

PERSONAL DETERMINANTS OF ONLINE SHOPPING FRUSTRATION AND ITS INFLUENCE ON CONSUMERS' POSITIVE WORD OF MOUTH

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ABSTRACT

The purpose of this paper is to analyze the influence of several consumer characteristics (gender, age, education, agreeableness, conscientiousness and prior online experience) on consumers' frustration levels with retail website performance in the online shopping process, as well as the impact of frustration on consumers' positive word of mouth (WOM) communications. Data from 398 online consumers show that male, older, less educated, more conscientious, less agreeable and less experienced consumers on the Internet are more easily frustrated when buying online and that this frustration influences WOM negatively. This is one of the first studies to examine the influence of key consumer personal antecedents of frustration in the context of online shopping and the effect of frustration on WOM. Although many of the incidents that occur on the Internet are unpredictable and, hence, hard to control, personal factors related to frustration are more predictable and, therefore, to some extent, easier to address. Our findings provide insights into the consumers' characteristics that most easily cause frustration when purchasing online and, consequently, this study provides several guidelines for online retailers to facilitate the online shopping process to specific segments of online consumers.

Keywords: Frustration; Online shopping; Consumer's personal characteristics; Positive WOM

1. Introduction

The commercial use of the Internet is increasing. According to the Census Bureau of the Department of Commerce [2014], total e-commerce sales for 2013 were estimated at \$263.3 billion, an increase of 16.9 percent from 2012. However, online purchasing is sometimes a source of consumer frustration. Annoying experiences like error messages, dropped network connections, long download times, and hard-to-find features happen on a frequent basis on the Internet [Ceaparu et al. 2004; Kukar-Kinney and Close 2010; Lee et al. 2012], and in such situations consumer frustration is a plausible and frequent reaction [Maldonado and Resnick 2002; Cenfetelli and Benbasat 2003; Bessière et al. 2006]. In fact, data from several surveys reveal that more than half of Internet users encounter frustration and/or anxiety in the course of online shopping [Pew 2008; ATG 2009].

Research on consumer frustration into online shopping has been mainly devoted to understanding website-related factors like site design, information and communication features and/or usability of the website [e.g., Maldonado and Resnick 2002; Éthier et al. 2006; 2008; Kukar-Kinney and Close 2010]. Importantly, the computer anxiety and frustration literature [e.g., Nash and Moroz 1997; Ceaparu et al. 2004; Bessière et al. 2004; 2006] indicates that the levels of frustration reached by the person when using computers vary significantly depending on the user's personal¹ characteristics (e.g., demographics, psychographics, computer experience). For example, user attitudes/self-efficacy variables related to technology usage are key factors in explaining how frustrated individuals can become when they encounter a problem while using a computer or technology-based application [Lazar et al. 2003; Bessière et al. 2004; 2006; Lazar et al. 2006], and evidence exists that different customer segments in terms of their technology attitudes/self-efficacy also differ significantly in terms of demographics and personal traits [Parasuraman and Colby

¹ Hereinafter, we use individual personal factors and consumer characteristics interchangeably.

2001; Vincent et al. 2002; Finn and Korukonda 2004; Doyle et al. 2005; Korukonda 2007; Tuncer 2012]. Overall, this literature provides important insights on the influence of personal characteristics on computer frustration, but findings are restricted to computer general usage, and do not consider online shopping. While general computer and Internet use are key to a large and ever-growing array of important activities, such as efficient and flexible information search, communication, entertainment and/or education, online shopping is an activity that includes, amongst other things, finding online retailers and products, searching for product information, selecting payment options, and purchasing products [Cai and Cude 2008]. All of these online shopping-related activities, if well differ in their nature of those performed in other online-related activities (e.g., communication, entertainment, etc.), are performed in a similar way that any other activity on a computer or Internet, since they share similar software and hardware devices [Koufaris 2002]. Nevertheless, online shopping can be frustrating as consumers may invest a lot of time and energy researching to find the perfect item, only to end up having problems in the online checkout process [Boyd 2011]. Also, several concerns (e.g., privacy issues, transaction security) are particularly salient in the context of online shopping [Román, 2007], and not necessarily in computer general usage.

In the light of these issues, the first objective of this study is to examine the influence of consumers' demographics (gender, age and education), personal traits (agreeableness and conscientiousness), and Internet expertise in consumer's frustration while shopping online. Importantly, this research does not seek to examine all potential antecedents of online frustration, rather it represents an initial step in the process of understanding the direct influence of some personal characteristics that have been identified as key drivers of users' negative emotions while using computers [Lazar et al. 2003; Bessière et al. 2006; O'Driscoll et al. 2010].

The study of these issues is relevant from both an academic and a managerial perspective. First, consumer frustration in online retailing contexts is an understudied phenomenon in general [Sun and Spears 2011], yet problems related to the experience of this negative emotion in online shopping continue to rise [e.g., Kukar-Kinney and Close 2010]. Second, given that there is general agreement that consumers' characteristics play an important role in marketing, since they provide the opportunity to customize products, services, as well as communications to meet consumer needs better [Ranaweera et al. 2005], the analysis of the influence of these personal factors on the level of frustration experienced in online shopping episodes will provide online retailers with useful insights about the characteristics of those consumers who are more likely to experience frustration, which in turn may serve to develop more efficient and personalized support strategies and prioritize recovery actions.

In a similar vein, the consequences of consumer frustration with retail website performance during the online shopping process can be devastating for online retailers, especially smaller ones. For example, consumer reports indicate that most online shoppers who felt frustrated with a site's overall performance would not buy from that site again [Forrester Research 2006; 2009]. Only a few recent studies have examined the consequences of frustration in the context of information search process on the Web [Sun and Spears 2011; 2012], and online loyalty programs [Tuzovic 2010]. Again, this stream of research provides useful insights about the negative consequences of frustration in relation to several disloyal or dysfunctional/deviant consumer behaviors, but they do not consider the online shopping context specifically. Therefore, the second objective of this research is to analyze the influence of consumer frustration in consumers' positive word of mouth (WOM) communications. We focus on WOM because both academics and marketers have long recognized its power to inform, motivate, and influence opinions, purchases, and recommendations for products, services and sellers [Aaker 1991; Reichheld 2003; Church and Iyer 2012]. As a significant social influence, these conversations or information exchange among consumers have been recognized as more important than marketing strategies and communications in influencing adoption/purchase decisions [Kozinets et al. 2010]. For example, Aaker [1991] argued that the real value of those customers most loyal to a company stems more from their impact on other customers in the marketplace than from their individual purchase behavior. Similarly, Reichheld [2003] states that the only number a company needs to grow is the *net promoter score* (NPS), which refers to the net number of customers willing to recommend the company. Research also reveals that positive WOM lowers the cost of attracting new customers and enhances the firm's overall reputation [Anderson et al. 2004].

We already know from past studies that several negative experiences on the Internet, such as privacy invasions or security breaches, can lead consumers to spread negative WOM [Son and Kim 2008]. Nevertheless, to the best of our knowledge, the influence of frustration in WOM has not been previously addressed in the context of online shopping. Importantly, although a commercial website may have been properly designed in terms of buying navigation tools and privacy/security policies, consumers may still feel frustrated when using it (e.g., they may not be able to fully understand such policies or feel that some of the steps of the buying process waste their time). This means that the potential negative experiences that can negatively influence positive WOM communications may go beyond specific website incidents and/or problems, and therefore be the outcome of a global evaluation of the shopping experience.

Given the importance of WOM communications², and the lack of prior evidence about the frustration-WOM link in online shopping, showing the influence of frustration on WOM will encourage online retailers to develop specific strategies to address consumers' frustration, and minimize its negative influence on WOM. This is particularly the case because frustration takes place during the online shopping process, whereas WOM communications occur once the purchase has been completed. This implies that there is an opportunity for online retailers to intervene in the duration of the time-interval between the onset of frustration and the generation of WOM.

In what follows, we provide a review of the literature on consumer frustration and the theoretical foundations of our research model are developed. Then, hypotheses are presented and tested. Finally, implications and limitations of the study are discussed.

2. Literature review

2.1. Consumer frustration in online environments and its antecedents

Frustration is a highly negative emotion that individuals experience when there is an inhibiting condition that prevents them from achieving their expected goals or needs [Berkowitz 1989]. More specifically, frustration refers to the negative consumer events in which the expected goal or reward is not reached. Dissatisfaction may appear without the customers being aware of their expectations before the consumption. In contrast, frustration postulates *ex ante* an explicit goal, i.e. the customers have a definite idea about the aspired situation or the expected rewards [Stauss et al. 2005].

In the context of online shopping, precepts from frustration literature suggest that consumers visit retailers' Internet websites with specific goals and expectations (e.g., a specific item to be found, relevancy or time saving goals, fast loading times, convenience of the checkout process, etc.), and become frustrated when the goal actually attained is something less than the goal sought, or when the goal sought requires more resources (money, time, energy) than the consumer is able, willing, or expecting to spend in order to achieve the goal [Scherer 2001]. Research has identified several constructs that are closely related to frustration. For instance, Walsh and Mitchell [2010] focus on *consumer confusion proneness*, which refers to consumers' general tolerance for processing similar, too much or ambiguous information. The information system (IS) literature has paid a lot of attention to the construct of *computer anxiety* [e.g., Lazar et al. 2003; Bessière et al. 2004; 2006; Lazar et al. 2006]. Interestingly, Bessière et al. [2006] describe computer anxiety as a feeling of being fearful or apprehensive when using a computer, and argue that people with low computer self-efficacy may be more anxious and more likely to view the computer suspiciously and get highly frustrated when something unexpected occurs. According to this view, computer anxiety originates user frustration [Bessière et al. 2004; 2006].

Frustration can develop in both pre-purchase and post-purchase situations [Fornell and Westbrook 1979]. In the context of online shopping, several studies have paid attention to online shoppers who experience frustration and discontinue the shopping process. Sun and Spears [2011; 2012] analyze the role of consumer frustration in online search endeavors. In their first study, they conducted a critical incident survey to investigate keyword search goals and the barriers to attaining these momentary goals. They found that there are two broad categories of keyword search goals – relevance and time savings –, and that different frustration responses associate with these different search goals [Sun and Spears 2011]. In the second study, Sun and Spears [2012] found that the level of frustration had a direct and negative impact on consumer attitudes toward keyword search results, perceived effectiveness of the search engine and purchase intentions. Similarly, Kukar-Kinney and Close [2010] found frustration with the website download time to be a significant precursor of negative privacy and security perceptions and shopping cart abandonment. In contrast, other scholars have been more interested in analyzing frustration with the overall shopping experience. For example, Éthier et al. [2006; 2008], who focus on website quality/usability, found that, rather than due to any specific incident, frustration is the result of a negative evaluation of the overall online shopping experience in relation to the objectives sought. That is to say, frustration emerges when the overall experience is perceived by consumers as being inconsistent with their goals or expectations about it once the purchase has been completed. Our research follows this latter view in that we focus on consumers who may feel frustrated, but still decide to complete the purchase process. Therefore, our analysis of frustration is not merely restricted to one specific stage or task of the online shopping process. Importantly, consumers who have finally completed their online purchases provide a more informed and even accurate evaluation about website performance than those who abandon their shopping carts without completing the purchases [Ramachandran et al. 2010].

Although recognized as one of the most frequent emotions reported by consumers who have a negative online shopping experience, the study of the antecedents of frustration has received little attention in the online retailing literature, and most of this research has been related to website design and/or performance factors, such as long waiting

² In absence of other specifications, this term is used to refer to positive WOM.

times [Rose et al. 2005; Kukar-Kinney and Close 2010; Lee et al. 2012], confusing navigation patterns [Maldonado and Resnick 2002], unexpected or irrelevant interruptions [Xia and Sudharshan 2002; Cenfetelli and Benbasat 2003], unclear information and hard-to-find features [Cenfetelli and Benbasat 2003] or poor website quality and usability [Éthier et al. 2006; 2008]. Both the existing psychological and IS literature holds, however, that in addition to these external sources or incident-specific factors (i.e., website performance failures), individual personal factors play a key role in explaining frustration [e.g., Shorkey and Crocker 1981; Smith and Lazarus 1990; Bessièrè et al. 2006]. According to this body of knowledge, given a particular frustrating incident (e.g., a website that crashes, lack of or difficult to find information, etc.), the level of frustration experienced by an individual is directly dependent on the situation surrounding this frustrating experience as well as the personal characteristics of the individual. Situational factors have to do with the annoying experience of frustration in the first place, and include factors such as the importance of the task interrupted to the individual, the severity of the interruption and the anticipation of expectations [Bessièrè et al. 2006]. Dispositional factors, on the other hand, involve individual personal variables such as computer experience, demographics and psychological traits that can influence the level of frustration regardless of the specifics of the frustrating incident, and thus are better predictors of how the individual ends up in terms of his or her ultimate emotional state as a result of these frustrating problems [Bessièrè et al. 2006]. For example, several studies have shown that consumers with different personality traits also have a different proneness to experience positive and negative emotions, such as frustration [Korukonda 2007; Kuppens et al. 2007].

In our framework, we will focus on consumer's Internet expertise, demographic characteristics (i.e., gender, age, and education) and personality traits (agreeableness and conscientiousness) as antecedents to frustration. There are several reasons for our interest in these variables. First, the IS literature suggests that of all the possible personal traits, the dimensions of agreeableness and conscientiousness of the Big Five personal traits have been found to be especially relevant in consumer attitudes and responses to computer use [e.g., Finn and Korukonda 2004; Korukonda 2007]. Since online shopping involves the use of computers to purchase a product, we focus on agreeableness and conscientiousness as personal traits influencing frustration. In addition, the services marketing literature highlights the role of agreeableness in the context of consumer reactions to service failures [Kowalski 1996; Kim et al. 2010], whereas from a theoretical perspective, conscientiousness reflects an individual tendency to be goal focused, and frustration theory indicates that goal attainment is an important factor in explaining the level of frustration that individuals will experience in a given situation [Dollard et al. 1939]. Also, a review of the literature conducted by Anitsal and Anitsal [2009] finds that there is general agreement on the operationalized definitions of agreeableness and conscientiousness, whereas several inconsistencies have been found with the other Big Five personality dimensions. For example, openness was defined in some cases as being intellectual, imaginative, curious and broadminded [Tubbs and Schulz 2006] and in others as experiencing the world as threatening and beyond one's control [Hurley 1998], or as solving problems through creativity [Harris and Fleming 2005].

As for the remaining antecedents in our framework, research has shown that consumer's Internet expertise and demographics are important antecedents of several consumer attitudes and predispositions toward online retailing [e.g., Parasuraman and Colby 1997; 2001; Zeithaml et al. 2002; Chang et al. 2005; Hasan 2010]. Importantly, research reveals that different attitudes and predispositions of online users determine their online frustration [Bessièrè et al. 2004; 2006].

2.2. Consumer frustration and WOM

The recent focus in the literature on relationship marketing highlights potential responses that can emerge from efforts directed at forming relationships with consumers [e.g., Verhoef et al. 2002]. As argued in the introduction, of all these responses, research indicates that WOM may be among the most important [e.g., White and Schneider 2000]. The basic idea behind WOM is that information about products, services, stores, companies, and so on can spread from one consumer to another. The relational exchange literature has long viewed WOM as an integral part of the loyalty construct. For example, Sirdeshmukh et al. [2002, p.20], defined loyalty as "an intention to perform a diverse set of behaviors that signal a motivation to maintain a relationship with the focal firm, including allocating a higher share of the category wallet to the specific service provider, engaging in positive word of mouth (WOM), and repeat purchasing".

Interestingly, research on unfavorable service experiences has suggested that negative emotions, such as frustration, lead to a reduction of customer loyalty in terms of less willingness to engage in repeat purchases and word-of-mouth recommendations. Nguyen and McColl-Kennedy [2003], for instance, analyze the role of customer anger provoked by service failures. Söderlund [2003] shows that the explanation of repatronage intentions can be substantially improved by taking customer frustration into account. Mattsson et al. [2004] analyze the influence of anger, sadness, and fear of complainants on loyalty. Overall, this stream of research reveals that specific and highly negative emotions from customer experiences may represent an alternative case of dissatisfaction and have a stronger predictive power with respect to loyalty.

In the online environment, however, to the best of our knowledge, only Tuzovic [2010] has analyzed the relationship between frustration and WOM. In particular, in the context of online feedback forums, Tuzovic investigates the effects of frustration incidents on negative electronic WOM (eWOM). His results showed that problems with loyalty programs evoke negative emotions like frustration, and that these are expressed in a spectrum of verbal and non-verbal negative electronic word-of-mouth. Moreover, this online dysfunctional behavior varied widely from low ratings and non-recommendations to voicing switching intentions and to even stronger forms such as manipulation of others and revenge intentions. Other scholars have examined the relationship between other online shopping-related problems and WOM communications. For instance, Son and Kim [2008] analyzed interpersonal WOM in the context of privacy breaches, showing that when Internet users perceive that their personal information is mishandled, they may take private actions by communicating their negative experience to others. Church and Iyer [2012] examined the way in which one form of eWOM – the presentation of online customer reviews in peer endorsement systems (PES) – impacts consumer perceptions of post-choice regret.

This stream of research has focused either on eWOM or interpersonal WOM communications. In this vein, although there is no doubt that the Internet offers a fertile ground for eWOM communications, research indicates that offline, interpersonal WOM may be more reliable than eWOM [Gruen et al. 2006; Chen and Xie 2008; Cheung and Thadani 2010; Gupta and Harris 2010]. More specifically, unlike interpersonal WOM, which is not a decision variable for the seller, online retailers can decide whether and when to provide e-WOM to its customers on its website [Chen and Xie 2008], and firms may strategically use eWOM as a promotional tool for them [Mayzlin 2006; Chakravarty et al. 2010]. Several studies have shown that online retailers' use of eWOM as a new element of marketing communications mix reduces the credibility of this information source as compared to interpersonal WOM [Gruen et al. 2006; Chen and Xie 2008]. Second, traditional/interpersonal WOM emanates from a sender who is known to the receiver of the information. On the contrary, in the online context, there is typically no familiarity between senders and receivers of eWOM [Cheung and Thadani 2010]. This lack of familiarity between eWOM receivers and senders may heighten the potential for the posting and use of fraudulent eWOM as well [Gupta and Harris 2010]. Given all the above, we focus on a general conceptualization of WOM communications, including both interpersonal as well as electronic communications. Specifically, in our study, WOM communication refers to any positive information about a target object (e.g., website/online retailer) transferred from one individual to another either in person or via some communication medium [Brown et al. 2005]. While WOM can be positive or negative, marketers are naturally interested in promoting positive WOM, such as recommendations to others, which is the focus of our research.

3. Theoretical framework and development of hypotheses

Our conceptual framework builds on the cognitive appraisal theory [Lazarus 1991; Nyer 1997]. The cognitive appraisal approach has already been used to explain how the use of computers can elicit emotions such as anger [Nyer 1997] and frustration [Éthier et al. 2006; 2008]. The cognitive perspective facilitates the development of research models since emotions are said to have specific referent antecedents [Nyer 1997; Bagozzi et al. 1999], in our case, consumers' Internet expertise, demographics and personality traits. According to this theory, emotions are elicited by an intervening process of evaluation of an event (physical or mental) rather than the event per se; an evaluation process that can be conscious or unconscious and that is referred as a "cognitive appraisal" [Nyer 1997]. One basic assumption of this perspective is that different situations can evoke the same emotion and that individuals can react emotionally differently to the same situation depending on their characteristics [e.g., Lazarus 1991; Roseman 2001; Kuppens et al. 2007]. More specifically, one of the original motivations for the construction of appraisal theories was, in fact, the desire to account systematically for individual differences in emotional experience [Roseman and Smith 2001]. Within this perspective, systematic individual differences in the appraisals that lead to emotions are likely to occur, and such differences are related to the individual characteristics that may predispose them to experience such appraisals to a greater or lesser extent [Kuppens et al. 2007; Kuppens and Van Mechelen 2007].

Drawing on this theory, consumer frustration with an online shopping episode refers to a negative evaluation of the overall shopping experience due to the complexity or difficulty perceived by the individual during either the goal-attainment process (e.g., finding specific and/or relevant information on the website) or the purchase process' required tasks (e.g., length or duration of the checkout process, predictability and usability of the navigation interface). As shown in Figure 1, personal characteristics of consumers (Internet expertise, demographics and personality traits) are proposed in this research as sources of the potential differences on how such shopping experiences are appraised by consumers, leading to frustration. Another important assumption of the cognitive perspective of emotions is that frustration leads to subsequent consumer behaviors [Stauss et al. 2005; Tuzovic 2010]. Specifically, these behaviors refer to the actions that follow a person's frustration sensation with the objective of eliminating the negative feeling [Berkowitz 1989]. In our study, we are interested in the analysis of how increased levels of consumer frustration lead to a reduction in positive WOM communications. The rationale behind the hypotheses follows.

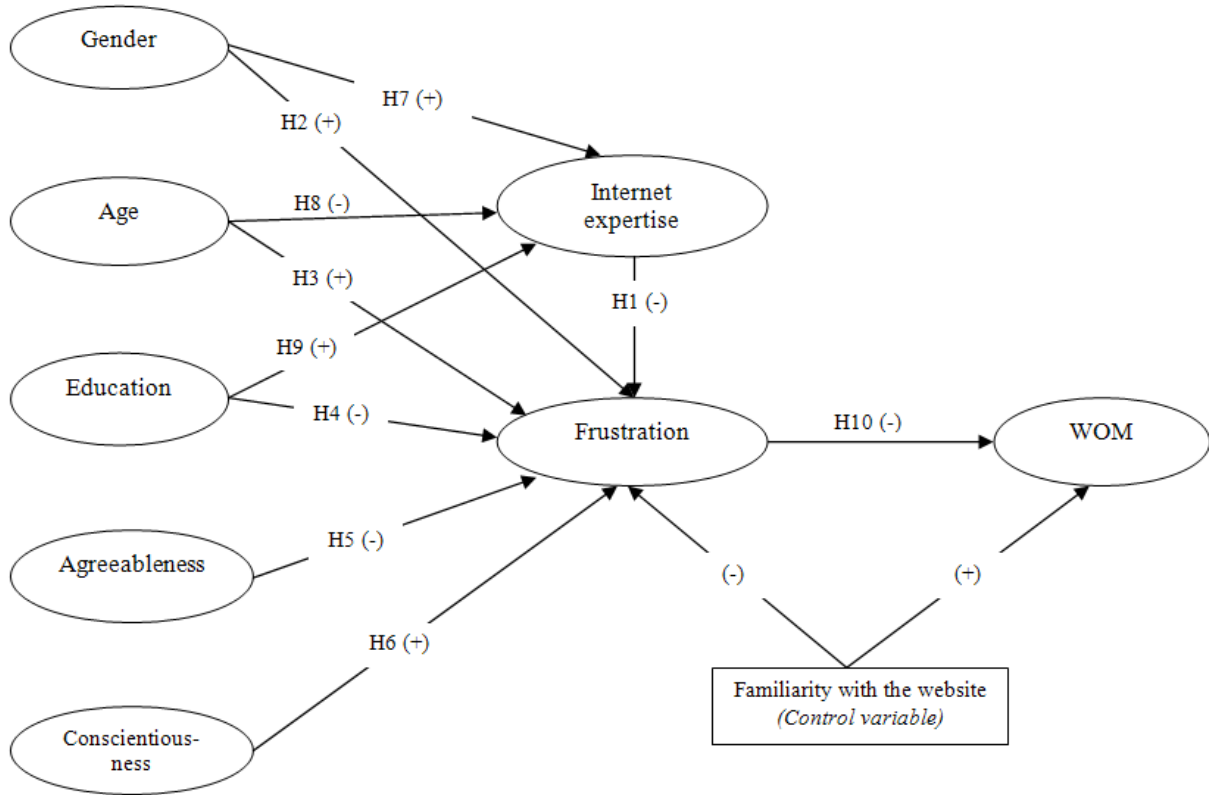


Figure 1: Research Model

3.1. Personal antecedents of consumer frustration in online shopping

Direct effects

Similar to self-efficacy, consumer’s general Internet expertise refers to consumer’s perceived knowledge of and experience with the Internet [Montoya-Weiss et al. 2003]. Self-efficacy refers to the online user’s confidence in his or her own ability to use new technologies [Lin 2003], and, in the case of the Internet, confidence is based on this perceived technological expertise [Dimitrova and Chen 2006]. As such, this expertise relates to an assessment of how well consumers know and understand the characteristics and procedures of Internet usage, and reflects a confidence in one’s Internet-related abilities and knowledge [Venkatesh 2000; Montoya-Weiss et al. 2003]. It is known that this Internet expertise leads consumers to feel more comfortable with the online shopping channel because the experience gained through usage of the Internet helps to mitigate the perceived uncertainty and complexity associated with such channel usage [Montoya-Weiss et al. 2003; Frambach et al. 2007]. For example, consumers with experience or knowledge of the online environment will tend to be more efficient in handling its various processes, including interruptions or unexpected problems, and so reduce the time needed to backtrack [Xia and Sudharshan 2002]. In this research, given that this previous Internet experience and knowledge positively influences comfort with online shopping tasks and reduces their perceived complexity, we expect that general Internet expertise will help to reduce consumer frustration in online shopping by lowering anxiety and increasing the consumers’ sense of control during potential online incidents. Accordingly, we propose that:

H1: Consumer’s frustration in online shopping will be negatively related to consumer’s general Internet expertise.

We expect that male consumers will experience higher levels of frustration than females in online shopping situations for the following reasons. First, research on goal theory indicates that the level of frustration that people experience is positively related to how important the goal is for them [Dollard et al. 1939]. Prior evidence shows that men are more goal-directed and more motivated by functional factors (e.g., economy, efficiency, usefulness) than women in their online shopping attitudes and behaviors [Dittmar et al. 2004; Doong and Wang 2011]. Women, in contrast, tend to view online shopping as a social activity [Smith and Whitlark 2001; Van Slyke et al. 2002]. Moreover, the psychological literature indicates that, along with this goal-directed orientation, males tend to reveal more

“masculine” traits [Bem, 1981], such as intolerance and impatience [Venkatesh and Morris 2000]. For example, findings from Kellaris and Powell [1994], in the traditional retail context, show that male consumers tend to overestimate the perceived duration of delays to a greater extent than females. Therefore, it is reasonable to expect that men will experience higher levels of frustration than women when they encounter any problem during the online shopping process. Stated formally:

H2: Consumer frustration in online shopping will be higher among male consumers than female consumers.

Several studies conducted in the computer use context have indicated that the consumer’s age and education are associated with computer anxiety and frustration [Vincent et al. 2002; Lazar et al. 2003; Doyle et al. 2005; Tuncer 2012]. We expect this evidence to translate into the online shopping context, since online shopping also involves computer and/or other technology-based device usage. More specifically, the assumption is that younger users have more positive attitudes and less anxiety towards computers than older ones because they have had more exposure to technology [Vincent et al. 2002]. Moreover, as consumers get older, their information-processing abilities decline, and consequently they are more likely to experience some difficulties in understanding and responding to online problems [D’Astous 2000; Lazar et al. 2003]. On the other hand, the level of education facilitates the comprehension and understanding of some of the complex and technical features of Internet usage [Doyle et al. 2005; Tuncer 2012], which can help more educated consumers to feel more comfortable and less frustrated with the online shopping process. Accordingly, we propose that:

H3: Consumer’s frustration in online shopping will be positively related to consumer’s age.

H4: Consumer’s frustration in online shopping will be negatively related to consumer’s level of education.

The role of psychological and personality traits in consumer reactions and responses to computers has also been addressed in the literature [Nash and Moroz 1997; Finn and Korukonda 2004; Korukonda 2007]. Agreeableness refers to a person’s ability to get along with others and it is associated with altruism, friendliness, modesty, tendencies to be gentle, and understanding [Korukonda 2007]. This personality trait is related to the need for pleasant, cooperative and harmonious relations, and agreeable people are courteous, flexible, tolerant and forgiving. By contrast, people who display low levels of agreeableness tend to be more competitive in their day-to-day activities [Anitsal and Anitsal 2009]. Research in traditional settings shows that these characteristics of agreeable people lead them to show more tolerance towards waiting in retail situations [Anitsal and Anitsal 2009]. In the IS literature, agreeableness has been found to be negatively associated with computer anxiety [Korukonda 2007], which, as previously discussed, is a construct that is positively related to computer frustration. Indeed, characteristics of this personality trait involve tender-mindedness [McCrae and John 1992], a psychological disposition toward a positive affect that previous research has found to be negatively related to frustration in the context of computer usage [Bessière et al. 2006].

Conscientiousness, on the other hand, refers to a person’s tendency to focus on relatively few goals, to be focused, systematic, thorough, careful, responsible, and self-disciplined [Griffin 1999]. Those high in conscientiousness tend to be organized and mindful of details, and usually maintain goal-directed behaviors. As argued earlier, because goal-directed behaviors of conscientious people involve valued, purposeful action, failure to attain goals is likely to result in highly charged emotional outcomes such as frustration for these consumers [Bessière et al. 2004; 2006]. Conscientious people have been found, in fact, to have low tolerance for waiting in retail situations, since they perceive this to be inefficient [Anitsal and Anitsal 2009]. Therefore, we formulate the following:

H5: Consumer’s frustration in online shopping will be negatively related to consumer’s level of agreeableness.

H6: Consumer’s frustration in online shopping will be positively related to consumer’s level of conscientiousness.

Indirect effects

As argued earlier, different customer segments in terms of computer and Internet experience differ significantly in terms of demographics. Specifically, several studies have shown that the level of general Internet expertise tends to be higher among males than female consumers [Schumacher and Morahan-Martin 2001; Bae and Lee 2011], to be negatively related to consumer age [Bikson and Panis 1997; Tapscott 1998], and positively related to the level of consumer education [Vincent et al. 2002; Doyle et al. 2005]. Accordingly, we propose that:

H7: General Internet expertise will be higher among male than female consumers.

H8: General Internet expertise will be negatively related to the consumer’s age.

H9: General Internet expertise will be positively related to the consumer’s level of education.

3.2. Consumer frustration in online shopping and WOM

There is consensus in the literature that WOM, as a post-purchase behavior, is to a large extent driven by emotions one just has experienced during consumption [Söderlund and Rosengren 2007; Lu et al. 2012; Verhagen et al. 2012; Yoon 2012]. An explanation for this relationship comes from the theory of social sharing, which indicates that emotions drive sharing behavior [Rimé et al. 1992]. According to this theory, people want to communicate their

emotions openly with others as a way to arouse empathy, to get help and support, to get social attention, or to strengthen social ties. Stated formally:

H10: Consumers' frustration in online shopping will be negatively related to consumer's positive WOM about the online firm.

3.3. Control variable: Consumer's familiarity with the retailer's website

Finally, we have also incorporated consumer familiarity with the website as a control variable in our research model. Familiarity with a website results from consumers' previous visits to that site [Bart et al. 2005]. We argue that familiarity is not a necessary condition for the consumer to experience frustration. Yet, it is known that familiarity builds consistent expectations of a website [Bart et al. 2005] and it is positively related to how well a consumer comprehends the website procedures [Gefen et al. 2003], which in turns reduces the likelihood of frustration [Maldonado and Resnick 2002; Lazar et al. 2003]. Moreover, as consumers gain familiarity with a specific website, they are also more likely to spread positive WOM about it [Chatterjee 2001]. Accordingly, we will include this variable as an additional antecedent of frustration and WOM (the two dependent variables in our model) to see if the effects of the other antecedent remain significant after including this key variable.

4. Research method

4.1. Data collection and sample

Data³ in our study were collected via personal intercept interviews [Nowell and Stanley 1991]. A marketing research firm was hired to assist with the data collection. Trained interviewers randomly approached respondents among individuals who passed the data collection point located on the pedestrian walkway in three major metropolitan cities. Metropolitan cities, as compared to non-metropolitan ones, have been found to have the highest percentage of online purchases among consumers [eBay Census 2012]. Data collection took place during different time frames as suggested by Sudman [1980]. Every fifth individual who passed the data collection point was approached and determined to be eligible for the study if he/she had purchased a product online in the last 6 months. This condition was required in order to facilitate consumers' evaluations of the online retailer's website. Screening questions were administered before the respondent was invited for an interview. On average, one out of every four potential, eligible respondents declined to participate in the study. Respondents were taken to the company office (conveniently located in the metropolitan area). Then, in order to facilitate consumers' evaluations of the online retailer, consumers were given the opportunity to browse the website (for a maximum of ten minutes) where they had made their last online purchase. Importantly, they were not given the opportunity to shop online. Similar to prior research [Éthier et al. 2006], each respondent received €10 as compensation for their collaboration. A total of 398 completed questionnaires were obtained.

The respondents had purchased a variety of items (e.g., travel, books, CDs, and computers). The respondents were balanced in terms of gender (51% of them were male), relatively young (65% were between 20 and 35 years old), generally highly educated (68.2% had completed university studies) and experienced with the Internet.

4.2. Measures

Existing multi-item scales adapted to the context of the study were used for the measurement of the constructs (all items of the questionnaire are reported in Table 1). All scales consisted of 5-point Likert questions, ranging from "1 = strongly disagree" to "5 = strongly agree." To measure consumer frustration in online shopping, we used three items adapted from the frustration scale developed by Strelbel et al. [2004]. Internet expertise was approached using two items adapted from Montoya-Weiss et al. [2003] and Belch et al. [2005]. Consumers were asked to characterize their level of expertise with the Internet (ranging from "1 = no expertise" to "5 = high expertise") and their knowledge about Internet in general (ranging from "1 = very poor" to "5 = excellent"). The personality traits of agreeableness and conscientiousness were assessed using a brief, 3-item version of the NEO Personality Inventory developed by John and Srivastava [1999]. Consumers' WOM was measured using a three-item scale adapted from Wolfenbarger and Gilly [2003]. Finally, and following [Bart et al. 2005], consumer familiarity with the Internet retailer's website was measured through one item representing the number of purchases that consumers had made on the website in the past.

4.3. Confirmatory factor analyses: reliability, convergent, and discriminant validity

A confirmatory factor analysis (CFA) by means of LISREL 8.80 was conducted to assess measurement reliability, convergent, and discriminant validity. The measurement model had a good fit ($\chi^2(103) = 307.19$; $p < 0.01$; GFI = 0.92; CFI = 0.95; RMSEA = 0.07; RMSR = 0.04; TLI (NNFI) = 0.92).

Reliability of the measures was confirmed with composite reliability index higher than the recommended level of 0.60 [Bagozzi and Yi 1988] and the average variance extracted was higher than the recommended level of 0.50 [Hair

³ A pretest of the questionnaire was conducted with 15 consumers with previous online purchase experience to determine if they had any problems completing the survey. Only minor changes were made in the personality trait scales.

et al. 1998], as shown in Table 2. Following the procedures suggested by Fornell and Larcker [1981] and Bagozzi and Yi [1988], convergent validity was assessed by verifying the significance of the t values associated with the parameter estimates (Table 1). All t values were positive and significant ($p < 0.01$). Discriminant validity was tested by comparing the average variance extracted by each construct to the shared variance between the construct and all other variables. For each comparison, the explained variance exceeded all combinations of shared variance (see Table 2).

Table 1: Construct measurement summary: confirmatory factor analysis of multi-item measures

| Item description ^a | SD loading (t -value) |
|--|-----------------------------|
| Consumer frustration | |
| It was difficult to find what I was looking for on this website | 0.88 (21.86) |
| It was frustrating to find relevant information to my purchase on this website | 0.94 (24.05) |
| Overall, the purchase process on this website was somewhat stressful | 0.82 (19.58) |
| Consumer's general Internet expertise | |
| How would you characterize your level of expertise with the Internet? | 0.99 (22.16) |
| How would you characterize your knowledge about Internet in general? | 0.91 (19.87) |
| Agreeableness | |
| Straightforwardness | 0.67 (13.84) |
| Altruism | 0.86 (18.53) |
| Tender-mindedness | 0.78 (16.41) |
| Conscientiousness | |
| Achievement striving | 0.74 (15.63) |
| Competence | 0.80 (17.20) |
| Order | 0.80 (17.05) |
| Consumer WOM | |
| I would recommend the website to someone who seeks my advice | 0.95 (25.26) |
| I will advise friends and relatives to at least give this website a trial | 0.95 (25.34) |
| I say positive things about the website to other people | 0.92 (23.67) |

^a All these scales consisted of 5-point Likert questions, ranging from "1 = strongly disagree" to "5 = strongly agree."

4.4. Common method variance

Since data were collected cross-sectionally using self-report measures, the potential for common methods variance exists. Following Podsakoff et al. [2003, p. 889], we tested for this bias using Harman's one-factor approach. In particular, we subjected all the multi-item measures to a confirmatory factor analysis, and found that the one-factor model demonstrated a poor fit to the data ($\chi^2(77) = 2152.26$; $p = 0.0$; GFI = 0.53; CFI = 0.36; RMSEA = 0.26; RMSR = 0.20; TLI (NNFI) = 0.25). Therefore, common methods variance does not appear to be a serious threat in our data⁴.

5. Results

The hypothesized relationships were estimated via LISREL 8.80. The results indicated a good fit between the model and the observed data ($\chi^2(112) = 343.81$, $p < 0.01$; GFI = .91; CFI = 0.94; RMSEA = 0.07; RMSR = 0.05; TLI (NNFI) = 0.92). The model explained 21% of the variance in consumer frustration with the online shopping episode. Results of hypothesized relationships are reported in Figure 2.

⁴ Also, our final criterion variable (WOM) refers to positive rather than negative communications from one consumer to another, whereas its predictor variable (frustration) is a highly negative emotion. This is likely to reduce the *consistency motif* effect, which refers to the propensity for respondents to try to maintain consistency in their responses to questions and represents a potential source of common method variance [Podsakoff et al. 2003].

Table 2: Mean, SD, scale reliability, AVE, and correlations

| Constructs | Mean | SD | AVE | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|--|-------|------|------|-------|-------|-------|-------|-------|-------|------|------|----|
| 1. Consumer frustration | 2.02 | 0.77 | 0.78 | 0.91 | 0.09 | 0.03 | 0.02 | 0.19 | 0.04 | | | |
| 2. Internet expertise | 3.90 | 0.81 | 0.90 | -0.30 | 0.95 | 0.01 | 0.00 | 0.07 | 0.03 | | | |
| 3. Agreeableness | 3.75 | 0.61 | 0.60 | -0.17 | 0.11 | 0.82 | 0.03 | 0.00 | 0.02 | | | |
| 4. Conscientiousness | 3.50 | 0.83 | 0.61 | 0.13 | 0.00 | 0.18 | 0.82 | 0.01 | 0.01 | | | |
| 5. WOM | 3.98 | 0.84 | 0.88 | -0.44 | 0.26 | 0.05 | 0.08 | 0.96 | 0.04 | | | |
| 6. Familiarity | 3.37 | 1.50 | na | -0.19 | 0.18 | 0.13 | -0.11 | 0.19 | na | | | |
| 7. Gender (0=women, 1=men) | na | na | na | 0.17 | 0.20 | -0.12 | 0.04 | 0.00 | 0.04 | na | | |
| 8. Education (0=low, 1=middle, 2=high) | na | na | na | -0.09 | 0.08 | -0.16 | 0.03 | 0.04 | -0.02 | 0.19 | na | |
| 9. Age (years) | 30.29 | 9.76 | na | 0.22 | -0.24 | -0.09 | 0.03 | -0.07 | -0.04 | 0.01 | 0.20 | na |

AVE average variance extracted, na not applicable.

Scale composite reliability of multi-item measures is reported along the diagonal. Shared variances of multi-item measures are reported in the upper half of the matrix. Correlations are reported in the lower half of the matrix. Correlations higher than 0.09 significant at 95%.

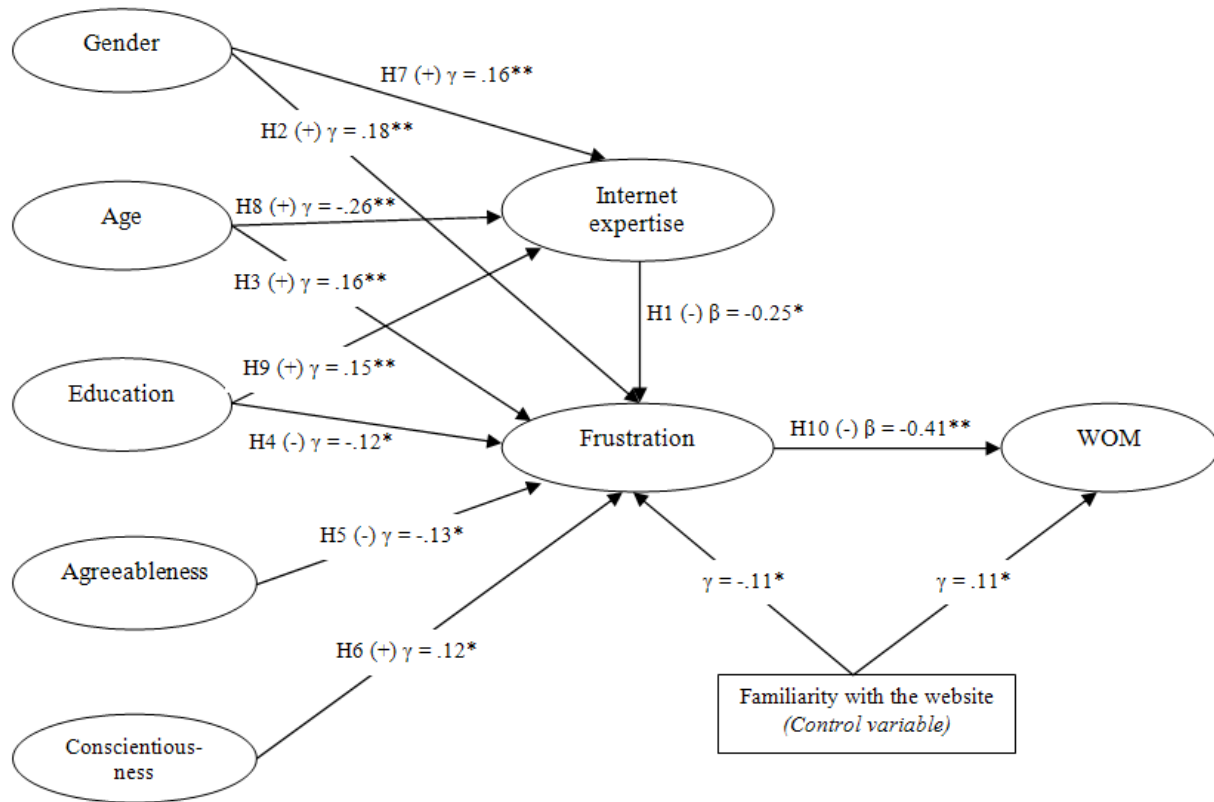


Figure 2: Results of LISREL Structural Analysis (*p<0.05, **p<0.01).

After accounting for the variance explained by the control variable ($\gamma_{frustration} = -0.11$, t -value = -2.30; $\gamma_{WOM} = 0.11$, t -value = 2.27), the analyses provided strong support for all the hypothesized relationships. First, according to H1, the results confirm that there is a strong and negative relationship between consumer’s general Internet expertise and frustration ($\beta = -0.25$, t -value = -4.83). Consumers’ level of education ($\gamma = -0.12$, t -value = -2.43) and agreeableness ($\gamma = -0.13$, t -value = -2.43) were also found to be negatively related to frustration, whereas consumer’s gender ($\gamma = 0.18$, t -value = 3.70), age ($\gamma = 0.16$, t -value = 3.28) and conscientiousness ($\gamma = 0.12$, t -value = 2.34) showed the opposite effect (increasing frustration), which confirms H4, H5, H2, H3 and H6 respectively. Our results also verify the indirect effects proposed in H7, H8 and H9, showing that general Internet expertise was higher among men than women ($\gamma =$

0.16, t -value = 3.28), negatively related to consumer's age ($\gamma = -0.26$, t -value = -5.35) and positively related to his/her level of education ($\gamma = 0.15$, t -value = 3.04). Finally, frustration was found to have a strong and negative effect on consumer WOM ($\beta = -0.41$, t -value = -8.17), so providing support for H10.

Table 3 reports the indirect, direct and total effects of the demographic variables on frustration through expertise. Interestingly, the indirect effect of age and education on frustration is in line with the direct effect making an overall stronger total effect (0.23 and -0.16, respectively). In contrast, the direct positive effect of gender (0.18) on frustration is attenuated by the indirect negative effect through expertise (-0.05), so reducing the total positive effect (0.13).

Table 3: The influence of demographic variables on frustration through expertise (standardized coefficients)

| Relationship | Indirect (through expertise) | Direct | Total |
|-------------------------|------------------------------|---------|---------|
| Gender → Frustration | -0.05** | 0.18** | 0.13** |
| Age → Frustration | 0.07** | 0.16** | 0.23** |
| Education → Frustration | -0.04* | -0.12** | -0.16** |

* $p < 0.05$; ** $p < 0.01$

6. Discussion and implications

With the increasingly competition in the online retail environment, the extent to which a website facilitates efficient shopping avoiding customer frustration has become today an essential strategy for remaining competitive [Berry et al. 2010; Kukar-Kinney and Close 2010]. Our results show that male, older, less educated, more conscientious, less agreeable and less experienced consumers are more easily frustrated when buying online, and such frustration reduces the likelihood of speaking well of the website. Importantly, these findings are in line, to a great extent, with the computer anxiety and frustration literature [e.g., Bessière et al. 2004; 2006; Lazar et al. 2006], yet they are obtained in a new context, namely, online shopping.

6.1. Theoretical implications

Our findings provide several contributions to the literature. Overall, the selection and analysis of the personal antecedents of frustration proved to be meaningful in our study. In particular, consumers' characteristics explained 21% of the variance in consumer frustration. In contrast, in a similar context of online shopping, findings from Éthier et al. [2006; 2008] showed that website quality and consumers' cognitive appraisal of situational state and website interface features (structure of information presentation, navigation/orientation, text and visual aspects) explained 14% and 13% of customer frustration, respectively.

The present study highlights the key role of consumers' Internet expertise not only as a direct antecedent of frustration, but also as a significant mediator of the influence of consumers' demographics (gender, age and education) in frustration. The importance of expertise in our context parallels those results obtained by the computer frustration literature [e.g., Bessière et al. 2006]. Gender was found to have a direct and significant effect on frustration. In particular, men show higher levels of frustration in online shopping than women, as was expected. However, general Internet expertise was also found to be higher among male consumers. Therefore, higher levels of Internet expertise of male consumers attenuate the direct negative effect of gender (0=women, 1=men). This finding is noteworthy since prior evidence about the role of gender in online shopping contexts is inconsistent [Alreck and Settle 2002; Goldsmith and Goldsmith 2002; Van Slyke et al. 2002; Chang et al. 2005; Cyr and Bonanni 2005; Hasan 2010]. For example, Cyr and Bonanni [2005] found that website satisfaction was higher among men than among women, whereas in a previous study Alreck and Settle [2002] found the opposite result. One possible reason for these inconsistencies is that most of this stream of research has only tested the direct effect of gender on online behavior and responses, without considering any indirect effect.

Findings about the influence of age and education in frustration also provide interesting contributions. In particular, Bessière et al. [2006] found that a user's age and education did not have a significant influence on computer frustration. They reasoned that whereas such factors could play "a significant role in explaining computer use early in its diffusion into mass society, it may be that they are beginning to recede" [p.258]. In contrast, our results indicate that consumers' age and education continue to be important variables when it comes to explaining frustration in the context of online shopping. This provides additional evidence to the existence of the "digital gap" among older and less educated consumers [Brandtweiner et al. 2010].

Interestingly, our results demonstrate that the level of frustration experienced also depends on the consumer's personality. Less agreeable consumers tend to show a greater level of disposition toward negative affectivity [McCrae and John 1992], which may lead them to adopt a more "resigned" or fatalistic approach to technological problems or difficult situations on the Web [O'Driscoll et al. 2010]. On the other hand, our findings indicate that, because goal-

directed behavior of conscientious consumers involves valued and purposeful action, failure to attain goals may therefore result in higher charged emotional outcomes (e.g., frustration) for these consumers. These results confirm previous contentions in both psychological and IS literature on frustration about the importance of consumers' personality-related factors in explaining frustration [Shorkey and Crocker 1981; Smith and Lazarus 1990; Bessière et al. 2004].

Finally, prior research on WOM in online settings is restricted to the effect of frustration on eWOM in the context of online feedback forums [Tuzovic 2010], and the influence of specific problems (i.e., privacy breaches) on interpersonal WOM [Son and Kim 2008]. In our study, WOM includes both interpersonal and electronic WOM communications. We add to the literature by focusing on online shopping and showing that frustration can significantly reduce positive WOM communications. Since frustration antecedes WOM communications, online retailers can develop service recovery strategies to avoid such negative consequences of frustrating experiences.

6.2. Managerial implications

The findings have several important implications for online retailers. First, the proved strong and negative effect of frustration on consumer WOM should provide online retailers with strong motivation to invest in successful strategies to avoid or to reduce this frustration. In this vein, although many of the incidents that occur on the Internet are unpredictable and, hence, harder to control, personal-related factors to frustration are more predictable and, therefore, to some extent, easier to address. Our results indicate that men are more likely to experience frustration during online shopping than women, although this negative direct effect is attenuated by their higher Internet expertise. Given the negative effect of frustration in WOM referrals found in this study, online retailers should pay more attention on how to address potential frustration of male consumers. For instance, realizing that frustration is especially important among men, a clickstream data could be used by online companies to identify these frustrated consumers. These consumers could then be targeted for later intervention via a phone satisfaction survey or special discounts and offers to try and turn them into referral generating customers.

Our findings also indicate that older and less educated consumers, who are more likely to feel frustrated in online shopping, are also less experienced with general Internet usage. Accordingly, to improve the shopping experience of these online users, consumers may be offered training and other forms of support, such as documentation or a help desk. Also, path navigation (also called "breadcrumbs navigation") can help to show more inexperienced online consumers (also older and less educated ones) where they are currently located within the information architecture. Research has shown in fact that design patterns like these navigation supports improve consumer performance and thus help to reduce the likelihood of frustration [Maldonado and Resnick 2002].

Finally, to cope with personality-based frustration, online retailers could provide a more interactive shopping process, in which consumers could be asked about their level of goal-attainment on the website, and offer useful alternatives if the site has been unable to meet their personal needs and queries. Moreover, new training techniques might be developed specifically to address this more personality-based consumer frustration, to prepare these online shoppers, in advance, for situations that might be frustrating.

6.3. Conclusion and directions for future research

This study represents an initial step in the understanding of the personal variables (demographics, personality and online expertise) that influence frustration in the context of online shopping, and the influence of frustration in WOM. Building on the findings of this study, several suggestions can be offered to future researchers. Future studies may analyze to what extent online shopping experience and other personality traits (openness, extraversion and neuroticism) influence the level of frustration experienced by consumers in online purchasing. This study particularly focused on frustration during the online shopping process in general, and does not examine the specific tasks or stages in which this frustration may have been experienced (e.g., during the online search process, in the checkout stage, etc.). Further research, therefore, can improve our findings by providing a more specific detail of the role of frustration in the different stages of the online shopping process. Our research was conducted with consumers who had actually purchased online. It would also be very interesting to test our model in the context of consumers who intended to buy from an online retailer but did not complete their purchase. Moreover, our study focused on the direct effects of consumer personal traits on frustration in online shopping. It would be interesting to analyze if these personal characteristics of the consumer could also moderate the relationships between other antecedents considered in the literature, such as website-specific factors [Éthier et al. 2006; 2008] and online frustration. In addition, future research could simultaneously analyze the influence of consumer's personal characteristics as well as website-specific factors in frustration. Finally, future studies could analyze the relationship between computer anxiety and frustration in the online shopping context.

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REFERENCES

- Aaker, D., *Managing Brand Equity*, New York: Free Press, 1991.
- Alreck, P. and R.B. Settle, "Gender effects on Internet, catalogue and store shopping", *The Journal of Database Marketing*, Vol. 9, No. 2:150–162, 2002.
- Anderson, E.W., C. Fornell and S.K. Mazvancheryl, "Customer Satisfaction and Shareholder Value," *Journal of Marketing*, Vol. 68, No. 4:172–85, 2004.
- Anitsal, M.M. and I. Anitsal, "Impact of customers' personality traits in retail environments", *Academy of Strategic Management Journal*, Vol. 8:39–50, 2009.
- ATG, "European Consumer Views of e-Commerce: Buying Behaviour and Trends", available at: <http://www.oracle.com/us/products/applications/commerce/atg/euro-commerce-consumer-survey-333316.pdf> (accessed 10 October 2012), 2009.
- Bae, S. and T. Lee, "Gender differences in consumers' perception of online consumer reviews", *Journal of Electronic Commerce Research*, Vol. 11, No. 2: 201–214, 2011.
- Bagozzi, R.P. and Y. Yi, "On the Evaluation of Structural Equation Model", *Journal of the Academy of Marketing Science*, Vol. 16, No. 1:74–94, 1988.
- Bagozzi, R.P., M. Gopinath and P.U. Nyer, "The role of emotions in marketing", *Journal of the Academy of Marketing Science*, Vol. 27, No. 2:184–206, 1999.
- Bart, Y., V. Shankar, F. Sultan and G.L. Urban, "Are the Drivers and Role of Online Trust the same for all Websites and Consumers? A Large-scale Exploratory Empirical Study", *Journal of Marketing*, Vol. 69, No. 4:133–152, 2005.
- Belch, M.A., K.A. Krentler and L.A. Willis-Flurry, "Teen Internet Mavens: Influence in Family Decision Making", *Journal of Business Research*, Vol. 58, No. 5:569–575, 2005.
- Bem, S.L., "Gender schema theory: A cognitive account of sex typing", *Psychological Review*, Vol. 88, No. 4:354–364, 1981.
- Berkowitz, L., "Frustration-aggression Hypothesis: Examination and Reformulation", *Psychology Bulletin*, Vol. 106, No. 1:59–73, 1989.
- Berry, L.L., R.N. Bolton, C.H. Bridges, J. Meyer, A. Parasuraman and K. Seiders, "Opportunities for Innovation in the Delivery of Interactive Retail Services", *Journal of Interactive Marketing*, Vol. 24, No. 2:155–167, 2010.
- Bessière, K., I. Ceaparu, J. Lazar, J. Robinson and B. Shneiderman, "Social and psychological influences on computer user frustration", *Media Access: Social and psychological dimensions of new technology use*, Bucy, E.P. and J.E. Newhagen (eds.), Lawrence Erlbaum Associates, Mahwah, NJ, pp. 91–104, 2004.
- Bessière, K., J.E. Newhagen, J.P. Robinson and B. Shneiderman, "A model for computer frustration: The role of instrumental and dispositional factors on incident, session, and post-session frustration and mood", *Computers in Human Behavior*, Vol. 22, No. 6:941–961, 2006.
- Bikson, T. and C. Panis, "Computers and connectivity: Current trends", *Culture of the Internet*, Kiesler, S. (ed.), Lawrence Erlbaum, Mahwah, NJ, pp. 407–430, 1997.
- Boyd, R., "Best Practices for Online Checkout Process", available at: <http://www.usabilitysciences.com/best-practice-for-the-online-checkout-process> (accessed 12 November 2012), 2011.
- Brandtweiner, R., E. Donat and J. Kerschbaum, "How to become a sophisticated user: A two-dimensional approach to e-literacy", *New Media & Society*, Vol. 12, No. 5:813-833, 2010.
- Brown, T.J., T. Barry, P. Dacin and R.F. Gunst, "Spreading the Word: Investigating Antecedents of Consumers' Positive Word-of-Mouth Intentions and Behaviors in a Retailing Context," *Journal of the Academy of Marketing Science*, Vol. 33, No. 2:123–38, 2005.
- Cai, Y. and B.J. Cude, "Online shopping", *Handbook of Consumer Finance Research*, Xiao, J.J. (ed.), Springer New York, pp. 137-159, 2008.
- Ceaparu, I., J. Lazar, K. Bessière, J. Robinson and B. Shneiderman, "Determining causes and severity of end-user frustration", *International Journal of Human-Computer Interaction*, Vol. 17, No. 3:333–356, 2004.
- Cenfetelli, R.T. and I. Benbasat, "Frustrated Incorporated: An Exploration of the Inhibitors of IT-Mediated Customer Service", *AMCIS Association for Information Systems*: 281–288, 2003.

- Census Bureau of the Department of Commerce, "US Census Bureau News", http://www.census.gov/retail/mrts/www/data/pdf/ec_current.pdf, (accessed 21 March 2014), 2014.
- Chakravarty, A., Y. Liu and T. Mazumdar, "The Differential Effects of Online Word-of-Mouth and Critics' Reviews on Pre-release Movie Evaluation", *Journal of Interactive Marketing*, Vol. 24, No. 3:185–197, 2010.
- Chang, M.K., W. Cheung and V.S. Lai, "Literature derived reference models for the adoption of online shopping", *Information & Management*, Vol. 42, No. 4:543–559, 2005.
- Chatterjee, P., "Online Reviews: Do Consumers Use Them?", *Advances in Consumer Research*, Vol. 28:129–133, 2001.
- Chen, Y. and J. Xie, "Online consumer review: Word-of-mouth as a new element of marketing communication mix", *Management Science*, Vol. 54, No. 3:477–491, 2008.
- Cheung, C. and D.R. Thadani, "The effectiveness of electronic word-of-mouth communication: A literature analysis", *Proceedings of the 23rd Bled eConference eTrust: Implications for the Individual, Enterprises and Society*, Bled, Slovenia, pp. 329-345, 2010.
- Church, E.M. and L.S. Iyer, "An Experimental Investigation of Regulatory Orientation and Post-Choice Regret in Online Product Selection", *Journal of Electronic Commerce Research*, Vol. 13, No. 4: 289–304 2012.
- Cyr, D. and C. Bonanni, "Gender and website design in e-business", *International Journal of Electronic Business*, Vol. 3, No. 6:565–582, 2005.
- D'Astous, A., "Irritating Aspects of the Shopping Environment", *Journal of Business Research*, Vol. 49, No. 2:149–156, 2000.
- Dimitrova, D.V. and Y.C. Chen, "Profiling the Adopters of E-Government Information and Services: The Influence of Psychological Characteristics, Civic Mindedness, and Information Channels", *Social Science Computer Review*, Vol. 24, No. 2:172–188, 2006.
- Dittmar, H., K. Long and R. Meek, "Buying on the Internet: Gender difference in on-line and conventional buying motivations", *Sex Roles*, Vol. 50, No. 5/6:423–444, 2004.
- Dollard, J., L.W. Doob, N.E. Miller, O.H. Mowrer, and R.R. Sears, *Frustration and Aggression*, New Haven: Yale University Press, 1939.
- Doong, H-S. and H-C. Wang, "Do males and females differ in how they perceive and elaborate on agent-based recommendations in Internet-based selling?", *Electronic Commerce Research and Applications*, Vol. 10, No. 5:595–604, 2011.
- Doyle, E., I. Stamouli and M. Huggard, "Computer anxiety, self-efficacy, computer experience: An investigation throughout a computer science degree", *Frontiers in Education 2005 proceedings 35th Annual Conference in Indianapolis*, 2005.
- eBay Census [2012], available at: http://shopping.ebay.in/census/pdf/eBay_Census_Guide_2012.PDF (accessed 30 October 2013).
- Éthier, J., P. Hadaya, J. Talbot and J. Cadieux, "B2C website quality and emotions during online shopping episodes: An empirical study", *Information & Management*, Vol. 43, No. 5:627–639, 2006.
- Éthier, J., P. Hadaya, J. Talbot and J. Cadieux, "Interface design and emotions experienced on B2C Web sites: Empirical testing of a research model", *Computers in Human Behavior*, Vol. 24, No. 6:2771–2791, 2008.
- Finn, S. and A.R. Korukonda, "Avoiding computers: Does personality play a role?", *Media Access: Social and psychological dimensions of new technology use*, Bucy, E.P. and J.E. Newhagen (eds.), Lawrence Erlbaum Associates, Mahwah, NJ, pp. 73–90, 2004.
- Fornell, C. and D.F. Larcker, "Evaluating structural equation models with unobservable variables and measurement error", *Journal of Marketing Research*, Vol. 18, No. 1:39–50, 1981.
- Fornell, C. and R.A. Westbrook, "An exploratory study of assertiveness, aggressiveness, and consumer complaining behavior", *Advances in Consumer Research*, Vol. 6, No. 1:105–110, 1979.
- Forrester Research, "e-Commerce Website Performance Today: An Updated Look at Consumer Reaction to a Poor Online Shopping Experience", available at: http://www.damcogroup.com/white-papers/ecommerce_website_perf_wp.pdf (accessed 10 October 2012), 2009.
- Forrester Research, "Retail Website Performance: Consumer Reaction to a Poor Online Shopping Experience", available at: <http://www.akamai.com/4seconds> (accessed 10 October 2012), 2006.
- Frambach, R.T., H.C.A. Roest and T.V. Krishnan, "The Impact of Consumer Internet Experience on Channel Preference and Usage Intentions across the Different Stages of the Buying Process", *Journal of Interactive Marketing*, Vol. 21, No. 2:26–41, 2007.
- Gefen, D., E. Karahanna and D.W. Straub, "Trust and TAM in online shopping: An integrated model", *MIS Quarterly*, Vol. 27, No. 1:51–90, 2003.

- Goldsmith, R.E. and E.B. Goldsmith, "Buying apparel over the Internet", *Journal of Product and Brand Management*, Vol. 11, No. 2:89–102, 2002.
- Griffin, R.W., Management, MA, Houghton-Mifflin, 1999.
- Gruen, T.W., T. Osmonbekov and A.J. Czaplewski, "eWOM: The impact of customer-to-customer online know-how exchange on customer value and loyalty", *Journal of Business Research*, Vol. 59, No. 4:449–456, 2006.
- Gupta, P. and J. Harris, "How e-WOM recommendations influence product consideration and quality of choice: A motivation to process information perspective", *Journal of Business Research*, Vol. 63, No. 9:1041–1049, 2010.
- Hair, J.D., R.E. Anderson, R.L. Tatham and W.C. Black, *Multivariate Data Analysis*, NJ, Englewood Cliffs: Prentice-Hall, 1998.
- Harris, E.G. and D.E. Fleming, "Assessing the Human Element in Service Personality Formation: Personality Congruency and the Five Factor Model", *Journal of Services Marketing*, Vol. 19, No. 4:187–197, 2005.
- Hasan, B., "Exploring gender differences in online shopping attitude", *Computers in Human Behavior*, Vol. 26, No. 4:597–601, 2010.
- Hurley, R.F., "Customer Service Behavior in Retail Settings: A Study of the Effect of Service Provider Personality", *Journal of the Academy of Marketing Science*, Vol. 26, No. 2:115–127, 1998.
- John, O.P. and S. Srivastava, "The Big Five trait taxonomy: History, measurement, and theoretical perspectives", *Handbook of Personality: Theory and Research*, Lawrence A. Pervin and Oliver P. John (eds.), Guilford, New York, pp. 102–138, 1999.
- Kellaris, J.J. and S.P. Mantel, "The influence of mood and gender on consumers' time perceptions", *Advances in Consumer Research*, Vol. 21:514–514, 1994.
- Kim, M.G., C. Wang and A.S. Mattila, "The relationship between consumer complaining behavior and service recovery: An integrative review", *International Journal of Contemporary Hospitality Management*, Vol. 22, No. 7:975–991, 2010.
- Korukonda, A.R., "Differences that do matter: A dialectic analysis of individual characteristics and personality dimensions contributing to computer anxiety", *Journal Computers in Human Behavior*, Vol. 23, No. 4:1921–1942, 2007.
- Koufaris, M., "Applying the technology acceptance model and flow theory to online consumer behavior", *Information Systems Research*, Vol. 13, No. 2:205–223, 2002.
- Kowalski, R.M., "Complaints and complaining: Functions, antecedents, and consequences", *Psychological Bulletin*, Vol. 119, No. 2:179–96, 1996.
- Kozinets, R.V., K. de Valck, A.C. Wojnicki and S.J.S. Wilner, "Networked Narratives: Understanding Word-of-Mouth Marketing in Online Communities", *Journal of Marketing*, Vol. 74, No. 2:71–89, 2010.
- Kukar-Kinney, M. and A.G. Close, "The Determinants of Consumers' Shopping Cart Abandonment", *Journal of Academy of Marketing Science*, Vol. 38, No. 2:240–250, 2010.
- Kuppens, P. and I. Van Mechelen, "Interactional appraisal models for the anger appraisals of threatened self-esteem, other-blame, and frustration", *Cognition and Emotion*, Vol. 21, No. 1:56–77, 2007.
- Kuppens, P., I. Van Mechelen, D.J. Smits, P. De Boeck and E. Ceulemans, "Individual differences in patterns of appraisal and anger experience", *Cognition and Emotion*, Vol. 21, No. 4:689–713, 2007.
- Lazar, J., A. Jones, M. Hackley and B. Shneiderman, "Severity and impact of computer user frustration: A comparison of student and workplace users", *Interacting with Computers*, Vol. 18, No. 3:187–207, 2006.
- Lazar, J., K. Bessière, I. Ceaparu, J. Robinson and B. Shneiderman, "Help! I'm Lost: User Frustration in Web Navigation", *IT & Society*, Vol. 1, No. 3:18–26, 2003.
- Lazarus, R.S., "Cognition and motivation in emotion", *Annual Review of Psychology*, Vol. 46, No. 4:352–67, 1991.
- Lee, Y., A.N. Chen and V. Ilie, "Can Online Wait Be Managed? The Effect of Filler Interfaces and Presentation Modes on Perceived Waiting Time Online", *MIS Quarterly*, Vol. 36, No. 2:365–394, 2012.
- Lin, C.A., "An interactive communication technology adoption model", *Communication Theory*, Vol.13:345–365, 2003.
- Lu, Y., Y. Lu and B. Wang, "Effects of dissatisfaction on customer repurchase decisions in e-commerce: An emotion-based perspective", *Journal of Electronic Commerce Research*, Vol. 13, No. 3: 224–237, 2012.
- Maldonado, C.A. and M.L. Resnick, "Do Common User Interface Design Patterns Improve Navigation?", *Proceedings of the Human Factors and Ergonomics Society Annual Meeting*, Vol. 46, No. 14:1315–1319, 2002.
- Mattsson, J., J. Lemmink, and R. McColl, "The effect of verbalized emotions on loyalty in written complaints", *Total Quality Management*, Vol. 15, No. 7:941–58, 2004.
- Mayzlin, D., "Promotional Chat on the Internet", *Marketing Science*, Vol. 25, No. 2:155–163, 2006.
- McCrae, R. and O. John, "An introduction to the Five-Factor Model and its applications", *Journal of Personality*, Vol. 60, No. 2, 174–214, 1992.

- Montoya-Weiss, M., G.B. Voss and D. Grewal, "Determinants of Online Channel Use and Overall Satisfaction with a Relational, Multichannel Service Provider", *Journal of the Academy of Marketing Science*, Vol. 31, No. 4:448–458, 2003.
- Nash, J.B. and P.A. Moroz, "An Examination of the Factor Structures of the Computer Attitude Scale", *Journal of Educational Computing Research*, Vol. 17, No. 4:341–356, 1997.
- Nguyen, D.T. and J.R. McColl-Kennedy, "Diffusing customer anger during service recovery", *Australasian Marketing Journal*, Vol. 11, No. 2: 46–55, 2003.
- Nowell, C., and L.R. Stanley, "Length-biased sampling in mall intercept surveys", *Journal of Marketing Research*, Vol. 28, No. 4: 475-479, 1991.
- Nyer, P.U., "A study of the relationships between cognitive appraisals and consumption emotions", *Journal of the Academy of Marketing Science*, Vol. 25, No. 4:296–304, 1997.
- O'Driscoll, M.P., P. Brough, C. Timms and S. Sawang, "Engagement with information and communication technology and psychological well-being", *New Developments in Theoretical and Conceptual Approaches to Job Stress*, Perrewe, P.L. and D.C. Ganster (eds.), Emerald Publishing, pp. 269–316, 2010.
- Parasuraman, A. and C. Colby, "Correlates and Consequences of Consumer Attitudes toward New Technologies: Implications for Marketing Technology-Based Services", Paper presented at the 1997 Frontiers in Services Conference, October, Nashville, TN.
- Parasuraman, A. and C. Colby, *Techno-Ready Marketing: How and Why Your Customers Adopt Technology*, Free Press, New York, 2001.
- PEW, "Online Shopping: Internet users like the convenience but worry about the security of their financial information", available at: http://www.pewinternet.org/~media/Files/Reports/2008/PIP_Online%20Shopping.pdf.pdf (accessed 10 October 2012), 2008.
- Podsakoff, P.M., S.B. MacKenzie, J-Y. Lee and N.P. Podsakoff, "Common method biases in behavioral research: A critical review of the literature and recommended remedies", *Journal of Applied Psychology*, Vol. 88, No. 5:879-903, 2003.
- Ramachandran, V., S. Viswanathan and H. Lucas, "Clicks to Conversion: The Value of Product Information and Price Incentives", *Social Science Research Network Electronic Paper Collection*, 1–56, 2010.
- Ranaweera, C., G. McDougall and H. Bansal, "A model of online customer behavior during the initial transaction: Moderating effects of customer characteristics", *Marketing Theory*, Vol. 5, No. 1:51–74, 2005.
- Reichheld, F., "The One Number You Need to Grow," *Harvard Business Review*, Vol. 81, No. 12:46–54, 2003.
- Román, S., "The Ethics of Online Retailing: A Scale Development and Validation from the Consumers' Perspective", *Journal of Business Ethics*, Vol. 72, No. 2: 131–148, 2007.
- Rose, G.M., M.L. Meuter and J.M. Curran, "On-Line Waiting: The Role of Download Time and Other Important Predictors on Attitude toward E-Retailers", *Psychology & Marketing*, Vol. 22, No. 2:127–151, 2005.
- Roseman, I.J. and C.A. Smith, "Appraisal theory: Overview, assumptions, varieties, controversies", *Appraisal processes in emotion: Theory, methods, research*, Scherer, K.R., A. Schorr, and T. Johnstone (eds.), Oxford Press, Oxford, UK, pp. 3–19, 2001.
- Roseman, I.J., "A model of appraisal in the emotion system: Integrating theory, research and applications", *Appraisal Processes in Emotion: Theory, Method and Research*, Scherer, K.R., A. Schorr, and T. Johnstone (eds.), Oxford Press, Oxford, UK, pp. 68–91, 2001.
- Scherer, K.R. "Appraisal considered as a process of multilevel sequential checking", *Appraisal Processes in Emotion*, Scherer, K.R., A. Schorr and T. Johnstone, T. (eds), Oxford University Press, New York, NY, pp. 92-120, 2001.
- Schumacher, P. and J. Morahan-Martin, "Gender, Internet and computer attitudes and experiences", *Computers in Human Behavior*, Vol. 17, No. 1: 95–110, 2001.
- Shorkey, C.T. and S.B. Crocker, "Frustration theory: A source of unifying concepts for generalist practice", *Social Work*, Vol. 26, No. 5:374–379, 1981.
- Sirdeshmukh, D., J. Singh, and B. Sabol, "Consumer trust, value, and loyalty in relational exchanges", *The Journal of Marketing*, Vol. 66, No. 1:15–37, 2002.
- Smith, C.A. and R.S. Lazarus, "Emotion and adaptation", *Handbook of personality: Theory and research*, Pervin, L. (ed.), New York: Guilford Press, pp. 609–637, 1990.
- Smith, S.M. and D.B. Whitlark, "Men and women online: What makes them click?", *Marketing Research*, Vol. 13, No. 2:20–25, 2001.
- Son, J.Y. and S.S. Kim, "Internet users' information privacy-protective responses: A taxonomy and a nomological model", *MIS Quarterly*, Vol. 32, No. 3:503-529, 2008.

- Söderlund, M. and S. Rosengren, "Receiving word-of-mouth from the service customer: An emotion-based effectiveness assessment", *Journal of Retailing and Consumer Services*, Vol. 14, No. 2:123–136, 2007.
- Söderlund, M., "Behind the satisfaction façade: An exploration of customer frustration", *Conference Proceedings 32nd EMAC*, May 20-23, Glasgow, 2003.
- Stauss, B., M. Schmidt and A. Schoeler, "Customer frustration in loyalty programs", *International Journal of Service Industry Management*, Vol. 16, No. 3:229-52, 2005.
- Strebel, J., K. O'Donnell and J.G. Myers, "Exploring the Connection Between Frustration and Consumer Choice Behavior in a Dynamic Decision Environment", *Psychology & Marketing*, Vol. 21, No. 12:1059–1076, 2004.
- Sudman, S., "Improving the quality of shopping center sampling", *Journal of Marketing Research*, Vol. 17, No. 4:423-431, 1980.
- Sun, Q. and N. Spears, "Frustration and Consumer Evaluation of Search Advertising and Search Engine Effectiveness: The Case of Hedonic Versus Utilitarian Product", *Journal of Electronic Commerce Research*, Vol. 13, No. 2:122–134, 2012.
- Sun, Q. and N. Spears, "Frustration Theory: Toward an Understanding of Keyword Search Effectiveness and Consumer Responses", *Journal of Customer Behaviour*, Vol. 10, No. 1:35–48, 2011.
- Tapscott, D., *Growing up digital: the rise of the Net generation*, McGraw-Hill, New York, 1998.
- Tubbs, S.L. and E. Schulz, "Exploring a Taxonomy of Global Leadership Competencies and Meta-competencies", *Journal of American Academy of Business*, Vol. 8, No. 2:29–34, 2006.
- Tuncer, M., "Investigation of Effects of Computer Anxiety and Internet Attitudes on Computer Self-Efficacy", *International Journal of Social Science*, Vol. 5, No. 4:205–222, 2012.
- Tuzovic, S., "Frequent (flier) frustration and the dark side of word-of-web: Exploring online dysfunctional behavior in online feedback forums", *Journal of Services Marketing*, Vol. 24, No. 6:446–457, 2010.
- Van Noort, G., P. Kerkhof and B.M. Fennis, "The Persuasiveness of Online Safety Cues: The Impact of Prevention Focus Compatibility of Web Content on Consumers' Risk Perceptions, Attitudes, and Intentions", *Journal of Interactive Marketing*, Vol. 22, No. 4:58–72, 2008.
- Van Slyke, C., C.L. Comunale and F. Belanger, "Gender differences in perceptions of web-based shopping", *Communications of the ACM*, Vol. 45, No. 8:82–86, 2002.
- Venkatesh, V. and M.G. Morris, "Why don't men ever stop to ask for directions? Gender, social influence, and their role in technology acceptance and usage behavior", *MIS Quarterly*, Vol. 24, No. 1:115–139, 2000.
- Venkatesh, V., "Determinants of Perceived Ease of Use: Integrating Control, Intrinsic Motivation, and Emotion into the Technology Acceptance Model", *Information Systems Research*, Vol. 11, No. 4:342–365, 2000.
- Verhoef, P.C., P.H. Franses and J. Hoekstra, "The Effect of Relational Constructs on Customer Referrals and Number of Services Purchased: Does Age of the Relationship Matter?", *Journal of the Academy of Marketing Science*, Vol. 30, No. 3:202–216, 2002.
- Vincent, A., M.A. Meche and D.R. Ross, "Computer Learning Behavior: Strategies for Learning and Behavior Improvement", *Journal of Information Systems Education*, Vol. 13, No. 4:331–342, 2002.
- Walsh, G. and V.W. Mitchell, "The effect of consumer confusion proneness on word of mouth, trust, and customer satisfaction", *European Journal of Marketing*, Vol. 44, No. 6:838–859, 2010.
- White, S. and B. Schneider, "Climbing the Commitment Ladder: The Role of Expectations Disconfirmation on Customers' Behavioral Intentions", *Journal of Service Research*, Vol. 2, No. 3:240–253, 2000.
- Wolfinger, M. and C. Gilly, "eTailQ: Dimensionalizing, Measuring and Predicting etail Quality", *Journal of Retailing*, Vol. 79, No. 3:183–198, 2003.
- Xia, L. and D. Sudharshan, "Effects of Interruptions on Consumer Online Decision Processes", *Journal of Consumer Psychology*, Vol. 12, No. 3:265–280, 2002.
- Yoon, S.J., "A Social Network Approach to the Influences of Shopping Experiences on e-WOM", *Journal of Electronic Commerce Research*, Vol. 13, No. 3: 213-223, 2012.
- Zeithaml, V.A., A. Parasuraman, and A. Malhotra, "Service quality delivery through web sites: A critical review of extant knowledge", *Journal of the Academy of Marketing Science*, Vol. 30, No. 4:362–375, 2002.