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The Showrooming Phenomenon: It's More than Just About Price

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Abstract

This paper examines the factors that influence competitive showrooming, whereby consumers visit an offline retail store to gather information but make their purchase online at a competing retailer. We survey 556 respondents to study how the benefits and costs of showrooming influence the consumer's decision to showroom. Not surprisingly, we find that expected *average* price savings from showrooming are positively associated with showrooming. In addition, however, the perceived *dispersion* in online prices is also positively related to showrooming. Moreover, we find that non-price factors play a key role in consumers' showrooming decisions: perceived gains in the quality of the product purchased when showrooming (measured as the fit with a consumer's need) and waiting time for service in the brick-and-mortar store are positively associated with showrooming. Online search costs are negatively related to showrooming. Time pressure that consumers face when shopping is negatively associated with their propensity to showroom. We discuss implications for researchers and retail managers. For example, managers of offline retail stores can curtail showrooming by increasing the number of sales personnel available in-store instead of providing currently employed personnel with more training. To encourage showrooming, managers of online retailers should make it easier for the customer to search online.
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Introduction

Today's multichannel environment has spawned important consumer behaviors such as showrooming, that is, consumers gather information offline but purchase the product online (Mehra, Kumar, and Raju 2013). Showrooming has become a popular shopping behavior, and 68% of US Internet users indicate that they showroom at least occasionally (Statista 2016).

As long as consumers use the offline and online store of the same retailer, showrooming is not critical from a retailer's perspective. However, industry reports suggest that consumers often use the brick-and-mortar store of one retailer as a showroom but purchase at a competing retailer.[1] For example, retailers such as Toys"R"Us, Bed, Bath & Beyond and Best Buy often appear to be showrooms for Amazon.com (https://www.placed.com/press-release/aisle-to-amazon-showrooming-retail-impact). Such competitive showrooming threatens the brick-and-mortar store and retailer performance, while online retailers clearly benefit from it.

Some traditional retailers have taken actions to address the showrooming threat. Best Buy, for example, offers a price matching guarantee including Amazon.com (Bhasin 2013). Target tries to inhibit showrooming by offering special products to make price comparisons more difficult or even impossible (Zimmerman 2012). Both actions are based on the common belief that price is the critical driver of consumers' decision to showroom. However, previous research suggests that non-price benefits (e.g., service, offered products) and

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[1] To be concise, subsequently we will often use "store" to denote brick-and-mortar, physical, or offline store.

costs (e.g., search and waiting cost) of showrooming also can be expected to affect consumers' shopping behavior (e.g., Verhoef, Neslin, and Vroomen 2007).

Since there is a paucity of research that focuses specifically on showrooming, we lack knowledge of how important price actually is in determining the consumers' showrooming decision *relative* to other channel-related benefits and costs. In fact, Verhoef, Kannan, and Inman (2015) single out showrooming as an important area for future research, and pose the question, "*What is driving showrooming behavior of shoppers?*" (p. 179). The purpose of our research is to respond to this call to action, and we specifically focus on competitive showrooming since it is of most managerial relevance.[2]

The objective of this study is to examine empirically the impact of channel-related factors on the consumer's decision to engage in competitive showrooming. We focus on consumers' perceived benefits and costs of showrooming to guide our analysis. We consider expected gains in quality and price from switching to the online channel, perceived dispersion in quality and price online, the value of information gathered offline, salesperson quality and availability, online search costs, and costs of waiting for product delivery when buying online. We investigate the relative importance of these factors by surveying 556 shoppers to measure the benefits and costs and relate them to a consumer's decision to showroom. We contribute to the channel choice literature by being the first study that explicitly focuses on explaining consumers' showrooming behavior based on channel-related factors, which is deemed as a very important research topic (Lemon and Verhoef 2016; Verhoef, Kannan, and Inman 2015).

We find that in addition to consumers' perceptions of lower *average* online prices, the perceived *dispersion* in online prices is also positively related to showrooming. This is an important and novel finding consistent with the economic literature on consumer search. We also find that showrooming is not only affected by price. Consumers' perceptions that they can obtain higher average quality products online are positively associated with showrooming. Online search costs such as the time and effort of shopping online are negatively related to showrooming. Thus, online retailers who want to encourage showrooming could focus on facilitating search by, for example, offering an app that enables shoppers to scan barcodes and find the product easily online. We further find that the quality of in-store salespersons is not significantly related to showrooming but the perceived waiting time to get help in the store is positively related to showrooming. This result suggests that, within the range of our data, availability of sales personnel is more important than their quality. A provocative managerial recommendation of our research for offline-stores is to increase salesperson presence in-store rather than increase training for currently employed salespersons.

We proceed to review the literature and derive the conceptual framework. We then discuss measurement and our

data. Next, we display our results and discuss their implications. We conclude with a summary and suggestions for future research.

Literature Review

Although showrooming is a common shopping phenomenon and understanding its drivers is highly relevant for the retailing sector, empirical studies of showrooming are sparse. An important recent empirical study by Rapp et al. (2015) investigates the impact of showrooming on the performance of in-store sales personnel. Interestingly, the study finds that sales personnel perceive less self-efficacy and do not perform as well when aware of the possibility of showrooming. This indicates that when confronted with showrooming, sales personnel adapt in a way that decreases service quality. This in turn suggests that in-store salesperson quality is important to consider when examining consumers' showrooming decisions.

The most closely related empirical study to ours is van Baal and Dach's (2005) work on cross-channel free riding. Cross-channel free riding is gathering service in one channel but "placing … business with another" (p. 75). Showrooming is thus a specific form of cross-channel free riding. Van Baal and Dach (2005) focus on the relationship between product characteristics and free riding, and find that purchase frequency is related to free riding. This suggests that product categories differ in their proclivity to encourage showrooming.

Analytical models have been developed to study the impact of showrooming on multichannel competition (Balakrishnan, Sundaresan, and Zhang 2014; Mehra, Kumar, and Raju 2013). These models assume consumers base their channel decision on channel-related cost/benefit evaluations. Consumers switch from one channel to another channel if the expected benefits are larger than the expected costs. Analytical models of cross-channel free riding (Kuksov and Lin 2010; Wu et al. 2004) and models of optimal consumer search behavior use this idea (e.g., Branco, Sun, and Villas-Boas 2012; Moorthy, Ratchford, and Talukdar 1997; Stahl 1989; Weitzman 1979). In these models, the benefits of continuing search stem from *expected* gains in quality and price. Expected gain in quality reflects the consumer's expectation to find a product that better fits his/her needs, *on average*. The expected gain in price reflects the consumer's expectation to find a lower price, *on average*. Analytical models also suggest that the *dispersion* in quality/price matters (Branco, Sun, and Villas-Boas 2012; Weitzman 1979) — higher dispersion begets more search. The costs studied in these analytical models are the time and effort costs associated with continuing search (e.g., Balakrishnan, Sundaresan, and Zhang 2014; Moorthy, Ratchford, and Talukdar 1997). These are valuable studies because they suggest relevant benefits and costs. We build on these papers by quantifying the impact of these benefits and costs on the likelihood of showrooming.

Empirical studies investigating consumers' channel choices quantify the importance of various benefits and costs of using a channel for search or purchase (Frambach, Roest, and Krishnan 2007; Gensler, Verhoef, and Böhm 2012; Verhoef, Neslin, and

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[2] Therefore, throughout the paper, when we refer to showrooming, we mean competitive showrooming, i.e., gathering information offline at Retailer A but purchasing the product online at Retailer B.

Vroomen 2007). These studies focus on the *choice* of a certain channel and do not study the benefits and costs of channel *switching*. Frambach, Roest, and Krishnan (2007), for example, model the channel choice decision for information search and purchase independently. Gensler, Verhoef, and Böhm (2012) link the search and purchase stages by considering channel spillover effects, that is, the choice of one channel for information search influences the attractiveness of another channel for purchase. They find a significant positive channel spillover effect but do not explicitly distinguish different channels. They thus do not study the channel-related benefits and costs that ultimately drive or prevent showrooming. Verhoef, Neslin, and Vroomen (2007) examine benefits and costs that determine consumers' channel choices for search and purchase. They consider cross-channel synergy, that is, the perceived attractiveness of one channel for search may influence the perceived attractiveness of another channel for purchasing. They thus model channel switching behavior indirectly and do not focus on which channel-related benefits and costs matter for consumers' showrooming decisions. Moreover, only 5.9% of their respondents showroomed, which probably led to the insignificant finding for cross-channel synergy from store to Internet. Altogether, the empirical studies on consumers' channel choices investigate the drivers of choosing a channel for search or purchase. This indirect way of capturing channel switching behavior does not consider the relevant channel-related benefits and costs that drive showrooming. We close this gap by explicitly studying the factors that affect consumers' showrooming decisions.

Conceptual Framework

The foundation of our framework is the benefit/cost approach employed in previous research regarding channel choice (e.g., Balakrishnan, Sundaresan, and Zhang 2014; Mehra, Kumar, and Raju 2013; Verhoef, Neslin, and Vroomen 2007). Consumers decide to showroom if the benefits outweigh the costs. Consumer *perceptions* of channel-related benefits and costs, and how they are weighed, drive the consumer's decision of whether to showroom. Our focus is on these channel perceptions. However, the context, or setting, within which the purchase occasion takes place, should also play an important role (Engel, Blackwell, and Miniard 1995, p. 394). We thus consider consumer-, shopping-, and product-related contextual variables as well. Fig. 1 shows our framework.

Starting with the benefits, we follow previous research and postulate that channel differences in quality and price are key determinants of showrooming (e.g., Balakrishnan, Sundaresan, and Zhang 2014; Mehra, Kumar, and Raju 2013). We consider a consumer's perceptions of the gains in quality and price s/he will achieve *on average* by showrooming (e.g., Balakrishnan, Sundaresan, and Zhang 2014). Perceived differences in the *dispersion* of quality and price should also influence showrooming. This follows directly from analytical models discussed earlier (e.g., Branco, Sun, and Villas-Boas 2012). That is, drawing on analytical models, we assume a consumer has a subjective distribution of perceived quality and price differences between the offline and online channel — what

matters is the perceived mean and standard deviation (dispersion) of this distribution.

The costs of showrooming are the costs of searching online and the potential delay in obtaining the product, as suggested by analytical models (e.g., Kuksov and Lin 2010).

Our framework includes three factors that theoretically could serve as either benefits or costs of showrooming. First is the value of information obtained in-store from sales persons or on her/his own. Second is the quality and third is the availability of salespersons (e.g., Verhoef, Neslin, and Vroomen 2007). It is not obvious whether these factors are benefits or costs of showrooming. They all provide consumers with information that enables them to find the right product online. On the other hand, good in-store information might increase consumers' satisfaction with the store, or increase affect toward the store, leading to more in-store purchases and hence less showrooming.

As noted above, we consider that consumer-, shopping-, and product-related contextual factors may influence a consumer's decision to showroom independently of their benefit/cost evaluation. The consumer-related contextual variables we consider are shopping enjoyment, mavenism, Internet experience, product knowledge, and anticipated regret. Consumers who enjoy shopping may be more prone to switch channels because channel switching is seen less as a burden (Konuş, Verhoef, and Neslin 2008). Engaging in showrooming may further improve a consumer's shopping expertise. Therefore, consumers who enjoy being a source of market-related information for others (i.e., mavens) may be more likely to engage in showrooming (Ailawadi, Neslin, and Gedenk 2001). Furthermore, a consumer's Internet experience may influence his/her decision to showroom positively because consumers with experience have the skills needed to shop online (Zhu and Zhang 2010). One might assume that a consumer with more knowledge of the product category might showroom to make the 'best' purchase decision. However, it is also likely that a consumer with more knowledge will examine fewer product attributes and thus may be less likely to showroom (Brucks 1985). Previous research shows that consumers' general propensities to consider what would have happened if they did something differently affect their behavior (Zeelenberg and Pieters 1999). We thus consider anticipated regret as a consumer-related contextual variable.

Shopping-related contextual variables such as perceived time pressure and retailer loyalty may affect consumers' decisions to showroom independently of their benefit/cost evaluation as well. Consumers who generally feel pressed for time when they shop may be less likely to showroom because switching the channel takes additional time (Konuş, Verhoef, and Neslin 2008). Moreover, consumers who are loyal to an offline retailer may be less inclined to showroom (Ailawadi, Neslin, and Gedenk 2001).

Product-related contextual factors include the focal product category, product price, and product performance risk. Previous research illustrates that consumers' channel choice decisions vary by product category (Heitz-Spahn 2013; van Baal and Dach 2005). Product price is a proxy for the financial risk involved with a purchase of a product (Verhoef, Neslin, and
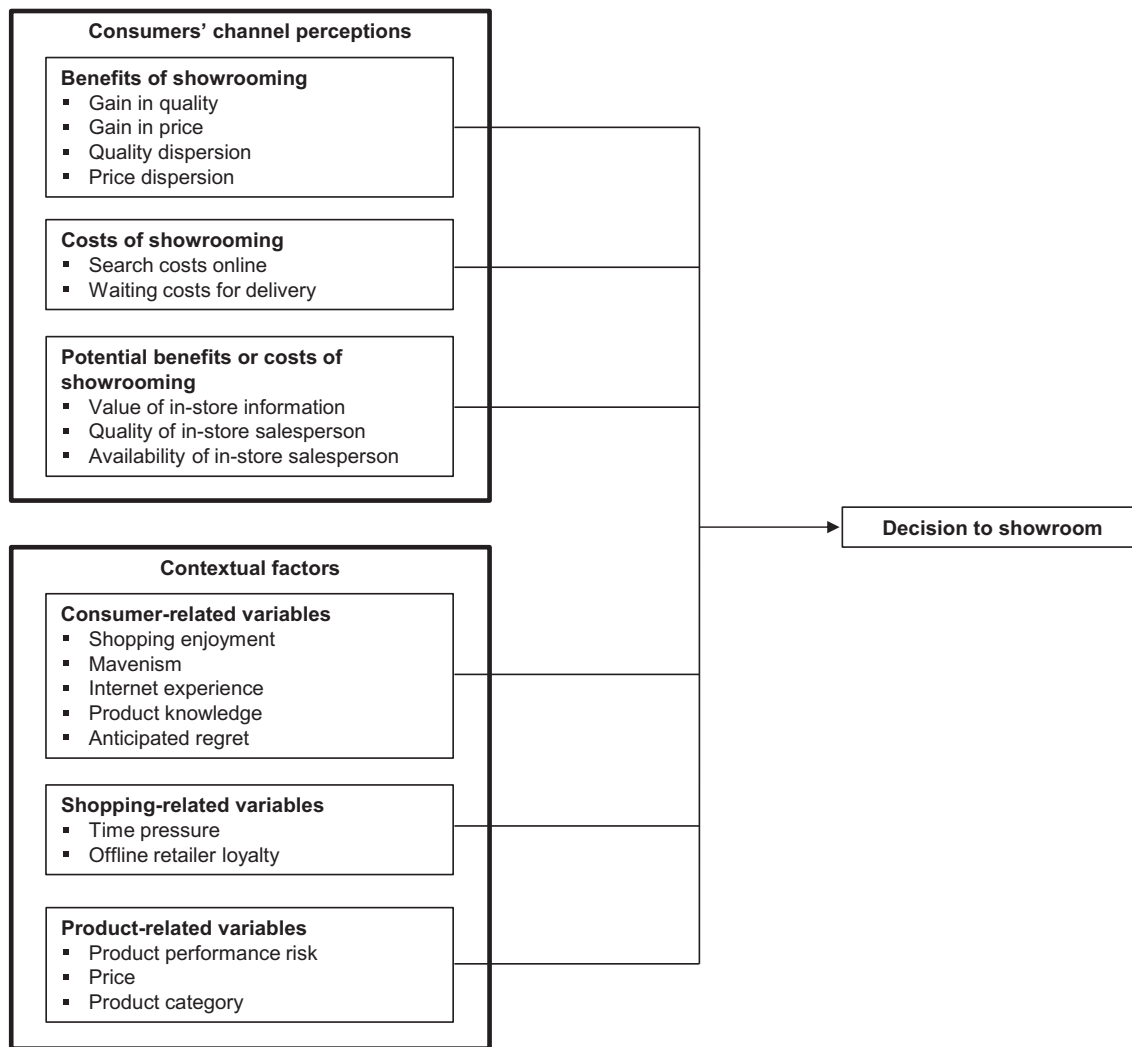
Fig. 1. Conceptual framework.

Vroomen 2007). The higher the price, the higher the financial risk for a consumer if (s)he makes a 'wrong' decision. Thus, product price may increase consumers' tendency to showroom. Moreover, product performance risk may also increase showrooming (Verhoef, Neslin, and Vroomen 2007). Consumers search more extensively when product performance risk is high. Therefore, they may visit a store to gather information and to compare products, before they purchase online.

While these contextual variables are important, our focus is on the benefits/costs trade-off. We hence only develop hypotheses regarding the effects of consumers' channel-related perceptions of benefits and costs on consumers' showrooming decisions.

Hypotheses

Economic models reviewed earlier depict consumer search as a multistage process in which consumers gather information and then assess whether to search further (Branco, Sun, and Villas-Boas 2012; Moorthy, Ratchford, and Talukdar 1997; Weitzman 1979). We formulate our hypotheses from the viewpoint of the consumer who has visited the store, gathered information, and now must decide whether to search and possibly purchase online (i.e., showroom) or not.

From the perspective of this consumer, a potential benefit of showrooming is the possibility of finding a better product online, that is, a product that better fits the consumer's needs (Verhoef, Neslin, and Vroomen 2007). Thus, the consumer's perception of the average gain in quality when switching to the online channel should be positively associated with the probability to showroom.

H1a. The probability that a consumer leaves the store and buys online is positively associated with the perception of higher average quality online compared to the store.

Another potential benefit of showrooming is to find a less expensive product online (Balakrishnan, Sundaresan, and Zhang 2014). Thus, a consumer's perceived average gain in price should also be positively associated with the probability to showroom.

H1b. The probability that a consumer leaves the store and buys online is positively associated with the perception of lower average prices online compared to the store.

As discussed regarding our framework, research suggests that consumers not only have a perception regarding the *average* differences between online and offline in quality and price but also the *dispersion* of this difference. The role of dispersion in quality and price online relative to the store is more subtle than the role of average gain. Theory says that dispersion increases the consumer's propensity to search (Branco, Sun, and Villas-Boas 2012). The intuition is that wider dispersion in quality and price increases the chance of finding a much better/cheaper product (Kuksov and Lin 2009; Moorthy, Ratchford, and Talukdar 1997, p. 266; Weitzman 1979, p. 647). Thus, all else equal, wider dispersion is a benefit for the consumer who wants to find the favorable tails of the distributions of quality and price. In summary, the consumer's perceived dispersion in online quality and price compared to the store should stimulate showrooming.

H2a. The probability that a consumer leaves the store and buys online is positively associated with perceptions of higher quality dispersion online compared to the store.

H2b. The probability that a consumer leaves the store and buys online is positively associated with perceptions of higher price dispersion online compared to the store.

H1a, H1b, H2a, and H2b provide a more nuanced view than the conventional reason for showrooming that "you can find a lower price online." H1a, H1b, H2a, and H2b emphasize that the consumer has a subjective distribution of quality and price online. Showrooming is enhanced to the extent that the mean (average gain) is higher, and the standard deviation (dispersion) in quality and price is higher. H1a, H1b, H2a, and H2b follow from the analytical models of consumer search discussed earlier, and we test whether the findings from these models hold in an empirical setting.

Fig. 1 shows that showrooming entails additional search costs (Burnham, Frels, and Mahajan 2003). These costs involve the time and effort required to investigate the online channel (Ray, Kim, and Morris 2012). Higher search cost should be associated with less searching and less showrooming (Branco, Sun, and Villas-Boas 2012). Thus, we propose:

H3. The probability that a consumer leaves the store and buys online is negatively associated with perceptions of online search costs.

In addition, switching from the store to the online channel involves the cost of waiting until the product is delivered (Chintagunta, Chu, Cebollada 2012; Smith and Brynjolfsson 2001). The longer the perceived delivery times online, the less attractive showrooming might be (Balakrishnan, Sundaresan, and Zhang 2014). Therefore, we suggest:

H4. The probability that a consumer leaves the store and buys online is negatively associated with perceptions of waiting costs for product delivery.

Referring to Fig. 1, the value of information collected in-store also affects consumers' showrooming decisions; although it is not clear in which direction. More information can increase showrooming by making the consumer's online shopping task easier (i.e., the consumer knows exactly what to search for), or it can decrease showrooming by building consumer affect and satisfaction with the store. While the impact of information value could go either way, there is more evidence in the positive direction. Enabling consumers to inspect products in stores is a capability of the brick-and-mortar store that complements online capabilities (Avery et al. 2012). In a similar vein, Verhoef, Neslin, and Vroomen (2007) suggest that cross-channel synergies encouraged research shopping; searching offline may enhance the experience of purchasing online. As such, the value of information collected in-store would increase complementarity and synergy. Hence, we propose:

H5. The probability that a consumer leaves the store and buys online is positively associated with the perceived value of information gathered in-store.

An important aspect of in-store service is the quality of sales personnel. Knowledgeable and trustworthy salespersons reduce shopping risk and increase consumers' satisfaction and attitudes toward the store/retailer (Cronin, Brady, and Hult 2000; Zeithaml, Parasuraman, and Malhotra 2002). Therefore, higher perceived store service quality might inhibit showrooming (Rust and Huang 2012). However, knowledgeable and trustworthy salespersons provide good advice to consumers so that they know what product they need to satisfy their needs if they decide to purchase online. This would facilitate showrooming. While the net impact of salesperson quality could go either way, we follow the majority of literature and posit that good service reduces showrooming because it improves the satisfaction with the store/retailer. We, thus, propose:

H6. The probability that a consumer leaves the store and buys online is negatively associated with perceptions of in-store salesperson quality.

Availability of in-store salespeople affects consumers' perceptions of how long they have to wait to get help. This may require additional time in the store, which means the consumer does not have time to purchase online. Moreover, poor availability of sales personnel can frustrate consumers (Baker and Cameron 1996; Menderski 2016). Dube-Rioux, Schmitt, and Leclerc (1989) argue that waiting to get help is especially annoying since the consumer wants to reach his/her goal of finding a satisfying product. Moreover, consumers may infer that the retailer does not value them as a customer. Leaving the store and showrooming can be an action to vent such negative feelings. We posit these factors outweigh the limited time argument, and propose:

H7. The probability that a consumer leaves the store and buys online is positively associated with perceptions of in-store salesperson unavailability.

Testing these hypotheses can support common beliefs (e.g., better price online is an important determinant of showrooming), generate novel insights (e.g., the relevance of quality and price *dispersion*), and suggest important managerial implications (e.g., relevance of service quality and availability). This makes them important issues to investigate, which we do with our empirical study.

Data

Data Collection Procedure

We engaged a professionally managed online panel to sample 800 U.S. consumers in March 2015. Panelists were eligible to participate if they made a purchase in at least one of ten product categories (clothing, shoes, sporting equipment, furniture, toys/games, kitchen supplies/appliances, computers, TVs, audio products, and cameras) within the last six months. We chose product categories that match several of those investigated by van Baal and Dach (2005) and that are frequently bought online to enhance the likelihood that showrooming occurred (Quint, Rogers, and Ferguson 2013).

First, we asked the respondents to consider situations where they visited an offline store to collect information about a product and purchased the product at this same store. We then asked them to indicate in which of the 10 product categories they had made a purchase this way during the last six months. Second, we asked the respondents to consider situations where they visited an offline store to collect information but eventually purchased the product online at a competing retailer (showrooming situation). We also asked the respondents in which of the 10 product categories they had made a purchase this way during the last six months. Depending on their answers regarding these two shopping situations, the respondent could be in one of four classifications for each product category: (i) only a non-showroomer, (ii) only a showroomer, (iii) both a non-showroomer and showroomer, and (iv) a non-purchaser. We randomly selected one of the product categories purchased by the respondent (classification i, ii or iii). If the respondent was only a non-showroomer in the randomly selected category, subsequent questions were related to a specific non-showrooming purchase occasion in that product category. We asked the respondents to refer to the most recent non-showrooming shopping experience in that category. If the respondent either only showroomed in that product category or exhibited showrooming as well as non-showrooming (classifications (ii) and (iii)), subsequent questions were related to a showrooming purchase occasion in that specific product category. We further asked respondents to refer to the most recent showrooming shopping experience. That way we made sure that respondents assigned to a non-showrooming purchase occasion had no showrooming shopping experience in that product category.

Subsequently, we asked respondents how much approximately they spent for the product on the focal purchase occasion. Showroomers were also asked whether that product was available in the store. We excluded respondents (n = 118) who indicated that the product was not available in the store because in that case the showrooming decision was caused by unavailability of the product and not a voluntary decision. We also asked showroomers what retailers they used to gather information and where they ultimately purchased the product. There were 67 respondents who indicated that they used the same offline retailer to collect information and purchase the product, even though the purchase was made online. These respondents did not *competitively* showroom, which is of interest in this study. We excluded these respondents as well.[3]

Later in the questionnaire, we asked respondents how frequently they showroom in the target category. We excluded those respondents who stated 'never' but indicated earlier that they actually did showroom because their answers were inconsistent, and thus of questionable validity (n = 59). The final sample consists of 556 respondents. Of those, 26.3% answered questions related to a showrooming purchase occasion and 73.7% answered questions related to a non-showrooming purchase occasion. The most popular product categories were clothing (29.9%) and shoes (19.2%). Table 1 shows the demographic information for our sample. The majority (66.2%) were female. There was a broad range in age, education, household size, and income.

We note potential biases in administrating the survey and how we addressed them. First, the survey was long and fatigue could have decreased reliability. We pre-tested the survey several times and shortened it as best we could. We included attention-check questions to make sure the respondents were paying attention. We asked respondents to list the purchases they had made within the last six months so they would be more likely to recall the purchase occasion and not selectively remember only certain aspects. It is possible respondents might try to answer questions to be as consistent as possible. This is difficult to prevent, but the number and complexity of concepts we measured should mitigate such hindsight bias. For example, we doubt respondents could consciously answer the dispersion questions so that they related to the showrooming decision. However, we note these limitations as territory for future research.

Measurement

After respondents were assigned to a showrooming or non-show-rooming purchase occasion, we asked them questions measuring the benefits and costs of showrooming outlined by our framework (Fig. 1). We pretested the first version of our survey with 80 respondents. This version included multiple items to measure the focal variables. Respondents found the survey lengthy and repetitive. To make sure that the respondents did not suffer from fatigue and provide unreliable answers, we had to limit the number of items per variable (Bergkvist and Rossiter 2007; Böckenholt and Lehmann 2015; Dillmann, Sinclair, and Clark 1993; Duhachek, Couglan, and Iacobucci 2005). We used multiple items when the focal construct was rather abstract (Rossiter 2002) and the items used to measure the construct were not semantically redundant (Duhachek, Couglan, and Iacobucci 2005).

The variables and how they were measured are detailed in Table 2. The questions related to expected (average) gains in quality and price and dispersion in quality/price were tied to the focal purchase occasion since these perceptions depended on

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[3] We estimated our model including these 67 respondents. There are no changes in significance and the estimates of our focal coefficients only change marginally. Detailed results are available from the authors on request.

Table 1
Description of sample (n = 556).

	Frequency (in %)		Frequency (in %)
Gender		Household size	
Male	33.8	1 person	17.5
Female	66.2	2 persons	30.1
		3 persons	21.8
Age groups		4 persons	19.2
18 to 25 years	5.6	More than 4 persons	11.0
26 to 30 years	7.6	Rather not say	.4
31 to 40 years	19.9		
41 to 50 years	24.2	Household income	
51 to 60 years	30.8	Below $25,000	18.4
61 years and older	11.9	$25,001 to $50,000	31.6
		$50,001 to $100,000	34.8
Education		More than $100,000	12.9
High school	6.7	Rather not say	2.3
Graduated high school	40.2		
Graduated college	41.2		
Obtained Master's degree	9.7		
Obtained PhD or MD	1.1		
Rather not say	1.1		

what the respondent learned from the store visit. The same holds for value of information and service perceptions since these are purchase occasion-specific. For the costs of showrooming, we asked respondents to state their perceptions with respect to the search and waiting costs in the specific product category. We now describe the measures.

Perceived Benefits

We measured expected (average) quality gains of showrooming for the product purchased at the assigned purchase occasion with a 5-point scale ranging from "much more likely offline" to "much more likely online" to "fit your needs." We measured expected quality gains with one item. We measured expected price gains of showrooming with two items, using the same 5-point scale but asking the respondent how likely s/he expected to find (1) lower prices and (2) more attractive promotional offers, online or offline (α = .659).[4] These are established scales adapted from Lurie and Srivastava (2005) and Verhoef, Neslin, and Vroomen (2007).

To measure dispersion perceptions, we asked respondents to consider the focal purchase occasion and indicate whether they thought quality/price would have varied more offline or online for that product after visiting the store (5-point scale ranging from 'much more offline' (−2) to 'much more online' (+2)). We adapted this item from Biswas, Dutta, and Pullig (2006). Biswas, Dutta, and Pullig (2006) used three items all asking whether consumers expected a wide range/variety of prices. Since all three items are semantically redundant, we used a single-item measure to reduce the burden for the respondents (Duhachek, Couglan, and Iacobucci 2005).

Perceived Costs

These reflect the effort required to find and ultimately obtain the product online. We used three items to measure online search costs adapted from Burnham, Frels, and Mahajan (2003): "Searching on X takes little time," "Searching online for X requires a lot of effort," and "It is a hassle to search online for X after searching offline." We measured the three items on a 5-point scale ranging from 'strongly disagree' to 'strongly agree' (Chiu et al. 2011; Jones, Mothersbaugh, and Beatty 2000). Cronbach's alpha for the three items equals .633. If the first item, which was reversed coded, is deleted, it increases to .656. Since this is still low, we followed Kopalle and Lehmann's (1997) suggestion to also compute alpha on a separate sample. To do so, we used data from a pretest (n = 58) and found an alpha value of .700, which is satisfactory. We therefore decided to consider all three items to measure online search costs.[5]

Waiting costs are reflected by the perceived time until the product is delivered when bought online. To measure perceived time until delivery, we asked for the extent of agreement with the statement "Delivery times are short if I purchase X online." (5-point scale; Verhoef, Neslin, and Vroomen 2007).

Potential Benefits or Costs

We used two items to measure the quality of the information gathered in the store ("I collected a lot of information at this store that was very useful to me," and "The time it took me to gather information at this store was time well-spent."). Both items were measured on a 5-point scale (α = .788). To measure quality perception of in-store sales personnel, we used three items on a 5-point scale assessing sales personnel's knowledge, friendliness/responsiveness, and trustworthiness (Clopton, Stoddard, and Clay 2001; Cronin and Taylor 1992; Darian, Tucci, and Wiman 2001). Cronbach's alpha for the three items related to quality was .867. We measured salesperson availability with a single item asking whether the respondent perceived long waiting times to get helped.

Contextual Variables

To measure time pressure, we used two items: "I finish my shopping for X fast because I have other things to do." and "I usually find myself pressed for time when I go shopping for X." (α = .730). Since we asked respondents to consider the focal product, we adapted general scales to this context (Konuş, Verhoef, and Neslin 2008; Srinivasan and Ratchford 1991). Offline retailer loyalty was operationalized by a single-item measure related to behavioral loyalty ("I have a favorite offline retailer when shopping for X.") based on Ailawadi, Neslin, and Gedenk (2001). To measure anticipated regret, we asked the following four items (5-point scale): "Whenever I make a choice, I'm curious about what would have happened if I had chosen differently," "Whenever I make a choice, I try to get information about how the other alternatives turned out," "If I make a choice and it turns out well, I still feel like something of a failure if I find out that another choice would have turned out

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[4] The relatively low α on this scale raised the concern that the variable was not reliable enough to yield a significant effect. It turned out however that the effect of this variable was quite strong.

[5] Again we rely on the analysis to determine whether the variable is not reliable enough to yield a significant coefficient.

Table 2
Measurement of independent variables.

Variable	Items [X indicates the product category]
Benefits of showrooming	
Expected quality gain online	Where did you expect you could find X that best fit your needs?
	(5-point scale; ranging from −2 (much more likely offline) to +2 (much more likely online))
Expected price gain online	Where did you expect you could find lower prices for X?
	Where did you expect you could find attractive promotional offers for X?
	(5-point scale; ranging from −2 (much more likely offline) to +2 (much more likely online))
Dispersion in quality online	I expected that the quality of X would vary much more offline/online.
Dispersion in price online	I expected that the prices would vary much more offline/online.
	(5-point scale; ranging from −2 (much more offline) to +2 (much more online))
Costs of showrooming	
Online search cost	Searching *online* for information on X takes little time.
	Searching for X *online* requires a lot of effort to process all the information available.
	It's a hassle for me to search *online* for more information about X after I've already
	gathered information in an offline retail store.
Waiting cost for delivery	Delivery times are short if I purchase X online. (R)
Potential benefits or costs of showrooming	
Value of in-store information	I collected a lot of information at this store that was very useful to me.
	The time it took me to gather information at this store was time well-spent.
Quality of in-store salesperson	The salespeople of this retail store are very knowledgeable.
	The salespeople of this retail store provide friendly and responsive service.
	You can trust the salespeople of that retail store.
Availability of in-store salesperson	Consumers have to wait a long time before a salesperson can help with a question (R [a])
Consumer-related variables	
Shopping enjoyment	I like shopping for X.
Mavenism	I enjoy giving people tips on shopping for X.
Internet experience	It is easy for me to use the Internet.
	I often search for product information on the Internet.
	I am good at searching for product information on the Internet.
Knowledge about buying product	How knowledgeable you are when it comes to buying X?
	(scale from 1 (not knowledgeable at all) to 9 (very knowledgeable))
Anticipated regret	Whenever I make a choice, I'm curious about what would have happened if I had chosen differently.
	Whenever I make a choice, I try to get information about how the other alternatives turned out.
	If I make a choice and it turns out well, I still feel like something of a failure if I find out that another
	choice would have turned out better.
	When I think about how I'"m doing in life, I often assess opportunities I have passed up.
Shopping-related variables	
Time pressure	I finish my shopping for X fast because I have other things to do.
	I usually find myself pressed for time when I go shopping for X.
Loyalty to offline retailer	I have a favorite offline retailer when shopping for X.
Product-related variables	
Product performance risk	Incorrectly judging the quality of X is much more likely offline/online.
	Buying X that is not really the best choice for me is much more likely offline/online.
	(5-point scale; ranging from −2 (much more offline) to +2 (much more online))
Price	Please indicate approximately how much you spent on X. It is not necessary to specify an exact price,
	but please provide a good estimate in US Dollars.
Product category	Nine dummy variables to represent the ten categories. Clothing serves as the reference category, i.e.,
	dummies are interpreted relative to clothing.

[a] We recoded the values, so that a higher value on this variable indicates shorter waiting times, and thus a better in-store salesperson availability.

better," and "When I think about how I'm doing in life, I often assess opportunities I have passed up" (Marcatto and Ferrante 2008). Cronbach's alpha for these items is .754. We measured shopping enjoyment with one item: "I like shopping for X." (Ailawadi, Neslin, and Gedenk 2001; Konuş, Verhoef, and Neslin 2008). We measured mavenism with one item: "I enjoy giving people tips on shopping for X." (Ailawadi, Neslin, and Gedenk 2001). We measured Internet experience using three items: "It is easy for me to use the Internet," "I often search for product information on the Internet," and "I am good at searching for product information on the Internet." Cronbach's

alpha for these three items is .776. Product category knowledge was measured using a single item (Clarkson, Janiszewski, and Cinelli 2013): "How knowledgeable are you when it comes to buying X?" We used two items as indicators for product performance risk (Verhoef, Neslin, Vroomen 2007): "Incorrectly judging the quality of X is much more likely offline/online" and "Buying X that is not really the best choice for me is much more likely offline/online" (α = .749). The price of the purchased product was self-reported in US dollars. We used dummy variables to indicate the focal product category.

Table 3
Correlations between independent variables.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1	1																	
2	**.505**	1																
3	**.199**	**.292**	1															
4	**.229**	**.284**	**.247**	1														
5	**−.296**	**−.202**	−.028	**−.105**	1													
6	**.336**	**.297**	.081	**.127**	**−.169**	1												
7	.083	**.143**	.022	.063	**−.142**	**.103**	1											
8	−.057	−.004	−.044	.004	−.046	**.110**	**.361**	1										
9	**−.154**	−.062	−.072	−.008	**−.113**	−.018	−.004	**.375**	1									
10	**.169**	**.136**	**.104**	**.146**	.034	.032	**.199**	.075	**−.185**	1								
11	**.150**	**.113**	−.049	.081	**−.165**	.072	**.285**	**.305**	.027	**.221**	1							
12	**.259**	**.165**	.002	**.124**	**−.165**	**.194**	**.303**	**.255**	**−.098**	**.350**	**.645**	1						
13	**.112**	**.172**	.072	.033	**−.279**	**.172**	**.362**	**.189**	.070	.047	**.232**	**.209**	1					
14	**.166**	**.161**	−.008	**.154**	**−.185**	**.215**	**.211**	**.178**	−.023	**.104**	**.425**	**.446**	.332	1				
15	−.017	−.022	**.173**	.036	**.183**	−.017	−.031	−.065	**−.231**	**.210**	**−.252**	−.057	**−.135**	**−.161**	1			
16	**−.100**	−.080	.000	−.033	.077	−.009	**.199**	**.181**	.032	**.100**	**.160**	.092	**.145**	**.163**	−.003	1		
17	**−.310**	**−.148**	−.061	−.001	**.175**	**−.152**	.007	.055	**.102**	−.020	**−.094**	**−.087**	.064	−.079	.030	**.116**	1	
18	−.002	−.055	.029	.023	.080	**−.100**	**.153**	**.147**	−.047	.059	.035	.065	.077	−.011	.005	.004	−.005	1

1: gain in quality, 2: gain in price, 3: quality dispersion, 4: price dispersion, 5: online search costs, 6: waiting cost for delivery, 7: value of in-store information, 8: quality of in-store salesperson, 9: availability of in-store salesperson, 10: anticipated regret, 11: shopping enjoyment, 12: mavenism, 13: Internet experience, 14: knowledge about buying product, 15: time pressure, 16: offline retailer loyalty, 17: product performance risk, 18: price.
Note: Bold values are significant at 5% level.

Descriptive Statistics

Tables 3 and 4 provide descriptive statistics. The correlations between the independent variables suggest potential multicollinearity (Table 3). For example, expected online price gain and quality gain are significantly correlated (.505).[6] Mavenism is correlated with shopping enjoyment (.645). However, we found the highest VIFs were for shopping enjoyment and mavenism and these were acceptable, 2.037 and 2.167 respectively. Furthermore, dropping one of the correlated variables from the analysis did not change the substantive results. Therefore, multicollinearity does not appear to be an issue for our analysis.

Results

Table 4 also compares variable means for consumers who evaluated showrooming purchase occasions versus those who evaluated non-showrooming occasions. We find significant differences for 14 of the 18 variables ($p \leq .05$). We continue with a logistic regression to determine which variables are significantly related to consumers' showrooming decisions and are the most important predictors of showrooming, after controlling for the other variables.

The dependent variable for the logistic regression is a 0/1 indicator of whether the respondent showroomed on her/his focal purchase occasion. We estimated latent class models to consider respondent heterogeneity. Interestingly, the model assuming homogenous parameters across respondents was the best specification based on BIC and CAIC. We thus present the results of the homogeneous model in Table 5. The model has a

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[6] However, the correlation is small enough to suggest respondents perceived price and quality as different constructs.

hit rate of 79.8% and is a significant improvement compared to the null model ($p = .000$). Nagelkerke's R^2 equals .300.

Hypotheses H1a and H1b stipulated that showrooming is more likely when consumers perceive higher quality and lower price online versus offline, on average. Table 5 shows that these hypotheses are supported for both quality and price ($p = .032$ and $p = .006$ respectively). Judging from the odds ratios, price is more important than quality (1.460 versus 1.266, respectively). Nevertheless, these results show that consumers showroom because they expect to get a better deal *and* a product that better fits their needs.

H2a and H2b stated that quality and price dispersion online exert a positive impact on showrooming. In support for H2b, price dispersion is associated with a significant increase in showrooming ($p = .008$). This is novel and interesting because it suggests consumers who are contemplating whether to showroom are sophisticated enough to consider both what they expect to find on average as well as the range of possibilities. In contrast to price dispersion, quality dispersion turns out to be insignificant ($p = .413$), and, thus, H2a is not supported.

H3 proposes that showrooming is negatively associated with higher online search cost. This hypothesis is supported ($p = .044$). This result suggests that Internet shopping is not as effortless and efficient as one might think, and that perceptions of this are negatively associated with showrooming. Another cost of showrooming is captured by H4, which says showrooming is negatively related to the waiting time for the product. This hypothesis is not supported ($p = .818$). Perhaps this is because the wait is not so extreme (usually about days, sometimes weeks, but rarely months) that it deters showrooming. Nevertheless, it is an interesting finding because the simple mean comparison showed a significant difference in the perception of delivery times (Table 4).

H5 proposes that showrooming is positively associated with the value of information collected in the store. This hypothesis

Table 4
Descriptive statistics of benefits and costs of showrooming, and consumer-, shopping, and product-related variables and mean comparison showroomers vs. non-showroomers.

	Complete sample		Non-showroomers		Showroomers		
	Mean	Std. dev.	Mean	Std. dev.	Mean	Std. dev.	p-Value
Benefits of showrooming							
Average quality gain online	−.20	1.30	−.43	1.27	.45	1.18	.000
Average price gain online	.27	1.05	.10	1.02	.76	.99	.000
Dispersion in quality online	.08	.84	.04	.82	.16	.89	.155
Dispersion in price online	.24	1.08	.10	1.02	.63	1.16	.000
Costs of showrooming							
Search cost	2.80	.85	2.90	.85	2.52	.78	.000
Waiting cost for delivery (R)	3.38	.97	3.29	.99	3.64	.87	.000
Potential benefits or costs of showrooming							
Value of in-store information	3.78	.83	3.72	.85	3.93	.76	.007
Quality of in-store salesperson	3.67	.81	3.67	.83	3.67	.78	.945
Availability of in-store salesperson	2.78	1.17	3.29	1.14	3.01	1.22	.011
Consumer-related variables							
Shopping enjoyment	3.45	1.14	3.35	1.16	3.75	1.02	.000
Mavenism	2.83	1.19	2.70	1.17	3.22	1.16	.000
Internet experience	4.14	.60	4.36	.61	4.56	.53	.000
Knowledge about buying product	6.57	1.72	6.37	1.74	7.13	1.53	.000
Anticipated regret	2.86	.85	2.81	.84	3.01	.86	.012
Shopping-related variables							
Time pressure	2.81	.97	2.88	.94	2.60	1.04	.002
Loyalty to offline retailer	3.55	1.02	3.58	1.01	3.47	1.05	.233
Product-related variables							
Product performance risk	3.87	.92	3.92	.93	3.74	.87	.044
Price	153.57	266.41	159.02	289.91	138.27	185.13	.323

a. "R" means reversed scale, so that a higher value on this variable means shorter waiting times.

is not supported ($p = .584$). As discussed earlier, valuable information suggests two possibilities. First is that it increases customer satisfaction/affect and thus the purchase is made in the store. Second is that the customer learns exactly what s/he wants and so it is easier to find it online. These two forces could cancel each other and that is why the value of information collected in-store did not identify showrooming purchases.

H6 states that showrooming is less likely if in-store sales personnel provide better quality service, i.e., they are more knowledgeable and trustworthy. This variable is not significant ($p = .720$). The reason could be the same as why the value of information collected in-store was not significant. Higher quality service means that showrooming could now be easier — the customer just gathered the information he/she needs to find the best fitting product online. However, knowledgeable, trustworthy personnel may affect customer satisfaction with the store/retailer and thus lead to in-store purchases. These two forces may cancel each other out, leading to an insignificant result for in-store salesperson quality.

H7 stipulates that the perception that in-store personnel are unavailable for help is positively related to showrooming. This hypothesis is supported ($p = .005$). This is interesting and actionable. The findings regarding H6 and H7 together suggest that sales training is not as important as the number of sales personnel on the floor. This reinforces the notion that consumers get frustrated when they cannot find anyone to help them. Of course, the de-emphasis on training suggested by the non-significance of H6 must be interpreted within the range of consumer experience represented by our data. Within that

range, the sales personnel issue is more about availability, not quality.

In terms of contextual variables, perceived time pressure while shopping is negatively associated with showrooming ($p = .014$). Other contextual variables are not significantly related to showrooming. Price paid is also not significant ($p = .191$). In terms of the product category control variables, showrooming is positively associated with the computer category ($p = .035$) compared to clothing.

In summary, the results indicate that the expected gain in price is important for consumers' showrooming decision. However, there is a lot more to the story. Perceived dispersion in online prices relative to offline prices, favorable expected quality online, lower in-store salesperson availability, and lower online search costs are also important factors that are positively related to showrooming. The finding regarding price dispersion is consistent with analytical models of search but to our knowledge has not been demonstrated empirically before, certainly not with respect to showrooming. It is a nuanced argument that says there are two aspects of price — its level on average and the dispersion of prices one can find around that average on the Internet. Consumer perceptions of both of these contribute importantly to showrooming.

Robustness Checks and Additional Analyses

To assess the robustness of our results we re-estimated the logistic regression dropping non-significant variables. This is a good check for whether the non-significant variables in the

Table 5
Logistic regression of whether purchase is showrooming (1) or non-showrooming (0) (n = 566 respondents).

	Parameter	Std. error	p-Value	Odds ratio
Benefits of showrooming				
Average quality gain online	.236	.110	.032	1.266
Average price gain online	.379	.138	.006	1.460
Dispersion in quality online	−.121	.147	.413	.886
Dispersion in price online	.295	.111	.008	1.343
Costs of showrooming				
Search cost	−.312	.155	.044	.732
Waiting cost for delivery (R)	.030	.130	.818	1.030
Potential benefits or costs of showrooming				
Value of in-store information	.090	.164	.584	1.094
Quality of in-store salesperson	.060	.167	.720	1.062
Availability of in-store salesperson	−.314	.111	.005	.731
Consumer-related variables				
Shopping enjoyment	.053	.145	.714	1.055
Mavenism	.067	.139	.628	1.069
Internet experience	.059	.231	.798	1.061
Knowledge about buying product	.082	.083	.325	1.085
Anticipated regret	.122	.149	.411	1.130
Shopping-related variables				
Time pressure	−.332	.135	.014	.718
Loyalty to offline retailer	−.149	.116	.199	.862
Product-related variables				
Product performance risk	.102	.136	.452	1.108
Price	−.001	.001	.191	.999
Category			.066	
Shoes	−.525	.363	.148	.591
Sporting equipment	.074	.493	.881	1.076
Furniture	.201	.703	.775	1.223
Toys and games	.293	.375	.435	1.340
Kitchen supplies and appliances	.571	.401	.155	1.770
Computer	1.002	.474	.035	2.725
TV	−1.330	.839	.113	.265
Audio products	.179	.474	.707	1.196
Camera	.344	.844	.683	1.411
Constant	−.621	1.413	.660	.537

a. "R" means reversed scale, so that a higher value on this variable means shorter waiting times.

logistic regression created significant results. Our findings were that dropping non-significant variables ($p > .10$) did not change our conclusion regarding the significant variables.[7]

Since the variables we investigate are very rich, one could likely think of possible interactions. We tested for several interaction effects. However, we consider this analysis exploratory since the interaction effects we tested were not hypothesized and with our 18 variables (excluding the product dummies), there are $18 \times 17/2 = 153$ possible two-way interactions. We tested the interactions we thought were sensible.[8] For example, we tested whether time pressure moderates the relationship between online search costs. It is plausible that online search costs particularly make showrooming less likely among time-pressured consumers. Furthermore, time pressure could intensify the negative association between waiting cost for delivery and the propensity to showroom. Additionally, product performance risk and online search costs may interact. However,

none of these interactions was significant. In total, we explored 25 interactions. Only 3 interactions were significant, which signals they could be a statistical artifact. Moreover, the explanatory power of the models with interaction effects only slightly increases. Our finding of many insignificant interactions is in line with our empirical finding of no underlying segments. Apparently, the showrooming decision is strongly associated with benefits and costs and there is no strong heterogeneity in the effects of these benefits and costs on showrooming. Still, we will briefly discuss the three significant interaction effects.

We find a positive interaction between Internet experience and availability of in-store-personnel ($\beta = .386$, $p = .036$), which suggests the tendency of the availability of in-store personnel to reduce showrooming decreases with consumers' Internet experience. We find a positive interaction between gain in price and quality of in-store personnel ($\beta = .457$, $p = .002$), as well as between online search costs and waiting costs for delivery ($\beta = .342$, $p = .021$). For the latter, we might have expected a negative interaction, as one would assume that the negative effect of online search costs is intensified by higher waiting costs for delivery. The main effects for online search costs and waiting costs for delivery are both significant and

negative (β = −1.517, p = .006 and β = −.866, p = .032, respectively), so that the total effect is still negative. Overall, our exploration of the presence of interactions leads to only a few significant effects, and one is unexpected. We therefore are cautious with inferring the generality of these findings.

Discussion

Summary

We have studied the determinants of consumers' showrooming decisions, focusing on benefits and costs of showrooming, but also controlled for contextual factors. The benefits we investigated are: better quality and prices available online, on average, and higher dispersion in quality and prices available online compared to offline. The costs include online search costs and delay in obtaining the product. Factors that could be either benefits or costs were quality of information collected in-store, quality of sales personnel, and availability of sales personnel. We tested these factors using a survey of 556 representative respondents.

Our results are: (1) consumer perceptions that *on average*, better quality and price are available online are positively related to showrooming, (2) perceptions of larger price *dispersion* online are positively associated with showrooming, (3) online search costs are negatively related to showrooming, (4) greater availability of in-store sales personnel is negatively associated with showrooming, and (5) consumers' time pressure is negatively related to showrooming.

The findings regarding *average* quality and price are self-evident. However, the importance of price *dispersion* is not obvious. It is suggested by analytical models but these models have not been tested in the context of showrooming. The intuition is that higher dispersion indicates that there are really good deals online, better than what can be found offline on average. From another perspective, keeping the consumer's perception of average online price minus store price fixed, the expected value of this difference, given it is less than zero, becomes more negative and therefore more attractive as dispersion increases.[9] Note, however, that dispersion occurs on both the high and low sides of the average. This means it is possible that showroomers could end up paying a higher price online. However, clearly consumers view the online price situation as half full rather than half empty. They appear to be attracted by the chance of getting a really good deal. Of course it may take effort to find this deal. But we have controlled for online search costs, and still both average and dispersion of prices are statistically significant. Pan, Ratchford, and Shankar (2004) find significant dispersion in online prices. Casual examination of the current online retail environment suggests that dispersion is even greater today, as online price promotions have become *de rigueur*. This observation makes our finding even more relevant for managerial practice.

Our results regarding in-store service are also important. We found that within the range of experience of our respondents, the quality of sales personnel has no impact on showrooming,

however the *availability* of sales personnel does. That is, in-store sales personnel management is more a matter of quantity, not quality. Again we emphasize that this is within the range of our data. This is important because Rapp et al. (2015) found that perceived consumer showrooming may lead salespersons to serve consumers worse. It is possible that if due to other factors a retailer suffers from a lot of showrooming, the salesperson may so extremely mis-serve the customer that the service-quality variable becomes significant and showrooming increases.

Management Implications

Our paper has implications for the tug-of-war between online and offline retailing. Our findings suggest this tug-of-war is not just about price. Quality, search cost, and service perceptions also drive showrooming, and individually are as important as price. That is not to say that price is unimportant. The fact that online price dispersion increases showrooming potentially accentuates the price wars currently underway among online retailers. Casual examination of retail websites and emails suggests that price competition among online retailers is intense. Our findings foretell that online retailers will continue to stress price and especially price promotions that create dispersion. Online retailers will not only draw from each other but from offline retailers. Retailers who have both online and offline presence may be forced to offer offline price promotions to be consistent with their online pricing. Retailers need to strike a balance between offering enough price promotions to compete in the online marketplace while not so much as to erode offline profits or create disparity in their offline/online prices that can invite consumer dissatisfaction.

The non-price factors that drive showrooming provide offline retailers with ways to compete beyond price. Our results suggest that salespersons simply should be *available*. Casual observation suggests that stores, trying to cut costs to compete on price, have cut back on in-store personnel. This frustrates the consumer, even if in fact the consumer believes that salespersons do a good job (if s/he can find one), and makes the consumer more likely to showroom.

The finding that online search costs are negatively related to showrooming suggests that online shopping is not yet as easy as many online retailers would like to believe. Hence, online retailers should focus on decreasing online search costs to encourage showrooming. This should be facilitated as growth in mobile marketing decreases in-store search costs for products online (Shankar et al. 2016).

For the offline retailer, there are two approaches to address showrooming. One is to prevent it; the other is to live with it and hope that the showrooming leads to their website, not the competitors'. The first option has its adherents simply because it is more amendable to action. The question is what action? That is, "What can we do to decrease showrooming?"

To investigate this, we ran simple scenario analyses assuming the retailer did not want to decrease the average price yet, and wanted to know what else could be done to reduce the probability of showrooming. We used the logistic regression results in Table 5 to create scenarios comprised of

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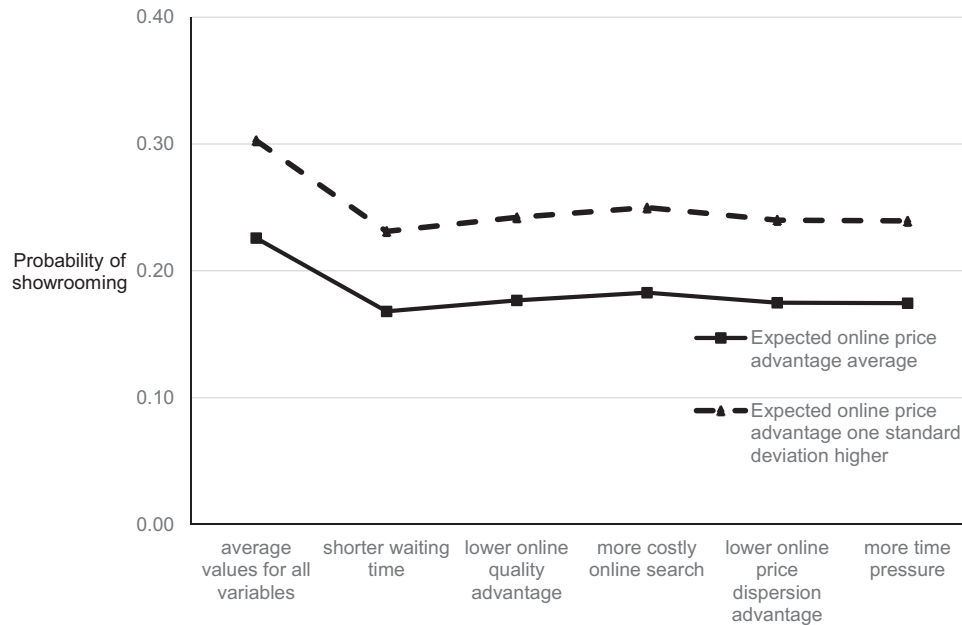[9] We thank the Editor for suggesting this reasoning.

Fig. 2. Impact of improving certain variables on the probability to showroom.

two levels of consumers' expected gain in price and two levels of one of the other significant determinants of showrooming. To demonstrate the importance of average price advantage, we computed the probability of showrooming when average price advantage was at its average level and one standard deviation higher, making showrooming particularly commonplace. Then we varied the other factors between average and one standard deviation below average (in favor of less showrooming). The results are shown in Fig. 2.

The leftmost numbers in Fig. 2 show the probability of showrooming with all variables set at their average and when the perceived average online price advantage is at one standard deviation above its mean. When everything is at average, the probability of showrooming is .23, while if price advantage is one standard deviation higher, the probability of showrooming increases to .30. Clearly the average price advantage of online is important.

But Fig. 2 shows these showrooming probabilities can be diminished by a favorable change in in-store salesperson availability, quality expectations, online search cost, time pressure, and price dispersion online. Retailers have the most direct control over their in-store salesperson availability, which can be addressed with more salespeople available on the store floor. If the retailer can improve perceived in-store salesperson availability by reducing the perceived waiting time to obtain sales help, the likelihood of showrooming decreases to .17 for the case of average online price advantage and to .23 for the case of higher than average online price advantage. This means the likelihood of showrooming goes from .23 to .17 at current averages when enough salespersons are hired. This is a 26.1% decrease in showrooming, and suggests that our results are not only statistically significant but have important effect sizes as well.

Increasing perceptions of online search costs and reminding shoppers of time pressure would also be worthwhile for the offline retailer. For example, an offline retailer could mount an advertising campaign emphasizing the convenience of shopping at the store ("where we have the service you want and the product you need") and downplay the convenience of shopping online (for example with ad copy showing the shopper skipping from one webpage to another and cluttering her/his browser with too many websites). This would be difficult, but our descriptive statistics (Table 3) suggest that not all customers find online shopping perfectly convenient. This could be emphasized in offline retailer advertising. While this strategy seems viable, we note that in fact online shopping is apt to become more convenient, not less convenient, in the future.

The price dispersion result suggests that offline stores could improve the perception of offline price dispersion by, for example, offering many price promotions to address showrooming (Fig. 2). This of course is a double-edged sword. It could decrease the perception that online is where the deals are. However, it could invite competitive reactions among other offline retailers and embroil these retailers in a promotional price war.

Overall, the most straightforward way to make showrooming less likely is simply to offer more sales personnel on the floor. This is back to the basics of what offline shopping is all about. Our results suggest that these additional salespersons do not have to be extraordinarily trained, since salesperson quality is not a significant influencer of showrooming (as long as it is within an acceptable range). Our results suggest that increasing the number of sales representatives is probably the first order of business for an offline retailer. Then the retailer should do what it can to decrease the quality advantage consumers perceive in online shopping, and communicate that online shopping is not as easy as it is cracked up to be.

Implications for Future Research

While we believe our results are interesting, important, and the first to focus on channel-related reasons for showrooming, our findings as well as the limitations of our work suggest several avenues for future research.

First regards the novel and intriguing finding that consumers have meaningful perceptions of online price dispersion that increase their proclivity to showroom. It would be useful to pinpoint exactly why price dispersion has such an impact. After all, more dispersion suggests the shopper could lose out by showrooming, or if not, have to expend a lot of effort to find the low tail of the price distribution. Our findings suggest consumers look past these potential obstacles and attend more to the optimistic view of price dispersion than the pessimistic view. We need to learn more what governs these viewpoints.

Second, to ensure vividness and external validity of our survey, we had respondents focus on the most recent purchase occasion. However, the data are still self-report on a purchase that may no longer be top of mind. The things we asked the respondents to remember, for example, did they expect that better quality would be available online, were difficult to answer. That we found significant results for this variable attests to its power, but still, the survey required significant respondent burden. We encourage future studies to develop methods to obtain the required data more easily. In addition, the impact of how recently the customer purchased the product category would be an interesting potential factor affecting the decision to showroom. In an effort to decrease respondent burden, we did not ask respondents to recall the time pressures they felt at the purchase occasion they evaluated. This is another factor that could be researched. Although, we did not find statistical evidence for many considered moderating effects, future research may investigate moderating effects in greater detail such as the moderating role of time pressure in a specific shopping situation. Experimental research can be useful, where, for example, time pressure can be manipulated. While we discussed earlier the steps we took to mitigate potential survey biases, we cannot rule out that selection, fatigue, recall, and hindsight biases did influence our results. This suggests further research to replicate and extend our results, using survey or laboratory experiments. Finally, in our efforts to lessen respondent burden, we did not ask respondents to report their offline or online experience with buying the specific category they evaluated. However, we measured general Internet experience and found this not to be significant. Future research should measure offline and online experience in more detail.

Our study focused on "competitive showrooming," which we defined as searching offline in Retailer A but purchasing online from Retailer B. However, as van Baal and Dach (2005) show, it is possible that the consumer will search on Retailer A's store *and* purchase online from Retailer A. This suggests several avenues for future research regarding competing in a showrooming environment. For example, what are the implications of showrooming for price competition online *and* offline? How should retailers with an online *and* offline presence manage showrooming, and how do these retailers balance their desire to prevent showrooming from driving the consumer to another retailer's website with not minding if the consumer gets driven to their own website? Strategically, does showrooming benefit online retailers, offline retailers, online/offline retailers, or consumers in equilibrium? Consumers should benefit from showrooming — it is a credible threat to the offline retailer that should improve offline service, quality, and prices. However, this needs to be resolved by future research. We hope our research provides the impetus for such inquiry.

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