who did not belong to the targeted age group.

QUESTIONNAIRE DESIGN

The questionnaire consisted of 18 items. Respondents were first provided with an initial page that included a summary of the research, information regarding anonymity and confidentiality, and authors' contact details. Subsequently, demographic questions were presented to respondents (see Table 2). As shown in Table 2, the sample was skewed toward females. This could be attributed to female respondents being more interested in participating in a questionnaire related to clothing retail stores than male respondents. Additionally, prior research (Becker, 2022) showed that female respondents are more likely to participate in online surveys than male respondents, citing reasons such as altruism and a stronger tendency for communication and sharing opinions with others.

Table 2. Respondents' demographic profile

Demographics		Frequency		Percentage	
		Geo-fencing group	Geo-conquesting group	Geo-fencing group	Geo-conquesting group
Gender	Female	143	140	68%	72%
	Male	68	55	32%	28%
Age	18-26 years old	153	143	72%	73%
	27-35 years old	44	37	21%	19%
	36-45 years old	14	15	7%	8%
Shopping pattern	Everyday	4	1	2%	0%
	A few times a week	19	14	9%	7%
	Once a week	9	12	4%	6%
	A few times a month	48	56	23%	29%
	Once a month	45	48	21%	25%
	Less than once a month	86	64	41%	33%

Afterward, Qualtrics software randomly provided respondents with either the geo-fencing targeting strategy scenario or the geo-conquesting targeting strategy scenario. Respondents were asked to imagine and visualize the verbally described scenario. The scenarios are from everyday life and could be easily imagined by every respondent. Alongside each scenario, an image was designed by the authors of this study to help respondents visualize the provided scenario (see the Appendix for the scenarios and their corresponding images).

It is worth emphasizing that in the geo-fencing scenario, the promoting store offered customers a 40% discount rate, whereas in the geo-conquesting scenario, the promoting store offered customers a 60% discount rate. The rationale behind choosing these discount rates was to comply with the results of Dubé et al. (2017) and Fong et al. (2015) (see Table 1). Moreover, both scenarios indicated that the offer was only valid for one day to emphasize urgency, which has been shown to positively affect mobile promotion responsiveness (Danaher et al., 2015; Fong et al., 2015). In addition, an actual brand name was not given to any clothing stores in the scenarios because some popular brand names might induce certain associations. Consequently, this might affect respondents' answers to the upcoming questions. Furthermore, the scenarios did not allude to the style of clothing sold at either store since respondents might have different fashion styles that might influence their answers. Thus, the product promoted in the mobile notification was simply a shirt with no further details. However, in a real advertising setting, customers are likely to possess prior familiarity with the clothing store and have already downloaded its mobile app, thereby enabling them to be well-informed about the clothing style offered by the store.

MANIPULATION CHECKS AND CONSTRUCTS' MEASUREMENTS

To ensure that the respondents were responsive to the experimental manipulation in the scenarios (i.e., the targeting strategies of LBMA), Manipulation Checks (MCs) developed by the authors were displayed at the end of the scenarios. MCs have been used in several related studies (Ketelaar et al., 2018; Limpf & Voorveld, 2015; van 't Riet et al., 2016; Xu et al., 2009). Generally, they are used to "check whether the manipulation conducted in an experiment is perceived by the subjects as the experimenter wishes it to be perceived" (Morton & Williams, 2010, p. 108). In other words, MCs are used to assess the attentiveness and understanding of respondents during a study by asking respondents specific questions to ascertain whether they were reading the scenario carefully or not (Kane & Barabas, 2018).

This research study used a Factual Manipulation Check (FMC), which is a type of MC that combines the advantages of the other types of MCs (Kane & Barabas, 2018). An FMC is a single question related to the experimental manipulation, and a given response to an FMC is either correct or incorrect. Hence, respondents who correctly answer the FMC are considered attentive (Kane & Barabas, 2018).

In this study, an FMC was developed for each scenario, and they were placed after their respective scenarios (see the Appendix for FMCs). Respondents were expected to answer the FMCs with a "yes," which reflects their understanding of the scenarios. Those who failed the FMCs answered with a "no," and their responses were omitted from data analysis because this indicates that they did not understand the scenarios.

After respondents had read the scenario to which they were randomly assigned and answered the corresponding FMC, they were asked to answer a set of items related to the study's constructs (i.e., perceived intrusiveness, customers' attitudes, and purchase intention). Respondents rated their agreement with each item on a 4-point Likert scale. Utilizing a 4-point Likert scale enables researchers to interpret opinions directly, allowing for a clear distinction or categorization of opinions, and it provides a more concise and simplified response format for respondents compared to longer scales. In addition, it encourages respondents to report their true perceptions and attitudes rather than defaulting to the middle option (i.e., neutral option). According to Krosnick (2002), the inclusion of a middle option in a Likert scale can be beneficial for respondents who truly lack an opinion, but it also provides an effortless escape for those who want to avoid the cognitive effort required to express their opinions (Krosnick, 2002). Ultimately, the optimal number of choices in a Likert scale is a point of dispute among researchers, and the explicit use of a middle point is largely a matter of personal preference (Croasmun & Ostrom, 2011).

The research constructs were measured using existing scales validated in previous studies. The perceived intrusiveness scale was adapted from H. Li et al. (2002), the scale of customers' attitudes toward a location-based mobile ad was adopted from De Pelsmacker et al. (1998), and the purchase intention scale was adapted from Gazley et al. (2015). To ensure the face validity of the questionnaire, faculty members and doctoral colleagues reviewed the questionnaire to assess its clarity and determine how well each item measures the topic under investigation. Based on feedback from the face validity test, the items were slightly modified to fit the context of this research. The scales' items are shown in the Appendix.

Employing a research questionnaire as a method for data collection may pose a threat of common method bias. "Common method bias can occur when both the independent and dependent variables are measured within one survey, using the same (i.e., a common) response method (e.g., ordinal scales)" (Kock et al., 2021, p. 1). This bias has the potential to distort the study's outcomes and resulting conclusions. Therefore, this study addressed this bias through procedural and statistical controls to maintain the accuracy and validity of the findings.

To mitigate this bias using procedural controls, the questionnaire included clear introductory instructions pertaining to the fact that there are no right or wrong answers and that all responses would be kept anonymous (Kock et al., 2021). Moreover, assigning labels to independent and dependent variables that might indicate the causal relationships under investigation was avoided, as well as using lengthy scales and complex or ambiguous terms (Kock et al., 2021). These precautions were reinforced during the face validity test.

After data collection, statistical controls to remedy common method bias were conducted. Harman's single-factor test was used to detect common method bias. The results, including all measured items, revealed the absence of a single factor accounting for more than 50% of the variance (Kock et al., 2021). Thus, common method bias is not present in this study. To access the results of Harman's single factor test, please visit this link: https://docs.google.com/document/d/1BWIA-camSX04i7CdWu-DRyEPjmyshcFDwN0VZqL85cfo/edit?usp=sharing.

DATA ANALYSIS AND RESULTS

A total of 531 questionnaires were collected from respondents between March 22, 2023, and May 9, 2023. Of the 531 responses, 29 were filled out by respondents who were over 45 years old. This resulted in 502 responses (i.e., 251 responses in each experimental group).

In the geo-fencing experimental group, 211 of 251 responses (84%) were attentive and passed the manipulation check. In the geo-conquesting experimental group, 195 of 251 responses (77.7%) were attentive and passed the manipulation check. Ultimately, 406 responses were used for data analysis. These percentages imply that a high percentage of the respondents were attentive and understood the scenarios. Additionally, these percentages imply that the scenarios were effective in manipulating the two targeting strategies of LBMA and that they successfully created the required decision-making environment for respondents to answer the upcoming questions.

The data (i.e., 406 responses) were analyzed using the Statistical Package for the Social Sciences (SPSS) software version 28. Additionally, the Analysis of a Moment Structures (AMOS) software version 26 was used to conduct Structural Equation Modeling (SEM) to analyze structural relationships and test the hypotheses. Statistical significance was set at $\alpha \leq 0.05$.

After plotting the data, the curve showed that the data were normally distributed. As recommended by Byrne (2016) and Hair et al. (2010), skewness values were within the required range of ± 2, and kurtosis values were within the required range of ± 7. Therefore, it can be affirmed that the data is normally distributed.

RELIABILITY (CRONBACH'S ALPHA)

Cronbach's Alpha reliability test was conducted to assess the reliability of the questionnaire. According to Taber and Brock (2018), the reliability of a questionnaire is satisfied if the value of Cronbach's alpha is greater than 0.7. In this study, the value of Cronbach's alpha for the four items of "ads' perceived intrusiveness" is 0.842, 0.869 for the five items of "customers' attitudes," and 0.810 for the five items of "purchase intention." These values indicate that the questionnaire has excellent reliability.

VALIDITY

Confirmatory Factor Analysis (CFA) was conducted to assess the validity of the measurement model. Factor loading values should be greater than 0.5 (Fornell & Larcker, 1981) to assert that there is a strong correlation between the item and its related construct. The factor loadings were calculated for each item. The first item of the "purchase intention" scale (PI1) was removed because of its low factor loading (0.465). For further details regarding the CFA results before removing PI1, please refer to the previously provided link.

Tables 3 and 4 report the CFA results after removing PI1 as well as the values of convergent validity, discriminant validity, and Composite Reliability (CR). Convergent validity was determined based on the value of Average Variance Extracted (AVE) for each construct. As shown in Table 3, the AVE values are greater than 0.5 (Fornell & Larcker, 1981). This indicates that the items had a strong correlation with their corresponding constructs. Discriminant validity is achieved "when the constructs are distinct from each other" (Rasoolimanesh, 2022, p. 2). As shown in Table 4, the values of the correlations between the constructs were less than the root square of the AVE in Table 3. Hence, discriminant validity was satisfied (Fornell & Larcker, 1981). CR was calculated based on the AVE value and the errors of all items. The CR values for all constructs were greater than 0.7 (Hair et al., 2014), as shown in Table 3.

Table 3. CFA results

Constructs	Item loadings		CR	AVE	$\sqrt{\text{AVE}}$
Ads' perceived intrusiveness (API)	API1	0.721	0.84	0.58	0.76
	API2	0.818			
	API3	0.749			
	API4	0.743			
Customers' attitudes toward a location-based mobile ad (CA)	CA1	0.781	0.87	0.56	0.76
	CA2	0.799			
	CA3	0.762			
	CA4	0.642			
	CA5	0.803			
Purchase intention (PI)	PI2	0.546	0.81	0.56	0.76
	PI3	0.756			
	PI4	0.845			
	PI5	0.803			

Table 4. Correlations between the constructs in CFA

Constructs	Factor loadings
API <--> PI	-0.167
API <--> CA	-0.326
CA <--> PI	0.563

MODEL FIT INDICES

To assess how well the structural model fits the data, three goodness-of-fit indices were used: CMIN/DF, CFI, and RMSEA. The value of CMIN/DF should be between 1.0 and 3.0 (Kline, 2016). The CFI value should be more than 0.90 (Hooper et al., 2008; Kline, 2016). The RMSEA value should be less than 0.07 (Hooper et al., 2008). All the values were within the recommended ranges (CMIN/df = 2.11, CFI = 0.94, and RMSEA = 0.052). Consequently, the structural model had an acceptable fit to the data.

DESCRIPTIVE ANALYSIS

A descriptive analysis was conducted for each group to report the percentages of respondents' answers to each item of the research questionnaire. Please refer to the previously provided link to access the results of the descriptive analysis.

INDEPENDENT SAMPLES T-TEST

An independent samples t-test was conducted to compare the means of the research constructs among the geo-fencing and geo-conquesting groups. The mean score of ads' perceived intrusiveness for the geo-conquesting group (M = 2.51, SD = 0.85) was higher than that for the geo-fencing group (M = 2.02, SD = 0.86). This difference was significant (t (404) = -5.797, P = 0.000), with the magnitude of this difference in the means was -0.49 (95% confidence interval: -0.66 − -0.32). Regarding customers' attitudes, the mean score of positive customer attitudes for the geo-fencing group (M = 2.89, SD = 0.82) was higher than that for the geo-conquesting group (M = 2.83, SD = 0.75). However, this difference was not statistically significant (t (404) = 0.687, P = 0.492). Moreover, the mean score of purchase intention for the geo-fencing group (M = 2.93, SD = 0.56) was higher than that for the geo-conquesting group (M = 2.87, SD = 0.64). However, this difference was not statistically significant (t (404) = 1.131, P = 0.259).

SEM AND HYPOTHESES TESTING

SEM analysis was conducted for each targeting strategy (i.e., each experimental group) to answer the research questions and substantiate the proposed hypotheses. The results of the SEM analysis are presented in Tables 5 and 6, respectively.

Table 5. SEM results for the geo-fencing targeting strategy

Parameter	Hypothesis	Standardized regression weights (β coefficient)	P value	R^2	Result
API → PI	H1	0.004	0.967	0.352	Rejected
API → CA	H2	-0.529	***	0.279	Accepted
CA → PI	H3	0.595	***	-	Accepted

Table 6. SEM results for the geo-conquesting targeting strategy

Parameter	Hypothesis	Standardized regression weights (β coefficient)	P value	R^2	Result
API → PI	H1	0.070	0.345	0.306	Rejected
API → CA	H2	-0.100	0.234	0.010	Rejected
CA → PI	H3	0.556	***	-	Accepted

Regarding H4, which states that customers' attitudes toward a location-based mobile ad have a statistically significant mediating effect between perceived intrusiveness and purchase intention, was accepted in the geo-fencing setting since H2 and H3 were accepted while H1 was rejected. This indicates that customers' attitudes significantly mediate the relationship between perceived intrusiveness and purchase intention. This mediation is considered full mediation, as there is no direct relationship between perceived intrusiveness and purchase intention unless through customers' attitudes. In the geo-conquesting setting, H4 was rejected because perceived intrusiveness did not have a statistically significant effect on customers' attitudes in the geo-conquesting setting. Therefore, customer attitudes do not mediate the relationship between perceived intrusiveness and purchase intention in this setting.

Based on the reported results of the SEM analysis for each LBMA's targeting strategy, perceived intrusiveness had a statistically significant negative effect on customer attitudes in the geo-fencing setting (β = -0.529, P = 0.000). However, in the geo-conquesting setting, perceived intrusiveness did not have a statistically significant effect on customers' attitudes (P= 0.234). Therefore, it can be affirmed that the relationship between perceived intrusiveness and customers' attitudes in the geo-fencing setting is different from that in the geo-conquesting setting. Consequently, to ensure that this difference is statistically significant or not, a critical ratio for differences between parameters test was conducted. As shown in Table 7, the critical ratio is 3.793, which is beyond the range of ±1.96 (Byrne, 2016). Therefore, the relationship between perceived intrusiveness and customers' attitudes in the geo-fencing setting is significantly different from that in the geo-conquesting setting.

Table 7. Critical ratios for differences between parameters test for the relationship between ads' perceived intrusiveness and customers' attitudes

	API_CA(geo-fencing)	API_CA(geo-conquesting)
API_CA(geo-fencing)	0.000	
API_CA(geo-conquesting)	3.793	0.000

Furthermore, based on the reported results of the SEM analysis for each LBMA's targeting strategy, customers' attitudes had a statistically significant positive effect on purchase intention in the geo-fencing setting ($\beta = 0.595$, $P = 0.000$), as well as in the geo-conquesting setting ($\beta = 0.556$, $P = 0.000$). These β coefficients are close, but they are different. To assess whether this difference is significant, a critical ratio for differences between parameters test was conducted. As shown in Table 8, the critical ratio is 0.907, which is within the range of ± 1.96 (Byrne, 2016). Therefore, the relationship between customer attitudes and purchase intention in the geo-fencing setting is not significantly different from that in the geo-conquesting setting. In other words, one cannot conclude that the relationship between customer attitudes and purchase intention is more statistically significant in one setting than in the other.

Table 8. Critical ratios for differences between parameters test for the relationship between customers' attitudes and purchase intention

	CA_PI(geo-fencing)	CA_PI(geo-conquesting)
CA_PI(geo-fencing)	0.000	
CA_PI(geo-conquesting)	0.907	0.000

DISCUSSION

This study focused on out-store LBMA to provide marketers, advertisers, and clothing retailers with more insights into how customers react to two out-store LBMA's targeting strategies (i.e., geo-fencing and geo-conquesting). In particular, to determine the most effective targeting strategy that not only minimizes ads' perceived intrusiveness but also enhances positive customer attitudes and purchase intentions.

ADS' PERCEIVED INTRUSIVENESS AND PURCHASE INTENTION

The results of this study showed that ads' perceived intrusiveness did not have a statistically significant direct effect on purchase intention in the geo-fencing and geo-conquesting settings. Thus, H1 was rejected in both settings. This is consistent with Gazley et al. (2015), who found that there is no direct relationship between ads' perceived intrusiveness and purchase intention unless through customers' attitudes.

ADS' PERCEIVED INTRUSIVENESS AND CUSTOMERS' ATTITUDES

Geo-fencing setting

Respondents in the geo-fencing group reported high percentages of disagreement (41%-51% disagree in comparison with 8%-16% agree) with perceiving the ad (i.e., mobile notification) as intrusive (see percentages of perceived intrusiveness for both groups via the previously provided link). This finding is consistent with Luo et al. (2014), who found that customers who received a location-based mobile ad while being close in distance from the movie theater perceived the ad as less intrusive than those who received it far from the location of the movie theater.

In addition, the negative relationship between perceived intrusiveness and customers' attitudes in the geo-fencing setting was statistically significant. Thus, H2 was accepted in the geo-fencing setting. This result indicates that respondents in the geo-fencing setting perceived the location-based mobile ad as less intrusive, which in turn increased their positive attitudes toward it. This finding is consistent with those of Gazley et al. (2015), Ketelaar et al. (2018), S. Lee et al. (2015), and Wibisurya (2018). Their findings revealed that perceiving a location-based mobile ad as less intrusive leads to positive attitudes toward it.

The high percentage of respondents who did not perceive the ad as intrusive under the geo-fencing setting in Jordan can be attributed to several factors. First, the scenario specified that the ad was sent when respondents were near the store (i.e., entered the geo-fenced area). Previous research by S. Lee

et al. (2015) has shown that customers who receive a location-based mobile ad once they enter the geo-fenced area around the promoting store perceive the ad as less intrusive than those who receive a location-independent ad. Additionally, the scenario implicitly stated that respondents received the ad while in a public place, which elicited a positive reaction toward the ad (Banerjee & Dholakia, 2008). Moreover, the scenario specified that respondents had given the promoting store's app permission to send them promotional push notifications (i.e., ads) and to access their location. Ads sent based on users' consent tend to be perceived as less intrusive (Beldona et al., 2012; Molitor et al., 2020; Shieh et al., 2019). Lastly, the ad in the scenario promoted a high-involvement product category (i.e., shirts) (Johnson et al., 2017; Radder & Huang, 2008). S. Lee et al. (2015) reported that ads promoting high-involvement product categories tend to be perceived as less intrusive.

Geo-conquesting setting

Compared to the geo-fencing group, the geo-conquesting group demonstrated a greater perception of ads' intrusiveness. Despite the presence of the aforementioned factors that reduced the perception of intrusiveness in the geo-fencing setting, this perception was still evoked in the geo-conquesting setting. This could be attributed to respondents feeling that someone is monitoring them when they receive an ad while they are near a competing store. Consequently, privacy concerns may increase. Therefore, it can be concluded that a location-based mobile ad is perceived as more intrusive when it is received near a competitor's store (i.e., geo-conquesting strategy) than when it is received near the company's own store (i.e., geo-fencing strategy).

Furthermore, the results indicated that perceived intrusiveness did not have a statistically significant effect on customers' attitudes in the geo-conquesting setting. Hence, H2 was rejected in the geo-conquesting setting. The reason for this statistical insignificance is not because respondents were inattentive or because the scenario was difficult to understand. In fact, as mentioned earlier in the Data Analysis and Results section, 77.7% of respondents in the geo-conquesting group understood the scenario and answered the FMC correctly. Therefore, the reason for this insignificant effect could be attributed to the fact that this targeting strategy is new and not commonly used by marketers in Jordan compared to the geo-fencing targeting strategy. Thus, it is possible that respondents in this group experienced some difficulty when attempting to apply the geo-conquesting scenario to a real-world advertising context.

Kane and Barabas (2018) commented on the issue of having a high percentage of respondents who passed the FMC and were attentive, but no statistically significant effect was found, that "if most respondents answer the FMC correctly, yet no significant treatment effect is found, it would suggest a deficiency with the theory and/or an inability of the manipulation to affect the independent variable of interest" (p. 238). Accordingly, respondents were attentive and understood the scenario, but they experienced some difficulty in relating the theory/manipulation (i.e., geo-conquesting strategy) to a real-world setting and visualizing it as an actual advertising campaign since they had not been exposed to this strategy in real life in comparison to geo-fencing.

CUSTOMERS' ATTITUDES AND PURCHASE INTENTION

The results of this study revealed that customers' attitudes toward a location-based mobile ad had a statistically significant effect on purchase intention in the geo-fencing and geo-conquesting settings. Thus, H3 was accepted in both settings. This is consistent with the findings of Gazley et al. (2015), Ketelaar et al. (2018), Le and Wang (2020), Wibisurya (2018), and Wong and Guan (2018). Their results revealed that when customers show positive attitudes toward a location-based mobile ad, their brand choice and purchase intention increase.

Moreover, the results of the independent samples t-test indicated that respondents in the geo-fencing setting shared similar positive attitudes and purchase intention levels to respondents in the geo-conquesting setting. Therefore, it cannot be concluded that one targeting strategy leads to more positive attitudes and higher levels of purchase intention than the other targeting strategy. These findings are aligned with previous research by Dubé et al. (2017) and Fong et al. (2015), revealing that offering

discounts in geo-fencing and geo-conquesting settings leads to increased sales. However, this study does not show a significant difference in purchase intention between the two strategies, contradicting previous findings that geo-conquesting leads to higher sales.

The following question arises from these findings: Why did respondents in the geo-conquesting setting have similar positive attitudes and purchase intention levels as respondents in the geo-fencing setting, even though respondents in the geo-conquesting setting perceived the ad as more intrusive? Three plausible explanations are proposed.

1. Despite feelings of irritation and intrusiveness, customers nowadays are proactively seeking personalized shopping recommendations and prioritizing the usefulness, convenience, informativeness, and entertainment of ads (Lin et al., 2013).
2. Because clothing is considered a high-involvement product category (Johnson et al., 2017; Radder & Huang, 2008), respondents in the geo-conquesting setting showed a preference for deep discounts over the feeling of intrusiveness, indicating price sensitivity of Jordanian customers. This led to positive attitudes and high purchase intention, with customers willing to travel further for discounts. This behavior aligns with the findings of Lian et al. (2019), who noted that deep discounts offset travel costs and incentivize customers to travel extra distances.
3. According to Bauer and Strauss (2016), when customers receive an ad while they are at leisure, they are more willing to travel long distances to redeem the promotional offer. Thus, even if respondents in the geo-conquesting group perceived the ad as intrusive, they still showed a high level of purchase intention because they were in their leisure time to do so (i.e., wandering near clothing stores).

CUSTOMERS' ATTITUDES AS A MEDIATING VARIABLE

Geo-fencing setting

The results of this study revealed that customers' attitudes mediate the relationship between perceived intrusiveness and purchase intention. Thus, H4 was accepted in the geo-fencing setting. This mediation is considered full mediation, as perceived intrusiveness did not have a statistically significant direct effect on purchase intention unless through customers' attitudes. This finding is consistent with those of Gazley et al. (2015), Ketelaar et al. (2018), and Le and Wang (2020), who found that low perceived intrusiveness increases brand choice and purchase intention through positive customers' attitudes.

Therefore, the full mediation of customers' attitudes in a geo-fencing setting implies that positive perceptions alone cannot affect purchase intention. Instead, purchase intention is influenced by customers' attitudes toward the ad. For instance, simply perceiving the ad as less intrusive may not directly impact purchase intention unless customers also exhibit positive attitudes, such as being interested in and admired by the ad, connecting with its message and values, and associating it with positive traits. Such favorable attitudes directly increase customers' propensity to purchase from the brand. In essence, attitudes serve as a bridge through which customers express their perceptions, thereby affecting their intentions. Hence, customers' attitudes play a pivotal role in shaping their decision-making process.

Geo-conquesting setting

This study's findings showed that customers' attitudes do not mediate the relationship between perceived intrusiveness and purchase intention because perceived intrusiveness did not have a statistically significant effect on customers' attitudes in the first place. Thus, H4 was rejected in the geo-conquesting setting.

CONCLUSION

This study aimed to examine the influence of ads' perceived intrusiveness in geo-fencing and geo-conquesting settings on purchase intention in clothing retail stores in Jordan. In addition, it aimed to determine which strategy is more effective in terms of reducing the perception of intrusiveness and increasing positive customer attitudes and purchase intention. Based on the findings, the geo-fencing strategy is perceived as less intrusive than the geo-conquesting strategy. In other words, when customers receive a location-based mobile ad in the form of a mobile push notification while they are near the company's own store (i.e., geo-fencing), they perceive the ad as less intrusive than when they are near a competitor's store (i.e., geo-conquesting).

In terms of customers' attitudes and purchase intention, neither of the two targeting strategies is more effective in terms of positively influencing customers' attitudes and, ultimately, purchase intention. According to this study's results, when applying the geo-fencing strategy, the low perception of intrusiveness leads to a positive attitude toward the ad, and this increases customers' intention to purchase a product from the advertised product category (i.e., shirts). Surprisingly, when applying the geo-conquesting strategy, despite customers perceiving the ad as intrusive, they showed similar positive attitudes and purchase intention levels as customers in the geo-fencing setting.

Customers' behavior in the geo-conquesting setting was surprisingly inconsistent with prior literature (Bernritter et al., 2021; Gazley et al., 2015; Wibisurya, 2018), which reported that when customers perceive an ad as intrusive, they develop negative attitudes toward it, and this lowers their intention to purchase the product displayed on that ad. This study revealed that customers in Jordan under the geo-conquesting setting are more concerned with deep discount rates (i.e., 60%) on high-involvement product categories than the fact that they have perceived the ad as intrusive. Deep discounts prompt them to exhibit positive attitudes and a high level of purchase intention, similar to those in the geo-fencing setting. These findings suggest that, despite the salient perception of ads' intrusiveness, customers nowadays actively seek personalized shopping recommendations and prioritize the usefulness, convenience, informativeness, and entertainment value of ads (Lin et al., 2013).

As the first study to investigate the influence of ads' perceived intrusiveness on customers' attitudes and purchase intention under a geo-fencing setting and a geo-conquesting setting, the present findings are nevertheless enlightening and serve as a starting point for future studies to build on.

IMPLICATIONS

From a theoretical perspective, this study's conclusions contribute to the field of out-store LBMA in three important ways. First, previous studies have examined ads' perceived intrusiveness in location-independent and geo-fencing settings (Hühn et al., 2017; S. Lee et al., 2015; Luo et al., 2014; Sari et al., 2016). This study is the first to investigate ads' perceived intrusiveness in a geo-conquesting setting. Second, extending the recent work of Ding et al. (2023), Dubé et al. (2017), and Fong et al. (2015), who studied customers' purchasing responses under a geo-fencing setting and a geo-conquesting setting. This study investigated other factors, such as perceived intrusiveness, attitudes, and purchase intention in a geo-fencing setting and a geo-conquesting setting. Third, the targeting strategies of LBMA, particularly geo-conquesting, were investigated for the first time in Jordan. Thus, exploring these strategies is essential for a better understanding of how customers in developing countries react to out-store LBMA.

From a practical perspective, the findings are valuable for marketing and advertising practitioners in general and for clothing retailers in particular, as follows:

- This study revealed that whether customers were near the promoting store (i.e., geo-fencing) or near the competitor's store (i.e., geo-conquesting), both groups reported high intention to purchase from the promoting store. Therefore, it is worthwhile for managers in clothing retail stores to invest more in out-store LBMA, especially since it can reach a wide audience

and is cheaper to execute and maintain than in-store LBMA (Bernritter et al., 2021). Ultimately, investing in out-store LBMA can lead to an increase in marketing Return on Investment (ROI).

- By understanding Jordanians' buying behavior and attitudes toward out-store LBMA, marketers and advertisers operating in Jordan can tailor their approaches to attract more customers. Additionally, clothing retailers in Jordan should consider adopting geo-fencing and geo-conquesting as they have been proven to increase store visits and purchase intentions, particularly in the shirt product category. Implementing such innovative mobile advertising strategies can address the challenges faced by clothing retail stores, which are mentioned in the Introduction section. Utilizing out-store LBMA strategies allows local clothing stores to improve customer engagement and brand experience by sending personalized mobile messages based on users' location and consumption behavior (Bernritter et al., 2021).

- To enhance purchase intentions in a geo-fencing setting, practitioners need to focus on stimulating positive customer attitudes toward the ads, as perceiving the ads as less intrusive alone does not directly increase purchase intention unless through the mediating effect of positive customer attitudes. Therefore, to foster favorable attitudes, industry practitioners should ensure that their ad's content is beneficial, customized, and relevant to the customers' wants and preferences. They should also incorporate interactive content to encourage engagement and create a memorable customer experience.

- Customers in the geo-conquesting setting reported positive attitudes and a high purchase intention despite the fact that they perceived the ad as intrusive. Thus, the geo-conquesting strategy would be effective in Jordan, especially since most clothing retail stores in Jordan are within walking distance. Consequently, customers will not endure the extra hassle of driving from the competitor's store to the company's own store. However, regardless of the promising outcomes of this targeting strategy, thorough research is required before executing it, and it should be executed irregularly, not as a fixed and continuously executed strategy, since it requires offering deep discounts (Fong et al., 2015), and evokes the perception of intrusiveness.

LIMITATIONS AND FUTURE WORK

As with any research study, this study had several limitations. The first limitation is related to the purposive sampling technique. With this sampling technique, the findings can only be generalized to the population from which the sample was drawn and to those in the population who share the characteristics of the sample studied; they cannot be generalized to everyone in Jordan (Andrade, 2021). The second limitation stems from collecting data solely from Jordan. Jordan is a diverse country with various ethnicities, religions, and cultural backgrounds. However, collecting data solely from Jordan may not adequately represent other countries, leading to a potential limitation regarding the generalizability of the study's findings in representing broader populations.

The third limitation emerged from the data collection method. It was challenging to reflect on the real-world setting through a research questionnaire, even with the use of scenarios and images. Receiving an out-of-store location-based mobile ad in a real-world setting may result in perceptions and attitudes that differ from those found in this study. Therefore, future research can investigate the same factors (i.e., perceived intrusiveness, attitudes, and purchase intention) under the two targeting strategies of out-store LBMA, but through a randomized field experiment followed up by a research questionnaire to collect data from a real-world setting.

In addition, since this research is the first to address the issue of ads' perceived intrusiveness in a geo-conquesting setting, it would be beneficial to build on this study and collect in-depth data about respondents' answers to this question: "Why did respondents in the geo-conquesting setting have similar positive attitudes and purchase intention as respondents in the geo-fencing setting, even though respondents in the geo-conquesting setting perceived the ad as more intrusive?". Future studies can

explore this issue through qualitative research and interviews to better understand respondents' psychological and behavioral reactions to this matter.

Moreover, since the geo-conquesting strategy is not commonly used in Jordan, it would be interesting to conduct a longitudinal study to assess respondents' perceptions and attitudes after the geo-conquesting strategy becomes more commonly used in Jordan in order to compare the findings. Furthermore, the psychology and buying behavior of customers in Jordan are different from those in other countries. Therefore, more research needs to be conducted in different cultural contexts and other industries, such as restaurants and coffee houses, in order to generalize the results, especially regarding geo-conquesting, as there are not enough studies to investigate this targeting strategy. Additionally, future research could build on this study by comparing the two targeting strategies while considering other constructs such as product category involvement, customer's latest purchase through the app, customization, and message content type (e.g., informative, entertaining, or "open").

Ultimately, research on the effects of location technologies is unceasing and crucial in order to understand the digital customer of today, and as Kamiya and Branisso (2021) stated, "the 'brand in the hand' marketing era has arrived, but we are still scratching the surface of the challenges that it has brought with it. Think mobile" (p. 220).

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APPENDIX. QUESTIONNAIRE

THE SCENARIO FOR THE GEO-FENCING GROUP

Imagine that you have downloaded a mobile application of a clothing store called store "**A**." In that application, you have allowed store **A** to send you push notifications and to access your location so that you can receive relevant content. One day, you were wandering near store **A**. At that moment, you received a mobile notification from store **A**, as shown in the image below.
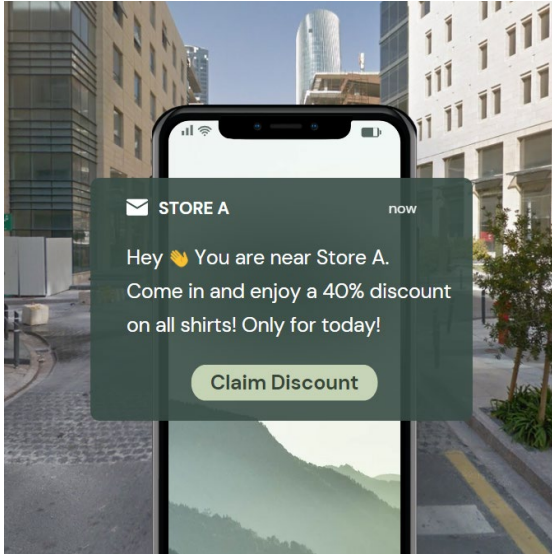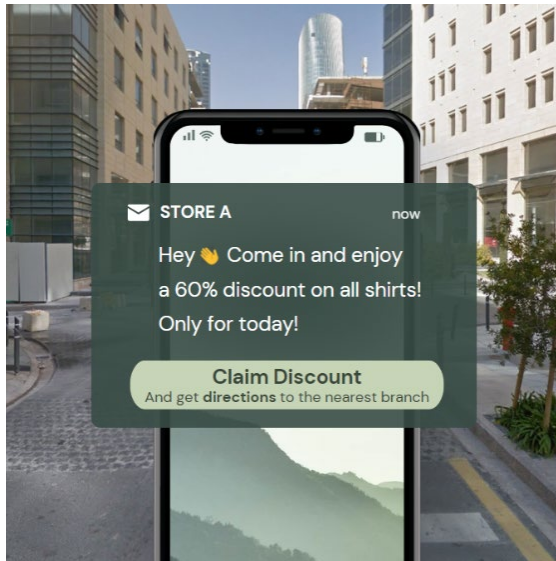

FMC FOR THE GEO-FENCING GROUP

Based on your understanding of this scenario, is this statement correct? "Store **A** is sending promotional notifications to its mobile application users when they are near the store".

- No
- Yes

THE SCENARIO FOR THE GEO-CONQUESTING GROUP

Store **A** and store **B** are both clothing stores that sell similar clothing styles at comparable prices. Imagine that you have downloaded a mobile application for store **A**. In that application, you have allowed store **A** to send you push notifications and to access your location so that you can receive relevant content. One day, you were wandering near store **B**. At that moment, you received a mobile notification from store **A**, as shown in the image below.

FMC FOR THE GEO-CONQUESTING GROUP

Based on your understanding of this scenario, is this statement correct? "Store **A** is sending promotional notifications to its mobile application users when they are near another clothing store that sells similar clothing styles."

- No
- Yes

SCALES' ITEMS

API1: "When I saw the mobile notification, I thought it was distracting my thoughts and activities while wandering near that store."

API2: "When I saw the mobile notification, I thought it was disturbing my thoughts and activities while wandering near that store."

API3: "When I saw the mobile notification, I thought it was interfering with my thoughts and activities while wandering near that store."

API4: "When I saw the mobile notification, I thought it was intruding on my thoughts and activities while wandering near that store."

In the geo-conquesting experimental group, API items included the name of the store (i.e., store B) as mentioned in the geo-conquesting scenario. For example, "When I saw the mobile notification, I thought it was interfering with my thoughts and activities while wandering *near store B*" instead of "*near that store.*"

CA1: "While looking at the mobile notification, I got a positive impression."

CA2: "While looking at the mobile notification, I found it really something for me."

CA3: "While looking at the mobile notification, I found it interesting."

CA4: "While looking at the mobile notification, I found it credible."

CA5: "While looking at the mobile notification, I found it attractive."

PI1: "How certain is it that you will purchase a shirt from store **A** on that day?"

PI2: "What chance is there that you will buy a shirt from store **A** on that day?"

PI3: "If I were looking for this type of product, my likelihood of purchasing a shirt from store **A** on that day would be high."

PI4: "If I were to buy this type of product, the probability that I would consider buying a shirt from store **A** on that day would be high."

PI5: "If I had to buy this type of product, my willingness to buy a shirt from store **A** on that day would be high."

AUTHORS

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