Research article

The double side of flow in regret and product returns: Maximizers versus satisficers

Sergio Barta [a], Raquel Gurrea [a], Carlos Flavián [a,*]

[a] Department of Marketing Management and Market Research, University of Zaragoza, Zaragoza, Spain

ARTICLE INFO

ABSTRACT

While the positive aspects of the flow state have been widely researched, the effects of being aware of this state and the negative consequences still need to be explored. The loss of awareness that flow state may bring can lead to the purchase of products that consumers afterward regret and want to return them. This research aims to understand flow consciousness's effect on consumer post-purchase regret from a dual perspective (process and outcome regret). The relevance of these relationships is also examined by analyzing the differences between 2 groups: maximizers and satisficers consumers. Through a structural equation model based on covariances tested with EQS 6.4, the results show that flow consciousness generates process regret but not outcome regret. However, the differences found between the two groups are worth noting. The research sheds light on the effect of flow consciousness on regret and provides insight into the mechanism of product return through post-purchase regret. The theoretical and managerial implications for e-commerce retailers are discussed.

1. Introduction

E-commerce has grown strongly in recent years. However, simultaneously, e-commerce business volume is increasing, and the number of product returns is rising (CNBC, 2022). These product returns can cause large losses to retailers and resellers (Petersen & Kumar, 2009), increasing distribution costs and labor requirements due to the need to repackage, restock and resell returned items (Bijimult et al., 2021). In fact, big companies such as Inditex have recently changed their return policies by charging a small fee for each online return (Reuters, 2023), while new technological tools (e.g., augmented reality or artificial intelligence) are being considered to reduce return rates (Dwivedi et al., 2021). Furthermore, product returns affect sellers negatively, consumers, and society in general. Although consumers are often refunded the cost of the product, they are not compensated for the effort and time invested in the purchase process (Bijimult et al., 2021). In addition, returns also impact the environment, affecting sustainability (Forbes, 2022). Due to its increasing and growing relevance, current research has focused on this phenomenon.

Flow states have proven to be a key aspect in creating attractive experiences. The shopping experience can be valuable (Pine & Gilmore, 2011) but becomes less relevant as the product is used (Grewal & Roggeveen, 2020). Instead, product performance becomes increasingly important in the purchase evaluation. Thus, the consumers may have enjoyed a pleasant shopping experience but may only achieve full satisfaction afterward if they feel they have made a good choice (Barta et al., 2022). This can lead to the emergence of negative feelings for the consumer, such as regret, which can be separated into process regret and outcome regret (Connolly & Zeelenberg, 2002).

Flow's impact on positive responses has been widely examined (Ye et al., 2020; Whittaker et al., 2021). However, much less research has focused on understanding the impact that flow or the fact of being aware of the flow have on negative consequences (Kaur et al., 2016; Barta et al., 2022). Furthermore, few empirical studies have been conducted to understand the negative aspects that flow may cause. In this sense, scarce research has examined the impact of flow consciousness on consumer regret. Recently, it has been noted that flow can generate consumer regret through impulse buying and flow consciousness (Wulandari & Risqiani, 2021; Barta et al., 2022). Flow consciousness affects consumer regret (Barta et al., 2022). However, the effect of flow consciousness on consumer regret has not been discerned between different types, such as process regret or outcome regret. To fill this gap, this research aims to shed light on the issue of whether the good shopping experience implied by the flow can become a negatively valued aspect if the consumer regrets the purchase. For this purpose, the research analyzes the role of flow consciousness on consumer regret

---

from a dual perspective, making a distinction between process and outcome regret.

Moreover, consumer aspects can impact feelings of regret (Tsiros & Mittal, 2000). Consumers' characteristics may cause them to feel more or less regretful. Maximizing orientation is critical in consumer behavior because it may increase regret, dissatisfaction and the likelihood of returning and exchanging the product (Kokkoris, 2019). Furthermore, maximizers tend to have higher expectations than satisficers. Although these high expectations may result in a greater sense of regret, it still needs to be determined what type of regret they affect most and how they might regulate regret more successfully (Kamiya et al., 2021). Therefore, this article also aims to contribute to this call for research analyzing the differences between maximizers and satisficers in the impact of flow consciousness on two types of regret.

Consequently, this paper aims to make several contributions. It aims to extend the knowledge in the flow literature and consumer regret by examining the effect of flow consciousness on consumer regret with a broad perspective. First, the effect of flow consciousness on the process regret and the outcome regret is analyzed. Second, these effects are discussed, differing between consumer maximizers and satisficers. This fact helps to understand which type of regret most affects the behavior of these groups of consumers. Third, the research also contributes to the literature on product returns. The study examines post-purchase regret from a dual perspective (process regret and outcome regret) to examine the underlying mechanism through the flow consciousness and the consumer regret leads to product return. Understanding this phenomenon helps e-commerce retailers properly manage the regret that the consumer can generate. Knowledge of all these aspects allows retailers to reduce the number of product returns received and, consequently, the associated costs.

2. Literature review

2.1. Product returns

The increase in returning products has generated a body of research on the topic (Ambilkar et al., 2022; Duong et al., 2022). The research literature can be classified into general product returns and fraudulent returns (Dailey & Ülkü, 2018). This last trend focuses on purchases in which there is already a premeditated intention to make a return. In this group are actions in which consumers buy, use the product and return it for a refund (Dailey & Ülkü, 2018).

For general product returns, research has examined causal factors. Regarding product type, low-priced products and items sold by a retailer at lower prices than competitors are less likely to be returned (De et al., 2013). The impact of the retailer's return policy format has been studied through mathematical modeling, analyzing how the return policy can influence the company's operational decisions and omnichannel retailing (Jena & Meena, 2022). It has also been analyzed whether the return policy influences the choice of one sales channel or another, finding no preference for the purchase between a marketplace or a reseller channel (Alaei et al., 2022). Despite the results obtained, these studies use panel data from an operational perspective rather than from a consumer behavior perspective, which does not provide insight into consumer perceptions. Therefore, studies focused on consumer perceptions with higher external validity are also needed (Mookherjee et al., 2021). Regarding individual characteristics, although consumers may seriously consider returning the product, consumers with return habits are more willing to materialize this intention (Griffis et al., 2012). In addition, some demographic characteristics as gender affect the intention to return the product in some products category (Minnema et al., 2017).

2.2. Flow and consumer regret

Flow is the feeling people have when they are in an optimal state of mind, totally involved in a single task they feel they control (Csikszentmihalyi, 1975). Flow could be explained as the pleasant experience people feel when acting with total involvement and being immersed in the activity (Wu et al., 2020). In this optimal experience, the individual perceives absolute concentration and enjoyment, perceiving a higher value in the experiences (Hong et al., 2022). However, during flow, the individuals report a large loss of self-awareness (Nakamura & Csikszentmihalyi, 2014). This flow-related loss of self-awareness can lead individuals to engage in behaviors they would later prefer not to perform. Due to the loss of consciousness that the flow state implies, the role of the individual's subsequent awareness of having experienced flow has been examined (Herrando et al., 2018).

The research that investigates the relationship between flow and regret experiences is scarce. In an educational context, it has been examined if the decision mode for engaging in a task is relevant for the experience of regret (Kuhnle & Sinclair, 2011). The study reflected that the flow experience did not reduce the regret. In more recent studies, the influence of flow on the regret experience in social networks sites is still unclear. It is shown that concentration is an aspect that generates regret. However, the enjoyment implied by the flow experience has no significant effect on regret, although a tendency to reduce it is observed (Kaur et al., 2016). In this regard, it is noteworthy how a hedonic dimension of experience, such as enjoyment, does not have an effect on reducing regret. In contrast, a cognitive dimension, such as task-focused attention, affects regret in the other sense. Therefore, it is necessary to explore this field further due to the lack of studies linking flow and regret, and the results obtained from them, observing different effects depending on the flow dimension.

Regret arises from individuals' perceptions of the cognitive effort they spent comparing the chosen option with the rejected options (Lee & Cotte, 2009). When individuals perceive after the purchase that a decision was unreasonable or inexplicable, they tend to feel responsible for making a wrong choice (Van Dijk et al., 1999). Decision justification theory suggests individuals can feel regret due to: a) the evaluation of the process; and b) the evaluation of the outcomes (Connolly & Zeelenberg, 2002). Individuals may assess the quality of their decision-making processes by examining the amount of information they collect (Janis & Mann, 1977). When individuals regret the process regardless of the purchase outcome, they can feel regret if they believe they failed to undertake the decision-making process as they intended, that is, in an intention-behavior inconsistency (Zeelenberg & Pieters, 2007). Process regret may also arise when individuals consider they have not properly managed the information needed to decide. In this sense, they may regret it because they have spent too much time making a choice or collected insufficient information (Lee & Cotte, 2009).

Outcome regret is an emotional state in which one feels sorry about various things, such as limitations and mistakes (Landman, 1993). Regret has been defined as a negative, cognitively determined emotion we experience when realizing or imagining that our present situation would have been better if we acted differently (Zeelenberg & Pieters, 2007). Outcome regret, thus, is a consequence of decision-making in risky situations and may arise when individuals believe they have made the wrong decision, even if the decision appeared to be correct at the time it was made.

Few studies have addressed consumer regret from a dual perspective, as in this instance, process regret and outcome regret (Zulkarnain et al., 2020). Instead, these studies focused on the crucial role that brands can have in persuading customers to identify with the product/company as a means of reducing consumer regret and how personality affects the process and outcome regret from the perspective of the "big five" (Ditinjau et al., 2018). Table 1 shows a compilation of studies on regret experiences.

3. Research model and hypotheses development

The research model is based on the cognitive processing model

Table 1

Examples of studies addressing regret experience.

Authors	Context	Methodology	Main results
Kuhnle and Sinclair (2011)	Education	Surveys	Intuitive decision (full attention) has a positive relationship with flow. Consequently, less regret arises. Flow does not mediate the relationship between decision mode and regret.
Kaur et al. (2016)	Social networks (Facebook)	Surveys	Older adolescents and those who spend more time on Facebook experience higher regret. Concentration leads to regret. No significant effect on regret found for the enjoyment dimension.
Davvetas and Diamantopoulos (2017)	Consumer behavior	Surveys	Consumer-brand identification attenuates the negative effects of regret on satisfaction and behavioral intentions and strengthens the positive impact of satisfaction on brand repurchase/ recommendation intention.
Verkijika (2020)	Technology adoption (mobile payment)	Surveys	Affect and anticipated regret has a significant positive influence on behavioral intentions to adopt mobile payments, while the influence of anxiety is not significant.
Li et al. (2021)	Consumer behavior	Experiment	Consumers who experienced downward anticipated regret showed more online impulsive buying behavior than those who experienced upward anticipated regret. Moreover, anticipated regret moderates the relationship between product involvement and online impulsive buying behavior.
Wulandari and Risqiani (2021)	Consumer behavior	Surveys	Flow state affects online impulse buying and the impulse buying has a positive effect on post-purchase regret.
Xiao and Spanjol (2021)	Digital products users	Experiments	The perceived changes of the new version of the app leads to adoption procrastination. Anticipated inaction regret acts as a counteracting mechanism, reducing the adoption procrastination.
Zhao et al. (2021)	Consumer behavior	Experiments	Anticipated regret mediates the interactive effect of warning message type

Table 1 (*continued*)

Authors	Context	Methodology	Main results
			and preference ranking on liking and purchase intention.
Barta et al. (2022)	Consumer behavior	Surveys	Flow consciousness has a negative effect on outcome regret.
Kurtoğlu et al. (2022)	Internet users (Generation Y)	Surveys	Consumer regret has a negative effect on brand loyalty and a positive effect on brand hate and negative word of mouth. Brand hate and brand loyalty mediates the effect of consumer regret on negative word of mouth.
Pizzutti et al. (2022)	Consumer behavior	In-depth interviews and longitudinal survey	Consumers can engage in post-decision information search in the pre- and post-consumption phases to maximize the utility of a purchase, reduce regret, and satisfy curiosity about a purchase and pre-purchase information search behavior.
Sameeni et al. (2022)	Consumer behavior	Surveys	Brand betrayal for utilitarian (vs. hedonic) products leads to stronger (vs. weaker) feelings of regret. The discovery of betrayal from others (vs. personal experience) intensifies the effect of brand betrayal, which is stronger for utilitarian (vs. hedonic) products.
This study	Consumer behavior	Surveys	Outcome regret has a positive effect on return intention. Process regret does not affect the return intention. Flow consciousness increases process regret and negatively affects outcome regret for satisficers consumers.

proposed by Austin (1997). The flow state is a cognitive state that involves a loss of consciousness leading the consumer to process information automatically. This may be followed by an active processing through schemas that allow the interpretation of previously collected information (flow consciousness and consumer regret in the research model). After this occurs, the consumer will wonder if the schema used to process the information has been appropriate, resulting in a series of responses to modify the processing. In this case, the response is the product's return because of the strong link to purchase regret (Duong et al., 2022). In addition, the moderating role of consumer characteristics is included in the analysis of active consumer processing. This process is explored by satisficers and maximizers consumers because of the need to know how these groups may properly regulate their regret (Kamiya et al., 2021).

The flow state involves full concentration and enjoyment, which implies a loss of self-consciousness and can lead to losing track of time (Zeelenberg & Pieters, 2007). Meanwhile, flow consciousness is the individual's knowledge of having experienced flow (Barta et al., 2022). The attentional processes carried out by individuals shape their

perceptions of the experiences they have had (Nakamura & Csikszent-mihalyi, 2014). The flow state involves absolute concentration, enhancing attention on a task or activity. This means that when the individuals realize afterward how much abstraction they have had while performing the task, they are aware of the state of absolute concentration they were experiencing. In addition, emotional aspects of the experience may facilitate its recall (Rolls, 1990). The enjoyment experienced during the flow state can facilitate the recall of the flow experience, making the individual aware of being in flow.

H1. : Flow state has a positive effect on flow consciousness.

From a psychological point of view, people attempt to avoid experiencing regret and take steps to regulate it when they do (Landman, 1993). The flow consciousness allows consumers to be aware of the pleasant experiences they enjoyed during their flow states. Therefore, this aspect will allow for a positive recall of the purchase process, even if the consumer is aware of having been carried away by the flow state during the purchase decision. Although the consumers, being aware of the flow state, know that they have been carried away and have been in a state of total immersion during the buying process, they consider flow consciousness a positive aspect (Herrando et al., 2018). In this sense, they are aware that they have had an enjoyable decision process because of the flow state they experienced. This dimension of enjoyment that they attribute to the flow will allow them to reduce their regret for having spent too much time on the decision process or not considering enough information for the choice.

H2a. *Flow consciousness reduces the process regret.*

Flow has proven to improve subjective well-being (Kim & Hall, 2019). When consumers become aware that a better, alternative outcome is available, they experience more regret than when they remain unaware that a better outcome is available (Ogbanufe & Pavur, 2022). To achieve this, they try to find enough facts to relinquish personal responsibility. Flow consciousness allows consumers to be aware of the pleasant experiences they enjoyed during their flow states and, in addition, allows them to more easily identify external factors that caused their mistakes (Barta et al., 2022). In a gaming context, it has been observed how flow states can generate addictive behaviors (Brandtner et al., 2022). If the users are at least aware of the great time they have had because of their flow state, this can improve their well-being. That is, users may regret having wasted too much time playing games. However, if they are aware of their positive experience by reaching flow states, this will mitigate the sense of wasted time. Similarly, flow consciousness could have the same effect when consumers regret their purchased product. The awareness of having reached the flow state enables reducing the regret generated due to the positive recall of the purchase experience (Chen & Lin, 2022), despite not being satisfied with the product's performance.

H2b. *Flow consciousness reduces the outcome regret.*

Regret with the purchase process means that the consumer is not satisfied with how they made their purchase (Lee & Cotte, 2009). This regret is often caused by the consumers considering that they did not compare information on different websites or take advice from the different recommendations. Thus, gathering less information than necessary to make a purchase decision is one of the causes of process regret (Lee & Cotte, 2009). The lack of information collected during the purchasing process increases the likelihood of purchasing a product that does not meet the consumer's needs (Puccinelli et al., 2009). Consequently, the lack of information makes a wrong choice of product more likely, leading to outcome regret (Tzeng & Shiu, 2019). On the other hand, process regret can also arise when individuals have put too much time and effort into the buying process. When individuals overthink their decision-making process, they regret collecting unnecessary information that may not have improved their decision. According to the cost-benefit paradigm (Marshall, 2009), having spent much time to get a

result equal to what would have been obtained without spending so much time may promote the appearance of final regret with the product's performance.

H3. : Process regret has a positive effect on outcome regret.

When people realize they have made mistakes in their conduct, they experience negative emotions such as regret. However, individuals also want to reduce this regret to feel better about themselves (Zeelenberg & Pieters, 2007). Consumers can accomplish this by adjusting their beliefs but also taking measures to overcome regrets. They can behave in this way, for example, by returning the item. When consumers regret the process, they know they have not made the purchase well. To avoid this process regret, the consumers may likely return the product and make the purchase decision again later. When the consumers have more time to examine the alternatives offered or have more information on the topic, they will make a purchase decision again. However, for the time being they will return the product they feel they need to buy in the right way.

H4a. *Process regret has a positive effect on return intention.*

Nowadays, some tasks have become much more accessible in online commerce. In particular, product returns are very easy to make, but there are still some disadvantages, such as taking the product to a pick-up point, among other aspects (Sahoo et al., 2018). Moreover, in the case of Amazon, if the product is from an external seller, other costs may also have to be assumed, such as shipping. Nevertheless, due to the available facilities for returning products in online commerce, it is likely to proceed with the product return.

Balance theory postulates that the relationship between an individual and an object should be balanced, as balanced relationships are preferred (Heider, 1958). Therefore, if the individual has a bad perception of the object, it is possible that he also performs behaviors in consonance with the poor evaluation of the product, such as the return of the product. If the consumers are disappointed with the product's performance, they will likely evaluate it negatively (Nam et al., 2020). The perception that they have been cheated will lead to a willingness to return the item to reduce the losses incurred by the purchase. Although there are aspects they will not get back, such as the time invested, this return will allow them to recover most or all of the money they spent.

H4b. *Outcome regret has a positive effect on return intention.*

Intentions are the main predictor of actual behavior (Ajzen, 1991). However, behavioral intentions do not always affect individuals' actual behavior (Webb & Sheeran, 2006). The discrepancy between intentions and actual behavior is most evident when dealing with issues where there may be social desirability in the responses (Fisher, 1993). In this regard, it should be noted that product returns have already become a common process for online shoppers, so there is no reason for the social desirability bias (CNBC, 2022). Moreover, the fact that this is already a standard process for consumers encourages turning intentions into actual behavior (Verplanken & Orbell, 2022). Thus, if the consumers plan to return an item, they will likely start the process. This process is usually costly for the consumers, as they have to repack the product and sometimes take it to a pick-up point to return the product to the seller. Thus, if the consumers are willing to carry out this process, it implies they truly want to return the product. In line with previous literature that has shown that intentions are an antecedent of actual behavior (Koronios et al., 2022; Wang & Li, 2022), it is proposed:

H5: Return intention has a positive effect on return behavior.

Personality traits can affect flow experiences (Chen et al., 2017; Novliadi et al., 2018). The concept of satisficers and maximizers has been widely studied in the consumer behavior discipline and has proved to be highly relevant (Misuraca & Fasolo, 2018; Schwartz et al., 2002). Maximizers are consumers who seek the best outcomes from all their decisions and try to examine all the available options, which involves investing much time. On the other hand, satisficers accept any option

that satisfies the selection criteria but is not necessarily the best. Maximizers tend to be very sensitive to regret (Schwartz et al., 2002) because they always want to make the best product choices.

Concerning the decision process they carry out, these groups have several differences. Maximizers are used to evaluate all available alternatives carefully, attaching great importance to this stage of the purchase to achieve their goal: to get the best product. Therefore, if a consumer regrets the purchase process, this impact on maximizers will be greater due to the enormous importance they attach to this purchase stage (Harris et al., 2021). On the other hand, satisficers are characterized by spending the necessary time to get a product that suits their needs. Therefore, they attach less importance to this stage of the purchase journey, which will cause the consequences of process regret to be lower. For this reason, while satisfied consumers may consider the flow as a positive aspect of their buying process that has allowed them to have a good time, this is unlikely to be the case for maximizers. Instead, maximizing consumers considers the search and alternative evaluation process very relevant to obtain as much information as possible to make the best decision (Karimi et al., 2015). Therefore, the knowledge of factors that distract them from this task, although they may provide a more enjoyable time, is not valued positively by this type of consumer, as they are aware that this state of flow has prevented them from carrying out their purchasing process as they desired, due to the loss of self-consciousness that the flow state implies.

H6a. : The effect of flow consciousness on process regret is higher for satisficers than for maximizers.

The maximizers' search for the best product causes them to feel great dissatisfaction if they believe that they have not achieved it, compared to satisficers consumers. When satisficers experience outcome regret, they will try to minimize it by looking for external factors to justify their poor choice, including flow as a possible factor if they are aware of it (Misuraca & Fasolo, 2018). However, just as when they experience process regret, the obsession with the best outcome that characterizes maximizers will cause them not to consider having experienced flow as such a positive aspect of the experience. This will mean that being aware of flow will not be seen as an aspect that reduces their regret.

Moreover, maximizers prefer controlling all aspects of the purchase decision to make the best possible decision. It is important to note that post-purchase regret tends to be more significant when the consumer has excessive control over decisions than individuals who have little control (Novliadi et al., 2018). This is a further reason why the flow consciousness reductive effect on outcome regret is greater for satisficers, who do not tend to control their decisions excessively.

H6b. : The effect of flow consciousness on outcome regret is greater for satisficers than for maximizers.

Fig. 1 depicts the proposed research model.

4. Research design: participants and procedure

The data used to carry out the research were collected from real consumers based on their online shopping experiences. A market research company selected the participants and they were economically rewarded. The company allows for a broad reach, providing demographically representative samples. In addition, it allows a higher quality of data than other possible online methods (Peer et al., 2017). To take part in the survey, they were required to have made a recent online e-commerce purchase (in the last week) on Amazon that cost between $20 and $50, in which they would have already received the product, and they were not completely satisfied. The average price consumers spend per item on Amazon is $34.08 (Pressreader, 2022). Therefore, when setting this interval, consumers were asked to refer to a regular purchase on the platform. Particular emphasis was also put on the fact that this should not be an opportunistic purchase (e.g., a purchase to use the product once and return it). The reasons to choose Amazon as an online retailer are because it is the most widely used platform for online shopping, and shipping on most of its products is fast, with delivery usually taking less than two days from the purchase moment (Statista, 2022).

Due to the cross-sectional data collection, some of the suggestions provided by Maier et al. (2023) were considered. Specifically, a sampling strategy was carried out to gather a representative sample of the context of the study. Moreover, the sample size requirements for finding the proposed effects were calculated. For the proposed model, to find a medium effect size, with a power level of 0.80 and a significance level of 0.05, the required sample size is 170 (Soper, 2023). Once the minimum sample size was calculated, a large dataset was gathered.

Consequently, data from 261 completed questionnaires were collected. Based on the attention check set in the questionnaire ("if you are reading this, check four"), four responses were removed from the dataset. Therefore, 257 valid questionnaires were collected. This sample size fulfilled the minimum sample size requirements of 200 needed to use the Covariance-based structural equation modeling (CB-SEM) established (Astrachan et al., 2014).
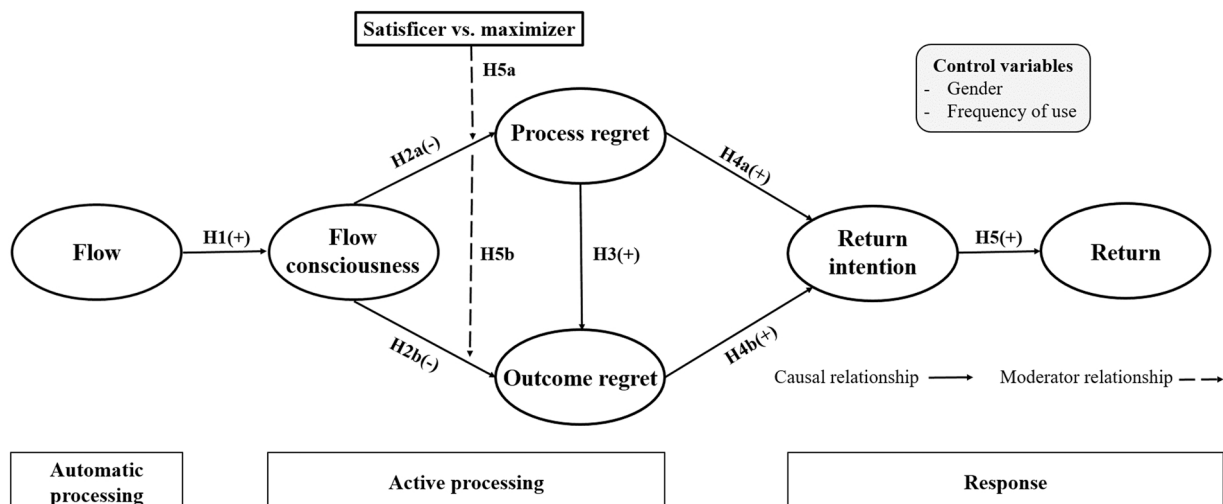

Fig. 1. Conceptual model adapted from Austin (1997).

5. Data analysis and results

5.1. Respondents' demographic profile

The sample is composed of North American consumers who are relatively young (66.15 % under 45 years old). More than half of the sample has university education and is quite balanced in terms of gender and they have wide experience on Amazon (almost half of the participants use it several times a week). According to these features, the sample is representative of North Americans who tend to use e-commerce (GWI, 2022). Table 2 presents a description of the sample used in the study.

5.2. Measures

At the beginning of the survey, the participants were asked to recall a shopping experience with the characteristics previously required to participate in the study. To help them remember this shopping experience, they were asked an open-ended question in which they had to explain what the product was and what they would use it for. At the same time, this question allowed researchers to ensure that the participant was eligible to participate. Then, respondents were asked about the variables in the research with items on a 7-point Likert scale ranging from 1 ("strongly disagree") to 7 ("strongly agree"). Previously validated scales were used to measure concentration (four items adopted from Ghani & Deshpande, 1994), time distortion (three items adopted from Agarwal & Karahanna, 2000), enjoyment (four items adopted from Kourfaris, 2002), flow consciousness (two items adopted from Sicilia et al., 2005; Barta et al., 2022), process regret (four items adopted from Lee & Cotte, 2009), outcome regret (four items adopted from Bonifield & Cole, 2007), return intention (three items adopted from Lee & Yi, 2017) and the maximizer/satisficer scale (six items adopted Nenkov et al., 2008). The items that did not meet the factorial loading criteria were successively eliminated (Anderson & Gerbing, 1988). These items are indicated in Appendix A. Table 3 shows the mean values, standard deviation and the Cronbach alpha value for each construct.

Different measurements of flow have emerged in the academic literature. According to the research context, it has been considered both a unidimensional and multidimensional construct (Norsworthy et al., 2021). For example, in the tourism context, there is a recent tendency to consider it a unidimensional construct with items covering different aspects such as concentration, temporal distortion and immersion (Kim et al., 2020; Atzeni et al., 2022). In working environments, it is more common to use multidimensional scales composed of dimensions such as absorption, enjoyment and intrinsic motivation (Bakker, 2008; Taser

Table 2
Description of sample.

Label	Frequency	Percentage
Age (N = 257)		
18–24	34	13.23 %
25–34	60	23.35 %
35–44	76	29.57 %
45–54	48	18.68 %
55–64	33	12.84 %
More than 64 years old	6	2.33 %
Gender (N = 257)		
Female	141	54.86 %
Male	116	45.14 %
Education (N = 257)		
High school degree	67	26.07 %
Undergraduate degree	122	47.47 %
Graduate degree	68	26.46 %
Frequency of using Amazon (N = 257)		
Hardly ever	23	8.95 %
Several times a month	116	45.14 %
Several times a week	95	36.96 %
Several times a day	23	8.95 %

Table 3
Mean, standard deviation and Cronbach's alpha values.

Construct	Mean (SD)	Cronbach Alpha
Concentration	4.87 (1.50)	0.940
Time distortion	4.51 (1.76)	0.917
Enjoyment	4.63 (1.49)	0.947
Flow consciousness	3.72 (1.65)	0.886
Process regret	4.83 (1.73)	0.929
Outcome regret	5.32 (1.30)	0.868
Return intention	4.64 (1.63)	0.958
Maximizer	4.52 (1.35)	0.848

et al., 2022; Tse et al., 2022). However, in this research, similar to previous research on consumer behavior, flow state was measured through the three dimensions of concentration, time distortion and enjoyment (Siekpe, 2005; Herrando et al., 2018; Barta et al., 2022). Finally, to find out their actual behavior, they were asked if they had returned the product or started the return process.

5.3. Non-response bias and common method bias assessment

The study's method of data collecting using surveys may result in non-response bias. Early and late responses were compared to determine the absence of non-response bias. Two groups (early and late respondents) were formed based on the time used to complete the questionnaire. The group of early respondents consisted of the 80 % of participants who finished the survey the quickest, while the group of late respondents comprised the other 20 %. This research's mean values for each reflective construct were determined, and t-tests were performed to compare the two groups. There were no significant differences between groups ($p > 0.05$). Thus, non-response bias is not an issue in this study.

Concerning common method bias, steps were taken to eliminate the possibility of common method bias due to the use of surveys to collect data. First, we followed recommended procedures to minimize this risk through research design. To encourage respondents' honesty, we anonymized their responses and clarified that there were no correct or incorrect responses. In addition, the items were carefully constructed to prevent ambiguity, and a pre-test with six participants was conducted to ensure that the items were correctly understood (Podsakoff et al., 2003). We also used confirmatory factor analysis to examine any common method variance. To assess the amount of trait, method, and error variance (Bagozzi & Phillips, 1982), the following four models (containing all model variables) were developed: (1) a null model in which variance in measures is explained by random error; (2) a trait-only model in which variance in measures is explained by traits plus random error; (3) a method-only model in which variance in measures is explained completely by method factors plus random error; and (4) a trait-method model in which variance in measures is explained by trait factors, method factors, and random errors combined (Podsakoff et al., 2003). The null model is nested in both the method-only and trait-only models, while the trait-method model is nested in the method-only model. As a result, chi-square differences ($\chi2$) can be used to detect trait and method variation. The results are shown in Table 4. The results show that models 2 and 4 fit much better than models 1 and 3, implying that trait variance exists (Bagozzi & Phillips, 1982). In addition, as models 3 and 4 fit substantially better than models 1 and 2, some variation is due to the method. The variance estimation shows that the method accounts for 17.05 %, being trait factors the main source of variance. This amount of method variance is notably lower than the average variance obtained in previous research (28.9 % in the psychology field and 23.8 % in the business field; Cote & Buckley, 1987).

5.4. Measurement model

A confirmatory factor analysis (CFA) was carried out using the EQS 6.4 program to examine the reliability and discriminant validity.

Table 4

Nested confirmatory factor analyses tests for trait and method effects.

Model	χ2	d.f.	p	Model comparison	χ2 difference	d.f.	p
Null	6334.436	351	<0.001	1 vs 2	5750.207	55	<0.001
Trait-Only	584.229	296	<0.001	3 vs 4	3619.967	55	<0.001
Method-Only	4092.863	324	<0.001	1 vs 3	2241.573	27	<0.001
Trait-Method	472.896	269	<0.001	2 vs 4	111.333	27	<0.001

Structural equation modeling based on covariances (CB-SEM) is used to test the hypotheses. CB-SEM is appropriate for confirmatory research when a theory-based model should be explained using data (Astrachan et al., 2014). In addition, CB-SEM uses chi-square to determine the differences between the observed and implied covariance matrices. Its different analytical requirements are stringent, yielding several Goodness-of-Fit indices. In addition, EQS can be used when second-order reflective models exist, as in this study. Researchers have recognized that when measuring psychological constructs that describe attitudes or behaviors it is better to use reflective indicators because they are the origin of the observed variable, and their effects are reflected in the variable (Agarwal & Karahanna, 2000; Siekpe, 2005).

To check the validity of the measurement model, the internal consistency of the constructs was checked (all composite reliabilities were higher than 0.80; Hair et al., 1998). Convergent validity was evaluated through the average variance extracted (AVE) indicator (see Table 5): this exceeded the recommended threshold of 0.50 (Fornell & Larcker, 1981). Finally, we assessed the model's discriminant validity by verifying that the inter-construct correlations were lower than the square roots of the AVEs of each variable (Fornell & Larcker, 1981). As all pairs of constructs met this criterion, it can be concluded that the model has an acceptable level of discriminant validity. Table 5 shows these values. Finally, the results also showed satisfactory fit values for the structural model: (χ^2 = 584.229, 296 d.f, p-value < 0.01; NFI = 0.908; NNFI = 0.943; CFI = 0.952; and RMSEA = 0.062).

5.5. Structural model

Following the verification of the measurement scales, the hypotheses were tested. Before analyzing the hypotheses developed, the effect that individual variables could have on the intention to return the product was analyzed. Specifically, we analyzed the effect of gender and frequency of use of Amazon on the intention to return the product. T-tests for independent samples and ANOVA analyses were carried out for this purpose. The results show no differences between genders (Mmale = 4.520; Mfemale = 4.740; T-statistic = 1.052; p-value > 0.05). However, the frequency of use affects the intention to return the product, with consumers more used to its use being more likely to want to return it (F statistic = 3.118; p-value = 0.027).

The findings show that the flow state positively affects flow consciousness (β = 0.760; p < 0.05; H1 supported). However, contrary to the expectations, flow consciousness has a positive effect on process regret (β = 0.481; p < 0.05; H2a not supported) and no significant effect

on outcome regret (β = −0.109; p > 0.05; H2b not supported). Concerning the process regret, it positively affects the outcome regret (β = 0.365; p < 0.05; H3 supported) but not the return intention (β = 0.023; p > 0.05; H4a not supported). However, outcome regret positively affects the return intention (β = 0.640; p < 0.05; H4b supported). These relationships partially explain the endogenous variables used in the model: flow consciousness (R^2 = 0.380), process regret (R^2 = 0.212), outcome regret (R^2 = 0.180) and return intention (R^2 = 0.288). R^2 values (coefficient of determination) of 0.20 and above are considered high in the consumer behavior discipline (Hair et al., 2016). In this sense, most concepts analyzed in the research – flow consciousness, process regret and return intention– satisfy the requirements of the index. Overall, the structural model fit showed good values: (χ^2 = 392.033, 220 df, p value< 0.01; NFI = 0.921; NNFI = 0.958; CFI= 0.964; and RMSEA = 0.055).

Then, a multi-sample analysis was carried out. The total sample was divided into two groups to test the moderator role of consumer behavior between satisficers and maximizers. As in previous studies, those with values above 4 were taken to be maximizers and those below 4 to be satisficers; intermediate cases were eliminated (Luan et al., 2018). Therefore, the analysis was carried out with 110 satisficers and 138 maximizers.

The results show between-group differences in one of the two hypotheses developed. In the satisficer group, flow consciousness has a significant positive effect on process regret (β = 0.425; p < 0.05) and a negative effect on outcome regret (β = −0.421; p < 0.05). By contrast, in the maximizer group, flow consciousness positively affects process regret (β = 0.538; p < 0.05) and outcome regret (β = 0.165; p < 0.05). Analyzing the differences between these parameters shows no significant differences in the relationship between flow consciousness and process regret between groups (χ^2 = 1.561; p > 0.05), which does not support H5a. However, it should be noted that there are differences between groups in the relationship between flow consciousness and outcome regret (χ^2 = 16.374; p < 0.05), which supports H5b. Table 6 shows these results.

5.6. Actual behavior

Knowing if the consumer had made the return or planned to make the return, an analysis was carried out to determine if the intentions could explain the actual behavior. To test this hypothesis, the dependent variable was coded into two categories (0 = Non-product return; 1 = Product return). After this, a binary logistic regression analysis was

Table 5

Latent variable reliability.

Variables	CR	AVE	1	2	3	4	5	6	7	8
(1) Concentration	0.943	0.804	**0.897**							
(2) Time distortion	0.917	0.786	0.756	**0.887**						
(3) Enjoyment	0.948	0.821	0.637	0.649	**0.906**					
(4) Flow consciousness	0.886	0.796	0.499	0.570	0.448	**0.892**				
(5) Process regret	0.930	0.815	0.175	0.288	0.260	0.461	**0.903**			
(6) Outcome regret	0.870	0.626	0.069	0.091	-0.040	0.057	0.408	**0.791**		
(7) Return intention	0.958	0.884	0.231	0.185	0.172	0.234	0.231	0.539	**0.940**	
(8) Maximizer	0.823	0.540	0.070	0.181	0.040	0.347	0.174	0.053	0.156	**0.735**

Notes: CR = Composite reliability; AVE = Average Variance Extracted. The diagonal elements (in bold) are the square roots of the AVEs. Values below the diagonal elements are the inter-construct correlations.

Table 6
Results of hypotheses tests.

Hypotheses	Relationship		Result
H1	Flow → Flow consciousness		Supported
H2a	Flow consciousness → Process regret		Not supported*
H2b	Flow consciousness → Outcome regret		Not supported
H3	Process regret → Outcome regret		Supported
H4a	Process regret → Return intention		Not supported
H4b	Outcome regret → Return intention		Supported
H5	Return intention → Return		Supported
Multi-group analyses			
Satisficers	Standard coefficient		Hypotheses
H2a	0.425		Not supported*
H2b	-0.421		Supported
Maximizers	Standard coefficient		Hypotheses
H2a	0.538		Not supported*
H2b	0.165		Not supported
Contrast	Difference χ^2	p-value	Hypotheses
H6a	1.561	0.212	Not supported
H6b	16.374	<0.001	Supported

Note: * = supported at 0.05 level contrary to hypothesis

conducted. The results indicate that the intention to return the product significantly affects actual consumer behavior (Wald-statistic = 44.614; Exp (β) = 4.177; p-value < 0.001). Fig. 2 shows the results of the study.

6. Discussion

Flow has multiple advantages, such as improved consumer experience, higher purchase intention and intention to revisit the website (Wang & Hsu, 2014; Barta et al., 2021; Kautish & Khare, 2022). However, the loss of self-consciousness in this state can subsequently generate purchases that the consumer regrets them. So, when companies try to induce flow states to encourage buying in the online environment, special attention should be paid to ensure that the consumer will be satisfied with the decision.

It has been observed that flow may ultimately generate outcome regret through the emergence of flow consciousness and process regret. Flow itself does not cause regret. Being aware that the consumer has been carried away during the process, having a pleasant feeling, and spending much time, leads to the appearance of regret with the way they made their purchase. Process regret often means that the consumer is dissatisfied with how they made their purchase, and there is a need to have had to look elsewhere online for information or to have spent less time making their choice. In this sense, it has been observed that, contrary to expectations, being aware of the flow increases process regret for both satisficers and maximizers. Therefore, when consumers are dissatisfied with the way the purchase was made, they consider the flow

as something negative, attributing the responsibility for the failure to it. Consequently, flow consciousness can explain process regret.

Furthermore, the occurrence of regret in the decision-making process often implies dissatisfaction with the product's performance, resulting in outcome regret. This regret generates the need to return the product, encouraging the consumer to take the necessary actions to return the product. So, the willingness to return a product depends mainly on its performance, in line with previous research that indicates that product performance and return rates are inversely related (Dzyabura et al., 2019).

Concerning the consumers, knowing their characteristics, such as if they have maximizing or satisfying behavior, is relevant to understand their perceptions after being aware of the flow. The influence of flow consciousness on regret can be totally different between these groups of consumers when discussing outcome regret. Satisficers who are flow conscious use it to reduce their regret with the product's outcome, reminding them of the good time they had while shopping, as shown in previous studies (Barta et al., 2022). However, maximizing consumers use flow consciousness in a completely different way. These consumers may feel that they got carried away during the flow state and that the way they made the purchase was not correct. In this sense, maximizers consumers feel a more significant regret about the outcome. The desire for a proper buying process, looking at as much information as possible, and wanting to make the best possible decision makes them interpret flow as a negative aspect of their buying process. However, this flow consciousness is not perceived as a negative when evaluating their buying process, but also product performance. This may be because they consider that flow has prevented them from properly buying and choosing a good product. Maximizers are not looking for a buying process they enjoy but for an efficient buying process in which they can compile as much information as possible to make the best decision. In addition, the total concentration on a single aspect or task that the flow state implies could cause them to consider that they have not made the best decision because they have not been informed from other sources apart from the information shown on Amazon (e.g., specialized forums, product demonstration videos).

6.1. Theoretical contributions

In the same way that the shopping process may generate smart shopping feelings and consumer satisfaction (Flavián et al., 2019), it may also result in regret. This study provides knowledge about the mechanism through which consumers develop regret. Unlike other mechanisms of regret already explored that focus on cognitive style (Qiu et al., 2017), this research analyzes a mechanism based on two types of regret that may appear after the purchase, providing several theoretical
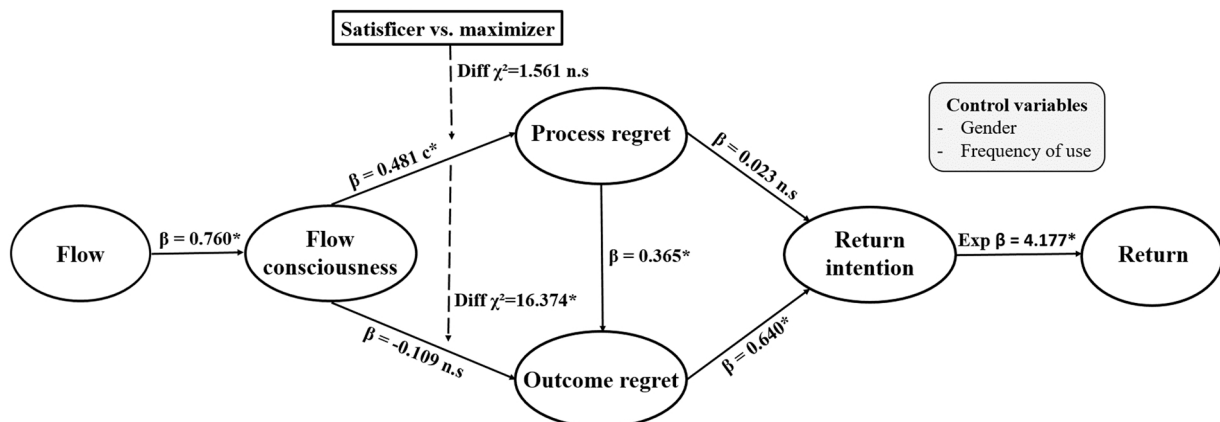
* = supported at 0.05 level; n.s = not significant; c* = supported at 0.05 level contrary to hypothesis

Fig. 2. Results of the study.

contributions.

First, the study extends the previous knowledge in which a flow effect on regret through impulse purchases was shown (Wulandari & Risqiani, 2021), or the effect of flow consciousness on outcome regret (Barta et al., 2022). This study expands the knowledge of these studies by analyzing the relationship between flow consciousness and regret from a dual perspective: process and outcome regret. In addition, the research extends knowledge of the factors that influence these relationships by considering consumer characteristics (satisficer or maximizer consumer) that are key to understanding the effect of flow consciousness on different types of regret.

Second, the differences between satisficers and maximizers allow contribute to the knowledge of the behavior of these different consumer profiles. Understanding consumer characteristics, such as if they have maximizing or satisfying behavior, is relevant to knowing their perceptions after being aware of the flow. In this sense, the results shed significant insight into actual consumer behavior. Previous literature has examined the different perceptions and behaviors of these groups of consumers following a successful purchase experience explained by factors such as the number of alternatives or the assortment size increase (Karimi et al., 2018; Sethuraman et al., 2022). However, few studies attempted to explore whether perceptions of these groups of consumers differed during flow experiences and in what ways they differed. This study makes a theoretical contribution in this sense, noting that the interpretation of flow by satisficers and maximizers differs significantly in some cases. While both consider the flow a negative aspect of the purchase process when they regret a purchase, the same does not happen when they evaluate the product's performance. Satisficers consider flow as a positive aspect that reduces their final product regret, as recent literature shows (Barta et al., 2022). However, maximizers still see flow as a negative aspect that only further increases their outcome regret.

Third, the research contributes to the literature on product returns. It contributes to the knowledge of the factors that can explain the product return through a mechanism based on flow consciousness and consumer regret from a double route. Focusing on returns that are not opportunistic behavior, it is shown that being aware of the flow could decrease the intention to return the product through reduced outcome regret in the case of satisficers. The research shows the importance of customer characteristics in reducing product returns. While encouraging consumer flow consciousness in the case of satisficers is interesting to reduce product returns, maximizing consumers should be tried to prevent them from being flow conscious.

6.2. Managerial implications

The results suggest that companies should consider all aspects of flow state. Flow has many positive aspects for both businesses and consumers but also some negative aspects. It has been observed that flow can cause regret, encouraging the return of purchased products. Proper management of this aspect would have great benefits. On the one hand, consumer satisfaction would increase, and companies would not have to handle many returns. On the other hand, this would allow logistics and repackaging savings, contributing to sustainability.

Proper integration of the different sales channels can reduce uncertainty, reducing the number of returns (Wang et al., 2021). However, selling products that meet the expectations generated by the consumer is important in reducing the occurrence of returns. Creating false expectations about the product could increase sales in a short time. However, there would not be a great business profit because, apart from the damage received by the proliferation of complaints about the product, there would be a large number of returns requested for that product, resulting in high costs for the company (Dailey & Ülkü, 2018). Generally, it is the mistake during the purchase process that results in outcome regret and, ultimately, the return of the product. Therefore, providing a pleasant, intuitive shopping experience, incorporating information and tools that facilitate the consumer's decision (e.g., 360º photos, Virtual

Try-ons) would help to reduce the process regret. In this regard, it should be considered that technology integration into business strategy complicates marketing communications, fostering the need for more advanced marketing performance analytics. Therefore, companies should not only consider integrating new technology tools but also develop the appropriate methods to measure how they affect consumer behavior in different aspects, such as increasing the rate of sales or reducing the rate of returns (Buhalis & Volchek, 2021).

Although negative emotions and certain individual motivations can generate high satisfaction (Pappas et al., 2020), the experience during the decision process plays an essential role in this case. For successful management, encouraging recall of the shopping experience to make the consumer aware of the flow may be beneficial in some cases but detrimental in others. Online commerce platforms often have a large amount of information about each consumer interested in customizing their shopping experience and sending offers to encourage the purchase of certain products. However, this information can also be helpful for post-purchase actions, classifying consumers according to satisficer or maximizer consumer behavior. To form these groups, information could be asked when signing up to the e-commerce platform. For example, consumers might be asked to complete a short questionnaire when creating an e-commerce site account. This information could be complemented through data collected during web browsing to form these groups in a precise way. Aspects such as the time spent to make the purchase and the number of pages visited could be used. Once this information is known, messages could be sent to satisficers after the purchase to induce them to remember and value the purchase process, trying to make them aware of their great experience if they were in the flow state. On the other hand, maximizers should be prevented from being aware of the flow. Introducing messages during the purchase process that show them more information about that product or other substitute products would be the best strategy to avoid returning a product later, which would incur costs.

When companies have a stock of products they need to sell quickly, actions such as discounts could be directed at satisficers, given that it is easier to carry out actions to reduce their outcome regret. Furthermore, actions based on the customers' motivations could enhance their satisfaction, which positively affect engaging behaviors (Aguirre et al., 2023).

6.3. Limitations and future research directions

This work has several limitations. Although this study has addressed two types of regret consumers may feel after making a purchase, future studies could introduce into the mechanism other types of regret that may arise before a purchase, such as anticipated regret. In this sense, in other contexts, it has been observed how it influences the motivation to perform specific behaviors (Verkijika, 2019). Furthermore, due to the current growing trend in product returns, it would be interesting to carry out a study controlling the impact of some variables, such as the time available to make the return or the purchase cost. For this purpose, the collaboration between academics and practitioners may allow conducting field experiments that could help to investigate further this current problem.

Little empirical research has examined the relationship between flow consciousness and online regret. The results of the study shed light on the actual behavior of consumers. However, it is necessary to investigate further the causes that may explain the different impacts of flow consciousness according to consumer characteristics. For this purpose, qualitative methodologies that allow a deeper understanding of participants' perceptions could help find reasons that explain the different effects of flow consciousness on consumer regret according to the consumer's characteristics. Moreover, combining qualitative and quantitative methodologies, such as experiments, could provide greater validity and generalizability of the results.

Furthermore, using cross-sectional data may present different types

of bias (Maier et al., 2023). Despite having checked for the absence of non-respondent or common method bias, further research could address the limitations of cross-sectional data. Multi-method research designs could be carried out to enrich studies with this type of data.

7. Conclusion

The study sheds light on the relationship between flow consciousness and two types of regret that can arise after product purchase (process and outcome regret). Contrary to expectations, flow consciousness increases process regret. However, flow consciousness does not affect to outcome regret. Further investigating this unfound effect, the study demonstrates that consumer aspects are essential to understand the relationship between these two concepts. Satisficers consumers positively value the experience during the purchase process that the flow has provided them. This positive evaluation of the flow reduces the outcome regret. In contrast, maximizers feel that the flow has prevented them from carrying out the purchasing process in the methodical and appropriate way they consider. Thus, being conscious of the flow ultimately generates a greater outcome regret in this type of consumer.

CRediT authorship contribution statement

Sergio Barta: Conceptualization, Formal analysis, Methodology, Validation, Writing Original Draft. **Raquel Gurrea:** Conceptualization, Investigation, Methodology, Supervision, Visualization, Writing – Review & Editing. **Carlos Flavián:** Conceptualization, Project administration, Supervision, Writing – Review & Editing.

Declaration of Competing Interest

No authors have conflicts of interest to disclose.

Acknowledgements

Appendix A. Scale items

Concentration (Ghani & Deshpande, 1994)
During the purchase…
CONC1. I was absorbed intensely in the activity
CONC2. My attention was focused on the activity
CONC3. I concentrated fully on the activity
CONC4. I was deeply engrossed in the activity
Time Distortion (Agarwal & Karahanna, 2000)
During the purchase…
DIST1. Time seemed to go by very quickly
DIST2. I tended to lose track of time
DIST3. Time flies while I was surfing
Enjoyment (Koufaris, 2002)
The shopping experience was…
ENJ1. Interesting
ENJ2. Enjoyable
ENJ3. Exciting
ENJ4. Fun
Flow Consciousness (Sicilia et al., 2005; Barta et al., 2022)
The word "flow" is used to describe a state of mind sometimes experienced by people who are deeply involved in some
    activity. An example of flow is where a professional athlete is playing exceptionally well and has achieved a state of
    mind where nothing else matters outside of the game; the athlete is completely and totally immersed in it.
    Activities that lead to flow completely captivate a person for a period. When one is in flow, time may seem to stand still
    and nothing else seems to matter. The flow state may not last long on any occasion, and it may come and go over time.
    Flow has been described as an intrinsically enjoyable experience.
    Thinking about the experience you had on Amazon that you have named at the beginning of the questionnaire, respond
    to the following:
CONS1. I experienced flow
CONS2. It was a very intense sensation
Process Regret (Lee & Cotte, 2009)
PROC1. I expended too much effort in making my decision
PROC2. I wasted too much time in making my decision
PROC3. I think I put too much thought in the buying process
PROC4. I feel that too much time was invested in getting this product
Outcome Regret (Bonifield & Cole, 2007)
OUT1. I should have chosen an alternative product
OUT2. I regretted buying this product
OUT3. After received this product, I felt bad about ordering it
OUT4. In retrospect, I felt that I could have made a better choice by choosing a different product
Return Intention (Lee & Yi, 2017)
RET1. I will likely return the product
RET2. It is probable I will return the product
RET3. I am going to return the product
Maximizer (Nenkov et al., 2008)
MAX1. When I am in the car listening to the radio, I often check other stations to see if something better is playing, even if I
    am relatively satisfied with what I am listening to
MAX2. No matter how satisfied I am with my job, it is only right for me to be on the lookout for better opportunities
MAX3. I often find it difficult to shop for a gift for a friend
MAX4. When I am going to watch a movie, I am always struggling to choose the best one

(continued)

MAX5. No matter what I do, I have the highest standard for myself
MAX6. I never settle for second best
Gender
Frequency of Use
How often do you use Amazon?
Hardly ever
Several times a month
Several times a week
Several times a day
Actual Behavior
Have you returned the product or started the return process?
No
Yes

Note: items in italics were deleted during the validation process

References

Agarwal, R., & Karahanna, E. (2000). Time flies when you're having fun: Cognitive absorption and beliefs about information technology usage. *MIS Quarterly: Management Information Systems, 24*(4), 665–694.

Aguirre, C., de Maya, Ruiz, Palazón Vidal, M, S., & Rodríguez, A. (2023). Consumer motivations for engaging with corporate social responsibility on social media. *Spanish Journal of Marketing - ESIC*. https://doi.org/10.1108/SJME-05-2022-0106

Alaei, A. M., Taleizadeh, A. A., & Rabbani, M. (2022). Marketplace, reseller, or web-store channel: The impact of return policy and cross-channel spillover from marketplace to web-store. *Journal of Retailing and Consumer Services, 65*, Article 102271.

Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes, 50*(2), 179–211.

Ambilkar, P., Dohale, V., Gunasekaran, A., & Bilolikar, V. (2022). Product returns management: A comprehensive review and future research agenda. *International Journal of Production Research, 60*(12), 3920–3944.

Anderson, J. C., & Gerbing, D. W. (1988). Structural equation modeling in practice: A review and recommended two-step approach. *Psychological Bulletin, 103*(3), 411.

Astrachan, C. B., Patel, V. K., & Wanzenried, G. (2014). A comparative study of CB-SEM and PLS-SEM for theory development in family firm research. *Journal of Family Business Strategy, 5*(1), 116–128.

Atzeni, M., Del Chiappa, G., & Mei Pung, J. (2022). Enhancing visit intention in heritage tourism: The role of object-based and existential authenticity in non-immersive virtual reality heritage experiences. *International Journal of Tourism Research, 24*(2), 240–255.

Austin, J. R. (1997). A cognitive framework for understanding demographic influences in groups. *The International Journal of Organizational Analysis, 5*(4), 342–359.

Bakker, A. B. (2008). The work-related flow inventory: Construction and initial validation of the WOLF. *Journal of vocational Behavior, 72*(3), 400–414.

Bagozzi, R. P., & Phillips, L. W. (1982). Representing and testing organizational theories: A holistic construal. *Administrative Science Quarterly*, 459–489.

Barta, S., Flavián, C., & Gurrea, R. (2021). Managing consumer experience and online flow: differences in handheld devices vs PCs. *Technology in Society, 64*, Article 101525.

Barta, S., Gurrea, R., & Flavián, C. (2022). The role of flow consciousness in consumer regret. *Internet Research, 32*(3), 875–896.

Bijimult, T. H., Broekhuis, M., De Leeuw, S., Hirche, C., Rooderkerk, R. P., Sousa, R., & Zhu, S. X. (2021). Challenges at the marketing–operations interface in omni-channel retail environments. *Journal of Business Research, 122*, 864–874.

Bonifield, C., & Cole, C. (2007). Affective responses to service failure: Anger, regret, and retaliatory versus conciliatory responses. *Marketing Letters, 18*(1–2), 85–99.

Brandtner, A., Antons, S., Liebherr, M., & Brand, M. (2022). How different gaming genres can be described by required skills and motives for playing. *Cyberpsychology, Behavior, and Social Networking, 25*(9), 613–619.

Buhalis, D., & Volchek, K. (2021). Bridging marketing theory and big data analytics: The taxonomy of marketing attribution. *International Journal of Information Management, 56*, Article 102253.

Chen, Y., & Lin, C. A. (2022). Consumer behavior in an augmented reality environment: Exploring the effects of flow via augmented realism and technology fluidity. *Telematics and Informatics, 71*, Article 101833.

Chen, C., Zhang, K. Z., Gong, X., Zhao, S. J., Lee, M. K., & Liang, L. (2017). Understanding compulsive smartphone use: An empirical test of a flow-based model. *International Journal of Information Management, 37*(5), 438–454.

CNBC. (2022). A more than $761 billion dilemma: Retailers' returns jump as online sales grow. http://bit.ly/3Uepauq (Accessed 20 October 2022).

Connolly, T., & Zeelenberg, M. (2002). Regret in decision making. *Current Directions in Psychological Science, 11*(6), 212–216.

Csikszentmihalyi, M. (1975). *Beyond boredom and anxiety*. San Francisco: Jossey-Bass.

Cote, J. A., & Buckley, M. R. (1987). Estimating trait, method, and error variance: Generalizing across 70 construct validation studies. *Journal of Marketing Research, 24*(3), 315–318.

Dailey, L. C., & Ülkü, M. A. (2018). Retailers beware: On denied product returns and consumer behavior. *Journal of Business Research, 86*, 202–209.

Davvetas, V., & Diamantopoulos, A. (2017). "Regretting your brand-self?" The moderating role of consumer-brand identification on consumer responses to purchase regret. *Journal of Business Research, 80*, 218–227.

De, P., Hu, Y. J., & Rahman, M. S. (2013). Product-oriented web technologies and product returns: An exploratory study. *Information Systems Research, 24*(4), 998–1010.

Ditinjau, K., Persepsi, D., Kualitas, T., Atasan-Bawahan, I., Terhadap, D. P., Organisasional, D., & Meutia Iskandar, L. (2018). Consumer purchase regret: How personality influences outcome regret and process regret. *Journal of Business and Retail Management Research, 13*(1), 100–107.

Duong, Q. H., Zhou, L., Meng, M., Van Nguyen, T., Ieromonachou, P., & Nguyen, D. T. (2022). Understanding product returns: A systematic literature review using machine learning and bibliometric analysis. *International Journal of Production Economics, 243*, Article 108340.

Dwivedi, Y. K., Ismagilova, E., Hughes, D. L., Carlson, J., Filieri, R., Jacobson, J., & Wang, Y. (2021). Setting the future of digital and social media marketing research: Perspectives and research propositions. *International Journal of Information Management, 59*, Article 102168.

Dzyabura, D., Kihal, El, Hauser, S., R, J., & Ibragimov, M. (2019). Leveraging the power of images in managing product return rates. *SSRN Electronic Journal*.

Fisher, R. J. (1993). Social desirability bias and the validity of indirect questioning. *Journal of Consumer Research, 20*(2), 303–315.

Flavián, C., Gurrea, R., & Orús, C. (2019). Feeling confident and smart with webrooming: Understanding the consumer's path to satisfaction. *Journal of Interactive Marketing, 47*(1), 1–15.

Forbes (2022). The Environmental Cost Of Free Returns: How To Ensure Returns Bolster Sustainability And The Cyclical Economy. ⟨http://bit.ly/3JLbtAV⟩ (Accessed 02 February 2023).

Fornell, C., & Larcker, D. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research, 18*(1), 39–50.

Ghani, J. A., & Deshpande, S. P. (1994). Task characteristics and the experience of optimal flow in human—computer interaction. *Journal of Psychology: Interdisciplinary and Applied, 128*(4), 381–391.

Grewal, D., & Roggeveen, A. L. (2020). Understanding retail experiences and customer journey management. *Journal of Retailing, 96*(1), 3–8.

Griffis, S. E., Rao, S., Goldsby, T. J., & Niranjan, T. T. (2012). The customer consequences of returns in online retailing: An empirical analysis. *Journal of Operations Management, 30*(4), 282–294.

GWI. (2022). Consumer snapshot: North America region. http://bit.ly/3DsvaZI (Accessed 20 October 2022).

Hair, J. F., Black, W. C., Babin, B. J., Anderson, R. E., & Tatham, R. L. (1998). *Multivariate data analysis*. New Jersey: Prentice Hall.

Hair, J. F., Hult, G. T., Ringle, C., & Sarstedt, M. (2016). *A primer on partial least squares structural equation modeling (PLS-SEM)*. Los Angeles: Sage publications.

Harris, P., Dall'Olmo Riley, F., & Hand, C. (2021). Multichannel shopping: The effect of decision making style on shopper journey configuration and satisfaction. *Journal of Retailing and Consumer Services, 58*, Article 102286.

Heider, F. (1958). *The psychology of interpersonal relations*. New York: Wiley.

Hong, J. C., Juan, H. C., & Hung, W. C. (2022). The role of family intimacy in playing collaborative e-sports with a Switch device to predict the experience of flow and anxiety during COVID-19 lockdown. *Computers in Human Behavior, 132*, Article 107244.

Janis, I., & Mann, L. (1977). *Decision making: A psychological analysis of conflict, choice, and commitment*. New York: The Free Press.

Jena, S. K., & Meena, P. (2022). Shopping in the omnichannel supply chain under price competition and product return. *Journal of Retailing and Consumer Services, 65*, Article 102848.

Herrando, C., Jimenez-Martinez, J., & de Hoyos, M. J. (2018). Surfing or flowing? How to retain e-customers on the internet. *Spanish Journal of Marketing-ESIC, 22*(1), 2–21.

Kamiya, A. S. M., Zeelenberg, M., & Hernandez, J. M. da C. (2021). Regulating regret via decreasing goal level: Comparing maximizers and satisficers. *Personality and Individual Differences, 178*, Article 110870.

Karimi, S., Holland, C. P., & Papamichail, K. N. (2018). The impact of consumer archetypes on online purchase decision-making processes and outcomes: A behavioural process perspective. *Journal of Business Research, 91*, 71–82.

Karimi, S., Papamichail, K. N., & Holland, C. P. (2015). The effect of prior knowledge and decision-making style on the online purchase decision-making process: A typology of consumer shopping behaviour. *Decision Support Systems, 77*, 137–147.

Kaur, P., Dhir, A., Chen, S., & Rajala, R. (2016). Understanding online regret experience using the theoretical lens of flow experience. *Computers in Human Behavior, 57*, 230–239.

Kautish, P., & Khare, A. (2022). Investigating the moderating role of AI-enabled services on flow and awe experience. *International Journal of Information Management, 66*, Article 102519.

Kim, M. J., Lee, C. K., & Jung, T. (2020). Exploring consumer behavior in virtual reality tourism using an extended stimulus-organism-response model. *Journal of Travel Research, 59*(1), 69–89.

Kim, M. J., & Hall, C. M. (2019). A hedonic motivation model in virtual reality tourism: Comparing visitors and non-visitors. *International Journal of Information Management, 46*, 236–249.

Kokkoris, M. D. (2019). Maximizing without borders: Evidence that maximizing transcends decision domains. *Frontiers in Psychology, 9*(JAN), 1–6.

Koronios, K., Ntasis, L., Dimitropoulos, P., & Ratten, V. (2022). Not just intentions: Predicting actual purchase behavior in sport sponsorship context. *Sport, Business and Management: An International Journal, 12*(1), 4–28.

Koufaris, M. (2002). Applying the technology acceptance model and flow theory to online consumer behavior. *Information Systems Research, 13*(2), 205–223.

Kuhnle, C., & Sinclair, M. (2011). Decision mode as an antecedent of flow, motivational interference, and regret. *Learning and Individual Differences, 21*(2), 239–243.

Kurtoğlu, R., Özbölük, T., & Hacıhasanoğlu, P. (2022). Revisiting the effects of inward negative emotions on outward negative emotions, brand loyalty, and negative WOM. *Journal of Brand Management, 29*(1), 72–84.

Landman, J. (1993). *Regret: The persistence of the possible.* New York: Oxford University Press.

Lee, S. H., & Cotte, J. (2009). Post-purchase consumer regret: Conceptualization and development of the Ppcr scale. In A. L. McGill, & S. Shavitt (Eds.), *NA - Advances in Consumer Research* (Vol. 36, pp. 456–462). Duluth, MN: Association for Consumer Research.

Lee, S., & Yi, Y. (2017). "Seize the Deal, or Return It Losing Your Free Gift": The effect of a gift-with-purchase promotion on product return intention. *Psychology and Marketing, 34*(3), 249–263.

Li, B., Hu, M., Chen, X., & Lei, Y. (2021). The moderating role of anticipated regret and product involvement on online impulsive buying behavior. *Frontiers in Psychology, 12*, Article 732459.

Luan, M., Fu, L., & Li, H. (2018). Do maximizers maximize for others? Self-other decision-making differences in maximizing and satisficing. *Personality and Individual Differences, 121*, 52–56.

Maier, C., Thatcher, J. B., Grover, V., & Dwivedi, Y. K. (2023). Cross-sectional research: A critical perspective, use cases, and recommendations for IS research. *International Journal of Information Management, 70*, Article 102625.

Marshall, A. (2009). Principles of economics: Unabridged eighth edition. *Cosimo, Inc.*

Minnema, A., Bijmolt, T. H. A., Petersen, J. A., & Shulman, J. D. (2017). Managing product returns within the customer value framework. *Customer Engagement Marketing*, 95–118.

Misuraca, R., & Fasolo, B. (2018). Maximizing versus satisficing in the digital age: Disjoint scales and the case for "construct consensus. *Personality and Individual Differences, 121*, 152–160.

Mookherjee, S., Lee, J. J., & Sung, B. (2021). Multichannel presence, boon or curse?: A comparison in price, loyalty, regret, and disappointment. *Journal of Business Research, 132*, 429–440.

Nam, K., Baker, J., Ahmad, N., & Goo, J. (2020). Dissatisfaction, disconfirmation, and distrust: An empirical examination of value co-destruction through negative electronic word-of-mouth (eWOM). *Information Systems Frontiers, 22*(1), 113–130.

Nakamura, J., & Csikszentmihalyi, M. (2014). The concept of flow. *In Flow and the foundations of positive psychology* (pp. 239–263). Dordrecht: Springer.

Nenkov, M., Morrin Andrew Ward, G. Y., Schwartz, B., Hulland, J., Nenkov, G. Y., Morrin, M., Ward, A., & Hulland, J. (2008). A short form of the maximization scale: Factor structure, reliability and validity studies reliability and validity Studies. *Judgment and Decision Making, 3*(5), 371–388.

Norsworthy, C., Jackson, B., & Dimmock, J. A. (2021). Advancing our understanding of psychological flow: A scoping review of conceptualizations, measurements, and applications. *Psychological Bulletin, 147*(8), 806–827.

Novliadi, F., Zahreni, S., & Iskandar, L. M. (2018). Consumer purchase regret: How personality influences outcome regret and process regret. *Journal of Business and Retail Management Research, 13*(1), 100–107.

Pappas, I. O., Papavlasopoulou, S., Mikalef, P., & Giannakos, M. N. (2020). Identifying the combinations of motivations and emotions for creating satisfied users in SNSs: An fsQCA approach. *International Journal of Information Management, 53*, Article 102128.

Peer, E., Brandimarte, L., Samat, S., & Acquisti, A. (2017). Beyond the Turk: Alternative platforms for crowdsourcing behavioral research. *Journal of Experimental Social Psychology, 70*, 153–163.

Petersen, J. A., & Kumar, V. (2009). Are product returns a necessary evil? Antecedents and consequences. *Journal of Marketing, 73*(3), 35–51.

Pine, B. J., & Gilmore, J. H. (2011). *The experience economy.* Boston: Hardvard Business Press.

Pizzutti, C., Gonçalves, R., & Ferreira, M. (2022). Information search behavior at the post-purchase stage of the customer journey. *Journal of the Academy of Marketing Science, 50*(5), 981–1010.

Podsakoff, P. M., MacKenzie, S. B., Lee, J. Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology, 88*(5), 879–903.

Pressreader. (2022). Prime Day: What you need to know. http://bit.ly/3fzoOjc (Accessed 05 November 2022).

Puccinelli, N. M., Goodstein, R. C., Grewal, D., Price, R., Raghubir, P., & Stewart, D. (2009). Customer experience management in retailing: Understanding the buying process. *Journal of Retailing, 85*(1), 15–30.

Ogbanufe, O., & Pavur, R. (2022). Going through the emotions of regret and fear: Revisiting protection motivation for identity theft protection. *International Journal of Information Management, 62*, Article 102432.

Qiu, R., Xia, L., & Fan, X. (2017). Who regrets more after a choice? The role of dialectical thinking: An Abstract. In N. Krey, & P. Rossi (Eds.), *Back to the future: Using marketing basics to provide customer value. AMSAC 2017. Developments in marketing science: Proceedings of the academy of marketing science* (pp. 121–122). Cham: Springer.

Reuters. (2023). Zara starts charging for clothing returns from home in Spain. http://bit.ly/3JLlNJq (Accessed 02 February 2023).

Rolls, E. T. (1990). A theory of emotion, and its application to understanding the neural basis of emotion. *Cognition & Emotion, 4*(3), 161–190.

Sahoo, N., Dellarocas, C., & Srinivasan, S. (2018). The impact of online product reviews on product returns. *Information Systems Research, 29*(3), 723–738.

Sameeni, M. S., Ahmad, W., & Filieri, R. (2022). Brand betrayal, post-purchase regret, and consumer responses to hedonic versus utilitarian products: The moderating role of betrayal discovery mode. *Journal of Business Research, 141*, 137–150.

Schwartz, B., Ward, A., Lyubomirsky, S., Monterosso, J., White, K., & Lehman, D. R. (2002). Maximizing versus satisficing: Happiness is a matter of choice. *Journal of Personality and Social Psychology, 83*(5), 1178–1197.

Sethuraman, R., Gázquez-Abad, J. C., & Martínez-López, F. J. (2022). The effect of retail assortment size on perceptions, choice, and sales: Review and research directions. *Journal of Retailing, 98*(1), 24–45.

Siekpe, J. S. (2005). An examination of the multidimensionality of flow construct in a computer-mediated environment. *Journal of Electronic Commerce. Research, 6*(1), 31–43.

Sicilia, M., Ruiz, S., & Munuera, J. L. (2005). Effects of interactivity in a web site: The moderating effect of need for cognition. *Journal of Advertising, 34*(3), 31–44.

Soper, D.S. (2023). A-priori Sample Size Calculator for Structural Equation Models [Software]. https://www.danielsoper.com/statcalc (Accessed 02 February 2023).

Statista. (2022). Most popular e-commerce and shopping websites worldwide in May 2022, based on share of visits. ⟨http://bit.ly/3WoFryu⟩ (Accessed 20 October 2022).

Taser, D., Aydin, E., Torgaloz, A. O., & Rofcanin, Y. (2022). An examination of remote e-working and flow experience: The role of technostress and loneliness. *Computers in Human Behavior, 127*, Article 107020.

Tse, D. C., Nakamura, J., & Csikszentmihalyi, M. (2022). Flow experiences across adulthood: Preliminary findings on the continuity hypothesis. *Journal of Happiness Studies, 23*(6), 2517–2540.

Tsiros, M., & Mittal, V. (2000). Regret: A model of its antecedents and consequences in consumer decision making. *Journal of Consumer Research, 26*(4), 401–417.

Tzeng, S. Y., & Shiu, J. Y. (2019). Regret type matters: risk Aversion and complaining in a multidimensional post-purchase regret framework. *Asia Pacific Journal of Marketing and Logistics*.

Van Dijk, W. W., Van Der Pligt, J., & Zeelenberg, M. (1999). Effort invested in vain: The impact of effort on the intensity of disappointment and regret. *Motivation and Emotion, 23*(3), 203–220.

Verkijika, S. F. (2019). "If you know what to do, will you take action to avoid mobile phishing attacks": Self-efficacy, anticipated regret, and gender. *Computers in Human Behavior, 101*, 286–296.

Verkijika, S. F. (2020). An affective response model for understanding the acceptance of mobile payment systems. *Electronic Commerce Research and Applications, 39*, Article 100905.

Verplanken, B., & Orbell, S. (2022). Attitudes, habits, and behavior change. *Annual Review of Psychology, 73*, 327–352.

Wang, C. C., & Hsu, M. C. (2014). An exploratory study using inexpensive electroencephalography (EEG) to understand flow experience in computer-based instruction. *Information & Management, 51*(7), 912–923.

Wang, J., Huang, Q., Li, Y., & Gu, J. (2021). Reducing transaction uncertainty with brands in web stores of dual-channel retailers. *International Journal of Information Management, 61*, Article 102398.

Wang, Y., & Li, C. (2022). Differences between the formation of tourism purchase intention and the formation of actual behavior: A meta-analytic review. *Tourism Management, 91*, Article 104527.

Webb, T. L., & Sheeran, P. (2006). Does changing behavioral intentions engender behavior change? A meta-analysis of the experimental evidence. *Psychological Bulletin, 132*(2), 249–268.

Whittaker, L., Mulcahy, R., & Russell-Bennett, R. (2021). 'Go with the flow'for gamification and sustainability marketing. *International Journal of Information Management, 61*, Article 102305.

Wu, L., Chiu, M. L., & Chen, K. W. (2020). Defining the determinants of online impulse buying through a shopping process of integrating perceived risk, expectation-confirmation model, and flow theory issues. *International Journal of Information Management, 52*, Article 102099.

Wulandari, H., & Risqiani, R. (2021). The antecedents and consequences of online impulse buying during pandemic COVID-19 do consumers regret after doing online impulse buying. *Business and Entrepreneurial Review, 21*(2), 265–278.

Xiao, Y., & Spanjol, J. (2021). Yes, but not now! Why some users procrastinate in adopting digital product updates. *Journal of Business Research, 135*, 685–696.

Ye, X., Ning, H., Backlund, P., & Ding, J. (2020). Flow experience detection and analysis for game users by wearable-devices-based physiological responses capture. *IEEE Internet of Things Journal, 8*(3), 1373–1387.

Zeelenberg, M., & Pieters, R. (2007). A theory of regret regulation 1.0. *Journal of Consumer Psychology, 17*(1), 3–18.

Zhao, H., Wang, X., & Jiang, L. (2021). To purchase or to remove? Online shopping cart warning pop-up messages can polarize liking and purchase intention. *Journal of Business Research, 132*, 813–836.

Zulkarnain, Ginting, Novliadi, F, E. D., & Siahaan, S. (2020). Outcome or process regret: Consequences of brand trust to consumer purchase regret. *International Journal of Economics and Management Systems, 5*, 86–91.