



The influence of online store beliefs on consumer online impulse buying: A model and empirical application

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ABSTRACT

Our study provides insight into the relationships between online store beliefs and consumer online impulse buying behavior. Drawing upon cognitive emotion theory, we developed a model and showed how beliefs about functional convenience (online store merchandise attractiveness and ease of use) and about representational delight (enjoyment and website communication style) related to online impulse buying. The model was tested using survey data from 532 customers of a Dutch online store. Our results showed significant effects of merchandise attractiveness, enjoyment, and online store communication style, mediated by consumers' emotions. The study should enhance our understanding of online impulse buying and, by assessing the impact of the online store, of beliefs in non-rational decision-making settings.

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1. Introduction

Consumers often act impulsively when making online decisions. Triggered by easy access to products, easy purchasing (e.g., 1-Click ordering), lack of social pressures, and absence of delivery efforts [10], impulse purchasing apparently occurs in about 40% of all online expenditures. As insight into consumer buying behavior is vital for e-commerce practitioners, it is important to understand the nature of such online buying behavior.

Surprisingly, there has been little research into the influence of the online store on impulse buying behavior. The vast majority of e-commerce research has viewed consumer decision-making as a rational process, based on cognitive problem solving and information processing. In models such as the theory of reasoned action, researchers have shown that website communication style [22], ease of use, and enjoyment [29] lead to rational buying behavior. However, they have failed to provide insight into situations where decision-making is spontaneous, unreflective, dominated by emotions, and immediate; that is, in impulse buying.

Using cognitive emotion theory [18] as a theoretical lens we proposed and empirically tested a model relating the online store beliefs about *merchandise attractiveness*, *site ease of use*, *enjoyment*, and *website communication style* to consumer impulse buying

behavior, mediated by the consumers' emotions. The selection of these four online store beliefs was considered relevant for three reasons. First, they have proven to be vital elements of an *online store's image*, as consumers deemed them important. Online store image is assumed to stimulate online impulse buying [cf. [8]], making an investigation of its key beliefs of particular interest. Second, these beliefs refer to perceptions of *functional convenience* and *representational delight* [21]. Functional convenience beliefs are about the ease of using an online store to complete a task, that is, to search for and buy products while representational delight involves beliefs about characteristics that are not directly associated with the completion of the shopping task, but that enhance the shopping experience by stimulating the senses and making it pleasurable. In particular, these two were expected to play a crucial role in emotional and less-planned purchase situations, making an empirical examination worthwhile. Finally, these beliefs mirror important online store features that online retailers apply to serve their customers. Thus the managerial value of our study lay in proving their importance in impulsive buying settings.

2. Theoretical background

2.1. The buying impulse

Impulse buying occurs when people experience an urge to buy a product, without a thoughtful consideration why and for what reason one needs the product. The urge is sometimes irresistible

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and consumers may therefore feel temporarily out of control and pay less attention to behavioral consequences. As affective rather than cognitive processes dominate impulse buying, decision-making usually is short and spontaneous [26]. This character of impulse buying implies that it typically happens while consumers interact with the shopping environment. Consequently, the only available information, aside from internal information (memory), is the information available at the shopping environment. Therefore, one might assume that in-store information plays a substantial role, and may even have more influence than in planned buying ([13], p. 266).

Two core elements characterize impulse buying. First, the process is unplanned and lacks cognitive deliberation. The process is triggered by product encounters while browsing through the store, and does not lead to the formation of cognitive-structured attitudes or intentions. Second, emotions dominate the impulse buying process. Although impulsive buying does not preclude information processing, emotions play a key role in the process. While many views of emotions exist, most split emotions into positive and negative affect [12]. Positive emotions such as excitement and enthusiasm may stimulate people into a need for instant gratification by buying the product. Negative emotions, like feelings of irritation or distress may also stimulate impulse buying, as helps consumers to feel better. In this study we defined online impulse buying as 'a sudden and immediate online purchase with no pre-shopping intentions; it is unplanned, spontaneous, and decided on the spot'.

2.2. Research on consumer online impulse buying

A few empirical studies of online impulse buying have been published. Adelaar et al. [1] tested the direct influence of media format (text, pictures and video) and emotions on consumer's impulse buying intent for music CDs; their results indicated a strong effect of arousal as emotional determinant of impulse buying but no clear evidence was found for any effect of media format on either emotions or impulse buying intent. However, as the authors considered impulse buying intent as a rational purchase intention and measured it accordingly, their model may not really be applicable.

Zhang et al. [30] addressed the influence of consumers' general tendency to buy impulsively on consumers' intentions to buy online as part of a modified TAM model. The results indicated a small though significant direct effect. A follow up study [31] confirmed this outcome for another TAM modification. However, these results contrasts with the main body of consumer behavior literature claiming that impulse buying is unintended, driven by emotions, does not lead to the formation of cognitive-structured intentions, and is unlikely to be captured via traditional attitude/intention models.

Jeffrey and Hodge studied the influence of the amount of money spent on consumers' likelihood to buy an impulse product. The outcomes of a logistic regression analysis demonstrated a significant though small effect of the amount of money spent prior to purchase on the likelihood of buying impulse items. Moreover, a *t*-test showed that consumers were more willing to buy an impulse item when a part of the spent money was donated to charity. As the study conceptualized impulse buying as unintended purchase, a conceptual limitation may be that the spontaneous and sudden nature of impulse buying was left outside consideration. Furthermore, no particular attention was paid to consumer emotion.

Finally, Parboteeah et al. [16] proposed an integrated model of visual appeal, information fit-to-task, usefulness, enjoyment and urge to buy impulsively. Visual appeal and information fit-to-task were postulated as website elements that led to cognitive

(usefulness) and affective (enjoyment) reactions. Furthermore, usefulness was hypothesized as an enjoyment determinant while enjoyment was proposed in the model as a direct determinant of the urge to buy impulsively. An experimental study confirmed the model structure and showed that the urge to buy was directly and strongly determined by enjoyment. Some caution is needed, though, as the authors classified and conceptualized enjoyment as affective reaction towards the system. While such a reaction has emotional elements it is not an emotion. In fact, the measurement items in the study show that the construct mirrors an affective belief. Given that the other independent variables in the model represent cognitive beliefs, it is clear that the tested model is heavily rooted in the cognitive domain and emotion is hardly considered. In a follow up study, Wells et al. [27] focused on the direct relationships between the website and online impulse buying. Their model considered the direct influence of website quality on the urge to buy impulsively. The results of an experiment using a student sample indicated a strong direct effect. Still, as emotions were not part of their model and actual impulsive behavior was not measured, conceptual and empirical extensions seemed necessary.

3. Model construction and development of hypotheses

Fig. 1 shows our theoretical model, which is rooted in the literature on impulse buying and derives its theoretical structure from Cognitive Emotion Theory (CET). According to this, observing a stimulus and the consequent formation of evaluative perceptions causes emotions. Thus, beliefs can be assumed to precede emotions [19]. This structure has been shown to be robust in many consumer emotion studies and is empirically favored over other views. We further proposed an emotion-action tendency link, because we expected that emotions led to impulsive action tendencies and thus to impulse buying [7]. Following the conceptualization of impulse buying in the consumer behavior literature, browsing behavior, urge to buy, and the overt impulse buying behavior were included as facets of impulsive actions that are determined by emotions.

3.1. The influence of online store beliefs on emotion

Positive and negative affects are considered as two independent basic emotions that are universal across gender and age groups, and can be found in all cultures. We defined positive affect as the extent to which a person feels enthusiastic, excited, and inspired. Negative affect was defined as the extent to which a person feels distress, irritation, and disturbance. The emotion terms used here have been shown to be universal in consumption settings, such as online shopping [6].

We focused on the distinction between functional convenience (*merchandise attractiveness*; *site ease of use*) and representational delight beliefs (*enjoyment*; *website communication style*) in our study; it has been suggested that these website elements are likely to lead to impulsive buying behavior [14].

Merchandise attractiveness is defined here as the perception of the size and attractiveness of the assortment; it subsumes impressions of the number of products on a site, interesting offers, value for money, and whether products are aligned to fit the consumer's interest. It has been suggested that this influences emotional response. In the online context, the link between special offerings and positive emotions (i.e., excitement) has been shown to occur in auctions [3]. We therefore argued that websites with products that are in the consumers' interests and have interesting offers are likely to create positive emotions. Furthermore, we believed that good merchandise attractiveness will produce less negative emotion (irritation). Therefore:

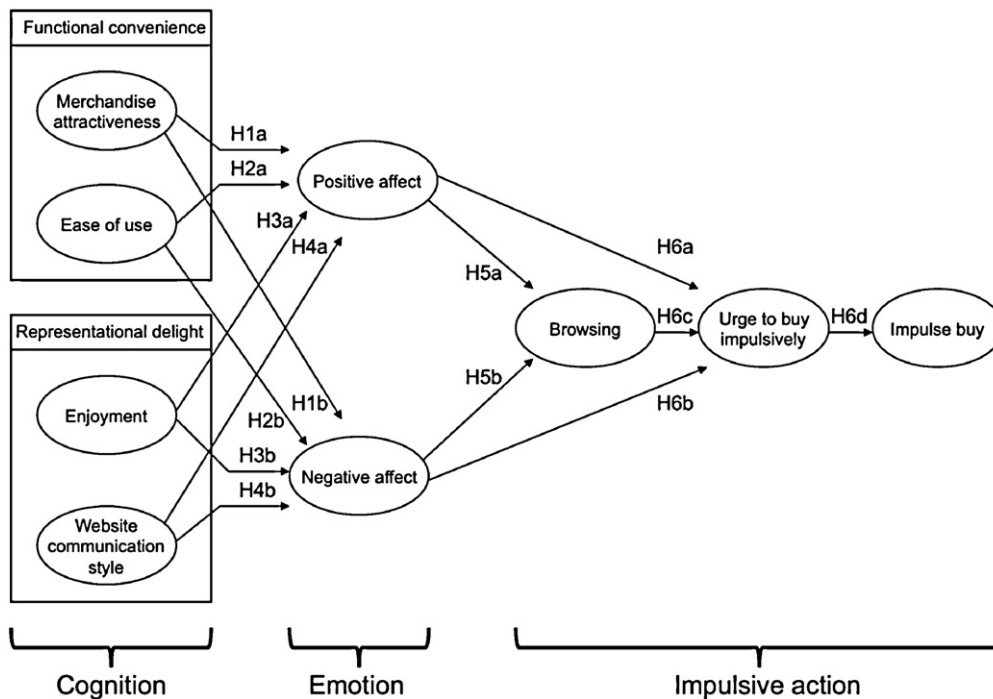


Fig. 1. Research model and hypothesized relationships.

H1a. There is a positive relationship between perceived online store merchandise attractiveness and positive affect.

H1b. There is a negative relationship between perceived online store merchandise attractiveness and negative affect.

The perceived ease experienced by online visitors in navigating the store is important. Ethier et al. [5] found that a positive evaluation of usability, including ease of use, had a positive impact on positive emotions and a negative impact on negative emotions. Therefore, we hypothesized:

H2a. There is a positive relationship between perceived ease of use and positive affect.

H2b. There is a negative relationship between perceived ease of use and negative affect.

Online store enjoyment can be stimulated by music in the background and visual fun effects; it can have a significant effect on positive emotions. Van Dolen et al. [23] showed that a fun website (i.e., one including comic strips, cartoons, etc.) may create positive affect. In addition, they demonstrated that fun aspects could offset negative effects. Therefore, we hypothesized:

H3a. There is a positive relationship between perceived shopping enjoyment and positive affect.

H3b. There is a negative relationship between perceived shopping enjoyment and negative affect.

Website communication style is another important factor: it is the subjective perception of the style in which the site communicates with and services its visitors. Rooted in store personnel literature [11,20], website communication style mirrors the “kindness” of the approach (calm instead of assertive), its social orientation (friendly, building relationships), and demonstration of expertise and competence (knowledgeability). We argued that consumers’ evaluations are influenced through exposure to a particular communication style due to a need for social presenta-

tion and cognitive consistency; individuals use socially induced cognitive and affective strategies to match the style of those with whom they interact. However, this influence may occur without conscious motivation. For instance individuals automatically imitate their social environment, they learn without deliberation through vicarious modeling. Applying the logic of social contagion to website–consumer interactions, it seemed that consumers would respond in a similar way to the communication style of the website. Mccoll-Kennedy and Sparks [15] indicated that a friendly and fair communication style led to more positive and less negative consumer evaluation. Thus, we argued that a calm, friendly, and knowledgeable style would trigger positive, affective-based evaluations by customers with less distress. Therefore:

H4a. There is a positive relationship between perceived website communication style and positive affect.

H4b. There is a negative relationship between perceived website communication style and negative affect.

3.2. The influence of emotion on browsing

Browsing is in-store examination of a retailer’s merchandise for recreational and informational purposes without an immediate intent to buy. Positive emotions have been found to positively influence browsing aspects like spending extra time on shopping. Huang showed that different emotional dimensions impacted exploration decisions and concluded that online environments that created pleasure encouraged exploration [9]. Furthermore, she suggested that negative emotions like boredom will drive away consumers, and consequently negatively influence exploration behavior. Therefore, we hypothesized:

H5a. There is a positive relationship between positive affect and browsing.

H5b. There is a negative relationship between negative affect and browsing.

3.3. The influence of emotion and browsing on urge to buy and impulse buying

Several researchers have shown that affect influences impulse purchasing: when one is experiencing positive affect, one is more likely to engage in *approach* than *avoidance* behavior. Also the greater the positive emotion felt by an individual, the greater the likelihood of overspending and impulse buying [25]. We therefore hypothesized:

H6a. There is a positive relationship between positive affect and urge to buy.

H6b. There is a negative relationship between negative affect and urge to buy.

The effect of browsing has been argued to be a central component in the unplanned buying process. If consumers browse longer, they will encounter more stimuli, increasing the likelihood of impulse buying [17]. Therefore, we hypothesized:

H6c. There is a positive relationship between browsing and urge to buy.

H6d. There is a positive relationship between urge to buy and impulse buy.

4. Research method

4.1. Procedure

An online survey was used to collect empirical data. The sample consisted of customers of an online store selling fashion items (clothing, accessories, jewellery) in The Netherlands. Our decision to focus on fashion products was because these hedonic products evoke affective reactions and support consumer's self-image, two characteristics that are assumed to trigger impulsive decision-making. We gathered information from buyers immediately *after* their buying of a product; thus customers who completed an online transaction were asked to participate in our study, when they were sent the order confirmation after closure of the transaction. The invitation included a link to our web-based survey, which elicited data on the purchase and user demographics. As an incentive, respondents were asked to provide their e-mail address to engage in a raffle for a book token worth 50 Euro and two clothing items jointly worth 95 Euro.

The questionnaire was constructed using translation and back translation from English to Dutch and back; after which a second member of our team compared this to the original questionnaire. A pretest was then held: six graduate students were asked to evaluate the clarity and interpretability of the questionnaire and then meet with the research team to discuss and suggest improvements.

4.2. Measures

We measured the constructs using multi-item scales. A reflective measurement approach was used. Except for *impulse buy*, all measurement items were directly taken from validated measurement instruments in the online store image and online consumer behavior literature (see Appendix). The measures were selected as their wording and target specificity closely matched our research constructs and seemed directly applicable to our research. To measure impulse buying we applied established procedures. First, the construct was conceptualized and defined. Then, a sample of six items was selected, each of the items tapping into the conceptual domain of the construct (to ensure content

validity). To determine whether the items were representative, a pretest was conducted by a panel of three IS researchers (to ensure content and face validity). A focus group of 10 undergraduate students was then convened to judge the interpretability and ambiguity of the items. Based on these some minor modifications were made. Finally, a pilot test was conducted using 85 undergraduate students then taking a course e-business. These subjects were asked to keep track of their online purchases during the period of the eight-week course and fill in a survey each time they completed an online purchase. This resulted in 64 viable responses that were then used to study the convergent validity, discriminant validity, and reliability of the instrument. We removed one item. The final instrument was unidimensional and contained an acceptable Chronbach's alpha (>0.70).

4.3. Sample

The online survey yielded 532 responses. Table 1 shows its demographics, which indicated that the majority of the respondents was between 15 and 34 years of age, and that they were mostly female. Most respondents considered themselves experienced in using the internet, while a slight majority stated that they had experience in buying from an online fashion store. The store confirmed that the sample profile matched their customer profile. Although a sample bias was noticed (the internet shopper was assumed to be more balanced in gender and more diverse in age), it was representative of the kind of store under examination.

5. Data analysis and results

5.1. Validity and reliability of the measurement

Confirmatory factor analysis was applied to test the adequacy of the measurement mode: Amos 7 with maximum likelihood estimation (MLE) was used for the analysis. The initial fit indices demonstrated poor fit. Following model respecification we focused on the pattern of residuals to assess whether items shared a high residual variance with other items across constructs. Five shared large residuals with others. We deleted them and reran the CFA. Overall, the model then demonstrated a satisfactory fit ($\chi^2 = 913$, $p < 0.001$; CMIN/DF 2.91; GFI: 0.90; AGFI: 0.88; NFI: 0.90; IFI: 0.93; TLI: 0.92; CFI: 0.93; RMSEA: 0.06), suggesting unidimensionality, convergent validity, and discriminant validity of the measures. We conducted an additional study on the convergent validity, and assessed measurement reliability by computation of Cronbach's alphas, composite reliabilities, minimum item-to-total correlations, and Average Variance Extracted (AVE) (see Table 2).

Table 1
Sample demographics ($n = 532$).

Demographic	Category	Percentage	Count (n)
Age	10–14	0.4%	2
	15–24	54.8%	292
	25–34	26.5%	141
	35–44	12.6%	67
	45–54	3.6%	19
	>55	2.1%	11
Gender	Male	14.3%	76
	Female	85.7%	456
Internet experience	Very inexperienced	3.2%	17
	Inexperienced	1.1%	6
	Neutral	12.4%	66
	Experienced	54.5%	290
	Very experienced.	28.8%	153
Purchase experience	Yes	44.2%	235
	No	55.8%	297

Table 2
Reliability and convergent validity statistics.

Construct (no. of items)	α	Composite reliability	Minim. item-to-total correlation	AVE
Merchandise attractiveness (4)	0.71	0.82	0.64	0.54
Ease of use (3)	0.80	0.88	0.82	0.71
Enjoyment (3)	0.91	0.95	0.91	0.85
Website communication style (3)	0.78	0.87	0.69	0.69
Positive affect (3)	0.83	0.90	0.77	0.75
Negative affect (3)	0.90	0.94	0.89	0.84
Browsing (2)	0.67	0.83	0.74	0.71
Urge to buy (3)	0.80	0.88	0.79	0.71
Impulse buy (4)	0.94	0.95	0.73	0.85

Table 3
Discriminant validity: AVEs versus cross-construct squared correlations.

Construct	Merchandise attractiveness	Ease of use	Enjoyment	Website comm. style	Positive affect	Negative affect	Browsing	Urge to buy impulsively	Impulse buy
Merchandise attractiveness	0.29								
Ease of use	0.23	0.50							
Enjoyment	0.27	0.32	0.72						
Website comm. style	0.20	0.29	0.36	0.48					
Positive affect	0.19	0.15	0.23	0.19	0.56				
Negative affect	0.08	0.06	0.07	0.05	0.17	0.71			
Browsing	0.03	0.01	0.05	0.02	0.07	0.01	0.50		
Urge to buy impulsively	0.03	0.03	0.07	0.04	0.08	0.00	0.08	0.50	
Impulse buy	0.02	0.01	0.03	0.02	0.04	0.00	0.06	0.18	0.72

Note: The bold scores (diagonal) are the square roots of the AVEs of the individual constructs. Off diagonal values are the squared correlations between the constructs.

The convergent validity of the measures was confirmed by the results. All scores exceeded accepted criteria (factor loadings: 0.70; alphas: 0.80; AVEs: 0.50; minimum item-to-total correlations: 0.40). Except for the two-item measure *browsing*, the alphas exceeded 0.70. As all composite reliability scores exceeded 0.70, and all AVEs surpassed the 0.50 guideline, acceptable reliability of all measures was demonstrated. Finally, we tested for discriminant validity by comparing the square roots of average variance extracted of each construct with its squared correlations with other constructs. The results confirmed discriminant validity (Table 3).

Finally, we decided to test for common method bias by conducting Harmon's test. First, we loaded all measurement items into one exploratory factor analysis (principle components analysis) and assessed whether one single factor emerged or one factor emerged that accounted for the majority of the variance. As the factor solution demonstrated more than one factor, and the first factor accounted for 27.3% of the variance, no indication for common method bias was seen. Second, we conducted a CFA to

assess the fit of a single factor model (all items loading on one factor) and compared the outcomes with the fit indices of the nine-factor measurement model. The single-factor model showed very poor fit ($\chi^2 = 5734$, $p < 0.001$; CMIN/DF 16.38; GFI: 0.51; AGFI: 0.44; NFI: 0.37; IFI: 0.38; TLI: 0.33; CFI: 0.38; RMSEA: 0.170); this confirmed the absence of common method bias.

5.2. Hypothesis testing

SEM was applied to estimate the structural model and test the hypotheses. Our results indicated a good fit with the data ($\chi^2 = 956$, $p < 0.000$; CMIN/DF = 2.90; GFI = 0.90; AGFI = 0.88; NFI = 0.90; IFI = 0.93; TLI = 0.92; CFI = 0.93; RMSEA = 0.057). The path coefficients (β) and R^2 values of the structural model are shown in Table 4 and Fig. 2.

The structural model showed that nine hypotheses were accepted (H1a, H1b, H3a, H4a, H5a, H6a, H6b, H6c and H6d) and five (H2a, H2b, H3b, H4b and H5b) were rejected. Merchandise attractiveness loaded significantly and strongly on positive and

Table 4
Hypotheses testing results ($n = 532$).

Hypothesis	Path	β	Sign.
H1a	Merchandise attractiveness → positive affect	0.40	<0.001
H1b	Merchandise attractiveness → negative affect	-0.29	<0.001
H2a	Ease of use → positive affect	-0.04	n.s.
H2b	Ease of use → negative affect	-0.05	n.s.
H3a	Enjoyment → positive affect	0.19	<0.05
H3b	Enjoyment → negative affect	-0.05	n.s.
H4a	Website communication style → positive affect	0.22	<0.01
H4b	Website communication style → negative affect	-0.05	n.s.
H5a	Positive affect → browsing	0.33	<0.001
H5b	Negative affect → browsing	0.00	n.s.
H6a	Positive affect → urge to buy impulsively	0.33	<0.001
H6b	Negative affect → urge to buy impulsively	-0.13	<0.01
H6c	Browsing → urge to buy impulsively	0.20	<0.01
H6d	Urge to buy impulsively → impulse buy	0.50	<0.001

Note: All expected relationships are positive; n.s., non-significance.

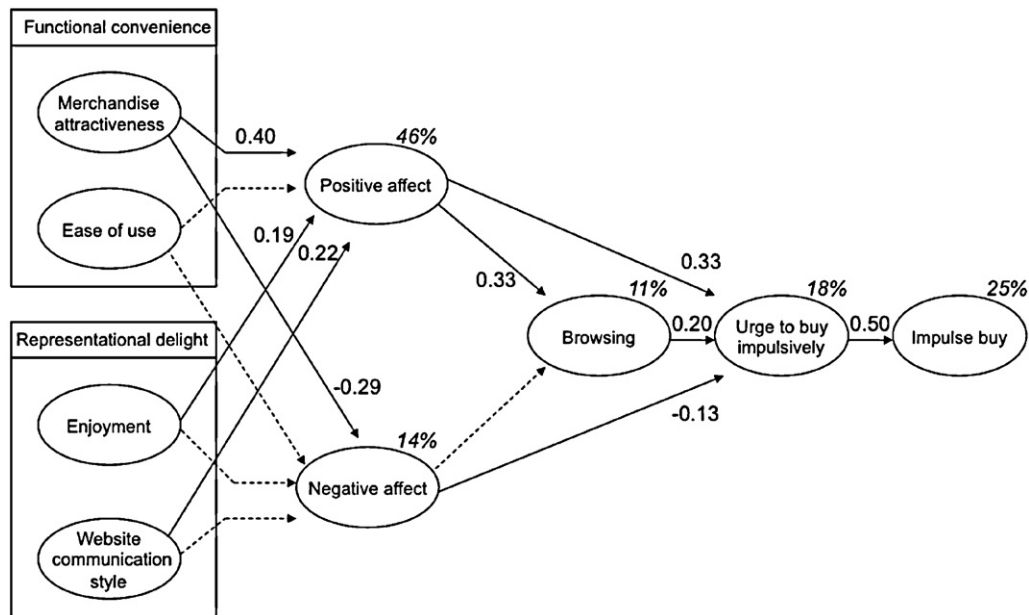


Fig. 2. Results structural model ($n = 532$).

negative affect. Ease of use, however, had no significant effects on either emotion. The urge to buy was rather strongly affected by positive affect, moderately by browsing, and rather weak by negative affect. Furthermore, the results showed that the urge to buy had a significant and strong influence on impulse buying. Overall, the model explained 46% of the positive affect variance, 14% of the negative affect variance, 11% of the browsing variance, and 18% of the urge to buy variance.

6. Discussion and conclusion

Our tests provided three important results: (1) a conceptual understanding of the online impulse buying process, (2) the role of consumer emotions between online store beliefs and impulse buying, thus confirming the applicability of CET in impulse buying situations, and (3) how online store beliefs may function as cognitive determinants of online impulse buying.

First, we provided insight into the online impulse buying process and used a sample of real shoppers to validate its theorized structure.

Second, although the importance of emotions has been demonstrated in online store research in general, we showed that emotions are crucial to *online impulse buying*. They seem to function as mediator between online store beliefs and impulse buying. To further validate this mediating role post hoc tests with two alternative models were conducted. The first alternative added direct influences of the four online store beliefs on *impulse buying*. The results indicated a slightly less though still comparable fit ($\chi^2 = 953$, $p < 0.000$; CMIN/DF = 2.92; GFI = 0.89; AGFI = 0.86; NFI = 0.90; IFI = 0.93; TLI = 0.92; CFI = 0.93; RMSEA = 0.060) to the basic model. More important, none of the online store beliefs significantly contributed to impulse buying while maintaining their direct influence on emotions (as reported in the outcomes of our basic model). The second alternative model extended our original model by adding direct influences of the four online store beliefs on the *urge to buy impulsively*. The results indicated a comparable fit ($\chi^2 = 950$, $p < 0.000$; CMIN/DF = 2.91; GFI = 0.89; AGFI = 0.87; NFI = 0.90; IFI = 0.93; TLI = 0.92; CFI = 0.93; RMSEA = 0.060) to the basic model. Except for enjoyment ($\beta = 0.20$, $p < 0.05$), none of the online store beliefs significantly contributed to the urge to buy. Again, all online store beliefs maintained their direct influence on

emotions as reported in the outcomes of the basic model. Overall, the post hoc tests strongly supported the mediating role of emotions between online store beliefs and impulse buying. This validated the theorized structure as framed in the CET and added to recent calls for developing more insight into the interrelationships between cognition and emotion as well as into the consequences of emotions in online shopping situations.

Third, our research showed how and to what extent online store beliefs might trigger impulse buying. The structural model provided mixed support for our assumptions. For the functional convenience beliefs, merchandise attractiveness loaded significantly and strongly on both positive and negative affect. Having a symmetric effect on both emotions, merchandise attractiveness seemed to be a *performance factor* [2]. Surprisingly, ease of use had no significant effect on emotion. Computation of mean scores indicated a very good evaluation of the usability of the online fashion store ($M = 5.82$, $SD = 0.924$), which made it plausible to assume that the threshold level had been reached. From this perspective, ease of use seems to function as a *basic factor* [4] and not as motivator in forming emotions. With respect to representational delight beliefs, there were significant influences of enjoyment and website communication style on positive affect. But insignificant effects on negative affect. Following Busacca and Padula, and because enjoyment and website communication style lead to positive affect, both seem to be typical satisfiers or *excitement factors*. Such attributes have no impact on negative affective reactions but may lead to positive emotional reactions if delivered.

Purchasing fashion goods online is a typical hedonic activity. In such situations consumer behavior is likely to be dominated by positive emotions and less by negative emotions. Still, the overall research outcomes demonstrated that combining both beliefs and emotions in a more holistic model resulted in a better understanding of impulse buying behavior. This indicates that the role of online store beliefs is not restricted to rational purchase situations alone.

From a managerial perspective, our research has several implications. First, we showed that the representational delight and merchandise attractiveness were important to impulsive buying settings. So to stimulate impulsive buying, online retailers should create a calm, friendly, knowledgeable, fun site with an attractive assortment; providing pleasure when customers browse through it. Second, the lack of significance of *ease of use* puts its

relevance into perspective. Being a basic factor, it seems sufficient to bring an online store's ease of use to an acceptable level. Thus, allocating budgets to improve an online store's ease of use requires careful consideration. Third, our research provides a first indication that online stores selling hedonic products should focus on stimulating positive affect rather than reducing negative affect. By making the shopping experience exciting, enthusiastic and inspiring, positive emotions are triggered with possible impulsive buying as a consequence.

7. Limitations

The first limitation of our study was that it has gender bias. The majority of our respondents were women. Second, although we tested the model in a true shopping situation, our focus on fashion goods may be a limitation. For other, more utilitarian products, the implications should be interpreted with care. Third, probably due to its sensitivity to a low number of items, the Cronbach's alpha of the two-item browsing measurement instrument was slightly below the generally assumed minimum of 0.70. Fourth, the variables included in our model were restricted to particular online store beliefs but were not intended to be exhaustive.

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Appendix A. Measurement scales

Merchandise attractiveness (Seven point semantic differential; response categories: very-quite-some-neutral-some, quite, very [24,28]). Mean (SD) = 5.15 (0.88). How would you describe the assortment of the <name store> website?

1. little value for money – much value for money
2. uninteresting offers – interesting offers
3. bad alignment with my interests – good alignment with my interests
4. little products – many products.

Ease-of-use (Seven point semantic differential; response categories: very-quite-some-neutral-some, quite, very [22]). Mean (SD) = 5.82 (0.92). How would you describe the usability of the <name store> website?

1. hard to use – easy to use
2. hard to navigate the site – easy to navigate the site *¹
3. unorganized layout-organized layout
4. hard to learn how to use the site – easy to learn how to use the site.

Enjoyment (Seven point semantic differential; response categories: very-quite-some-neutral-some, quite, very [22]). Mean (SD) = 5.64 (1.06). How would you describe your experience of using the <name store> website?

1. boring site – fun site
2. little pleasure to browser through – great pleasure to browse through
3. unattractive site – attractive site.

Website communication style (Seven point semantic differential; response categories: very-quite-some-neutral-some, quite, very [22]). Mean (SD) = 5.49 (0.83). How would you describe the way the <name store> website communicates with its visitors?

1. pushy – calm
2. unfriendly – friendly
3. less knowledgeable – very knowledgeable.

Browsing (Seven point Likert scale ranging from highly disagree to highly agree **²). Mean (SD) = 4.68 (1.47). To what extent do you agree or disagree with the following statements?

1. The percent of my time I spent just looking around on the trip was fairly high.
2. I would say that I was primary “just looking around” on this trip.
3. I devoted most of my attention to the items I planned to buy in this trip <reverse> *.

Positive affect (Seven point Likert scale ranging from highly disagree to highly agree **). Mean (SD) = 5.39 (1.02). To what extent do you agree or disagree with the following statements?

1. While shopping at the <name store> website I was excited.
2. While shopping at the <name store> website I was enthusiastic.
3. While shopping at the <name store> website I was proud *.
4. While shopping at the <name store> website I was inspired.

Negative affect (Seven point Likert scale ranging from highly disagree to highly agree **). Mean (SD) = 1.77 (1.14). To what extent do you agree or disagree with the following statements?

1. While shopping at the <name store> website I was distressed.
2. While shopping at the <name store> website I was upset.
3. While shopping at the <name store> website I was irritable.

Urge to buy (Seven point Likert scale ranging from highly disagree to highly agree **). Mean (SD) = 4.24 (1.67). To what extent do you agree or disagree with the following statements?

1. I experienced a number of sudden urges to buy things
2. On this trip, I saw a number of things I wanted to buy even though they were no on my shopping list
3. I experienced no strong urges to make unplanned purchases on this trip <reverse> *
4. On this trip, I felt a sudden urge to by something.

Impulse buy (Seven point Likert scale ranging from highly disagree to highly agree). Mean (SD) = 4.29 (2.05). To what extent do you agree or disagree with the following statements?

1. My purchase was spontaneous.
2. My purchase was unplanned.
3. I did not intend to do this purchase before this shopping trip.
4. Before visiting the site, I did not have the intention to do this purchase.
5. I could not resist to do this purchase at the site *.

² ** means these Likert scales were derived from the paper *Impulse buying: Modeling its precursors* from Beatty and Ferrell (1998) as published in the Journal of Retailing.

¹ * means dropped after validity/reliability analysis.

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