



The upside of showrooming: How online information creates positive spill-over for the brick-and-mortar retailer

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ABSTRACT

The ubiquitous nature of mobile internet devices (i.e., smartphones and tablet computers) has led to an increase of their use within the retail environment as a shopping assistive technology. Consumers use them for a variety of shopping-related tasks, the most significant of which is researching product information. The use of these devices has clearly impacted how consumers shop, but what is not clear is how these devices affect shopper satisfaction, trust in the retailer and subsequent shopper intentions. The purpose of this paper is to better understand these relationships and extend existing research on the use of mobile internet devices in the retail industry. Several hypotheses are offered, and survey data from a nationwide random sample of consumers tested the hypotheses using structural equation modeling. Results indicate that shoppers' satisfaction and trust in an online information source creates a spill-over effect on satisfaction and trust toward the retailer. Additionally, retailer repatronage intentions increase as a result of this spill-over effect. Contributions to emerging mobile marketing literature and theory, managerial implications, and future research recommendations are discussed.

KEYWORDS

Retail; electronic commerce; mobile marketing; mobile-assisted shopper; repatronage intention; satisfaction; DSMM

1. Introduction

In the past, much ink was spilt in the media about how shopper “showrooming” behavior (browsing a brick-and-mortar retailer but purchasing from an online competitor; Rapp et al. 2015) was nothing less than a harbinger of a coming retail apocalypse. But a funny thing happened on the way to doomsday; retailers began to embrace shoppers' smartphone use and some actively encouraged it. In fact, a recent Forbes magazine article reported that 86% of retail sales in the U.S. still occur in traditional brick-and-mortar stores, with 53% of those purchases influenced by online information (Goldberg 2018). So, what is actually going on in the competitive retail landscape?

Presently, a walk down the aisle of a typical retailer reveals a multitude of point-of-purchase displays encouraging you to “Find this project on Pinterest” or “Like us on Facebook” (Harris and Dennis 2011). Products might include quick response (QR) codes to access more information online and stores highlight their access to free Wi-Fi to facilitate shoppers' online information searches (Sheehan 2018). Increasingly, retailers are making it easier for shoppers to use their mobile internet devices (e.g., smartphones and tablet computers) while in their retail environment. But, does doing so automatically yield a significant competitive advantage for the retailer, or has offering such services simply become the default practice for retailers? Although simply accommodating a shopper already inclined to be influenced by online information might seem logical on its face, is the retailer reaping any advantages from doing so? Recent research suggests that shoppers who spend time on their mobile devices while in a store tend to stay longer and spend more money

(Grewal et al. 2018). However, is the increased spending simply a matter of convenience for the shopper (e.g., *While I'm here, I should also get ...*)? Or, might shoppers' use of mobile internet devices (hereafter MID) in the store not only provide sought-after information for the shopper, but also yield potential benefits to the retailer?

Although there is nothing new in suggesting that retailers pay attention to shoppers' attitudes and behaviors, research is just beginning to investigate the effect that shoppers' MID usage has on their perceptions of the retailer as a trustworthy and satisfying source for useful information. For example, research suggests that shoppers tend to evaluate retailers in a manner that is consistent with evaluations of the products/brands that they offer (Zboja and Voorhees 2006). Results from that study found that shoppers tended to be more satisfied with the retail firm and experienced greater trust in the retailer if they trusted the brands it offered and were satisfied with the brand offerings. Such "spill-over" effects translated into greater intentions to patronize the retail firm in the future (Narang, Shankar, and Narayanan 2018). The model investigated by Zboja and Voorhees (2006) also found that brand satisfaction led to both brand trust and satisfaction with the retailer. And, a study by Meuter et al. (2000) found that when the information provided by an online site yielded useful information, shoppers expressed satisfaction with their experiences.

Not all extant research agrees with these findings, however. A recent meta-analysis examining components of customer loyalty found a stronger relationship between trust and loyalty relative to purchase intentions than for satisfaction and loyalty and it was argued that satisfaction with a retailer followed from established trust (Pan, Sheng, and Xie 2012). In considering shoppers' perceptions of a retailer's mobile app, Iyer, Davari, and Mukherjee (2018) found that customers' perceptions of several types of value led to satisfaction, and that satisfaction then led to repatronage intentions. The conflicting directionality of these studies and others, which are discussed in more detail below, suggests a continued need for research to tease apart specific components of the seller-buyer relationship that can be useful for predicting repatronage intentions.

In an effort to help clarify some of the relationships mentioned above, this study examines part of complex buyer-retailer relationship involving shoppers' perceptions of the sources of information used while shopping in a physical retail environment. Since shopper MID use behaviors within brick-and-mortar stores has become common (Quint, Rogers, and Ferguson 2013), the types of information available for a shopper to access can be quite varied. Perhaps unsurprisingly, the largest motivator of in-store MID usage by shoppers is to access product information (brands, product specifications, pricing, availability, etc.) (Skrovan 2017). And, as mentioned above, shoppers' perceptions about a store's product brand offerings translated into similar perceptions about the retailer itself (Zboja and Voorhees 2006). Following a similar theoretical perspective, we questioned whether perceptions about the information source shoppers accessed with MID) influenced perceptions of the retailer in much the same way that brand offerings did. If this is the case, it would be equally important for managers to understand how online information accessible within their stores contributes to shoppers' evaluation of the retail firm itself. This, in turn, could help retailers develop strategies to not only increase customers' use of MID) but to *shape* shopper attitudes to further enhance repatronage behaviors. Although it may seem logical to assume positive repatronage behaviors if a shopper develops satisfaction and trust of information acquired while in a retailer's store, the conflicting research to date suggests that this is not a guaranteed outcome. The media often negatively sensationalizes reports of retailers who seemingly manipulate shoppers' attitudes and behaviors in *any* manner (R. M. Wilson, Gaines, and Hill 2008). We argue that until such behavior is empirically examined, it seems unwise to assume the existence of positive shopper attitudes and behaviors.

In this study, we examine the influence of online information from a source accessed within a retail environment on shoppers' satisfaction and trust with the retailer and its subsequent influence on repatronage intentions. These online information sources are those easily accessible through a mobile internet device such as mobile web sites or mobile apps (i.e., purpose built software programs). Although some qualitative research has explored the meaning of mobile-assisted

shoppers' experiences (Spaid and Flint 2014) and the likelihood of engaging in distracted shopping (Sciandra and Inman 2015), there is still much to be learned about mobile-assisted shoppers. As such, we conducted a quantitative study that supplements earlier qualitative research by investigating the complex relationships thought to exist between the shopper, the retailer, and perceptions of online information sources accessed while shopping. We draw on existing research demonstrating how shoppers' satisfaction with brands and trust in those brands spills over onto satisfaction with the retailer and trust in the retailer (Zboja and Voorhees 2006). Using that framework as a preliminary source for theory, we examine how satisfaction with a MID-based information source and shoppers' trust in the information source may spill over onto perceptions of the retail firm, thereby influencing both satisfaction and trust in the retailer. We then examine the influence of those variables on shoppers' repatronage intentions.

In conducting this research, we hope to contribute to a growing body of digital, social media, and mobile marketing (DSMM) research that addresses mobile marketing within the retail environment (Lamberton and Stephen 2016; Shankar and Balasubramanian 2009; Shankar, Smith, and Rangaswamy 2003). Although mobile shopping represents one-third of ecommerce (Iyer, Davari, and Mukherjee 2018) the vast majority of purchases are still made in brick-and-mortar retail environments. As such, it is important to better understand shoppers' perceptions of the information sources available within the retail environment. With this study, we also hope to enable managers to better understand how mobile marketing efforts that provide credible and useful information about products within their retail stores might influence shoppers' perceptions on their path-to-purchase (Shankar et al. 2016). By identifying how these perceptions influence both their satisfaction with and trust in the retailer, we may also help managers better understand the mediating role of trust in the relationship between information source satisfaction and repatronage intentions.

We begin by reviewing existing research on shoppers' satisfaction and trust within the retail context to provide theoretical support for the use of online information made available to enhance purchase decisions in a traditional retail space. A model is provided to illustrate the relationships thought to exist, and several hypotheses are presented based on existing theory. The hypotheses are tested using data gathered from a survey of retail shoppers across the United States ($n = 599$). Structural equation modeling is used to test the hypotheses, and results are discussed. A general discussion of the findings is presented, followed by managerial implications of the study and opportunities for future research. Lastly, study limitations are acknowledged.

2. Literature review

2.1. Satisfaction with information source

There is considerable research investigating the desirable outcomes retailers and manufacturers attempt to create for shoppers via their products and services. Satisfaction is one shopper attitude in which prolific research has been conducted (see Geyskens, Steenkamp, and Kumar 1999a for a detailed meta-analytic review). Satisfaction is considered to be a shopper's judgment or attitude that a product or service yields a pleasant sense of fulfillment (Oliver 1997). When looking at attitudes, the most commonly accepted characterization involves the tripartite conceptualization in which an attitude is composed of affect, behavioral intentions and cognition (Breckler 1984). In considering attitudes toward the use of technology, Mitzner et al. (2010) found that positive attitudes were strongly associated with how technology supported activities, enhanced convenience for the user and the useful features of the technology. Although their study involved older adults, it is widely known that younger technology users are even more likely to hold these attitudes (Quint, Rogers, and Ferguson 2013).

In the present study, the context for examining satisfaction includes both the in-store retail experience and the experience of securing online product-related information while physically

shopping in a given store. This distinction is needed, as early research suggested that shoppers form different satisfaction judgments for distinct elements of a shopping experience (Singh 1991). More recently, it was found that use of mobile devices by shoppers to simultaneously occupy both physical and virtual worlds has increased (Houliez 2010). These concurrent in-store and online retail experiences frequently resulted in differing judgments of shopper satisfaction (Houliez 2010), especially if the information was inconsistent. This simultaneous existence can create a sort of “dual consciousness” across each domain (Banerjee and Longstreet 2016). In a world where consumer attention can be fractured and unfocused (Brasel 2012), shoppers’ cognitive energies are often split between the retail environment they physically occupy and the online world they virtually occupy. This may affect perceptions of the information sources examined during their shopping activities (Banerjee and Longstreet 2016). An advantage of this type of media multitasking is that shoppers have greater control over how they filter out and process information gleaned from retailers’ marketing communications (Banerjee and Longstreet 2016). However, while media multitasking in a traditional store, shoppers may consider some of the information gleaned as extensions of the retailer itself which may or may not yield consistent and positive judgments (Stocchi, Guerini, and Michaelidou 2017).

Perceptual differences may also exist between the information provided in the retailer’s own app and information from other sources (e.g., manufacturer website and app, consumer review sites) (Iyer, Davari, and Mukherjee 2018). Additional confirmation of this information duality was found in a large study ($n = 3000$) that examined behaviors of mobile-assisted shoppers (Quint, Rogers, and Ferguson 2013). Results from that study showed that 70% of shoppers used a retailer’s website to gather product information. The study also found that 75% of shoppers used *another* website for such information. Shankar and Balasubramanian (Shankar and Balasubramanian 2009) conducted a meta-analysis that examined the communication and promotion efforts retailers used in their mobile marketing strategies. Although a detailed reporting of their meta-analysis is beyond the scope of the present study, a key finding suggests that supplying different types of information to shoppers at various stages of a potential purchase can enhance their overall satisfaction with the retailer. Taken together, it seems that even the smallest retailers need to be aware of how the sources of information retrieved from MIDs affect mobile marketing strategies and sales goals, especially if customer repatronage is a key performance indicator (Iyer, Davari, and Mukherjee 2018). When done effectively, retailers may be able to anticipate purchases, both present and future (Shankar and Balasubramanian 2009).

As suggested above, factors that drive customer satisfaction of online information sources may also have a spill-over effect on customer repatronage intentions with the retail store (Narang, Shankar, and Narayanan 2018). Yakup and Diyarbakirlioglu (2011) found that shoppers tend to retain certain information that they receive – in whatever format it appears – especially when it is immediately relevant or supports views they previously held. We argue that such selective retention may provide a useful trigger for transferring the perception of satisfaction with a source of information to satisfaction with the retailer, who is the actual provider of the information. This spill-over effect has been shown to drive product quality associations across brands and markets in online environments (see Madden, Roth, and Dillon 2012 for a discussion). This existence of spill-over effects have been examined in a variety of research domains including but not limited to organizational behavior (Barksdale and Werner 2001), human resource management (Hartwell and Campion 2016) and psychology, where the term “halo effect” was used to represent a similar phenomenon (Cooper 1981). This plethora of research domains recognizing spill-over effects lends strong support for its ability to also explain shoppers’ perceptions. More formally, spill-over is considered to be an individual’s “failure to discriminate among conceptually distinct and potentially independent attributes, with the result that individual attribute ratings co-vary more than they otherwise would” (Leuthesser, Kohli, and Harich 1995, 58) In a retail context, this effect is thought to occur from the consumer’s desire to maintain cognitive consistency (Abelson 1968). For example, it has been shown to influence loyalty toward a salesperson that spills over onto loyalty behaviors focused on the

retailer (Beatty et al. 1996). It also occurs when shoppers' satisfaction with brands spills over to influence their satisfaction with retailers, as mentioned earlier (Zboja and Voorhees 2006). In addition, Roehm and Tybout (2006) found that attitudes and beliefs about a brand scandal spill-over to the product category and competing brands, tainting their reputations.

Based on these findings, we hypothesize that satisfaction with an online information source will display similar attitudinal transference upon the retailer, in effect mimicking a positive spill-over effect from the information source to the retailer. Thus:

H1: Satisfaction with an online information source has a direct and positive influence on satisfaction with the retailer.

2.2. Relationships between trust and satisfaction

In addition to examining satisfaction spill-over effects onto a retailer, trust has also been examined in many customer-related attitude studies with similarly conflicting results. Pennington, Wilcox and Grover (2003) found that perceived trust in a vendor positively influenced attitudes toward the vendor, suggesting that trust is an antecedent of attitudes like satisfaction. Einwiller (2003) found individuals' attitudes strongly influenced their intentions to trust. Teo and Liu (2007) studied the antecedents of consumer trust in the U.S. and several Asian countries. Their study found that consumer trust had a positive relationship with attitudes. Jones, Leonard, and Riemenschneider (2009) also examined trust and attitudes toward internet shopping (operationalized as "a positive attitude") and found that individuals' attitudes did not influence trust. In explaining these unexpected results, they suggested that consumers "may trust the web but prefer other methods of transacting" (pg. 207). In an earlier study, Jarvenpaa, Tractinsky and Vitalie (2000) found that shopper trust led to more favorable attitudes (i.e., shopping enjoyment). Although they reasonably concluded that trust may be more critical early on in online shopping experiences, the study also found that the reputation of the retailer positively influenced trust (i.e., as an antecedent to trust). It is important to note that these studies predominantly examined online shopping. Although their findings are useful for retailers concerned with internet shoppers only, a majority of shoppers still prefer brick-and-mortar stores and the directionality of the satisfaction-trust relationship may be less accurate for retailers in physical stores. Accordingly, in the highly competitive retail environment, data focused on the most relevant relationships is likely to be of paramount importance for retailers.

Shifting to existing information systems research, Komiak and Benbasat (2006) conceptualized trust as a combination of both cognitive and emotional components and described trust elements as including reasoning (cognition) and feeling (affect/emotional). These two components of trust are similar to components in the commonly-accepted ABC model of an attitude which suggests that attitudes are composed of affect, behavioral intention and cognition (Breckler 1984). In considering satisfaction with an information source spilling over onto satisfaction with the retailer in the earlier section, we take this to be the emotional/affective component described by Komiak and Benbasat (2006). Similar to Zboja and Voorhees (2006), we argue that a spill-over effect likely exists between satisfaction and trust. Satisfaction with the information source may similarly spill over onto trust in the information source, thereby accessing the cognitive component of trust described by Komiak and Benbasat (2006). We argue that a shopper engaging in cognitive reasoning is likely to conclude that an emotional bond must exist (i.e., satisfaction with an information source) before he or she can trust the information source. Metzger and Flanagin (2013) found this to be the case such that when web-based information conformed to expectations, users tended to grant it credibility, or, at a minimum, they were willing to give it the benefit of the doubt. For example, when a website did not conform to users' expectations for appearance or functionality, they often judged it harshly and dismissed it as non-credible. This suggests that the emotional component of the attitude – satisfaction – was likely a prerequisite for developing trust.

Additional research exists that supports the argument that satisfaction leads to trust. Ravald and Grönroos (1996) suggested that trust is an aggregate evaluation at some higher level than satisfaction, and that satisfaction is an important source for trust. Other research suggests that trust is a “generalized expectancy” of how the other party will behave in the future (Anderson and Narus 1990; Moorman, Deshpande, and Zaltman 1993; Morgan and Hunt 1994; Rotter 1971). And, the seminal article by Mayer, Davis and Schoorman (1995) proposed that one of three characteristics of a trustee that influences perceptions of a party being trustworthy includes benevolence, or the degree to which the party “want[s] to do good to the trustor” (pg. 718). In a way, when shoppers’ satisfaction develops from a retailer’s ability to meet their expectations, trust may be manifested (Ring and van de Ven 1994). Essentially, although satisfaction and trust are closely connected, we argue that they are likely to have different antecedents and consequences.

Purohit and Srivastava (2001) discussed how shoppers use cues or signals – including retailer reputation – as information sources to influence their perceptions of products, especially if the actual quality of the product would be unknown until it is used/consumed (e.g., after purchase). In addition to examining positive attitudes (discussed earlier), Jones, Leonard and Riemenschneider (Jones, Leonard, and Riemenschneider 2009) also examined the effects of retailer reputation as part of their conceptualization of direct experience with a retailer and its effect on web-based trust. Their results showed that a positive retailer reputation had a strong effect on trust, but that a “positive attitude” did not lead to trust, as expected. It may be that a positive attitude is necessary but insufficient to form the cognitive component of trust. In other words, a shopper may generally have a positive attitude about a retailer, but until information can be cognitively processed, it may be insufficient for trust to fully develop.

Zboja and Voorhees (2006) found satisfaction to be an antecedent to trust in examining retail brand effects. However, the research on the relationship between satisfaction and trust, both with the information source and with the retailer, remains mixed. In an attempt to provide clarification of these relationships, we hypothesize directionality similar to Zboja and Voorhees (2006) for satisfaction and trust. In following their lead and studies with similar theoretical underpinnings, we argue that before a shopper can trust the information source, satisfaction with the information source must be present. And, consistent with Zboja and Voorhees (2006) we argue that this is due to an additional spill-over effect that is similar to the one hypothesized to exist between information source satisfaction and retailer satisfaction.

Based on the spill-over arguments above, we hypothesize that shoppers using information from a source in which they are satisfied will subsequently develop trust in the information from that source.

H2: Satisfaction with the information source has a direct and positive relationship with trust in the information source.

In addition to the two hypotheses above related to satisfaction with the information source, we also argue that a mediating relationship exists between information source satisfaction and subsequent retailer trust. In the next section, we examine the proposed mediating relationships. We begin by discussing how satisfaction with the retailer may mediate the relationship between satisfaction with the information source and trust in the retailer. We also argue that trust in the information source mediates the relationship between satisfaction with the information source and trust in the retailer. We begin with a brief review of existing research on retailer trust.

2.3. Retailer trust

In their examination of trust in e-retailing, Walczuch, Seelen, and Lundgren (2001) examined a wide variety of perception-based and experience-based factors thought to influence trust. Results from their study showed that 99.8 percent of consumer trust was influenced by several perceptual factors. The more retailers were thought to be similar to shoppers relative to goals and values, the more likely

the shoppers were to trust the retailer. In addition, the more exposure shoppers had to the retailer, the more likely they were to trust it. And, the more trustworthy knowledge that a shopper gleaned about the retailer, the greater overall trust they had (see Walczuch, Seelen, and Lundgren 2001, for a complete discussion). Essentially, increased knowledge resulted in more consumer trust.

In considering customer trust and loyalty, Pan, Sheng, and Xie (2012) argued that the reputation of a company is one mechanism that exerts influence on the company to behave in a trustworthy manner. It seems logical to assume that shoppers will be unwilling to trust a retailer if they do not trust the information provided by it. In support of this argument, Quint, Rogers, and Ferguson (2013) found that older shoppers (i.e., Traditionalists classified in generation research) were more likely to buy directly from a physical store rather than from a cheaper online retailer because they trusted it more. These shoppers also held attitudes that aligned with supporting stores within their communities, preferring to interact with them (e.g., “buy local,” <https://www.localharvest.org/buylocal.jsp>).

In more recent research, Iyer, Davari, and Mukherjee (2018) found that shoppers’ perceptions of the functional value of mobile apps (e.g., convenience, coupon/discount offerings) positively affected both satisfaction and repatronage intentions, especially among younger shoppers. Although the study by Iyer, Davari, and Mukherjee (2018) did not specifically consider trust, they found that customers who frequently used MIDs did so in order to secure information including price, quality reviews, product information and other dimensions that typically have some functional value for the shopper. We argue that this functional value is consistent with our arguments for satisfaction of the information source, as it provides much-needed information for the shopper (Breckler 1984). In other words, when a shopper gets what he or she needs, he or she is probably more satisfied. However, satisfaction with an information source may be insufficient – both logically and theoretically – for trust to exist.

Quint, Rogers, and Ferguson (2013) also considered directionality of the satisfaction-trust relationship. They found that only six percent of shoppers engaged in such “showrooming” behavior (i.e., using the actual store for information before purchasing online). They also reported that 50 percent of shoppers who found trustworthy information using their MIDs in a retail environment were more likely to purchase the product from the retailer when information was located while shopping. Reasons for doing so included expectations for better return policies and a desire to support stores in their community, although the latter attitude was held primarily by older shoppers (e.g., Traditionalists) (Quint, Rogers, and Ferguson 2013). These results are consistent with formation of the behavioral component of an attitude described earlier (Breckler 1984). Consistent with their argument, Mitzner et al. (2010) found that security issues were commonly the source of some negative attitudes when it comes to using technology. We argue that this sense of security may make trusting the retailer more likely, especially if there is trust in the information sources provided by the retailer. In addition, we believe that when shoppers are satisfied with the retailer as a result of securing information sources that satisfy their functional needs, they are more likely to trust the retailer, especially if the retailer provided a sense of security about the information accessed within their stores.

In their study involving business-to-customer transactions, Pennington, Dixon Wilcox, and Grover (2003) examined the effects that a retailer’s reputation had on trust. Defining reputation as the degree to which customers find the retailer to be honest and concerned about them, the credibility of the retailer forms the basis for their reputation and subsequently yields trust with its shoppers. In other words, when shoppers are satisfied with a retailer and find the information it provides credible and trustworthy, they are more likely to trust the retailer.

Quint, Rogers, and Ferguson (2013) reported that only six percent of individuals ($n = 3000$) reported trusting online retailers more than actual retail stores. Therefore, a substantial majority of shoppers place greater trust in a retailer with whom they can interact versus an online retailer. Zboja and Voorhees (2006) found several positive relationships between satisfaction and trust. Similar to Hypothesis 2 above, they found brand satisfaction positively related to trust in the brand. They also found satisfaction with a brand positively related to satisfaction with the retailer, similar to H1

above. In the same vein, we argue that when shoppers perceive trust in the information source, a spill-over effect once again occurs in the form of greater trust being accorded to the retailer. Supporting this relationship is a meta-analysis conducted by Geyskens, Steenkamp, and Kumar (1999b) who used 107 independent samples from 93 studies in their comprehensive study. Zboja and Voorhees (2006) also found trust in the brand significantly and positively related to trust in the retailer. Extrapolating from their study, we argue that there will be a positive relationship between trust in information source and trust in retailer. Metzger and Flanagin (2013) examined the importance individuals place on credible sources to present information reflective of their expertise. When the sources of the information are credible, the information provided tends to be trusted. Sirdeshmukh, Singh, and Sabol (2002) identified that when customers hold the expectation that service providers (e.g., retailers) can be relied on (i.e., they trust the information provided by them), narrow-scope trust is likely to exist. The spill-over effect then asserts that the retailer is likely to benefit from shoppers trusting the information provided, thereby trusting the retailer itself.

Drawing on the research above, we offer the following two hypotheses.

H3: Satisfaction with the retailer has a direct and positive relationship with trust in the retailer.

H4: Trust in the information source has a direct and positive relationship with trust in the retailer.

Although existing research has considered *some* of the effects of satisfaction and trust on repatronage intentions, additional research is needed to quantitatively examine the overall influence of satisfaction and trust on repatronage intentions. In the next section, we discuss theoretical arguments that currently exist relative to hypothesized relationships above and retailer repatronage intentions.

2.4. Retailer repatronage intentions

In their examination of mobile commerce, Rodríguez-Torrío, San-Martín, and San José-Cabezudo (2019) found that trust had no significant effect on repurchase intentions. Post hoc tests, however, examined a mediating effect of satisfaction in the trust to repurchase intention relationship. These results showed that although trust was not directly related to repurchase intention, a relationship existed when they controlled for the mediating variable (satisfaction). In addition to the fact that the context of their study focused solely on mobile shopping, it should also be noted that the effects were not sufficient to simulate repurchase intentions if the customer was not satisfied with the mobile vendor. With mixed findings in the literature about customer satisfaction and loyalty, which can be expressed in intentions to patronize a retailer, there continues to be interest in quantitatively examining antecedents of shoppers' intentions.

Existing literature has explored numerous antecedents to repatronage intentions in an effort to identify direct and indirect effects. Studies include examining perceived justice (Blodgett, Granbois, and Walters 1994), shopping experience (Hart et al. 2007), dissatisfying experiences (Susskind 2005), and consumption feelings (Grace and O'Cass 2005). Most applicable to the present study is research showing that service quality and customer satisfaction have a direct and positive effect on repatronage intentions (Yap and Kew 2007). The study by Zboja and Voorhees (2006), which has been discussed in detail above, found that satisfaction with the retailer and trust in the retailer had direct effects on retailer repatronage intentions. Perhaps not coincidentally, they also found satisfaction with and trust in the retailer to have mediating effects on both brand satisfaction and brand trust and retailer repurchase intentions. In their discussion, they identified a need for additional research to investigate other spill-over effects influencing repatronage intentions. Whether shoppers use online information sources provided by the retailer or access those not affiliated with the retailer or manufacturer, making shoppers' media multitasking easier is likely to benefit the retailer via

increased shopper satisfaction and trust. For example, in order to keep pace with online retailer Amazon, retailers like Target struggle to attract and retain shoppers. As John Mulligan, COO of Target states, “Our strategic plan includes significant investments in the physical infrastructure of our stores. This is because our stores will continue to be the key fulfillment note for our guests whether that’s a traditional store trip, a drive-up order, an in-store pickup order, a trip by a ship shopper or a traditional e-commerce purchase ship from a local Target store” (Cosgrove 2018).

As retailers face ever-present challenges arising from the ascendancy of online retailing, it is not surprising that key performance indicators focus on attracting shoppers who express a preference for shopping in their stores. Clearly, the focus for brick-and-mortar retailers needs to be on identifying how best to enhance shoppers’ experiences and further stimulate future repatronage. As noted by Pan, Sheng, and Xie (2012), when customers are satisfied with a retailer, they tend to exhibit loyalty to it. Retailers seeking repatronage must continue to find ways to enhance both shopper trust and satisfaction. To test this theoretical argument, the following hypotheses are offered.

H5: Satisfaction with the retailer is directly and positively associated with higher levels of retailer repatronage intentions.

H6: Trust in the retailer is directly and positively associated with higher levels of retailer repatronage intentions.

2.5. Mediating relationships

In this final theoretical section, we briefly explore the mediating relationships thought to exist in our model, as alluded to in earlier sections of the paper. To begin, it was noted earlier that Zboja and Voorhees (2006) proposed and tested several mediation effects between brand satisfaction and trust, and retailer satisfaction and trust. In the present study, we argue that relationships similar to those in the Zboja and Voorhees (2006) study involving examination of brand trust and satisfaction exist as it relates to sources of information. As discussed earlier, we argue that the opportunity to interact with customers and directly influence their levels of satisfaction and trust will provide greater opportunities to influence loyalty and, as a result, repatronage intentions. As Iyer, Davari, and Mukherjee (2018) recently noted, additional research is needed to more clearly identify the relationship between customers’ use of various sources of online information and the link to satisfaction and repatronage intentions. Therefore, to investigate some of these relationships, the hypotheses below are offered to quantitatively examine the mediating effects of the variables discussed in earlier sections.

H7: Trust in the information source and satisfaction with the retailer mediate the relationship between satisfaction with the information source and retailer trust.

H8: Satisfaction with the retailer and trust in the retailer mediate the relationships between satisfaction with the information source and repatronage intentions.

H9: Trust in the retailer mediates the relationship between satisfaction with the retailer and repatronage intentions.

3. Methods

3.1. Sample

An online survey using the Qualtrics survey management system was used to collect the data for this study. An independently-managed online panel from an agency specializing in consumer feedback was used to source the survey participants. The participants varied both

demographically (see Table 1) and geographically across the United States. All participants received a nominal incentive (< \$3.00 US on average) for participating. Invitations were sent to a large panel (10,000+ potential respondents) and the survey was open to collect responses for ten days.

The survey received a total of 1368 unscreened responses. Because this study is designed to understand how shoppers react to online product information while shopping, we included two screening questions to identify shoppers who own a smartphone or tablet computer and used the device during a shopping experience. After screening, the responses were reduced by 370. Given the online nature of the survey, there was concern about fraudulent responses. To ensure the quality of responses, the data was aggressively screened using a comprehensive procedure. First, we removed responses that shared the same Class C IP (Internet Protocol) address. This helps identify shoppers who may be participating in the survey using separate accounts. The survey system was already setup to exclude multiple surveys from the same computer using browser cookies. We removed all but the first responses from duplicate IP address resulting in 41 responses removed. Next, completion time was checked to remove all responses that took less than five minutes. Given the number of questions on the survey, responses taking less than five minutes likely revealed those respondents not taking the survey seriously. Two hundred and thirty-three responses were removed. A response bias check was then conducted to check for careless responses (Meade and Craig 2012). All responses where the standard deviation for measures with reverse-coded items was zero (i.e., respondent answered all items the same) or required information was withheld were subsequently removed. One hundred and twenty-five responses were removed at this stage. Finally, after data screening, 599 high-quality responses were available to analyze. See Table 1 for a comprehensive listing of demographic information.

Table 1. Demographics of sample.

	n = 599	
	Total	%
<i>Age</i>		
18-24	29	4.8
25-34	207	34.6
35-44	153	25.5
45-54	86	14.4
55-64	95	15.9
65-74	28	4.7
75+	1	.2
<i>Gender</i>		
Male (%)	214	35.7
Female (%)	385	64.3
<i>Education</i>		
Some high school, no diploma	3	.5
High school graduate or equivalent	45	7.5
Some college credit, no degree	114	19.0
Trade, technical, or vocational training	20	3.3
Associate degree	86	14.3
Bachelor's degree	226	37.6
Master's degree	78	13.0
Professional degree (e.g., JD, MD, DDS)	19	3.2
Doctorate (e.g., PhD)	9	1.5
<i>Income/year</i>		
Less than \$24,999	38	6.3
\$25,000 to \$34,999	62	10.3
\$35,000 to \$49,999	91	15.2
\$50,000 to \$74,999	143	23.8
\$75,000 to \$99,999	125	20.8
\$100,000 to \$199,999	88	14.7
\$200,000 or more	23	3.8

3.2. Measures

A pre-test questionnaire was used to measure the constructs in Figure 1. All factor loadings and measure reliabilities were assessed from a student sample at a private Midwestern university. Final measurement items (see Appendix) were assessed with confirmatory factor analysis using a nationwide online survey.

To begin the questionnaire, participants wrote a brief description of a recent shopping experience to ensure that they recalled the details of their experiences as accurately as possible. This shopping experience description was also mined for relevant data that were later categorized and normalized. For example, we extracted the online information source that the participant used during their shopping experience and for what purpose the online information source was used (e.g., looking up product information, etc.).

Then, constructs were captured with multiple items and were measured with adapted versions of established scales, each demonstrating acceptable levels of reliability. All scales consisted of multiple items and utilized a 7-point Likert-type format. Scale endpoints ranged from strongly disagree (1) to strongly agree (7). See Appendix for a listing of all survey measures. Where possible, scale items used dynamic text replacement to make the items more relevant to the participant. For example, questions early in the survey asked participants to provide the type of mobile internet device (smartphone or tablet) and information source (e.g., retailer's website, competitor's mobile app, etc.) used during the shopping experience. Rather than use generically phrased questions later in the survey, the type of device and information source accessed was dynamically injected into the question itself (e.g., I feel like this retailer encouraged me to use my *smartphone* while I shopped). This served as a mechanism to help the participant with their recollection of the shopping experience by ensuring they answered questions within the context of that particular shopping experience.

Satisfaction with the retailer and satisfaction with the information source were both adapted from Oliver's (1997) Consumption Satisfaction Scale. A subset of five of the original twelve items were used and the scale items were adapted to fit the context of this research (i.e., retailer and information source). Included among the items for both satisfaction with the retailer and satisfaction with the information source was the first item, which was deemed the only item not to be removed in any subsequent adaptations of the scale. Both satisfaction with the information source ($\alpha = .80$) and satisfaction with the retailer ($\alpha = .90$) demonstrated acceptable reliability.

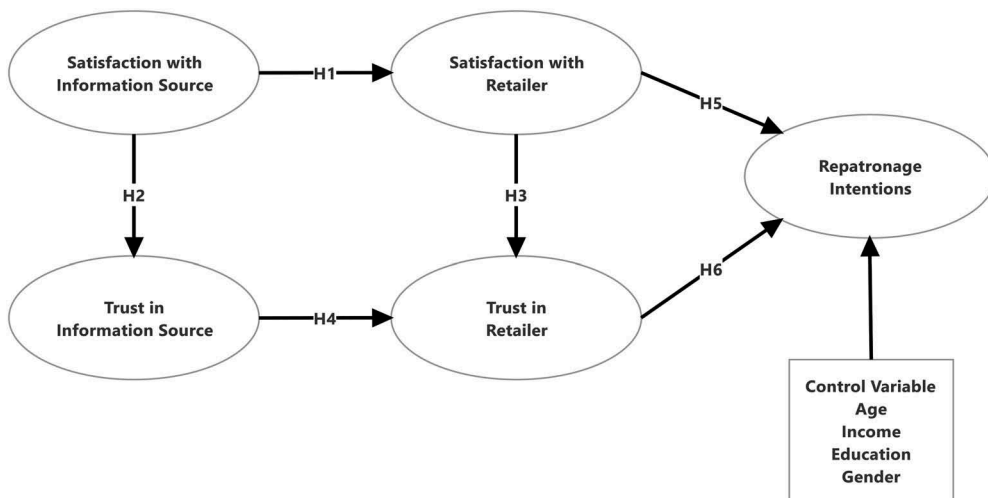


Figure 1. Hypothesized structural model.

Trust in information source and trust in retailer were measured with a six-item scale with items adapted to fit the retail and information source context. All four items from the Sirdeshmukh, Singh, and Sabol (2002) trust scale and two items from Morgan and Hunt (1994) were used. Both trust in information source ($\alpha = .86$) and trust in retailer ($\alpha = .87$) demonstrated acceptable reliability.

Finally, the scale for retailer repatronage intentions was developed using a subset of the Zeithaml, Berry, and Parasuraman (1996) Behavioral Intentions Battery (BIB). We adapted three items in the purchase intentions group to measure repatronage intentions. We excluded items from the Behavioral Intentions Battery related to word-of-mouth communications, price sensitivity, and complaining behavior as they were beyond the scope of this research. We added additional items to our Retailer Repatronage Scale that closely tracked the BIB items to ensure adequate reliability. The scale demonstrated strong reliability ($\alpha = .87$).

In addition, we include several demographics, age, gender, income and education as controls for the model. The data is summarized in Table 1 as discussed previously.

4. Results

We evaluated reliability of our measures through composite reliability (CR) and average variance extracted (AVE). The standardized path loadings of all items were significant with Cronbach’s α for each construct exceeding 0.7, meeting established standards (see Table 2). All CRs were above the cutoff value of 0.70 and average variance extracted (AVE) for each construct is greater than 0.5 (Bagozzi and Yi 1988). The square root of AVE for each construct exceeded the correlations between each construct and other constructs. This indicates that the reflective constructs have more in common with their own respective measurement items than with other constructs (see Table 2), demonstrating acceptable discriminant validity. Hence, the multi-item scales demonstrated satisfactory reliabilities. We used factor loadings to check convergent validity, which were above 0.60 (see Table 3).

Given the single source of data in our study, this can result in common method bias. We applied a common latent factor (CLF) procedure in confirmatory factor analysis and one without the CLF. We examined the difference in standardized regression weights between the two CFA procedures which yields a difference of less than 0.2 for all the regression weights. This suggests that bias due to use of common methods is minimal and not an issue in this study (Podsakoff et al. 2003).

AMOS was used to test the measurement model with all items constrained to load on their intended constructs only. All items loaded significantly on their respective constructs, indicating positive results. An examination of the fit indices for the measurement model revealed a good fit: χ^2 ($df = 218, n = 599$) = 398.43, $p < .00$; GFI = 0.945, CFI = 0.975, NFI = 0.947, TLI = 0.971, SRMR = 0.047, RMSEA = 0.037. Hu and Bentler (1999) proposed cutoff points for good fit at approximately 0.95 (or higher) for CFI and TLI and for RMSEA < 0.05. All measures examined here met or exceeded the threshold for good model fit.

Overall, results show that the relationships hypothesized in H1 through H6 are all positive and statistically significant, indicating that all hypotheses are supported. The path coefficients and R^2 values are illustrated in Figure 2, and specific hypotheses are discussed below.

Table 2. Means, standard deviations, and correlations among constructs.

Construct	AVE	SQRT(AVE)	CR	α	M	SD	1	2	3	4	5
Satisfaction with Information Source	0.50	0.70	0.80	0.74	5.930	0.924	1				
Trust in Information Source	0.60	0.78	0.86	0.86	5.528	0.947	.559**	1			
Satisfaction with Retailer	0.52	0.72	0.81	0.90	5.765	0.981	.448**	.488**	1		
Trust in Retailer	0.63	0.79	0.87	0.87	5.713	1.157	.339**	.408**	.593**	1	
Retailer Repatronage Intentions	0.61	0.78	0.86	0.87	6.017	0.936	.414**	.411**	.637**	.499**	1

** significant at $p < .01$ (2-tailed)

Table 3. Factor loadings.

Item	1	2	3	4	5
Satisfaction with Information Source 1	.644				
Satisfaction with Information Source 2	.810				
Satisfaction with Information Source 3	.813				
Trust in Information Source 1		.800			
Trust in Information Source 3		.818			
Trust in Information Source 5		.763			
Trust in Information Source 8		.745			
Satisfaction with Retailer 1			.743		
Satisfaction with Retailer 2			.779		
Satisfaction with Retailer 3			.741		
Satisfaction with Retailer 5			.689		
Trust in Retailer 2				.770	
Trust in Retailer 4				.795	
Trust in Retailer 6				.820	
Trust in Retailer 7				.808	
Retailer Repatronage Intentions 1					.817
Retailer Repatronage Intentions 3					.814
Retailer Repatronage Intentions 6					.701
Retailer Repatronage Intentions 7					.830

Extraction Method: Principal Component Analysis; Rotation Method: Quartimax with Kaiser Normalization

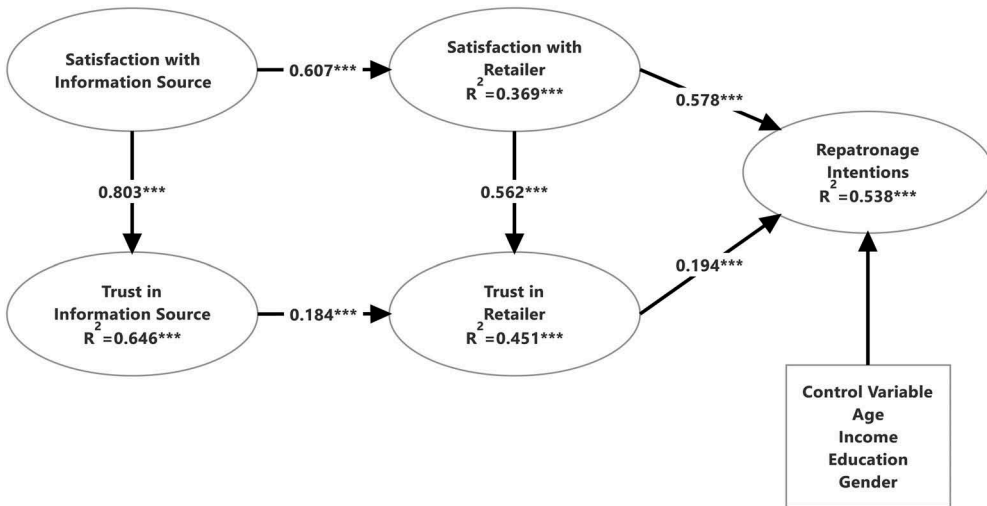


Figure 2. Model results with standardized estimates and R-Squares.

In reviewing the results The results from the structural model, the relationship between satisfaction with source of information and satisfaction with the retailer is statistically significant ($p < .001$) supporting H1. This suggests that a spill-over effect may be occurring such that as customers find satisfaction with the information sources they access, this satisfaction spills over to the retailer who facilitated the access to the information, increasing satisfaction with that retailer. Next, H2 suggested that satisfaction with the information source is also positively associated with trust in the information source. This relationship was statistically significant ($p < .001$) showing that when customers are satisfied with an information source, they also tend to trust it. Accordingly, when customers report trusting an information source, they also report trusting the retailer (H4). Results show that this relationship is statistically significant ($p < .001$), which supports our argument that some spill-over effects may exist in that the retailer is trusted when the information source is trusted.

Table 4. Standardized coefficients and fit statistics for the structural model.

Parameter	Std. Estimates	t-value
Satisfaction with Information Source → Satisfaction with Retailer (H1)	0.607***	12.590
Satisfaction with Information Source → Trust in Information Source (H2)	0.803***	14.266
Satisfaction with Retailer → Trust in Retailer (H3)	0.562***	12.162
Trust in Information Source → Trust in Retailer (H4)	0.184***	4.201
Satisfaction with Retailer → Retailer Repatronage Intentions (H5)	0.578***	11.600
Trust with Retailer → Retailer Repatronage Intentions (H6)	0.194***	4.075
Age → Retailer Repatronage Intentions	0.037ns	1.153
Income → Retailer Repatronage Intentions	-0.030ns	-0.882
Education → Retailer Repatronage Intentions	0.004ns	0.128
Gender → Retailer Repatronage Intentions	0.141***	4.365
Fit Statistics		
$\chi^2/df/p$ -value	398.43/218/0.00	
Root Mean Square Error of Approximation (RMSEA)	0.037	
Standardized Root Mean Square Residual (SRMR)	0.047	
Comparative Fit Index	0.975	
Goodness-of Fit Index	0.945	

*** Significant at $p < .001$

Consistent with the study by Zboja and Voorhees (2006), our results suggest that when a customer is satisfied with the retailer, they also report trust in that retailer. This relationship is statistically significant ($p < .001$) and replicates the results found by Zboja and Voorhees (2006) thus supporting H3. Lastly, in examining results for repatronage intentions, both satisfaction with the retailer and trust in the retailer are found to positively influence such intentions (both $p < .001$). Therefore, H5 and H6 are both supported. The results are summarized below in Table 4.

We also proposed mediating effects of trust in information sources and satisfaction with retailer. We created two additional models by extending several paths to help analyze mediating effects. From Table 5, the path between satisfaction with information source to trust in the retailer is not significant, hence both satisfaction with the retailer and trust with the information source fully mediates the relationship between satisfaction with information source to trust in the retailer thus supporting H7. Also, with this revised model, satisfaction with information source has a significant relationship to repatronage intentions. Hence, H8 is also supported ($p < .001$) specifically satisfaction

Table 5. Mediating test.

Parameter	Mediating Test 1 Std. Estimates	Mediating Test 2 Std Estimates
Satisfaction with Information Source → Satisfaction with Retailer	0.608***	0.598***
Satisfaction with Information Source → Trust in Information Source	0.803***	0.802***
Satisfaction with Retailer → Trust in Retailer	0.564***	0.563***
Trust in Information Source → Trust in Retailer	0.188*	0.184***
Satisfaction with Information Source → Trust in Retailer	-0.005ns	
Satisfaction with Retailer → Retailer Repatronage Intentions	0.578***	0.490***
Trust with Retailer → Retailer Repatronage Intentions	0.194***	0.170***
Satisfaction with Information Source → Retailer Repatronage Intentions		0.164***
Age → Retailer Repatronage Intentions	0.037ns	0.039ns
Income → Retailer Repatronage Intentions	-0.029ns	-0.029ns
Education → Retailer Repatronage Intentions	0.004ns	0.002ns
Gender → Retailer Repatronage Intentions	0.141***	0.141***
Fit Statistics		
$\chi^2/df/p$ -value	398.43/217/0.00	386.57/217/0.00
Root Mean Square Error of Approximation (RMSEA)	0.037	0.036
Standardized Root Mean Square Residual (SRMR)	0.047	0.044
Comparative Fit Index	0.975	0.977
Goodness-of Fit Index	0.945	0.946

*** $p < .001$, ** $p < .01$, * $p < 0.05$

with the retailer and trust in the retailer partially mediate the relationships between satisfaction with the information source and repatronage intentions. Finally, since satisfaction with the retailer is positively related to repatronage intentions, trust in the retailer partially mediates the relationship between satisfaction with retailer and repatronage intentions thus supporting H9.

5. Discussion

The objective of this research was to investigate the complex relationships between shopper, online information source, and brick-and-mortar retailer. Specifically, this study investigated relationships between shopper satisfaction with and trust of online information sources provided by a retailer, shopper satisfaction with and trust of the retailer, and ultimately retailer repatronage intentions. Although there has been some research attention aimed at showrooming and in-store mobile device use, this is the first study to show how shoppers' use of online information sources can create a spillover effect that benefits the retailer. The primary contribution of this paper is exposing the influence of an important shopping phenomenon – shoppers' use of online information sources while shopping – and its impact on shoppers' evaluations of the retailer.

The model tested in the present study extends our understanding into how elements within the retail environment can affect shoppers' evaluation of the retailer. Much like the Zboja and Voorhees (2006) study shows that independent influencers (e.g., brand trust and satisfaction) create a spillover effect that increases positive assessments of the retailer, this research demonstrates that the same mechanism is at work when shoppers access online information within the retail environment. As mobile devices continue to proliferate and affect most of the aspects of our daily lives, it is important to understand how these devices are molding our judgments and the outcomes that result. The results from the structural model analysis conducted in this study have important implications for retail management. Specifically, they provide new insights to guide managers in the development of strategies to address shoppers' increasing use of MIDs, especially in a retail context. The results also suggest that retailers should consider how online interactions influence shoppers' evaluations of them, which also has implications for future repatronage.

Retailers are urged to become aware of shoppers' use of online information sources and how these resources can influence perceptions of the retailer. Practically speaking, results from the present study suggest that it may be possible for retailers to increase customer satisfaction levels of the retailer by providing mechanisms that encourage shoppers to use online information sources. However, caution is urged, as this could potentially backfire for retailers, especially if a shopper has a poor experience with an online information source. Such experiences could potentially decrease a shopper's satisfaction levels with the retailer despite the retailer's excellent service. To address this, retailers may want to invest in developing online information sources that are optimized for in-store use and then actively promote them in the retail environment. This could take the form of an updated mobile-compatible website or mobile app allowing for extended product information and customer reviews on adjacent products to be readily accessed by a shopper.

Alternatively, because shoppers often use MIDs in-store to find competitive pricing information, websites of competing retailers would likely be a big draw for shoppers. To address this, retailers who provide free Wi-Fi access for shoppers to visit competitor websites could inject HTML code into each page view that provides a link back to the retailer's product information page. This has the effect of creating a "hedge" for retailers. By providing access to other online information sources and also providing an "escape valve" back to their own website on any page, retailers can ensure an optimal online experience for the shopper. Doing so may increase the chance that the shopper will engage in repatronage behavior. Essentially, retailers who offer opportunities to secure valued, trusted information are likely to reap the benefits of satisfaction and trust from shoppers, thereby leading to subsequent repatronage intentions.

We were curious about the online information sources shoppers were using in the retail environment and how they were using them, so the study included a few additional measures for

participants to answer to explore these questions in a post hoc manner. Data was collected that illustrates the online information sources our participants used in this study, listed from most used to least used (see Table 6). Some interesting trends are immediately apparent. First, there is a clear preference for native websites over mobile apps. This is possibly a reflection of the strides that have been made with responsive websites – those that respond to the type of device requesting data and format the site accordingly. Most websites now automatically adjust their user interface and design to provide an optimal experience to smartphone or tablet users. The preference of websites over mobile apps may also reflect the additional step shoppers must take of installing the mobile app. As Grewal et al. (2016) suggest, given the limited screen size on mobile apps, shoppers may find it much easier to visit a website. In addition, the website is likely more appealing than having to go to the device’s online app store, search for the retailer’s – or competitor’s – mobile app, wait for it to download, launch the app, and then search for the product. These steps may be quite time consuming for a busy shopper.

Next, shoppers use competing retailer’s resources (websites or mobile apps) more than the retailer’s resources (see Table 7). Price lookup is by far the most popular use of an online information source in-store. As the shopper is likely to be most motivated to find a reference price from a competing retailer, they would use the competing retailer’s online information sources to do this. In addition, the spill-over effect of satisfaction with an online information source to a shopper’s satisfaction with retailer has important ramifications for how retailers measure customer satisfaction. Measures of customer satisfaction could include questions related to in-store MID use so retailers can tease out the impact of these information sources on customer satisfaction scores, or at least control for their effects. Capturing this information also provides rich information for retailers to mine, which can be used to help understand how their customers utilize technology while shopping. Capturing this information could also be automated. Retailers could provide free Wi-Fi and then track device IDs, mobile app usage, URLs requested, and even correlate that data with in-store positional data to discover the areas of the store that drive more MID use.

Finally, the results provide important implications for retailers in how they deal with repeat mobile-assisted shoppers. Retailers have an opportunity to engage these shoppers at a deeper level and subsequently build stronger customer loyalty. As these shoppers repatronize the store, retailers

Table 6. Information sources used in the retail environment.

	n = 599	
	Total	%
Competing Retailer’s Website	178	29.8
Retailer’s Website	138	23.0
Competing Retailer’s Mobile App	106	17.7
Retailer’s Mobile App	71	11.8
Third-party Product Review Website	48	8.0
Product Manufacturer’s Website	27	4.5
Third-party Product Review Mobile App	17	2.8
Product Manufacturer’s Mobile App	1	0.2
Unknown	13	2.2

Table 7. Information sources uses.

	n = 599	
	Total	%
Price	297	49.6
Product Information	124	20.7
Price and Product Information	72	12.0
Coupon	64	10.7
Online Purchase	12	2.0
Other	3	0.5

can track their past in-store usage and offer them personalized promotions to drive sales and build deeper relationships.

6. Overall implications and future research

Our findings represent a small but important contribution toward understanding facets of the complex relationship between mobile-assisted shoppers and retailers. Further, this research builds on a growing body of digital, social media, and mobile marketing (DSMM) literature, specifically contributing to mobile marketing theory and addressing the need for the application of “more focused theories related to consumers’ psychological experiences in the DSMM domain” (Lamberton and Stephen 2016, 148). Future research should further explore these relationships and psychological experiences to paint a more complete portrait of modern shoppers and to extend mobile marketing theory.

Future research could explore which specific online information sources may disproportionately drive the spill-over effect or retailer repatronage intentions. While we did glean which online information sources were most popular with shoppers while they shopped, future research should measure the exact amount of time shoppers spend using each online information source to understand its influence. Another area that deserves investigation is how technology-armed frontline employees find the ideal device use tactics to strike the “optimal balance between human and technologically enabled interaction” (Lamberton and Stephen 2016, 166). Additionally, this study investigates the spill-over effect of satisfaction with online information source on satisfaction with the retailer. Future research could examine other important constructs or processes that potentially spill-over from the virtual realm to the physical. For example, loyalty has received some attention with regard to comparisons of online and traditional retail purchases (Danaher, Wilson, and Davis 2003) as well as service consumption (Shankar, Smith, and Rangaswamy 2003). However, it is still unknown how loyalty might be affected by online activities *within* the retail environment. As retailing evolves from multi-channel to omni-channel (Verhoef, Kannan, and Inman 2015), future research could increase our knowledge of the underlying value that consumers receive from online and offline channels and how they might influence each other.

7. Study limitations

As with any research, there are potential limitations in the present study. First, the results do not consider the types of products individuals shopped for and how they might impact the shopping experience. For example, products that require a high level of involvement (e.g., refrigerator) might show effects distinct from those goods that require only a small level of involvement (e.g., audio cable). The potential time and research effort required when considering high involvement products could potentially be a major factor in the extent to which shoppers utilize mobile devices to access online information sources. Second, the proposed model might be overlooking additional variables that have mediating or moderating effects beyond those of satisfaction and trust with a retailer. Moreover, trust could be investigated with respect to a specific store location and/or specific salespeople within a store.

Next, this study relies on participants’ recollection of the shopping experience. The limitations inherent in self-report questionnaires are well established (Stone et al. 1999). Future research could utilize a controlled experiment to increase internal validity or a field experiment to boost external validity and examine attitudes within specific retail establishments. However, our study participants provided a detailed account of a recent shopping experience, resulting in a greater likelihood that completed questionnaires were accurate and reliable.

Lastly, common methods bias is inherent in studies of this nature. However, steps were taken to minimize the effects of such bias by relying on well-known parameters as outlined by Podsakoff et al. (2003) for examining common methods bias. Those results suggest that common methods bias may

be somewhat minimal in the present study. And, pragmatically speaking, we believe that having access to a wide range of individuals in the panel data offers an opportunity to begin examining certain variables that may be somewhat sensitive (e.g., trust) from a broad range of individuals. Of course, future research should seek to replicate our study results.

8. Conclusion

The present study represents an advancement in current understanding of how technology continues to shape consumers' shopping experiences. The proposed model examines how mobile internet device use facilitates the complex interactions between shopper, online information sources, and retailers. We also identified that trust – both in the source of information and trust in retailers – has an important role in whether an individual considers visiting a retailer in subsequent visits. Lastly, this study also exposed the ramifications of mobile internet device use facilitation and identified several insights to help retail managers form successful mobile marketing strategies.

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Appendix Measurement items

Satisfaction with Information Source (SATI)

- (1) I was satisfied with the {information source used} I used on my {smartphone or tablet computer}.
- (2) My choice of using this {information source used} I was a wise one.
- (3) I think that I did the right thing when I used the {information source used}.
- (4) I am not happy that I used the {information source used} while I shopped. (R)*
- (5) I truly enjoyed using the {information source used} while I shopped.*

Trust of Information Source (TRTI)

The {information source} that I used ...

- (1) Can be trusted at all times.
- (2) Cannot be depended on for useful information. (R)*
- (3) Has high integrity.
- (4) Is not a competent information source. (R)*
- (5) Is a very dependable information source.
- (6) Is unresponsive. (R)*
- (7) Is untrustworthy. (R)*
- (8) Is reliable.

Satisfaction with Retailer (SATR)

- (1) I am satisfied with my decision to visit this retailer.
- (2) My choice to visit this retailer was a wise one.
- (3) I think that I did the right thing when I visited this retailer.
- (4) I am not happy that I visited this retailer (R).*

- (5) I truly enjoyed my visit to this retailer.

Trust of Retailer (TRTR)

The retailer ...

- (1) Can be trusted at all times.*
- (2) Cannot be depended on for useful information. (R)
- (3) Has high integrity.*
- (4) Is not a competent information source. (R)
- (5) Is a very dependable information source.*
- (6) Is unresponsive. (R)
- (7) Is untrustworthy. (R)
- (8) Is reliable.*

Retailer Repatronage Intentions (RRI)

- (1) I will shop with this retailer again in the future.
- (2) I will use this retailer again as a place to evaluate products.*
- (3) I will visit this retailer again in the future.
- (4) I will never do business with this retailer again. (R)*
- (5) I will avoid this retailer in the future. (R)*
- (6) I will do more shopping with this retailer in the coming years.
- (7) I will do business with this retailer again.

* items dropped from final model