IN THE RIGHT PLACE AT THE RIGHT TIME:
Opportunities for mobile location-based marketing research

ABSTRACT

The retail context faces an increasingly pervasive presence of mobile. Yet, most purchases are still concluded in brick-and-mortar stores. Many issues regarding connecting digital with physical arise from such duality, with customer proximity to physical locations as an important aspect of the mobile marketing strategic context. To this point, little is known about the effects of mobile location-based marketing on visits to offline retail stores. The purpose of the current research is to examine the potential effects of the mobile message content and the geolocation data as drivers of store visits, connecting online efforts to offline behavior. This article provides a literature review of what is known about mobile marketing, location-based communication, and push-notification effect on customers' attitudes and behavior. Based on numerous findings from marketing and customer research, we identify a set of general propositions. We synthesize arguments for location-based push notifications related to visits to the offline site, and coupons offer, personalized and high-engagement content. By identifying strategies that marketers may employ to more effective geolocation promotions, the research identifies gaps in our current knowledge and thereby outlines opportunities for future research.

Keywords: Geolocation. Location-Based Marketing. Mobile Marketing. Retail. Traffic acquisition.

1 INTRODUCTION

"Allow Instagram to access your location?" Installing new mobile applications (apps) usually comes along with this well-known notification. Many apps (e.g.: Strava, AccuWeather, Trip Advisor, Facebook) continuously track user location in exchange for providing underlying services, such as determining distance ran, local weather forecast, directions to nearby destinations or to check into a location to share with friends. Other apps, however, do not directly provide underlying services, instead, they analyze the data retrieved from users tracking through mobile geolocation in order to design much more assertive communication strategies, as push notifications. In fact, smartphones are the most personal device customers have today, and as such, one of the richest sources of data for retail conversion (Fulgoni & Lipsman, 2016). However, mobile geolocation is a novel technology, and studies on its effects on customers' responses are still scarce.

Mobile technologies are increasingly commonplace in business. In some countries, such as Brazil, the US, or the UK, the number of smartphones surpassed that of notebooks (Comscore, 2018), showing a global trend to mobile use, taking over the majority of web browsing. In some countries, such as China, the US, Norway, and Russia, digital has already become the dominant ad medium in expenditure and the most relevant channel (eMarketer, 2018). No recent technological innovation has had a more transformative effect on customers' lives than the virtually indispensable smartphone (Melumad & Pham, 2020).

In 2022, Forrester Research Inc. estimates that smartphones will affect 42% of total retail sales. The company defines impact as a measure of the effect of Internet search on offline retail sales. Push notifications are an important tool for this increase since they are a way to speak directly to a user, promoting products or offers and converting unknown app users to known customers. However, according to the PushCrew Notifications Report (2018), 39.8% of subscribers wanted more relevant and personalized notifications. More than 74% of the audience think that receiving more than 5 notifications in a day is too many. Most people

believed that push notification users should send fewer notifications and send personalized and relevant ones. Besides, the unsubscription rate and frequency of notifications have a direct relationship. Unsubscribes increase when frequency increases. That means, push notifications should be more targeted and accurate.

During the customer journey, mobile is mostly used for education, information, and engagement, not necessarily for the last click. Searching for online information before visiting a store creates an anticipation itch, boosting desire. Yet, firms still struggle to measure mobile attribution. Marketers are unclear about the degree to which mobile drives revenue and profitability, in the challenge of accurate attribution (Bakopoulos et al., 2017). Hence, rather than focusing on driving more sales via the mobile channel, research can also address the mobile opportunities that arise to increase overall sales. That is, understanding how mobile can use push notifications to drive sales in physical stores.

Recent studies (Beeck & Toporowski, 2017; Pantano & Priporas, 2016; Verhoef et al., 2017) recommend further research regarding how to attribute online and mobile activities to offline store purchases. These studies indicate the need to systematically investigate the impact of mobile promotions on offline purchase behavior. Location-based push notification is a strategy particularly relevant to retailers because it enables them to attract customers to their stores, addressing the customers when they are most receptive to it. Thus, understanding the potential of utilizing location technologies is an important research task that can provide both theoretical and practical contributions.

As pointed out earlier, the impact of the mobile scenario on customers' shopping experience is still underdeveloped (Pantano & Priporas, 2016; Shankar et al., 2016), particularly regarding understanding how location-based services and mobile messaging may be used to affect customer behavior (Högberg et al., 2020). Hence, the purpose of the present research is to advance knowledge on the possible effects of mobile promotions in offline stores. Previous research has highlighted the importance of a deeper exploration of how online and offline marketing activities affect one another and also on understanding mobile opportunities as technology advances. Lamberton and Stephen (2016) recently advocate that researchers focus on understanding the marketing value of aspects of mobile technology that allow marketers and/or customers to do things that cannot be done with nonmobile technology, such as geo-located ad targeting.

Although already much is known about various aspects of mobile marketing, statistics on online purchases generally reflect the stage of payments made by the online channel, known as last-click metrics. Push notifications effect on individuals visiting the shop has not yet received much systematic attention, despite the fact that relevant studies are recently available. Therefore, in the common thread in the first half of this article, we will provide an overview of the appropriate studies on mobile marketing in online-to-offline (O2O). In the second half, we advance a set of propositions that, in our view, capture the current state of the art in the research on push notification and geolocation taking an O2O perspective and highlighting moderating contextual effects. By presenting these propositions, we hope to stimulate further empirical research into this highly relevant marketing strategy.

2 MOBILE MARKETING

From the late 1990s onwards, technologies have advanced at a furious pace (Parasuraman & Colby, 2015), involving social media, automation, mobile payments, and the rise of mobile commerce. Customers have embraced mobile technology, using such devices for all sorts of purposes: purchases, payments, research, and engaging with other customers. Businesses are extending their reach to the customers throughout mobile commerce, with the increasing popularity of this sales channel. Understanding the latest advances in mobile

marketing and what lies ahead of it is essential for both scholars and marketers in grasping the essentials of today's digital customer. The use of mobile marketing has increased in recent years as customer mobile usage and receptivity have grown (Fong et al., 2015), but the replacement of the traditional point of sale is still unrealistic (Pantano & Priporas, 2016). The shopping process has moved towards a reality that integrates, to say the least, the offline and the online opportunities and functionalities. In this process, mobile is the hub of omnichannel marketing, enabling a connected customer experience (Verhoef et al., 2017). Hence, there is an increasing need for retailers to integrate physical retail settings with mobile opportunities and functionalities (Beeck & Toporowski, 2017; Grewal et al., 2018; Pantano & Priporas, 2016; Verhoef et al., 2017). Regarding the online to offline relationship, it urges to better understand how mobile promotions affect customer offline behavior.

According to Pantano and Gandini (2018), the intensive use of social media and digital communication technologies emerge as an integral part of the shopping experience inside and outside the store. It does not mean, however, that online and offline retailers are following separate paths. The limits are fluid, with many possibilities of convergence. For example, responsive retail sites or applications can expedite the buyer's search by buying or delivering from the store (Shankar et al., 2016). Therefore, the offline operational capacity of the company is equally important to meet the online purchase (Tang et al., 2016). The retail presence today presents a dynamic that goes beyond the dichotomy of the physical or digital environment. It is understood today that channels are not exclusive: customers can relate to the physical and digital channels at different times throughout the shopping experience (Dholakia et al., 2010). The location-sensitive nature of smartphones opens the way for communication that is sensitive to the location of the customers (Högberg et al., 2020).

In fact, mobile marketing is a set of practices that enables organizations to communicate and engage with their audience in an interactive and relevant manner through and with any mobile device or network. Most recently, mobile has been analyzed under the online-to-offline (O2O) model. Among other things, the O2O model looks at online as a discovery mechanism for customers, that works as a foot traffic generator for merchants that enables offline purchasing. However, as Chiang et al. (2018) pointed out, there is still the need for a complementary model for companies to attract additional customers to physical stores. Pantano and Priporas (2016) highlight the importance of integrating retail physical configurations with online opportunities. Searching for purchases at collection points is a perceived benefit, avoiding delivery problems and allowing customers to check merchandise, thus reducing risks (Pantano & Priporas, 2016). Additionally, offline shopping weighs positively on the possibility of product inspection and the social aspects of the shopping experience. On the other hand, online shopping offers the benefit of convenience, with the removal of temporal and spatial barriers.

Seminal theories examining acceptance of new technologies such as Diffusion of Innovation Theory (Rogers, 1983), Technology Acceptance Model - TAM (Davis, 1989) and Unified Theory of Acceptance and Use of Technology - UTAUT (Venkatesh et al., 2003) are the core of to the majority of researches regarding mobile shopping (Gupta & Arora, 2017; Hubert et al., 2017; San-Martín et al., 2016). The most cited studies are presented in Table 1. Some of these studies suggest factors that enhance mobile shopping adoption, either having a positive effect or working as key mediating mechanisms, whereas others are focused on factors that curtail such technology adoption, such as perceived risks and, most importantly, they present the mobile marketing effect on customer decision-making process.

Table 1. Mobile Marketing research - most cited studies

Authors	Main findings	Citations					
		2016	**2017**	**2018**	**2019**	**2020**	**Total**
		435	551	591	908	468	4090
Shankar, Venkatesh, Hofacker, and Naik (2010)	Mobile consumer activities, mobile consumer segments, mobile adoption enablers and inhibitors, key mobile properties, key retailer mobile marketing activities and competition.	35	30	27	35	17	229
Shankar and Balasubramanian (2009)	Drivers of mobile device/service adoption, the influence of mobile marketing on customer decision-making, formulation of a mobile marketing strategy, and mobile marketing in the global context.	22	26	21	28	5	178
Lamberton and Stephen (2016)	Digital Social Media as a facilitator of individual expression, a decision support tool, and a market intelligence source.	2	20	42	77	33	174
Scharl, Dickinger, and Murphy (2005)	Message and media characteristics influence in three dependent success measures: consumer attention, consumer intention and consumer behavior.	15	13	12	14	7	164
Bellman, Potter, Treleaven-Hassard, Robinson, and Varan (2011)	Apps positive persuasive impact in increasing interest in the brand and brand's product category. Apps with an informational/user-centered style are more effective at shifting purchase intention.	22	19	24	29	16	137
Kaplan (2012)	What mobile social media is, what it is not, and how it differs from other types of mobile marketing applications. How firms can make use of mobile social media for marketing research, communication, sales promotions/discounts, and relationship development/loyalty programs.	24	27	22	12	12	135
Zhang and Mao (2008)	Two key determinants of TAM, the perceived usefulness and perceived ease of use of SMS advertising messages, predicted the intention to use them. Trust in SMS advertising and subjective norms also contributed to the intention to use.	7	10	5	10	6	127
Varnali and Toker (2010)	To classify the literature on mobile marketing and assess the-state-of-the-art in order to facilitate future research.	10	12	11	11	5	109
Winer (2009)	The kinds of new media that companies are using to engage customers and the challenges that these media present from the perspective of the marketing manager.	12	15	8	9	8	103
Fong, Fang, and Luo (2015)	Competitive locational targeting produced increasing returns to promotional discount depth, whereas targeting the focal location produced decreasing returns to deep discounts.	10	22	21	31	8	93

We should also note that customers' intrinsic characteristics might affect the mobile adoption intention. Young and social media savvy participants with a generally high interest in shopping are usually networked shoppers (Pantano & Gandini, 2018). Customers that feel overwhelmed by technology and that are skeptical about its correct functioning are inhibited to adopt new technologies (Parasuraman & Colby, 2015). Whereas customers that have a positive view of technology (Gupta & Arora, 2017; Parasuraman & Colby, 2015), such as tech pioneers and influential leaders, are usually motivated to adopt technology innovations (Parasuraman & Colby, 2015).

Mobile use is supported by customer innovativeness and personal attachment to mobile technologies (Pantano & Priporas, 2016). Mobile trust influences customers' intention to engage in mobile shopping (Giovannini et al., 2015). Trust in online commerce plays an important part in trust in mobile commerce. Online trust involves technology and the entity deploying it (Boyd, 2003). The customer's perception of lack of physical contact – the "dehumanizing effect" (Parasuraman & Colby, 2015, p. 62) is still ambiguous, working as a driver for some and as an inhibitor to others (Chaparro-Peláez et al., 2016; Parasuraman & Colby, 2015).

Gupta and Arora (2017) brought new lenses to mobile shopping using behavioral reasoning theory, analyzing "reasons for" and "reasons against". Customers undertake cost-benefit tradeoffs in purchasing decisions. Before that, Maity and Dass (2014) had also applied behavioral reasoning theory, conjoint with media richness theory, in order to investigate the impact of media richness on customers' channel choice of in-store, e-commerce or m-commerce. Customers would rather adopt the mobile channel for shopping in simpler decision-making tasks, due to low media richness (Maity & Dass, 2014). Mobile shopping is prevalent in low-consideration contexts. It is not suitable for higher involvement categories, at least not as a primary touchpoint (Wang et al., 2015).

3 MOBILE PROMOTION STRATEGIES: PUSH NOTIFICATIONS

The advances in mobile technologies are affecting customer purchase behavior, particularly in an array of pull and push promotion strategies. According to Molitor et al. (2015), mobile pull differs from the mobile push in three distinct categories: i) user's perception, ii) interaction with coupons/ads, and iii) interface design. In general, pull notifications make use of wi-fi and cell tower mobile technology; are delivered via app, mobile internet, or mobile barcode; it is associated with a planned purchase customers' mindset and has a prolonged redemption window. Pull notifications, on the other hand, make use of tower triangulation, wi-fi, geo-fence, and beacon technology; are delivered via SMS, text or app; it is associated to an impulse purchase customers' mindset and has an immediate redemption window (Andrews et al., 2016). Mobile pull tends to be less often considered as spam and less privacy intrusive, giving users more control over their interactions with the provider, since it refers to users actively searching for a product or a service.

Tang et al. (2016) applied an innovative approach to the adoption of mobile purchases when analyzing this phenomenon from the perspective of channel migration using the push-pull-mooring (PPM) theory. Based on human migration studies, this theory suggests that there are negative factors at the origin that push people, while positive factors at destination act to attract people to them, as well as mooring factors that facilitate or inhibit their decisions to migrate. The Tang et al. (2016) model tested the inconvenience of traditional internet channels and the perception of high prices as factors of pressure; perceived utility and perceived ease of use of mobile shopping as attraction factors and high costs of change and low security/privacy as mooring factors in the background analysis that influence the decisions of customers on the migration of online shopping (based on PC) for mobile purchases. The cost of change was not

significant in the results, but safety was in line with what other studies of acceptance of mobile technology have already shown (Hubert et al., 2017; San-Martín et al., 2016).

Researchers have consistently reported the relationship between mobile marketing and individuals responses regarding last-click behavior. However, the interest in investigating how interaction via mobile drives store visits is also a trend (Table 2).

Table 2. Research on Mobile marketing and Offline purchase behavior, Promotion Strategies, and Geolocation Promotions

	Investigation	Authors
Offline purchase behavior	How mobile technologies affect purchase behavior in retail brick-and-mortar stores.	Andrews et al. (2016) Groß (2015) Bakopoulos et al. (2017) Shankar et al. (2016)
Promotion Strategies	Mobile pull and push promotions in retail settings.	Beeck and Toporowski (2017) Fong et al. (2015) Tang et al. (2016)
Geolocation Promotions	Mobile targeting (location-based) promotions.	Verhoef et al. (2017) Grewal et al. (2018) Ieva et al. (2018) Pantano and Gandini (2018) Fulgoni and Lipsman (2016) Grewal et al. (2016) Hui et al. (2013)

Unlike prior work, which has mostly investigate mobile marketing focusing on the acceptance of new technologies context (cf. Davis, 1989; Rogers, 1983; Venkatesh et al., 2003), this recent distinct research stream (Figure 1 - green cluster), has mainly focused on important insights on connecting online efforts to offline behavior. These studies assess how targeted mobile promotions can attract additional customers to physical stores and also increase unplanned spending (Hui et al., 2013). Push notifications offer a convenient way to stimulate unplanned purchases by reaching customers when they are close to a store, point-of-purchase, or purchase consideration (Andrews et al., 2016, p. 16).

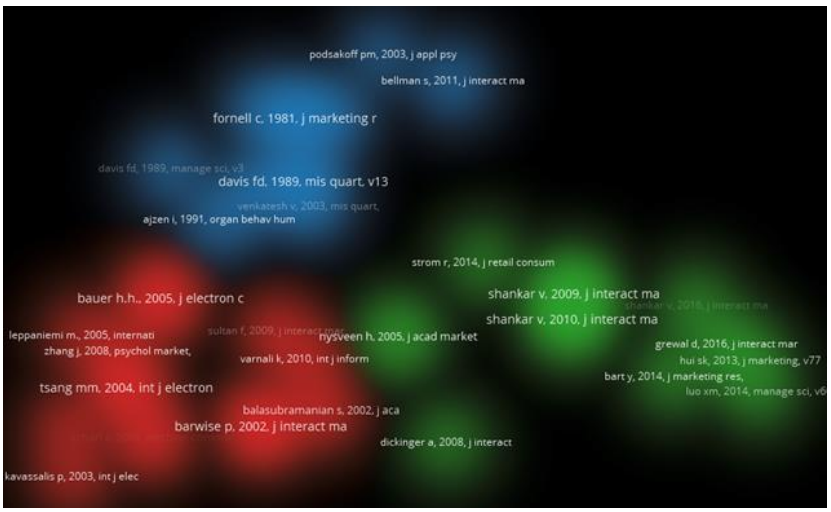


Figure 1. Mobile marketing research – VosViewer citation cluster. Developed by the authors, 2020.

Push-notifications can be highly effective but individual actual location has an important effect on how they respond to this strategy. Additionally, inappropriate use of technology could deter potential customers instead of attracting them (Beeck & Toporowski, 2017). Beeck and Toporowski (2017) provided evidence of the potential risks and benefits of sending mobile messages to customers, as part of the digitalization strategy for brick-and-mortars using new

technologies. According to Back and his colleague, mobile targeting is influenced by the content of the mobile message and the customer's location upon receiving the message. That leads us to link mobile pull and push promotions with geolocation strategies.

4 MOBILE MARKETING AND GEOLOCATION PROMOTIONS

"*Most of economics can be summarized in four words: "People respond to incentives." The rest is commentary*." — Landsburg, 2009

Location-based marketing (LBM), or actions based on geolocation or geofencing is one of the most fertile fields for Mobile Marketing. The locational targeting of customers within certain designated areas (typically near a firm's own location) is referred to as geofencing (activation perimeter). The ability to support location-based applications is a unique feature of mobile devices (Grewal et al., 2016). Geobehavioral marketing refers to the ability to target unique audiences and/or users based on the context of a given location or past or present location behaviors (MMA, 2019). Mobile technologies empower researchers and managers to draw insights on marketing phenomena in a way that were impractical to study in the past, since mobile technologies provide access to customers' real-time presence (Fong et al., 2015), altogether with a number of data provided by this most intimate device.

The differential of mobile lies precisely in the uniqueness that the functionalities of mobile devices offer, particularly geolocation. Using the customer's location for purchases allows you to enter the context in the process: the right product, for the right person, at the right time, just what the mobile allows due to its ubiquitous character. Mobile allows the company to approach the customer in different situations and points of contact, linking the offer to the consumption context. Besides, a mobile promotion is less obtrusive because mobile notifications are easy to check with a glance or ignore if so desired (Fong et al., 2015, p. 728).

Locational targeting has been widely adopted by mobile marketers, with Ad Networks already providing media inventory based on geofencing. Geolocation actions are mainly aimed at boosting unscheduled buying behavior since they usually occur close to the point of sale. There is also competitive locational targeting, the practice of promoting to customers near a competitor's location, using mobile geolocation promotions as competitive weapons (Fong et al., 2015). The effectiveness of mobile promotions is guided by the principle of context - taking the right action at the right place and time (Verhoef et al., 2017). As Fong et al. (2015, p. 726) put it, mobile promotions can now reach customers when and where they are most receptive. The difference between an ad being perceived as an interruption or as a welcome hello is often timing. In these cases, both the location and timing of the message are crucial and the challenge is to target "moments of relevance" across the customer journey (Bakopoulos et al., 2017).

Recent research has shown location-based marketing positive effect on users' attitudinal and behavioral responses such as the intention to redeem (Beeck & Toporowski, 2017), purchase rate (Fong et al., 2015), and clicks on the coupons (Molitor et al., 2020). Table 3, to the best of the authors' knowledge, presents all the studies that empirically investigated location-based marketing so far. However, future research is still needed, especially using field experiments with real and potential customers in order to better explain and provide advances to the current mobile location-based marketing research. Drawing from Table 3 studies findings, we present our propositions that suggest location-based mobile strategies effects on the O2O perspective.

According to Bakopoulos et al. (2017, p. 450), marketers have two goals: strengthen consideration for the brand by reinforcing image perceptions (top of the purchase funnel) and drive sales (the lower funnel). Therefore, we can aim at measuring attitudinal consideration (the upper funnel) or actual behavioral (the lower funnel) to identify customers at the right moment

Table 3. Prior Geolocation Mobile Studies

Authors	Simuli	Method	Independent Variables	Dependent Variables	Setting	Main Conclusions
Hui et al. (2013)	Paper coupon	Field Experiment	In-store path length, impulsivity, shopping budget and demographics.	Unplanned expenditure	Mobile promotions coupons. Participants agreed to use a PathTracker belt, embedded with an RFID tag.	Offline effects (i.e., travel distance in stores) of coupons delivered in online (mobile) formats on in store spending.
Luo et al. (2014)	Push (SMS)	Field Experiment	Temporal and geographical distance	Response to discounted movie tickets	Promoted in cooperation with D.LAX Theaters. The wireless provider sent SMS messages promoting discounted tickets. Recipients purchased movie tickets by downloading the accompanying movie ticket application.	For proximate distances to cinemas, the redemption likelihood is highest if the coupons are sent on the same day. For non-proximate distances, a promotional lead time of one day has the highest redemption likelihood.
Danaher et al. (2015)	Push (SMS)	Panel/Observational data	Coupon characteristics and location-based covariates	Consumer response to coupon	Mobile coupons sent out to visitors of a mall by a third party.	Location and time of delivery significantly influence redemption.
Fong et al. (2015)	Push (SMS)	Randomized field experiment	Competitive locational targeting and discount depths (20, 40, 60%) geo-conquesting	Purchase rate	Promotional offers were sent to mobile users located near a focal retailer's own location, a competitor's location, and a benchmark location	High discounts were optimal for the competitive location, whereas medium discounts were optimal for the focal location. Overall redemption rate of 2.5% across all the treatment combinations.
Molitor et al. (2020)	Pull	Large-scale randomized field experiment	Provision of distance information and distance-based ranking mechanism (display rank)	Clicks on the coupon (click as based a positive response)	Mobile coupon aggregator, comprising 3,152 different stores in 2,559 cities in Germany, with 13 product categories.	The most effective coupon interface design is based on offers that are sorted by distance; increased distances decrease the likelihood to choose coupons. The trade-off between discount and geographical distance is therefore 148 meters per percentage point discount.
Dubé et al. (2017)	Push (SMS)	Field Experiment	Random prices of competing movie theaters, consumer's locations	Ticket purchase	A mobile SMS promotion consisted of an offer to buy one voucher for any 2D movie showing at a given movie theater on the day the SMS message was sent.	Geoconquesting study. Findings demonstrate the importance of considering competitor response when piloting novel price-targeting
Beeck et al. (2017)	Pull	Online based experiment	Location (home, city, shop) and content (coupon, promotional)	Intention to redeem	Discount Shopping App	Low usage rate for discount mobile applications.

and use media to trigger immediate response and drive acquisition. That is, there is a choice of attitudinal survey-based metrics (consideration) and/or actual behavioral metrics. Reaching customers at the right place and at the right time should result in higher response rates. Moreover, properly timed promotions to customers in targeted locations should produce a positive incremental effect over nontargeted or asynchronous promotions (Fong et al., 2015; Molitor et al., 2020). In sum, previous research data support the prediction that proximity of physical locations and the content of the mobile message are important aspects of the mobile marketing strategies in O2O efforts.

Under such a perspective, interacting with a message via mobile needs to be relevant to the customer context. Unlike prior work, which has mostly considered online-to-online responses, but in light of the earlier arguments, we present opportunities to investigate how to deliver more effective mobile message content, based on geolocation data in order to drive store visits, and to connect online efforts to offline behavior.

4.1 Location-based push notifications and visits to the store

Location and other data signals allow companies to target key segments of customers who much more likely would respond positively to the promotional offer (Bakopoulos et al., 2017). Behavioral targeting and contextual targeting justify their incremental cost and improve the performance of campaign results: more consideration, more sales, further dollar expenditure (Bakopoulos et al., 2017). Contextual targeting refers to identifying customers who were browsing relevant content about the category on their mobile devices. However, geolocation actions are mainly aimed at boosting unscheduled buying behavior (Hui et al., 2013), since they usually occur close to the point of sale.

When you know where customers are and how they behave, you can not only customize offers but also give them rewards and personalized experience. The results of Grewal et al. (2018, p. 102) studies indicate that mobile phone use in-store can increase purchases overall because customers "divert from their conventional shopping loop". In a previous Walmart study, activation by location had a higher impact on store visitation than activation of past shoppers (Bakopoulos et al., 2017).

Thus, location-based reveals an opportunity to enhance the customer experience in the physical store and the online-offline integration of the brand. "Proximity location targeting, when matched with expandable mobile display units, also improves the impact of advertising in terms of driving foot traffic" (Bakopoulos et al., 2017, p. 450). Planning the timing and location of marketing messages can lead to a more efficient outcome (Luo et al., 2014). Fang et al. (2017) analyze whether mobile promotions that are triggered by geofences (i.e., sent when a customer enters a pre-defined area around the promoting store) are more effective compared with those received without geo-fences. They find six to twelve times more purchases compared with store promotions without geo-fences. This leads to the first proposition.

Proposition 1: Location-based push notifications when sent near to the target store increases the number of visits to the offline point of sales.

4.2 Location-based push notifications and coupons offer

In functional terms, location-based coupons can be either pushed to users (i.e., mobile push) or provided on demand via specific applications in which users can intentionally browse through available coupons (i.e., mobile pull) (Xu et al., 2009). Basically, mobile pull and push offers vary on the delivery mechanism. In a pull scenario, users are explicitly searching and asking for these offers (Molitor et al., 2016). Whether in a push scenario, users here are not

explicitly asking for these offers; these offers are automatically pushed out to them (based on a variety of targeting criteria).

Previous studies have demonstrated that the distance to the point of sale impacts the likelihood of purchase (Molitor et al., 2020), especially if there is some type of coupon. Research shows greater redemption of coupons sent to mobile devices (Hui et al., 2013; Klabjan & Pei, 2011). The reason that distance might matter more on mobile devices (compared with PCs) is that mobile coupon applications are used as a ubiquitous information medium with the intention to bring customers (back) to physical retail stores (Molitor et al., 2020).

If the purpose of the campaign is branding, the fact that the user is exposed to the brand via institutional communication is relevant. Achieving viewability and, perhaps, engagement shall be sufficient. "Mobile particularly is effective for established brands, which customers have less need to research or validate" (Bakopoulos et al., 2017, p. 449). However, if the goal is conversion, a message that promotes customer action shall be pursued. In fact, Shankar et al. (2016) stress that unexpected promotions increase the sense of serendipity in the mobile process, which helps to increase customer engagement.

However, the perceived value of a location-based coupon may depend on the actual geographic location where users open and access their mobile coupon application (Molitor et al., 2020). According to Fong et al. (2015), it is shortsighted to conclude that locational responsiveness to mobile promotions is merely a function of proximity to a retailer's own stores. Product type, customer characteristics, time, and location of the received message influence mobile coupons redemption rates (Beeck & Toporowski, 2017). For instance, Fong et al. (2015) analyzed the effects of discount depths on competitive locations, with the cooperation of a mobile service provider. They reached the conclusion that high discounts were optimal for the competitive location, whereas medium discounts were optimal for the focal location. The results of Beeck and Toporowski (2017) research indicate that mobile messages can be highly effective for users of discount apps when the customer is near to the shop.

Proposition 2: The visits to the offline point of sales generated by location-based mobile notifications is greater when the content is promotional than when the content is institutional.

4.3 Location-based push notifications and personalized content

A keyword in mobile promotion is permission. "Real-time location information is potentially quite sensitive, and customers may not always understand the lengthy terms and conditions they agreed to" (Verhoef et al., 2017, p. 7). Technologies such as beacons, with the customers' permission, enable retailers to go beyond targeting. Retailers have the opportunity to collect data, measure real-time shopping behavior, and customize promotions (Beeck & Toporowski, 2017). Mobile beacons are an entirely different marketing communication tool than mobile messaging, in that it requires a customer to install the app. But, once installed, customers' use of mobile technology generates information that can be captured by firms for targeting purposes (Verhoef et al., 2017). The process of mobile activation is extremely delicate and therefore must be very well planned.

Because of the geolocation effect on boosting unscheduled buying behavior, these impulse purchases may generate regret and a negative feeling in customers. To minimize these negative effects, push notifications should in fact contain a benefit that adds value to the customer, preferably a customized one. There is a common perception that better-targeted ads necessarily require access to customers' personal data, with improved targeting techniques being advantageous for firms (Kim et al., 2019). Well-targeted ads are objectively more personalized; thus, they should by definition be more relevant and interesting to customers (Kim et al., 2019, p. 908). Targeting an ad based on customer behavior can increase the person-

product fit, and consequently, the ad effectiveness.

Theories of self-disclosure suggest that customers' willingness to disclose personal information is based on their assessments of the costs and benefits (Andrade et al., 2002, p. 350). We can draw a parallel with push notifications opt-ins: for customers to disclose their location to companies, they assess the costs and benefits offered. Another benefit of mobile is its unique services, mainly related to the possibility of offers based on location in real-time (Faqih & Jaradat, 2015; Gupta & Arora, 2017). This offer comes in the form of personalized messages based on user-selected preferences, requiring less effort in finding information (Eastin et al., 2016). Systems can adapt their behavior to individual use, automatically recognizing some information about customers (Pantano & Priporas, 2016).

Proposition 3: The visits to the offline point of sales generated by location-based mobile notifications is greater when the content is personalized.

4.4 Location-based push notifications and high engagement content

Digital Marketing encompasses Mobile Marketing, and although these concepts have many similarities, they are not exactly the same (Maity & Dass, 2014). The mobile construct can cover the device, the technology, the channel, or other aspects. Regarding the device, mobile is any centrally connected portable device that can be used on the move, such as a smartphone or a tablet (Shankar et al., 2016). Despite the similarities, online and mobile bring different experiences to the customer (Tang et al., 2016). Both have in common the separation of the moment of purchase from the moment of collection/consumption, eliminating the traditional time and space barriers of physical retail (Pantano & Priporas, 2016). It is anytime, anywhere shopping. However, smartphone shopping allows customers to shop when they are on the go, with no time or space constraints (Tang et al, 2016), while e-commerce requires an area for the PC or notebook, which may impose certain time and location.

While the time and space restrictions were removed, other barriers were added. There are now technological frontiers, including the ability to use technology and customer knowledge to deal with it (Pantano & Priporas, 2016; Tang et al, 2016). New technologies require not only firms to master new skills, but also customers to master them (Parasuraman & Colby, 2015), bringing ease of use to a new level. Customers still experience anxiety and lack of trust in the use of m-commerce (Gupta & Arora, 2017). Thus, mobile shopping tasks should be easy (user-friendly and simple transaction process) and cost-effective to attract customers (Tang et al., 2016).

Moreover, it should be fun and enjoyable, since hedonic motivations such as perceived entertainment are so important in m-commerce that they can even provide a better explanation for technology adoption than utilitarian motivations, such as perceived utility (van der Heijden, 2004). Since screens are smaller, media richness is affected in mobile communication (Pantano & Priporas, 2016). Media richness is related to the ability to communicate information to the customer through text, audio, video, and face-to-face messages (Maity & Dass, 2014). Otherwise, the lack of user-friendly interfaces on smaller screens can turn into discomfort and inconvenience. This limitation of information space (small keyboards and small screens) may make interaction via mobile mentally and physically exhausting, and therefore cognitively onerous (Sohn et al., 2017).

Thus, entertainment in mobile is important to achieve satisfaction and positive word-of-mouth (San-Martín et al., 2016). To be fun and enjoyable, the m-site's design "should facilitate the opportunity for interactivity between the client and the company, or between several clients" and give the option of viewing images (San-Martín et al., 2016, p. 609). Smartphone displays are several inches smaller than a laptop or PC display. Thus, customizing or targeting

advertisements becomes more critical on a smartphone (Molitor et al., 2016). Due to the increasing importance of entertainment as means to achieve customer engagement in mobile, the use of instant connectivity is significantly related to perceived ease of use (Hubert et al., 2017; Maity & Dass, 2014). We offer the following:

Proposition 4: The visits to the offline point of sales generated by location-based mobile notifications is greater for high engagement content.

5 GENERAL DISCUSSION

Customers navigate between online and offline channels, but most end in a physical environment. More than half of the web browsing takes place via mobile devices and 65% of Google searches are done through these devices (Statista, 2019). However, the majority of retail sales is still represented by brick-and-mortar stores (85%, according to a 2019 report from Statista). The customer lives a journey in which he passes through multiple channels and points of contact, with the mobile as the hub of this process. Thus, the approach should be increasingly multimedia and cross-platform, taking advantage of the synergies that the mobile offers with the other channels. The effectiveness of mobile marketing is guided by the principle of context: taking the right action in the right place at the right time. In a scenario where most of our digital minutes happen on mobile platforms, it is a matter of survival to have mobile-focused planning that embraces the potential of new technologies such as geolocation targeting.

Mobile is a critical avenue for omnichannel growth, not only regarding conversion but also by facilitating fulfillment and driving research and consideration, the ideal context for push notifications. There are several practical implications of managing customers' offline behaviors (visits to offline sites) engaging with digital means of communication. Unfortunately, there are still few studies regarding the effects of mobile efforts in offline behavior, under the O2O perspective (Chiang et al., 2018). Our literature review covered three streams of research: a) how mobile technologies affect customer offline behavior in brick-and-mortar stores (online to the offline relationship); b) main mobile pull and push promotions in retail settings; and c) mobile marketing location-based promotions. The theoretical framework adopted derives from a critical reflection on the literature review, covering perceptions about the factors that would support our presented propositions.

We build on the literature of contextual marketing and behavioral advertising to posit that the geolocation mobile promotion directed to the customer once he approaches the store increases the chances of a positive response to the communication. We also posit that the effect would be moderated by the type of message, promotional, or institutional. The main assumption behind our review is that the content and the timing of the message (considering the customer’s geolocation) increase the visits to offline sites. Context and convenience as the primary drivers of the effect (visits to the offline POS generated by mobile notifications), considering that context and convenience are represented by geolocation and message content. That provides the base for a mobile model for companies to attract customers to physical locations

From the managerial point of view, this research contributes by enlightening the path to mobile activation in retail multichannel channel strategy. Besides, it shall aid in understanding how customer’s use of mobile technology can be used to guide customers to in-store purchases and, therefore, improve retail media budget allocation to increase marketing ROI using mobile. Knowing more about the motivations for adopting mobile throughout the shopping journey in multichannel environments, companies can deploy more efficient marketing strategies. This study intends to contribute to theories of mobile marketing, omnichannel customer behavior as well as to the understanding of geolocation promotions.

As Ghose et al. (2015) reinforce, the digital trace of customers' offline behavior has become increasingly critical for businesses today in order to understand customers' inherent preferences to improve user digital experiences and business marketing strategies. Mobile marketing has the power to help brands build personal relationships with customers. However, there is a thin line between making the customer feel special and making them feel stalked, revealing the importance of using the right content at the right time. Mobile is a digital paradigm shift in retail. Retailers should be on their way to adopt a mobile mindset if they wish to perform a successful omnichannel strategy. Hopefully, the new research avenues that are widely open in mobile will benefit the millions of customers who are yet to experience mobile benefits.

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