WEBROOMING: A WAY OF DEALING WITH UNCERTAINTIES IN PURCHASING

WEBROOMING - PREGLEDAVANJE INFORMACIJA O PROIZVODU NA INTERNETU PRIJE KUPOVINE U FIZIČKOJ PRODAVAONICI: NAČIN NOŠENJA S NESIGURNOŠĆU PRI KUPOVINI

MARKET TRŽIŠTE

Market-Tržište
Vol. 31, No. 2, 2019, pp. 139-152
UDK 658.89:159.947.2:658.84(474.5)
DOI http://dx.doi.org/10.22598/mt/2019.31.2.139
Original scientific paper

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Abstract

Purpose – This study aims to analyze ways in which uncertainty-related factors influence the intention of webrooming, a cross-channel buying behavior. The authors suggest that four factors (uncertainty avoidance, risk aversion, anticipated regret, and the need for touch) differ in their nature and, therefore, may exert different (direct or indirect) influence on the webrooming intention.

Design/Methodology/Approach – The SEM analysis was applied to online survey data obtained in Lithuania.

Findings and implications – The study confirms that uncertainty avoidance and risk aversion, as quite broadly conceptualized factors, have an indirect influence on the webrooming intention that is mediated by Internet mavenism. As anticipated regret is a more transaction-related factor, its influence on the webrooming intention is direct. Due to its specific nature, the need for touch has both direct and indirect influence on the webrooming intention. These findings contribute to filling the gaps in scientific knowledge in two ways. First, the study makes the first attempt to categorize uncertainty-linked antecedents in webrooming context and then assess the type of influence they exert. Second, it shows the direction and strength of the measured relations in the

Sažetak

Svrha – Cilj je rada analizirati na koje načine čimbenici povezani s nesigurnošću utječu na namjeru webroominga (pregledavanje informacija o proizvodu na internetu prije kupovine u fizičkoj prodavaonici) kao oblika višekanalnog kupovnog ponašanja. Autori sugeriraju da se četiri faktora (izbjegavanje nesigurnosti, odbojnost prema riziku, očekivano žaljenje i potreba za dodirom) razlikuju po svojoj prirodi pa takomogu imati različit (izravan ili neizravan) utjecaj na namjeru webroominga.

Metodološki pristup – Korišteno je modeliranje strukturnih jednadžbi (SEM), podatci su prikupljeni anketiranjem putem interneta u Litvi.

Rezultati i implikacije – Rad potvrđuje da izbjegavanje nesigurnosti i averzija prema riziku, kao prilično široko konceptualizirani čimbenici, imaju neizravan utjecaj na namjeru webroominga, uz posredovanje znanja i vještina u korištenju interneta (internetmavenism). Očekivano žaljenje je čimbenik više povezan s transakcijama, stoga je njegov utjecaj na namjeru webroominga izravan. Zbog svoje posebne prirode potreba za dodirom ima i izravan i neizravan utjecaj na namjeru webroominga. Ovi nalazi doprinose popunjavanju jazova u znanosti na dva načina. Prvo, studija predstavlja prvi pokušaj kategorizacije s nesi-

context of apparel product category. Additionally, it has managerial implications for retailing: cross-channel behavior in this category is largely triggered by uncertainty-related factors.

Limitations – Webrooming intention was assessed only in one product category (apparel). Search results should be broadened to include other product categories. Moreover, the uncertainty-related factors of webrooming intention should be tested together with other types of factors that are important for this intention.

Originality – The variety of factors used to investigate the influence on webrooming intention is quite broad. This study aims to acknowledge the influence of uncertainty-related factors on webrooming intention. Currently, scientific knowledge on this relationship is rather scarce.

Keywords – cross-channel buying, webrooming, uncertainty

gurnošću povezanih prethodnica u kontekstu webroominga i procjenjuje njihov tip utjecaja. Drugo, pokazuje smjer i snagu mjerenih odnosa u kontekstu kategorije odjevnih predmeta. Dodatno, nudi menadžerske implikacije za maloprodaju: višekanalno kupovno ponašanje potrošača za promatranu kategoriju proizvoda u velikoj je mjeri pod utjecajem čimbenika povezanih s nesigurnošću.

Ograničenja – Namjera webroominga procijenjena je u samo u jednoj kategoriji proizvoda (odjevni predmeti). Rezultate istraživanja treba proširiti i na druge kategorije proizvoda. Nadalje, s nesigurnošću povezani čimbenici namjere webroominga trebaju se istražiti zajedno s drugim vrstama čimbenika važnim za ovu namjeru.

Doprinos – Raznolikost čimbenika koji se koriste za otkrivanje utjecaja na namjeru webroominga prilično je velika. Rad potvrđuje utjecaj čimbenika povezanih s nesigurnošću na namjeru webroominga. Trenutne znanstvene spoznaje o ovom odnosu prilično su oskudne.

Ključne riječi – višekanalno kupovno ponašanje, webrooming, nesigurnost

UDK 658.89:159.947.2:658.84(474.5)

1. INTRODUCTION

Online shopping, as an alternative channel to traditional retailing, is being increasingly encouraged by the development of online stores (Gensler, Verhoef & Bohm, 2012). Apparently, these two shopping options represent two major purchasing channels: traditional and online. However, at least two more alternatives are available for buyers, if one stage of a purchasing process is performed online and the other offline, i.e. if buyers change the channel during the purchasing process (Addis, 2016). Their behavior, when information search takes place offline while purchasing is done online, is known as showrooming. The opposite sequence is webrooming, where a customer uses an online environment to obtain information about product attributes and price, performs comparisons in order to narrow alternatives, but finally completes the purchase in a store (Wolny & Charoensuksai, 2014). These two channel-changing behaviors pose a challenge for retailers in their attempt to keep buyers within their channels during the customer journey (Gensler, Neslin & Verhoef, 2017). At the same time, switching behaviors may be beneficial to retailers because multichannel customers are buying more frequently (Pauwels & Neslin, 2015) and spending more than do the users of a single channel (Kushwala & Shankar, 2013; Montaguti, Neslin & Valentini, 2015).

It is obvious that the Internet provides a broad set of opportunities to search for product-related information, and the Internet search is widely used (Arora, Singha & Sahney, 2017). However, in many cases an Internet search does not result in an Internet purchase, that is to say, buyers prefer finalizing their purchase in a regular store. According to ROBO 2018 report, 45 % of in-store consumers read online reviews before purchasing at a store; over a period of one year, this number increased by 15 %. So, the question is what factors influence buyers in their decision to complete the purchasing process in a regular store rather than doing it online, in other words, what triggers their webrooming.

Notwithstanding the fact that the issue is relatively new, a certain amount of tangible evidence on the factors impacting the webrooming intention is already available. Webrooming may be linked with the buyers' willingness to reduce purchase-related risks and uncertainties by using a physical contact with a product in a store just before purchasing (Flavian, Gurrea & Orus, 2016). Personal characteristics, such as risk aversion and uncertainty avoidance, seem to be the most essential drivers of this behavior (Flavian et al., 2016). Additionally, anticipated regret in case of incorrect purchasing decisions made might also be an important predictor of the webrooming intention (Gensler et al., 2017). Taking into account that the scientific knowledge on the influence of these factors on the webrooming intention remains rather scarce, the current study aims to address this research gap.

2. LITERATURE REVIEW

2.1. Decision under uncertainty

The decision-making process presents a broad field of research and includes many aspects of its analysis. Since the process happens with a certain degree of uncertainty, many studies on decision-making put a specific emphasis on the uncertainty and risks (Hellman, Grisan, Houser, Miclea & Miu, 2010). In this study, we focus only on a narrow range of uncertainties that are linked with the use of a purchasing channel within a buying process.

Purchasing behavior is a type of decision-making/problem-solving behavior; the acquired goods are aimed at satisfying certain needs (Flavian et al., 2016). The level of need satisfaction is not always satisfactory; the outcome may include regret and disappointment as a physical reaction to a result that does not match expectations (Bell, 1985). It is also attributable to various levels of uncertainty where each purchase may produce a variety of outcomes, with the probability of each outcome remaining unknown (Busemeyer, 1985).

Reducing uncertainty is a fundamental human motivation (Hogg, 2011) that encourages behaviors perceived to be less risky and maximizing the positive effect of an outcome (Hu, Liu & Zhang, 2008). Uncertainty avoidance is an important factor that helps to decide: therefore, in the case of two or more similar options, buyers tend to choose the one they are more certain about (Klibanoff, Marinacci & Mukerji, 2005). Since uncertainty is often linked with a lack of knowledge (Schultz, Mitchell & Harper, 2010), the reduction of uncertainty is associated with the acquisition of relevant information before a decision is made. Thus, in the context of uncertainty, the presence of several types of factors that influence the buyer's behavior can be observed.

First, buyers not only differ by their personal characteristics but are also different according to the degree of their sensitivity to uncertainty. Therefore, uncertainty avoidance may be assessed as a generic personal characteristic, representing the degree of personal susceptibility towards uncertainties (Jung & Kellaris, 2004). Though originating from a different theoretical background, a similar generic characteristic is risk aversion – a mental orientation that describes human approach to decision making (Bao, Zhou & Su, 2003).

Second, buyers are concerned with the outcome of a particular purchase which involves assessing the anticipated regret – a typical factor of behavioral intentions in purchasing (Sheeran & Orbell, 1999). Stemming from the regret theory (Loomes & Sugden, 1982), anticipated regret is much closer oriented towards the specific outcome of a transaction and seems to have a more direct influence on buying intentions than the two generic factors mentioned above.

Additionally, buyers with high levels of uncertainty avoidance may be unwilling to purchase online in the cases where the product requires haptic evaluation (Lee, Workman & Jung, 2016), expressed by the need for touch as a specific way of obtaining information about products (Peck & Childers, 2003). Though the need for touch can be interpreted as a general personal characteristic, it may also be associated with the specifics of a purchasing process and product (Manzano, Ferran, Gavilan, Avello & Abril, 2016). The need for touch works in favor of using a non-Internet purchasing channel or webrooming, which combines the convenience of the Internet search with physical contact with a product in a store.

2.2. Webrooming behavior

Although the purchasing process may involve a various number of phases, the most universal way is to examine two of them: pre-purchase and purchase (Balasubramanian, Raghunathan & Mahajan, 2005; Elliot, Fu & Surgi Speck, 2012). In this case, the first phase is linked with the search and analysis of information and the second with finalizing the purchasing decision, i.e. the act of purchasing (Gensler et al., 2017). The whole purchasing process in traditional stores may occur within one channel, that is, searching and buying may happen either entirely online or offline. Both these channels are well-known to buyers: the traditional retailing has naturally been used for a long time; contemporary consumers feel confident in browsing the Internet and making online transactions (Arora et al., 2017).

Though information search and purchasing on the Internet is getting increasingly more convenient (Elliot et al., 2012), its strongest advantage consists in convenient information gathering and making comparisons. The traditional in-store shopping process requires larger motor efforts, yet it offers better opportunities to assess product quality (Balasubramanian et al., 2005). In case this is important to a buyer, the Internet channel might be a less attractive option mainly because it does not provide the opportunity to touch products (Verhoef, Neslin & Vroomen, 2007) in order to directly evaluate product-specific characteristics by physically assessing product quality (Balasubramanian et al., 2005). Thus, buyers seem to perceive the Internet as a convenient channel for information gathering, but a riskier tool for completing the purchase; 64 %

of consumers choose the Internet as a search channel, but only 13 % of them finalize their purchase online (Verhoef et al., 2007). The remaining ones change the channel in the process of purchasing, thus demonstrating webrooming behavior.

The completion of the buying process is not restricted to the use of only one purchasing channel. As an alternative, after the first phase, a buyer may change channels from an online to a traditional one and vice-versa, thus, cross-channel behavior is observed. Typically, the change of channels occurs when either the utility of using a channel (e.g. informativeness, accuracy, enjoyment, etc.) is increased or when the costs of using it (e.g. time, cognitive efforts, etc.) change (Elliot et al., 2012). In the modern multichannel environment, this happens quite frequently (Sands, Ferraro, Campbell & Pallant, 2016) because cross-channel purchasing is enabled by consumer mobility and ambiguity (Chou, Chuang & Shao, 2016).

Webrooming (searching online but finishing the purchase in a regular store) is a common behavior demonstrated by two-thirds of consumers (Kollmann, Kuckertz & Kayser, 2012). This is so because, in a regular store, people are better able to assess the product size, it colors and other features (Daunt & Harris, 2017) and reduce the possibility of regret of the purchase. Since finalizing a purchase in a store often allows an examination of the physical features of a product by touching it, a combination of online and offline channels enables consumers to reduce uncertainty and to make decisions with higher confidence (Flavian et al., 2016; Arora & Sahney, 2017). This is even more important for previously dissatisfied consumers, who tend to require a stronger assurance about their purchase quality; thus, in this case, multichanneling may serve as an alternative risk-reducing strategy (Elliot et al., 2012).

All these arguments make webrooming an important purchasing behavior that warrants a closer look by researchers. Studies on the issue report that the level of involvement influences the manner in which purchase mechanisms apply to specific categories and purchases (Gensler et al., 2017; Puccinelli et al., 2009) and also that an important role is played by channel experience/expertise (Gensler et al., 2012). However, a more in-depth analysis of antecedents of webrooming is required to better understand this important type of buyer behavior.

2.3. Factors influencing webrooming

2.3.1. Uncertainty avoidance

One of the most important personal needs is to feel safe and certain about decision outcomes; this feeling rewards consumers with confidence about their behavior. Uncertainty reduction can trigger various behaviors; for instance, people try to reduce uncertainty by searching for additional information regarding an issue of interest (Hogg, 2011). In a purchasing context, uncertainty may describe the feeling of being uncertain not just about a product, but also about a purchasing channel and having doubts about a purchase using that channel (Sahadev, 2008). When buying online, buyers look for a sufficient amount of information to be certain about their purchase (Hu et al., 2008; Lee et al., 2016, Ozretic Dosen, Brlic & Komarac, 2018). When a website is unable to provide appropriate information that helps in dealing with uncertainty, a buyer is forced to choose another channel (Addis, 2016). On the other hand, buyers who aim to be certain about things may prefer staying on one channel just because the act of switching between channels already includes additional uncertainty (Gupta, Su & Walder, 2004). All this confirms that uncertainty avoidance may be considered an important, but rather general and multifaceted factor in the webrooming context.

2.3.2. Risk aversion

Risk aversion is defined as the extent to which people feel threatened by ambiguous situations and have created beliefs in order to avoid these (Bao et al., 2003). As purchasing processes might also be perceived as being risky, scholars consid-

er risk aversion to be among the antecedents of purchasing (Bart, Shankar, Sultan & Urban, 2005).

In the majority of instances, purchasing online, compared to offline, is perceived to be riskier, mostly due to the fact that buyers are asked to provide their personal data via an online channel (Bart et al., 2005; Ganesh, Reynolds, Luckett & Pomirleanu, 2010; Verhoef et al., 2007). Risk-averse buyers may perceive the option of searching for information online but making a final purchase decision in-store to be less risky (Verhoef et al., 2007). Risk-averse individuals have doubts regarding the evaluation of products only online, so they tend to choose brick-and-mortar for their purchase (Gupta et al., 2004); people with low risk aversion are less afraid of ambiguous and novel situations (Bao et al., 2003). Six out of nine studies have found that the perceived purchase risks have a significantly negative impact on the intention to buy products online (Chang, Cheung & Lai, 2005), which means that risk-averse people prefer to be less involved with the Internet shopping (Martinez-Lopez, Luna & Martinez, 2005). These studies support the idea that risk aversion is a strong reason to choose a different channel for the final stage of purchasing, that is, to webroom.

2.3.3. Anticipated regret

Regret is described as an outcome of a decision-making process when consumers compare the current outcome with the one that could have been achieved if they had chosen differently (Loomes & Sugden, 1982). This is most important when there are strong alternatives available (Butler & Highhouse, 2000). Generally, this means that consumers anticipate and avoid a loss which could result from a purchase (Loomes & Sugden, 1982). The process of considering a purchase might encourage consumers to look for information in other channels or even to switch between channels to escape regret over their decisions (Gensler et al., 2017). The anticipated regret is a strong factor of many behavioral intentions (Kaiser, 2006; Sheeran & Orbell, 1999) and should be considered in the analysis of webrooming intentions.

2.3.4. Need for touch

The power of touching a product increases confidence in evaluating it (Peck & Wiggins, 2006). The reasons why consumers are willing to touch products vary; one type of needs includes seeking to touch products in order to get information/quality assurance (an instrumental need for touch) while another is aimed at enjoyment (an autotelic need for touch) (Peck & Childers, 2003). There are studies reporting that consumers with a low level of need for touch have a more positive attitude towards buying online; consumers with high levels of need for touch show a more favorable attitude towards purchasing in a physical store (Flavian, Gurrea & Orus, 2017; Manzano, Gavilan, Avello & Abril, 2016). Although the overall amount of information provided online can be enormous, consumers who value haptic information are less willing to purchase if they cannot touch a product and believe that an Internet channel alone does not provide the same level of information about the product if compared with a physical store (Peck & Childers, 2003; Rodriguez, Silva & Duarte, 2017). The importance of trial/touching differs across product categories. There is a strong relationship between the consumer's need for touch and the product type (Manzano et al., 2016). ROBO research (2018) has found that, before buying in a store, consumers search online when acquiring appliances in 59 % of cases, when it comes to fashion goods in 58 % and when buying toys in 53 % of cases.

This leads to the argument that the need for touch is one of the webrooming antecedents that help in dealing with uncertainties related to buying. In this sense, it may be analyzed together with other factors of similar nature: uncertainty avoidance, anticipated regret, and – especially – risk aversion, since people who look for information online but make a purchase at a traditional store are more risk averse than online shoppers (Schroder & Zaharia, 2008).

2.3.5. Internet mavenism

Webrooming is a behavior that requires expertise in two purchasing channels. Purchasing offline is not only common among most people, but also requires hardly any special infrastructure-related buying skills. However, the use of an online channel (searching, analyzing) requires expertise/experience in using online sources. This can be formulated as the Internet mavenism – a set of personal skills required to use an online channel for searching information, for communication, purchasing or other online actions (Feick & Price, 1987). Internet mavens (or Internet savvy buyers) are knowledgeable, their engagement is deeper, and they seek to utilize the seller's resources for their own benefit (Daunt & Harris, 2017). This means that Internet savvy consumers are more likely to use two purchasing channels in order to maximize the gain from both of them because they have expertise dealing with both.

3. METHODOLOGY

3.1. Hypotheses

The development of hypotheses is based on the broad theoretical background of studies about behavioral uncertainties and two theoretical insights that are directly linked with purchasing process: (a) need for touch, as an important factor for the consideration of webrooming versus the on-line purchasing; and (b) Internet mavenism, which includes complex interactions with on-line behaviors. The relationship between the analyzed uncertainty-related factors (need for touch, uncertainty avoidance, risk aversion, anticipated regret) and the webrooming intention still requires in-depth understanding. There are two research approaches that are appropriate for an exploratory study: (a) testing all possible relations in the model in order to perform the very basic type of the exploration; and (b) testing only the relationships that are directly in line with the idea and theoretical considerations of the current research (though not neglecting the possibilities of other relationships). This study follows the second approach, since it is aimed to conceptualize the known specificity of the analyzed factors and predict similarities/differences of their influences on the webrooming intention. This approach allows the inclusion of webrooming-specific theoretical considerations regarding the factors that are used in the study in the attempt to fill knowledge gaps regarding webrooming behaviors. Therefore, the hypotheses and research model include only the relationships that follow from the conceptual understanding of the nature of links between factors.

This study is pioneering when it comes to emphasizing the importance of the need for touch in the context of webrooming. There are strong reasons to believe that the need for touch might be a critical factor that motivates buyers to webroom rather than to make all the purchasing steps online (which may be an important direction for further research). However, in order to do that, the type of the relationships between the need for touch and webrooming intention has to be conceptualized and tested.

There are strong reasons to assume that the need for touch is a factor that has a two-fold influence on the webrooming intention.

First of all, it is a specific, transaction-oriented factor that is closely linked with the types of products; many products, before their purchase, require a tactile interaction (Lee et al., 2016). This sensory element helps buyers to make the final decision, as the need for touch is important in the purchasing stage in order to get additional information and better understand the value of the product (Manzano et al., 2016). The argument about its direct relationship with webrooming is additionally supported by the fact that a higher need for the touch level was found among buyers who performed the Internet search but made their purchase in a physical shop (Manzano et al., 2016). This allows the authors to develop the following hypothesis:

H1: The need for touch has a direct positive influence on the webrooming intention.

However, the need for touch may be understood as a more generic personal characteristic – the desire to touch products before purchasing (Flavian et al., 2017). This interpretation means a more general factor that may influence webrooming in other ways than just directly. For instance, the need for touch may be interpreted as a form of receiving additional information in order to reduce uncertainties (Flavian et al., 2017). Based on this interpretation, the need for touch guides people towards receiving information in many ways, thus, triggering the development of information-gathering skills. This allows us to expect that the need for touch motivates the development of online searching skills and the overall Internet mavenism and that, in turn, it will indirectly have a positive influence on the webrooming intention, mediated by the Internet mavenism:

H2: The need for touch has an indirect positive influence on the webrooming intention, mediated by the Internet mavenism.

Webrooming requires buyers to have certain Internet-linked skills. The better the skills, the easier the search for products, their comparisons, and other functions that make the first phase of webrooming. Consumers who can be describe as Internet mavens are confident in themselves, enjoy browsing for information, and are comfortable with it (Daunt & Harris, 2017). This allows assuming that Internet mavenism also mediates the influence of uncertainty avoidance on the webrooming intention:

H3: Uncertainty avoidance has an indirect positive influence on the webrooming intention, mediated by Internet mavenism.

Risk aversion is a general and in-depth attempt of people to lower uncertainty and is not necessarily linked with webrooming or even with a purchasing process. Risk aversion negatively influences many types of activities that may be perceived to involve risk. The current state of knowledge does not allow predicting the direct influence of risk aversion on the webrooming intention because it is contradictory: risk aversion will negatively influence the first stage of webrooming (a rather "risky" activity of searching online) but will perhaps positively influence the second stage, that is, purchasing in a "safe" regular store. However, it is possible to predict that risk aversion might negatively affect Internet mavenism, as a personal characteristic, developed on the basis of risky Internet-related activities. The more people perceive the Internet to be risky, the less likely will they be to make Internet purchases. Based on this, the overall indirect influence of risk aversion on the webrooming intention will also be negative:

H4: Risk aversion has an indirect negative influence on the webrooming intention, mediated by Internet mavenism.

Anticipated regret, on the contrary, seems to be specifically focused on an outcome of a specific transaction; it has a direct influence on purchase decisions (Gensler et al., 2017; Kaiser, 2006) and strengthens the intention to use a form of purchasing that is assumed to have a lower probability of regret related to a purchase. Therefore, it is predictable that anticipated regret will have the direct influence on the webrooming intention:

H5: Anticipated regret has a direct positive influence on the webrooming intention.

3.2. Measures and the sample

The survey questionnaire was developed on the basis of scales that have been used in former studies and found to have appropriate reliability (Cronbach's alphas between 0.67 and 0.92); all the statements were measured on a 7-point Likert scale. The need for touch was measured on the scale developed by Peck and Childers (2003). Since this study concentrates on the instrumental need for touch that aims to reduce the shortage of information, which helps reduce uncertainty about a decision (Flavian et al., 2017), the survey used 6 items from the original number of 12. Anticipated regret was measured using a 4-item scale developed by Gensler and

others (2017); uncertainty avoidance was tested on the scale used by Jung and Kellaris (2004). The 3-item risk aversion scale was adopted from Bao and others (2003) while Internet mavenism was measured on a 6-item scale taken from Feick and Price (1987). The webrooming intention scale was adapted from a 4-item scale proposed by Nirmala and Dewi (2011) that was originally designed to measure the intention to purchase online. The product category examined was apparel. The choice of product category relies on research by Flavian and others (2017), who found that 48 % of European consumers searching for information online and placing an order offline usually buy clothes. The webrooming intention was measured by asking respondents to concentrate on their intentions regarding apparel products, since tactile sensory attributes in this product category are particularly important (Manzano et al., 2016). Additionally, their basic demographics (gender, age, education, and income) were recorded.

The survey was done in Lithuania. After removing one incomplete questionnaire, the analysis was based on 263 responses from a sample that included 21.61 % of men and 78.39 % of women. The majority of respondents (72.53 %) were between 25 and 34 years old. Almost half of them had a master's or bachelor's degree in education. Based on the income, they were placed in three groups of almost identical size (74 respondents earning EUR 401-700 per month, 65 earning EUR 701-1000, and 79 more than EUR 1300). In this survey, the number of items in the abovementioned scales was reduced using a skewness/kurtosis check (one item removed from the need for touch scale) and exploratory factor analysis (maximum likelihood, extraction; Promax rotation with Kaiser normalization). This resulted in a total of 6 factors with cumulative Eigenvalues of 67.864 and cumulative extracted sum of squared loadings of 58.185. The factors showed appropriate levels of reliability: the need for touch (instrumental) – 4 items, α=0.847; Internet mavenism – 5 items, α=0.881; risk aversion – 3 items, α=0.740; anticipated regret – 4 items, α=0.816; uncertainty avoidance – 5 items, α=0.818; webrooming intention – 5 items, α=0.886.

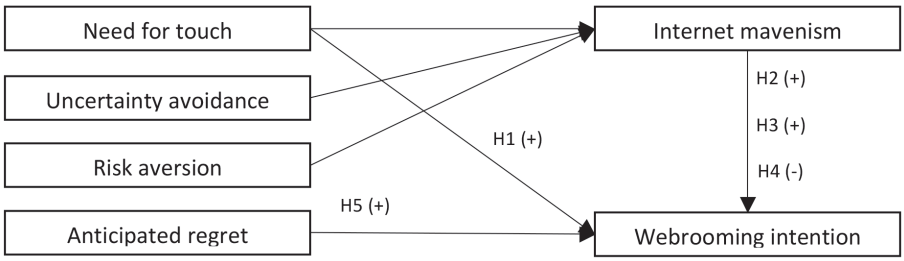
4. RESULTS

The confirmatory factor analysis (CFA) enabled further refining of factor measurements, so one more item was removed from the uncertainty avoidance scale. The validity test showed no validity concern after one item was removed from the scale of risk adversity and one from that measuring uncertainty avoidance. A common latent bias test came back positive (difference in chi-squares=75.4; difference in df=22; p=0.000). Therefore, the common method bias corrected method was employed (the common latent factor was used in the imputation). Cook's distance analysis showed no influentials; multilinearity check and tolerance/VIFs were within the acceptable thresholds to proceed with no alterations.

The final model fit was acceptable (CMIN/DF=1.451, CFI=0.976, TLI=0.965, RMSEA=0.041, PCLOSE=0.464).

The causal model fit (Figure 1) was also appropriate: (CMIN/DF=1.468, CFI=0.996, TLI=0.978, RMSEA=0.042, PCLOSE=0.466). This allowed testing of the hypotheses.

FIGURE 1: Research model



Hypotheses H1 and H5 tested the existence of a direct positive correlation between the need for touch, anticipated regret, and the webrooming intention. Both hypotheses were confirmed (Table 1).

TABLE 1: Regression weights – direct effects

			Regression weights	S.E.	C.R.	P	Standardized regression weights
Webrooming intention	←	Need for touch	0.195	0.065	2.984	0.003	0.186
Webrooming intention	←	Anticipated regret	0.345	0.087	3.960	***	0.241

The indirect effects of the need for touch, uncertainty avoidance, risk aversion (H2, H3, H4) on the webrooming intention appeared as they had been predicted: the need for touch and uncertainty avoidance had an indirect positive influence on the webrooming intention, while risk aversion had an indirect negative influence on the webrooming intention (Table 2). All the effects were statistically significant.

TABLE 2: Regression weights – indirect effects

	Need for touch	Risk aversion	Uncertainty avoidance
Webrooming intention	0.028	-0.047	0.041

5. DISCUSSION, LIMITATIONS AND FURTHER RESEARCH

The current study shows the results similar to those obtained by Flavian and others (2016) and confirms that the need for touch has a positive influence on the webrooming intention. It seems that the impact of general knowledge on this relationship is already substantial, though future studies may undertake assessing its variations on the product category basis.

There are very few studies that analyze anticipated regret as an antecedent for cross-channel behavior, and only the case of showrooming has been studied (Gensler et al., 2017). The current research study confirmed its importance in webrooming behavior and direct influence of anticipated regret on the webrooming intention, as expected from the transaction-related factor.

In this study, Internet mavenism was found to have a significant ($p<0.05$) influence on the webrooming intention, which is in line with earlier findings presented by Zhang and Lee (2014). This confirms the role of Internet expertise in webrooming behavior, and additionally justifies

the use of this factor as a mediator for indirect effects.

The current study revealed indirect effects (mediated by Internet mavenism) of the need for touch, uncertainty avoidance, and risk aversion on the webrooming intention. This finding has a twofold value: first, it confirms the mediation effect of Internet expertise, and second, it allows identifying the negative indirect influence of risk aversion on the webrooming intention. As the direction of this influence has been rather unclear, the present study reveals initial knowledge on this issue. Indirectly, it continues the observation of Kailani and Kumar (2011), who posited that consumers feel a higher risk when they do not have enough knowledge, yet their Internet savviness is able to reduce this risk.

However, this study has certain limitations that partly outline the directions for potential further research. First of all, it has assessed the intention of webrooming in only one product category (apparel). This approach is justified in an exploratory study; however, further research has to broaden the scene by considering more product groups. Also, the uncertainty-related antecedents of the webrooming intention should be tested together with the factors of other types that are important for this intention. One more opportunity for further examination may be found in using the actual webrooming behavior (instead of its intention) as a dependent variable.

However, one of the main directions for future research lies in assessing the need for touch role in predicting the preference/switching between online, webrooming, and offline behaviors. This becomes possible on the basis of findings of the current study that explored the direct and the mediated impact of this variable on the webrooming intention.

Finally, the present exploratory study did not intend including all groups of variables. Probably the most promising direction for expanding the scope of the analysis performed should include purchase-related factors. Elliot and others (2012) suggest that perceived benefits and perceived purchasing costs should be considered as potentially the most important variables for the assessment of webrooming and for its comparison with other types of purchasing.

Although this study is exploratory, it allows developing some managerial implications. First of all, it discloses the importance of uncertainty and risk-related factors on the webrooming intention. This allows stating that the webrooming option to buy could be promoted to segments that are more sensitive to purchasing risks. Second, the above recommendation is even stronger for the segments that have a high need for touch and, especially, the products that are closely related with this personal trait (such as, in the apparel category). Third, webrooming behavior is linked with the expertise of buyers in Internet use. Though it is not directly assessed in this study, webrooming might be considered a more appropriate form of purchasing for the buyers who are less Internet savvy and/or less willing to disclose private/financial data when completing a purchase online. This category of buyers would appreciate a convenient process such as webrooming, if retailers could create it.

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