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ORIGINAL EMPIRICAL RESEARCH

Information search behavior at the post-purchase stage of the customer journey

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Abstract

Customer journey models consider information search behavior only at the pre-purchase stage, yet consumers search for information after purchasing. This paper updates customer journey models by integrating two different streams of research—customer journey and post-decision information search (PDIS)—and examining information search as a valuable consumer response and managerial element of the journey. Findings from a multimethod approach, in-depth interviews and a longitudinal survey, reveal that consumers can engage in PDIS in the pre- and post-consumption phases for different reasons such as to maximize the utility of a purchase, reduce choice uncertainty or regret, and/or satisfy curiosity about a purchase and pre-purchase information search behavior. The findings also indicate that consumers prefer customer-initiated touchpoints for PDIS behavior. The importance of PDIS is reinforced by its positive relationships with customer engagement, word-of-mouth and repurchase intentions. This article provides important managerial insights for dealing with PDIS in the customer journey.

Keywords Post-decision information · Information search behavior · Customer journey · Customer outcomes

Introduction

> "*The book was launched in my country. So, I started comparing prices on different websites and when I found a good price, I bought the book. Before receiving it, I googled information on prices to check if indeed I got a good deal. The book was delivered, I read the whole book. Then, I looked for videos on YouTube where experts talked about the book to check whether I'd understood the story well." Interview 19 (Female, 19 years old).*

Consumers easily acquire information at any stage of the customer journey due to digital technology and omnichannel marketing (Cui et al., 2021; Swaminathan et al., 2020), as illustrated by the consumer in the initial quote. This consumer searched for information not only at the pre-purchase stage but also at the post-purchase stage of the journey in two different moments, before and after consumption (i.e., before receiving the book and after reading it). Additional real-world evidence supports the idea that searching for information after decisions is a common behavior in the customer journey. We identified in a preliminary study, from a total of 400 online comments from four consumer discussion forums, that 38,8% of the comments were related to information search at the post-purchase stage of the journey (see Web Appendix A).

Interestingly, when considering post-decision information search (PDIS), the real world seems to diverge from what has been traditionally proposed by customer journey models. These models have evolved over time with new elements being added before and after purchase (see Dellaert, 2019; Hamilton et al.,

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2021; Lee et al., 2018; Lemon & Verhoef, 2016; Puccinelli et al., 2009), but they encompass information search *only* at the pre-purchase stage of the journey and ignore that consumers can also search information at the post-purchase stage. Our aim in this paper is to propose and analyze PDIS as one of the consumer behavioral responses that unfold during the post-purchase stage of the customer journey and examine the possible managerial consequences of this behavior.

Consumers can search for information after a specific decision to minimize undesirable emotions such as regret and discomfort. This search may result in better decisions in the future (Teodorescu et al., 2018), more satisfaction (Cooke et al., 2001) and less back-out behaviors (Donnelly and Ivancevich 1970); therefore, this behavior should contribute to promoting better experiences. Nevertheless, the extant literature on PDIS seems not to examine this behavior as part of the customer journey, either. It does not recognize, for example, that this behavior may occur in different moments at the post-purchase stage, i.e., pre- and post-consumption, not only due to undesirable emotions but also due to other factors that may help consumers to derive better consumption experiences.

We start by reviewing and connecting literature on customer journey and PDIS in view of the possible incompleteness of these two areas of inquiry regarding PDIS behavior and the lack of connection between them. Then, we apply a multimethod design with two empirical studies—one exploratory study followed by one confirmatory study—to examine PDIS as part of the customer journey. Study 1 used a qualitative approach (interviews) to understand PDIS as a behavioral response of the journey. This study allowed us to establish themes related to *when*, *why*, and *where* PDIS occurs and the possible managerial *consequences* of this behavior. Study 2 presents a longitudinal survey that tested the relationships embedded in these themes across a larger sample. We monitored consumers' PDIS behavior in this study throughout the pre- and post-consumption phases of their post-purchase experience. Study 2's results confirm most of the relationships that emerged in Study 1.

This paper makes valuable academic and managerial contributions. It is the first to examine and provide a comprehensive understanding of PDIS as a behavioral response of the customer journey by considering when this behavior occurs at the post-purchase stage, what encourages this behavior, what touchpoints are related to it, and what its influence is over crucial elements to the loyalty loop, such as engagement with the purchase. Hence, the paper updates the customer journey mapping for academics and managers interested in better understanding elements of the customer experience. We do this from a perspective focused on consumers, following a recent stream of research on customer journey (e.g., Akaka & Schau, 2019; Becker et al., 2020). The paper also advances customer journey and PDIS literature with a new perspective that suggests two post-purchase moments, the pre- and post-consumption phases, when consumers can engage in PDIS. These areas of inquiry have traditionally not differentiated these two phases, which may limit academics' and managers' understanding of consumer behavior in the post-purchase stage of the journey. Finally, this paper contributes to literature on PDIS by integrating traditional and new motivations for consumer search regarding the pre- and post-consumption phases.

Integrating customer journey and PDIS literature

The customer journey is typically defined as an ongoing customer experience with a firm during the purchase cycle across numerous touchpoints (Lemon & Verhoef, 2016; Siebert et al., 2020). Consumers invariably search for information as they move along the journey (Lee et al., 2018; Perkins & Fenech, 2014). Consumers search for information at the pre-purchase stage to make better decisions, reduce uncertainty and risks associated with a choice (Moorthy et al., 1997; Schmidt & Spreng, 1996; Urbany et al., 1989). They can search, for example, which payment method they are going to use at the purchase stage (Lee et al., 2018). Finally, consumers search to confirm a choice, reduce undesirable emotions and improve further decisions during the post-purchase stage (Donnelly & Ivancevich, 1970; Shani & Zeelenberg, 2007; Teodorescu et al., 2018).

These information search behaviors should play a crucial role in customer experience, especially PDIS. First, the final moments of an experience, such as the ones at the post-purchase stage, count more in people's overall experience than the initial moments of that experience (Kahneman et al., 1993; Redelmeier & Kahneman, 1996). This may explain why PDIS is more critical for customer satisfaction than information acquired at the pre-purchase stage (Cooke et al., 2001). PDIS should influence more the loyalty loop and involvement spirals, relevant marketing goals for customer journeys, than other information search behaviors elicited at the earlier stages of the journey. Second, this search may shape consumers' opinions for subsequent journeys, which can affect their experiences and be either beneficial or detrimental for brands depending on the information they gather (Court et al., 2009).

Customer journey models surprisingly seem to ignore that consumers can search for information while experiencing the post-purchase stage (for journey models, see Dellaert, 2019; Hamilton et al., 2021; Lemon & Verhoef, 2016; Lee et al., 2018; Puccinelli et al., 2009). These models follow a traditional perspective that has embraced information search at the initial stage but not at further stages of the decision-making process (Bettman et al., 1998; Howard & Sheth, 1969; Moorthy et al., 1997; Schmidt & Spreng, 1996), perhaps because consumer decision was viewed as a funnel-shaped selection process and not as a journey (Lemon & Verhoef, 2016; Perkins & Fenech, 2014).

Literature on PDIS, on the other hand, recognizes that consumers search for information not only before but also after

purchase and that the former differs from the latter in view of consumers' goals; consumers engage in PDIS mainly to minimize undesirable emotions (Donnelly & Ivancevich, 1970; Zeelenberg et al., 1998). This literature unfortunately shares a common limitation with the customer journey literature in that it does not explicitly examine PDIS as part of the journey. This limitation exists perhaps because the two areas of inquiry are traditionally built apart from each other. Next, we discuss PDIS as a behavioral response in the customer journey.

PDIS in the customer journey

Information search is a pervasive behavior in the customer journey being a common behavioral response at the post-purchase stage. This stage starts after the purchasing event and comprehends two distinct moments: the pre- and post-consumption phases. Important behavioral responses may arise in the pre- and post-consumption phases that unfold after purchasing (Kumar et al., 2014; Nowlis et al., 2004), but journey models do not distinguish those phases or consumers' behavioral responses in view of them.

The pre-consumption phase occurs when consumers face consumption delays (Kumar et al., 2014; Nowlis et al., 2004). These delays happen for reasons such as buying online (Lee et al., 2018), stock shortfalls (Nowlis et al., 2004), consumers deciding to postpone consumption (Lee et al., 2018), and times of public health crises (e.g., a pandemic) that delay consumption (Goldsmith & Lee, 2021). Consumers have purchase expectations in the pre-consumption phase and can rely only on their imagination or external information to somehow experience the purchase (Nowlis et al., 2004). The post-consumption phase starts when consumers can finally consume the purchase, and they then have new inputs to confirm their expectations of a purchase or not.

PDIS may occur in the pre- and post-consumption phases for different reasons, yet, similar to customer journey models, the extant literature on PDIS has not distinguished those phases (see Table 1). For example, consumers may use consumption delays that unfold in the pre-consumption phase to engage in PDIS to know how other consumers rate the purchase they are going to consume in the future (Santana et al., 2020) because are uncomfortable with or unsure about this purchase (Donnelly and Ivancevich, 1970).

Consumers may engage in PDIS in the post-consumption phase due to undesirable emotions such as regret; it happens when consumers realize that their present situation after consumption would have been better if they had decided differently (Connolly & Zeelenberg, 2002; Shani & Zeelenberg, 2007). Searching for information is an effective strategy to decrease regret (Connolly & Zeelenberg, 2002). Discomfort and choice uncertainty may also encourage PDIS in this phase because consumers may be uncomfortable and uncertain about a purchase even after consumption (Donnelly and Ivancevich 1970; Ehrlich et al., 1957). Consumers can acquire information in this case to minimize discomfort and uncertainty derived from inconsistencies relative to the experienced choice and forgone alternatives (Donnelly et al., 1970; Ehrlich et al., 1957).

PDIS literature has devoted great attention to those undesirable emotions as the main factors influencing PDIS, even though other factors may affect this behavior (Teodorescu et al., 2018) regarding the pre- and post-consumption phases. Consumers want to have better experiences at each stage of the journey (Lee et al., 2018; MacInnis et al., 2020); thus, one should suspect that PDIS can occur to reduce undesirable emotions as well as to boost or maintain a positive affective state, such as when consumers want to savor an upcoming purchase and do this by engaging in PDIS (Chun et al., 2017).

Moreover, elements important for achieving the loyalty loop that in general depend on consumption, such as engagement with a product or service (Hanson et al., 2019; Lemon & Verhoef, 2016) that occurs by "virtue of interactive, co-creative customer experiences with a focal agent/object" (Brodie et al., 2011, p. 260), may be related to PDIS, especially in the post-consumption phase. Consumers who engage in post-consumption PDIS may be more engaged with their purchases as, by searching for information, they interact more with these purchases.

Finally, consumers may find a myriad of information sources when engaging in PDIS in the customer journey. These sources are touchpoints that can be firm initiated (i.e., sources controlled by a brand or its partners, such as brand social media and retailers' websites) or customer initiated (i.e., sources not controlled by a brand or its partners, such as consumer online forums) (Anderl et al., 2016). It is known that consumers tend to use more customer-initiated than firm-initiated touchpoints (Court et al., 2009); however, to our knowledge, previous research has not addressed which touchpoints consumers tend to use when engaging in PDIS.

Overall, those points suggest that PDIS behavior should be considered a valuable element of the customer journey. Table 1 presents an overview of previous literature on PDIS and how the current research differs from this literature and integrates PDIS behavior into the customer journey.

We next present the studies conducted to examine PDIS behavior in the customer journey.

Overview of studies

We conducted two studies using a multimethod approach. A multimethod approach was necessary because of the lack of prior work examining PDIS as a behavioral response in the customer journey. We applied an exploratory sequential research design (Creswell & Clark, 2011) with a qualitative

Table 1 Previous literature on information search at the post-purchase stage of the journey

Reference	Method	Emotional or cognitive responses influencing PDIS	Differ PDIS in the pre- and post-consumption phases	Test or present downstream consequences of PDIS	Results
Teodorescu, K., Sang, K., & Todd, P.M. (2018).	Experimental studies	Desire for feedback	No	Yes	Post-decision information provides beneficial feedback about one's search strategy, giving the means to modify one's search strategy and improve performance in further decisions.
Shani, Y., & Zeelenberg, M. (2012).	Conceptual paper	Discomfort	No	No	The reasons why consumers are willing to seek post-decisional information when experiencing discomfort, particularly when that information might reveal they made a bad decision.
Chang, H., Cho, C., & Lee, L. (2010).	Experimental studies	Choice-uncertainty and emotion-enhancement	No	No	When people think they have made the right decision, cognitively-oriented consumers search more information to confirm they have indeed made the right decision. Conversely, experientially-oriented consumers search more information not to confirm their decisions but to enhance their mood.
Shani, Y., Igou, E. R., & Zeelenberg, M. (2009).	Experimental studies	Discomfort	No	No	A low-level construal leads to attention to peripheral negative features (enhancing feelings of discomfort), which in turn increases an individual's willingness to search for information. On the other hand, a high-level construal focuses on the central features of the event, decreasing the affective burden and the need to engage in information search.
Reb, J., & Connolly, T. (2009).	Experimental studies	Regret	No	No	Outcome regret can lead to avoidance of feedback relative to foregone options, and avoidance of self-blame regret can lead to a search for feedback, possibly enhancing learning and the quality of decisions.
Caldwell, D. F. & Burger, J. M. (2009).	Experimental studies	Regret	No	No	Learning that the unchosen alternatives were in fact better options can accentuate regret specially in a two-choice (vs. a large number of choices) scenario.
Shani, Y., Tykocinski, O. E., & Zeelenberg, M. (2008).	Experimental studies	Discomfort	No	No	People may search for information that supports a negative inkling, because the burden of uncertainty is heavier than the discovery of a missed opportunity.
Van Dijk, E., & Zeelenberg, M. (2007).	Experimental studies	Regret and curiosity	No	No	Curiosity may overcome regret aversion and reluctance to expose oneself to potential regret-inducing information.
Shani, Y., & Zeelenberg, M. (2007).	Experimental studies	Regret and responsibility for decisions	No	No	Individual responsibility is associated with regret and it promotes search when the chosen outcome is potentially worse than forgone options. In this case, the search is done even when the acquired information will not be used in the future.
Cooke, A. D., Meyvis, T., & Schwartz, A. (2001).	Experimental studies	_	No	Yes	Information learned after the purchase has a greater impact on satisfaction than information learned before the purchase. Negative price comparisons have a greater impact on satisfaction than positive

Table 1 (continued)

Reference	Method	Emotional or cognitive responses influencing PDIS	Differ PDIS in the pre- and post-consumption phases	Test or present downstream consequences of PDIS	Results
					comparisons. Subjects exposed to post-choice information set higher decision thresholds, consistent with the minimization of future regret. Paradoxically, providing subjects with additional post-choice information resulted in decreased average earnings, suggesting that consumers may try to avoid future regret even when doing so conflicts with expected value maximization.
Donnely, J. H., Ivancevich, J, M. (1970).	Experimental study	Discomfort	No	Yes	Consumers who received a message reinforcing their choices a few days after purchasing had less back-out behaviors than consumers who did not receive this message.
Ehrlich, D., Guttman, I., Schönbach, P., & Mills, J. (1957).	Interviews	Discomfort	No	No	New car owners read advertisements of their own car more often than advertisements of cars they had considered but did not buy, and advertisements of other cars not involved in the decision process, supporting the idea that people seek out consonant information to minimize cognitive dissonance.
The current research	*In-depth interviews and longitudinal survey*	*Regret, choice-uncertainty, maximize utility of a purchase, savor a purchase, fulfill curiosity about a purchase*	*Yes*	*Yes*	*PDIS is a behavioral response in the customer journey that occurs in two different phases, before and after consumption, due to factors traditionally pointed out by previous literature* - i.e., *regret, choice uncertainty/discomfort* - *and factors that have not been previously addressed* - i.e., *maximize the utility of purchases, savor and fulfill curiosity about purchases. PDIS is positively correlated to engagement with the product/service, satisfaction, repurchase and word-of-mouth intentions. Consumers tend to prefer customer-initiated touchpoints when engaging in PDIS.*

study prior to a quantitative study to provide more comprehensive and convincing evidence about the PDIS behavior in the customer journey.

Study 1 was exploratory research in which we conducted 39 in-depth interviews. This procedure allowed us to provide initial evidence of PDIS in the journey and to establish themes related to when, why, and where PDIS occurs and the possible managerial consequences of this behavior. We aimed to confirm these themes in Study 2 by conducting a longitudinal survey in which we monitored 190 consumers at the pre- and post-consumption phases during their post-purchase stage of the journey. This study helped us to test and generalize the qualitative findings across a larger sample and a diverse set of material goods and services. We present studies 1 and 2 next.

Study 1

This study used in-depth interviews with consumers to explore information search as a possible behavioral response at the post-purchase stage of the customer journey.

Procedures

Thirty-nine consumers were invited to participate in a research study about a recent planned purchase they had made. Invitations occurred via posts on social media and via personal contacts using the snowball sampling technique. Consumers were selected to maximize diversity regarding the type of purchase and demographics; no money or other incentives were offered for

them to participate in this study. We conducted semi-structured individual interviews in person or online over a four-month period until we reached theoretical saturation (Bowen, 2008; Strauss & Corbin, 1998). Interviews lasted approximately 20 min on average and were recorded and transcribed for analysis. Inspired by Bevan's (2014) guidelines, the interviews were based on a script that maintained a phenomenological interview conversational style and was divided into three sections that aimed to explore consumers' PDIS behavior as part of the customer journey (Web Appendix B provides information about the interviewees, the script and explains its sections in detail).

Member checks were used after data collection and analysis to ensure data validity and integrity (Lincoln & Guba, 1985). We informally checked some consumers' responses to ensure that we interpreted data correctly or to refine our interpretation.

Data analysis

We analyzed 793 minutes of recorded interviews and 221 pages of transcriptions using a hermeneutical approach (Thompson et al., 1989; Thompson & Haytko, 1997). We moved between the literature on customer journey, information search, PDIS and the data to reach a comprehensive understanding of PDIS in this approach. First, two of the authors analyzed each interview separately from an intra-textual viewpoint to gain a sense of each consumer's PDIS behavior. These authors used an Excel spreadsheet to organize their initial findings. Similar excerpts were placed together and assigned codes that resulted in the initial themes related to *when*, *why*, and *where* PDIS occurs. The themes emerged inductively; that is, they were not defined a priori. The two authors then analyzed the interviews intertextually to identify similarities and differences among the themes derived from previous analyses, using the Excel spreadsheet that resulted from the first step and reviewing the transcriptions. Two new groups of excerpts emerged, one related to possible consequences of PDIS and the other to the idea of PDIS in an interconnected journey, resulting in two new themes. The authors discussed their individual findings sequentially and worked together to refine and name the themes (coding reliability was .88, and we computed using Rust and Cooil 1994's PRL score). Differences between researchers related to why PDIS may occur emerged. The researchers agreed with the inclusion of all the new motivators but disagreed in minor aspects related to the characteristics that distinguished one motivator from another. The author who did not participate in the data analysis worked as a judge, and discussions among the three authors helped to solve those differences and establish five final themes (for more details about this data analysis process see Fig. B in Web Appendix B).

Findings

The final themes are: (1) PDIS in the interconnected journey, (2) PDIS in the pre- and post-consumption phases, (3) motivators of PDIS, (4) downstream consequences of PDIS, and (5) touchpoints. We explain these themes next.

PDIS in the interconnected journey

Consumer behavioral responses in the customer journey are part of a process in which behaviors that occur at one stage of the journey may influence behaviors at subsequent stages because in this process the stages are interconnected (Lemon & Verhoef, 2016; Voorhees et al., 2017). Thus, these behaviors should be analyzed more holistically and not in isolation (Kranzbühler et al., 2019; Schamp et al., 2019). The present theme is in line with this idea.

According to data analysis, PDIS seems a behavioral response in the journey process. The interviews suggest that information search can be a pervasive behavior throughout the different stages of the customer journey and that pre-purchase and post-purchase information search may be somehow related. Information search behavior at the very beginning of the journey seems to influence PDIS, so that the former may encourage, or discourage, consumer to keep searching for information until the post-purchase stage, as the following excerpts illustrate. In this sense, we should consider information search at the initial stage of the journey when examining PDIS:

> *Before deciding to go there [archaeological ark of Pompeii], we searched for general information about the trip and the place: How to get there, how long it would take to visit the park, the must-see spots. After visiting, I wanted to have more information about what we saw there, so I searched for more specific information after visiting. Interview 24 (Male, 52 years old).*

> *Before purchasing my laptop, I googled 'laptop features' to find out the best options I could have in view of brands and memory for example. Then, I went to different stores to talk to the salesperson and see the laptop in person to check its size and appearance. After talking to the salesperson and right before purchasing, I googled consumers' reviews on brands that the salesperson recommended. I bought my laptop and I'm satisfied with it. Nowadays, I use Telegram, so I have information on new applications for laptops and models that are launched. Interview 3 (Male, 36 years old).*

I always search for information before purchasing, especially for products like smartphones or computers, so I don't search anymore after purchasing. Interview 4 (Male, 27 years old).

Note that some consumers who search for pre-purchase information may not engage in PDIS (interview 4) while others revealed that they engage in PDIS even when they search for pre-purchase information.

Literature on previous knowledge (Alba & Hutchinson, 2000, 1987; Brucks, 1985) provides some support to these findings. Some authors indicate that knowledgeable consumers keep searching for more information because they know where to search and can easily formulate new questions and process new information (Brucks, 1985; Guo, 2001; Punj & Staelin, 1983). In this sense, consumers who search for pre-purchase information and, consequently, have more knowledge about a purchase may engage more in PDIS. Conversely, authors who found negative effects of knowledge on information search point out that knowledgeable consumers avoid acquiring more information because they already know enough about a purchase's attributes (Brucks, 1985). Thus, customers who engage in pre-purchase information search may not engage, or engage less, in PDIS.

Overall, our findings in the present theme bring initial support to the idea that variables evoked at the earliest stages of the journey, such as pre-purchase information search behavior, may influence PDIS. In this case, it is possible to expect variables such as previous knowledge and purchase involvement, that tend to be elicited at the earliest stages of the journey and are important determinants of information search behavior (Schmidt & Spreng, 1996), to be related to PDIS as well.

PDIS in the pre- and post-consumption phases

Our findings suggest that consumers search for post-decision information during two different moments at the post-purchase stage of the journey: the pre- and post-consumption phases.

Information search seems the most accessible and easiest way to experience the pre-consumption phase, when consumers face consumption delays (Kumar et al., 2014; Nowlis et al., 2004). The following excerpt illustrates this behavior:

I looked for information after purchase mainly because it was my first Kindle. I wanted to do the best I could with that Kindle with regard to my reading and its functions. It was a change in my behavior, and I wanted to use that product to its full extent. I searched a lot after purchase [before usage] to learn. I bought the Kindle online, so I had the sensation that I was ready to use the Kindle when it was delivered, because I searched for information while waiting for the product. Interview 22 (Male, 22 years old).

The pre-consumption phase ends when customers can consume the purchase per se. The post-consumption phase then starts, and customers may also search for information as the excerpt below illustrates.

Searching [for information after usage] was great, it helped me to better understand the capacity of the product I bought...to understand the things I could do with that product, and I was satisfied with the product after that search because it made me understand the product better. So, searching for information was important. Interview 21(Male, 24 years old).

Some consumers reported an ongoing PDIS behavior in the pre- and post-consumption phases, what may suggest a possible connection between engaging in PDIS in these two different phases.

With regard to the neighborhood I wanted to visit in the city, I acquired information on the internet before going there and found out that it would be better to go with a guide, because I wouldn't be able to fully enjoy the neighborhood if I was alone.(...) When I came back home, I searched for information on some tourist attractions that I had visited, for example, the Dique Tororó, to know more about it and how it was designed. Interview 23 (Male, 37 years old).

Note that the idea of a relationship between behaviors that occur in the two distinct phases of the post-purchase stage of the journey has not been previously addressed in the literature because current journey models do not distinguish these two phases. However, bearing in mind the idea of PDIS in an interconnected journey, it is possible a relationship between pre- and post-consumption PDIS.

Overall, data analysis suggests that PDIS can occur in the pre- and post-consumption phases. Importantly, customers may search for information in these two phases due to distinct reasons that we present next.

Motivators of PDIS

Traditional motivators The findings show that reducing undesirable emotions such as discomfort and choice uncertainty is one of the reasons why customers engage in PDIS, as proposed by previous literature (Teodorescu et al., 2018):

Sometimes I buy a product, and as there are similar products, I try to compare my choice with these other products to see whether I made a good choice and if, among the foregone alternatives, there's a product that was better than the one I bought. I'm not certain that I made the best choice. There are so many options available. I often buy online. When you buy online there are things you can't know; there are sensorial questions a consumer may have for example. Interview 31 (Female, 30 years old).

I like to find out how much people paid for the books I bought to compare that to the price I paid, and to check if I really got a good deal. Interview 32 (Female, 19 years old).

These excerpts illustrate the discomfort customers feel after purchasing as a result of choice uncertainty at the pre-consumption phase and the way they use PDIS in this phase as a strategy to reassure themselves about their choices. These quotes are in line with information search literature that suggests a positive correlation between choice uncertainty and information search (Schmidt & Spreng, 1996; Urbany et al., 1989). Note that purchasing online is easy and convenient (Cui et al., 2021), yet it may evoke a negative affective state because, in this case, consumers often experience consumption delays at the post-purchase stage of the journey (Lee et al., 2018). This may cause discomfort due to anxiety, as pointed out in some of those previous quotes, because consumers cannot confirm their choices with the purchase per se in the pre-consumption phase. Interestingly, even in the post-consumption phase, discomfort and choice uncertainty may arise, and consumers may search for information to deal with them as exemplified below:

I searched for information after usage because it might help me to know what could go wrong with the product I was using...I was anxious because I did not exactly know any possible problems the product could have after usage. Interview 31 (Female, 30 years old).

Additionally, some consumers reported experiencing regret and engaging in PDIS, as pointed out by previous literature (see Shani & Zeelenberg, 2007; Zeelenberg et al., 1998). This regret seems to be related to PDIS in the post-consumption phase. Experiencing regret is conditional on knowledge and evaluation of one's current choice vis a vis a forgone alternative (Connolly & Zeelenberg, 2002); thus, regret may be less likely to emerge in the pre-consumption phase. In other words, customers may need the opportunity to experience their own purchases before feeling regret. The following excerpt exemplifies this point:

I search for post-decision information (...) especially when I consume the product and realize there is something wrong with it [when regret arises] or the product does not fulfill my expectations [and so the consumer can experience regret]. Interview 11 (Female, 30 years old).

New motivators The findings reveal three new possible motivators of PDIS that differ from undesirable emotions: (i) maximize the utility of a purchase, (ii) savor a purchase, and (iii) fulfill curiosity about a purchase.

(i) *Maximize the utility of a purchase* Consumers seemed to have a well-defined, utilitarian purpose for searching for information in this category: improving their ability to use a purchase better or enjoy it more (e.g., looking for information about how to use the functions of a washing machine better or about the best time to visit a museum one has tickets for). Consumers reported using periods of consumption delays (i.e., pre-consumption phase) to maximize the utility of a purchase by searching for information about it.

I bought an expensive new washing machine, and I started searching for information about the machine cycles before I got it, because I wanted to use all of its functionalities when I received it. Interview 27 (Female, 59 years old).

Some customers also reported searching for information in the post-consumption phase as they consumed a purchase and realized that they could do more to get the most from it.

For electronic or technology goods I search after consuming for the first time to see if there's something new, like apps or how to use the product better than I'm currently using it. Interview 13 (Male, 37 years old).

These excerpts illustrate customers' tendency to maximize the utility of their purchases by engaging in PDIS. This motivation seems to converge with the cognitive-rational decision-making model in which consumers are goal-oriented and act to minimize expected loss and maximize expected gains (Peter & Tarpey, 1975). For example, customers can minimize the possible loss associated with investing money in a machine they

can barely use andmaximize their expected gains with the same machine by knowing the best way to use a washing machine.

(ii) *Savor a purchase* Savoring is a process whereby consumers become aware of a current pleasure from a specific upcoming, ongoing, or past experience (Bryant, 1989; Chun et al., 2017). Savoring prolongs the enjoyment of experiences (Chun et al., 2017; Quoidbach et al., 2015), so customers who engage in PDIS to savor a purchase may improve their experiences. Unlike maximizing the utility of a purchase, the purpose of consumers who engage in PDIS to savor a purchase seems more hedonic than utilitarian.

We observed from the interviews that the desire to savor a purchase encourages PDIS in the pre- and post-consumption phases, especially when customers buy experiences, yet they may search for information when they want to savor a product (Chun et al., 2017). The interviewees seem to engage in PDIS to savor an upcoming experience as well as a previous experience. The following quotes illustrate *savor a purchase* as a possible motivator of PDIS in the pre- and post-consumption phases:

> *When I got the tickets for the concert, I searched for videos on YouTube to watch previous concerts before attending the gig. (...) It was a very pleasant moment watching them [the videos] before the concert. Interview 24 (Male, 52 years old).*

> *I searched [after the concert] other songs he [the singer] played during the concert that I had not seen [in my previous search] (...) I reviewed the songs (...) and I started remembering how enjoyable it had been, people enjoying that song (...). Interview 26 (Male, 34 years old).*

These excerpts also illustrate consumer awareness of pleasure in the present moment, an important characteristic of savoring (Quoidbach et al., 2015)

(iii) *Fulfill curiosity about a purchase* Some consumers reported their desire to obtain more details on a purchase and then to satisfy their curiosity about it. It is noteworthy that this curiosity does not stem from feelings of knowledge deprivation due to uncertainty (Van Dijk & Zeelenberg, 2007) but from the opportunity to learn something new or interesting about a purchase (Litman, 2005). In contrast to consumers who want to maximize the utility of a purchase, those who want to satisfy curiosity about a purchase tended to express more hedonic than utilitarian purposes for engaging in PDIS.

Note that although consumers reported fulfill curiosity and savor for experiential purchases, the former diverges from the latter because pleasure does not seem to be consumers' focus when engaging in PDIS due to curiosity. Customers can feel pleasure as they satisfy curiosity, but this may not be their primary motivation in this theme, according to our analysis. The analysis indicates that curiosity, in contrast to savoring, may also happen when consumers buy products. Besides, fulfilling curiosity seems to encourage PDIS in the post-consumption phase but not in the pre-consumption phase. The following excerpt illustrates this motivator:

> *We searched [for information after arriving from a trip], we looked up some of the places we went, we became more concerned about the places we visited there. We searched for information about an eclipse that happened this week in the place we visited. We searched for information about the same region, nothing specific. We're curious about the place we visited, so we searched for information about what was happening there (...). I also watched videos on the Internet about the place. Interview 16 (Female, 35 years old).*

> *Every day, I use Telegram to get information on laptops [even after purchasing one]. I think curiosity is somehow involved in this process; it is interesting to see that there is a technological evolution. Interview 3 (Male, 36 years old).*

Downstream consequences of PDIS

Our findings provide insights into a possible relationship between PDIS in the post-consumption phase and managerial consequences such as engagement with the product or service. Customers may engage with purchases throughout the journey (Lemon & Verhoef, 2016) yet consuming these purchases can have more powerful effects on purchase engagement (Doorn, 2011).

Based on our interviews, consumers who engage in post-consumption PDIS seemed more engaged with their purchases, interacting more with them.

> *When I received the smartwatch, I started watching videos to see apps to download and other things... It was great, because I discovered new apps that offered me a better experience with the smartwatch while I was wearing it. Interview 13 (Male, 37 years old).*

Interestingly, some interviews suggested that as consumers engage in post-consumption PDIS and may become more engaged with a purchase, they tend not only to be more pleased with the purchase but also more interested in other products/services from the same brand. This may influence their satisfaction, repurchase and word-of-mouth (WOM) intentions because engaged customers tend to have greater satisfaction, repurchase and WOM intentions (Bowden, 2009; Doorn, 2011; Santini et al., 2020; Zeithaml et al., 1996):

I think after coming back the more I read, the more I wanted to know about that place....and the more I appreciated the opportunity to go there...to visit that historical city! I realized we [he and his wife] were really blessed by being there in person. Interview 24 (Male, 52 years old).

I was really into my new smartphone, so I started searching for information about it and other products related to it, products from the same brand. The more I saw those products, the more I wanted to buy them. Interview 28 (Female, 20 years old).

If I really like a movie, I search for interviews with the director and for critics' reviews, and if I think I should, I recommend the movie to someone after this search and look for people to discuss the movie with. Interview 18 (Female, 18 years old).

Overall, our findings bring initial insights into the possible relationships between post-consumption PDIS and important managerial consequences for consumers and firms.

Touchpoints

The interviews provided some insights into the touchpoints used by customers to search for information at the post-purchase stage. The respondents generally reported searching for reviews on the Internet, using search engines like Google, or looking for information on social media (e.g., Pinterest, YouTube, Instagram) in the pre- and post-consumption phases. The widespread use of the Internet for information searching is not a surprise, since this seems to be the easiest way to look for information nowadays, providing consumers with greater autonomy and less embarrassment (Cui et al., 2021; Swaminathan et al., 2020). Friends and relatives are an important source used by consumers to acquire information in the customer journey (Hamilton et al., 2021), however only a few customers reported talking to friends or relatives when engaging in PDIS.

Moreover, consumers mentioned fewer firm-initiated than consumer-initiated touchpoints as information sources at the post-purchase stage. This may suggest that customers trust consumer-initiated touchpoints more at this stage. It is possible that consumers view these touchpoints as being less associated with biased information about products or services. Firms also seem not to invest in firm-initiated touchpoints at the last stage of the journey (Court et al., 2009); thus, available information tends to come from customer-initiated instead of from firm-initiated touchpoints. The excerpts below illustrate some touchpoints consumers used when engaging in PDIS:

I search for information about my smartphone in the manual. If still in doubt, I Google it or visit the brand's website (...). If I can't understand, I ask for help from a friend of mine who understands, and he sends me some information. Interview 37 (Female, 40 years old).

I started gathering more information with YouTube after purchase. I can see more people like me who show how they use the product, and I realize that I learn from them things I did not know about the product (...), that I could use a specific product in a different way, I could use it better. They update what I know about a product. Interview 22 (Male, 22 years old).

Figure 1 presents two customer journeys described by our interviewees, in which it is possible to visualize all the themes. This figure shows their information search behavior in different moments of the customer journey, including the pre- and post-consumption phases, why they engaged in PDIS, the possible downstream consequences, and the touchpoints they used.

Study 1 discussion

Study 1 presents initial evidence of PDIS as part of the customer journey. First, the PDIS in the interconnected journey theme suggests an integration between information search in the pre- and post-purchase stages of the journey. The subsequent themes then bring evidence of PDIS in the pre- and post-consumption phases and the occurrence of traditional and new motivations for this search that may differ across these phases. The interviews suggest that consumers may engage in PDIS in the pre-consumption phase due to discomfort/choice uncertainty or to maximize and savor a purchase. Consumers may engage in PDIS due to those factors as well as to regret and to fulfill curiosity about a purchase in the post-consumption phase. The downstream consequences theme

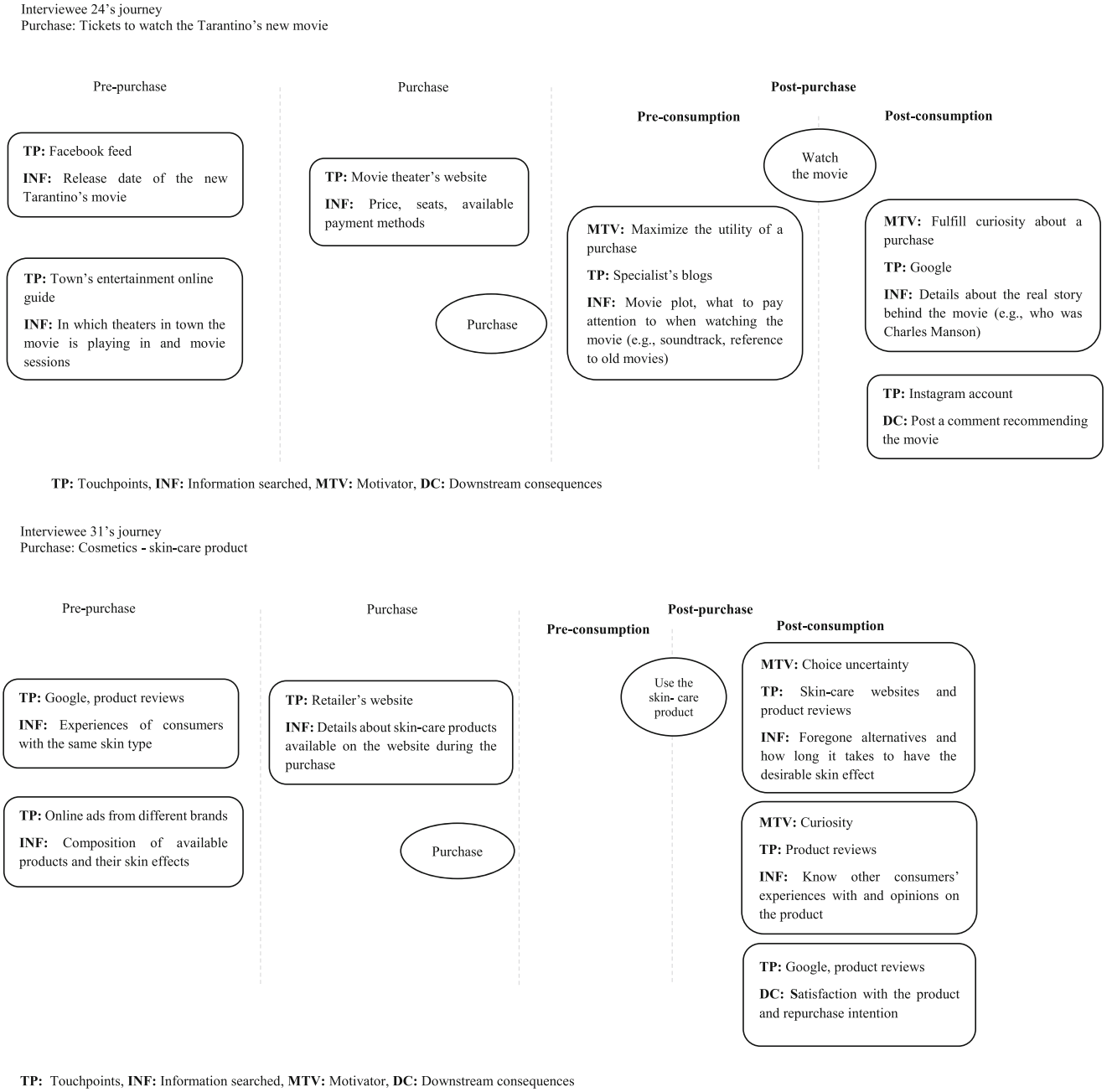


Fig. 1 Interviewees' information search behavior in the customer journey

suggests a relationship between PDIS and important managerial variables such as engagement with the purchase. Finally, the touchpoints theme indicates a focus on customer-initiated touchpoints when consumers engage in PDIS. Table 2 presents an overview of the Study 1's themes and shows the relationships, derived from these themes, tested in Study 2.

Study 2

This study aimed to confirm the relationships revealed in Study 1's themes across a larger sample and different categories of products and services. We conducted a longitudinal survey so we could monitor consumers' PDIS behavior in the pre- and post-consumption phases and explore the factors influencing PDIS according to each phase.

Procedures and measures

This study was based on two waves of data collection—the first to explore the pre-consumption phase and the second, the post-consumption phase. Participants who had made a recent planned purchase were recruited on Cloud Research and received $1 dollar in exchange to complete each wave of this

Table 2 Study 1 themes and relationships tested in Study 2

Themes		Illustrative interview excerpts Study 1	Assumptions and relationships to test in Study 2	Illustrative interview excerpts Study 1	Assumptions and relationships to test in Study 2
PDIS in the interconnected journey		I was searching for information about soaps from brands that I like, specifically for oily skin. […] The search was basically looking for reviews […] After the product arrived, I searched for reviews again about people who used the same soap to know how long it would take to alleviate acne. Interview 31 (Female, 30 years old)	Pre-purchase information search ➔ PDIS	I don't look for information at the post-purchase phase, because at this phase I've already searched for a great amount of information about the product. I searched before I purchased. Interview 2 (Male, 28 years old)	Pre-purchase information search ➔ PDIS
		Pre-consumption		**Post-consumption**	
PDIS in the pre- and post-consumption phases		Before receiving the washing machine I bought, I started looking for information on how to use it, I searched about the machine cycles. Interview 27 (Female, 59 years old).	Consumers engage in pre-consumption PDIS	After reading the book, I looked for videos on YouTube where experts talked about the book to check whether I'd understood the story well […], there was social media in which one could evaluate the book and read other readers' reviews. I looked for information there. There was also an app where I looked for reviews after reading. I evaluated the book there. Interview 32 (Female, 19 years old).	Consumers engage in post-consumption PDIS
Motivators of PDIS	Minimize choice uncertainty/-discomfort	I bought online, so every day I checked where the product was, when it would be delivery. Also, I searched to reassure that I did a good purchase. Interview 10 (Male, 35 years old).	Uncertainty ➔ Pre-consumption PDIS	I searched after using the product and I felt better. It helped me to become confident about my choice, because other consumers did not report problems with the product. Interview 31 (Female, 30 years old)	Uncertainty ➔ Post-consumption PDIS
	Minimize regret			I search for post-decision information (…) especially when I consume the product and realize there is something wrong with it or the product does not fulfill my expectations. Interview 11 (Female, 30 years old).	Regret ➔ Post-consumption PDIS
	Maximize the utility of a purchase	A month before traveling I talked to people who had already gone there (Disney) to have tips on things to do there […] I found a lot of blogs on the internet, especially blogs about traveling with children, which had a lot of information. Interview 25 (Female, 38 years old).	Maximize ➔ Pre-consumption PDIS	I'm still looking up for information because this particular purchase [the new smartphone] has so many things, so I wanted to see what people who were using it had to say. I still keep searching for information about this phone with other users. Interview 20 (Female, 37 years old).	Maximize ➔ Post-consumption PDIS
	Savor a purchase	I already knew the singer, but his current gig was new, so I searched on Youtube the songs he would play on the new concert I would attend with my friends [...] I was enjoying it as if I was at the concert. [...] I listened to the songs and sent them to the group of friends who would go to the concert with me. Interview 26 (Male, 34 years old).	Savor ➔ Pre-consumption PDIS	When you search for information such as pictures and videos after you come back from a trip, when you're at home, you still enjoy the trip and miss the place. Interview 17 (Male, 32 years old).	Savor ➔ Post-consumption PDIS

Table 2 (continued)

Themes		Illustrative interview excerpts Study 1	Assumptions and relationships to test in Study 2	Illustrative interview excerpts Study 1	Assumptions and relationships to test in Study 2
		Pre-consumption		**Post-consumption**	
	Fulfill curiosity about a purchase			When I visited Vesuvius, I wanted to have more information about what we saw there. I was curious to know, for example, how they make those plaster sculptures so real! And many other things… Interview 24 (Male, 52 years old).	Fulfill curiosity➔ Post-consumption PDIS
Downstream consequences of PDIS	Engagement with the product/service			After reading [a book], I usually search on Instagram to see if the author posted anything or google it to know if it's a series, if there's a continuation (…) Because if I like it, I want to know the rest of the story. Interview 6 (Female, 20 years old)	Post-consumption PDIS ➔ Engagement
	Satisfaction			[…] One example is a movie that was shot inside a museum for one day and I did not know this fact before watching that movie. I found out after watching the movie and searching for information about it. I thought 'this is fantastic' and after that I liked the movie even more. Interview 18 (Female, 18 years old)	PDIS ➔ Engagement ➔ Satisfaction
	Repurchase intentions			I was really into my new smartphone, so I started searching for information about it and other products related to it, products from the same brand. The more I saw those products, the more I wanted to buy them. Interview 28 (Female, 20 years old)	PDIS ➔ Engagement ➔ Repurchase
	Word of mouth intentions			After searching for information to learn more about the place I visited, I went to TripAdvisor and recommended people to read as much as they could about that place before going there, so they would appreciate it better. Interview 24 (Male, 52 years old)	PDIS ➔ Engagement ➔ Word of mouth
Touchpoints	Customer initiated Firm initiated	I really like to watch videos about make up. So, I searched for make-up review videos, where people try products and evaluate whether they are good or not, while I was waiting for my purchase to be delivered. Interview 38 (Female, 19 years old).	Intensity of pre-consumption PDIS in firm- and customer-initiated touchpoints	I follow them [brand] on Instagram and follow the releases, updates. Interview 28 (Female, 20 years old).	Intensity of post-consumption PDIS in firm- and customer-initiated touchpoints

study. Previously to data collection, we informed participants that the planned purchase could be either a product or an experience/service related to categories such as technology, home appliance, fashion industry, entertainment, self-enhancement. Data were collected just after purchase but before consumption (first wave) and a few days after consumption (second wave). Participants answered questions about their purchases, their PDIS behavior and motivations to engage or not in PDIS (Fig. 2). Participants reported in a slider scale how intensely they spontaneously searched for post-purchase information in fifteen touchpoints—seven firm-initiated (e.g., talking to salesperson, browsing the brand's social media) and eight customer-initiated touchpoints (e.g., watching YouTube videos posted by consumers, reading online forums) adapted from Baxendale et al. (2015) and Google (2011). Numbers close to "0" indicated the touchpoint was used less intensely, numbers close to "100", more intensely, and numbers in the middle of the scale indicated the touchpoint was used moderately. Participants were also instructed to slide the scale pin to mark "0" if they did not use specific touchpoint to search. Figure 2 shows an overview of the survey procedures and the variables collected in each wave,[1] Appendix Table 4 and Web appendix C provides information about the scales.

Four hundred and ninety-seven respondents participated in the first wave. After checking who met the criteria defined a priori to participate in this study (i.e., do not report everyday purchases and use/consume the purchase up to two weeks), 359 valid responses remained. Each participant received an invitation after approximately two weeks to answer the second and final wave of the longitudinal survey. We received 238 completed surveys. We checked the sample based on two criteria after matching each participants' responses in the two waves using their worker identification: The participant reported the same purchase in the first and second waves, and the participant had already consumed the purchase in the second wave. This procedure resulted in a final sample of 190 customers (M_{age} = 40.76, SD = 11.83, 55.78% women).

The questionnaires used in this study were pretested, and the questions were randomly presented to the participants to reduce order effects and common method bias (Hulland et al., 2018; Rindfleisch et al., 2008). We also included questions related to the customer journey's different stages in the two waves to avoid demand effects.

Results

Partial Least Squares Structural Equation Modelling (PLS-SEM) using the SmartPLS 3.0 software was employed. PLS is especially suitable to small samples and to exploratory studies like this in which some measures are new and most relationships have not been previously tested (Hair et al., 2011). We applied the basic PLS algorithm procedure and the bootstrapping procedure with 5000 resamples to test the proposed relationships (Hair et al., 2011). First, scale reliability, internal consistency reliability, convergent validity, and discriminant validity were used to assess the measurement model (Hair et al., 2019). All factor loadings for items measuring the same construct were statistically significant ($p < .01$), supporting convergent validity (Appendix Table 4). Discriminant validity was established using the criterion of Fornell and Larcker (1981). The degree of multicollinearity among the constructs was also examined. Variance Inflation Factor (VIF) values less than 10 tend to indicate no multicollinearity problems (Hair et al., 2009; O'brien, 2007). Our VIF tests presented values lower than 10 in all cases (see Appendix Tables 5 and 6 for discriminant validity and VIF values). We tested the relationships that emerged from Study 1 once we had a reliable and valid measurement model. Appendix Table 7 presents the results of the structural model.

In line with the PDIS in the interconnected journey theme (Study 1), information search behavior in the pre-purchase stage of the journey was positively related to pre-consumption PDIS (β = .64; $p < .001$), but it was not correlated to post-consumption PDIS. Previous knowledge is positively related to post-consumption PDIS (β = .14; $p < .05$) as well.

The results also revealed that PDIS occurs in the pre-consumption (M_{precon} = 176.24, SD = 257.48) and in the post-consumption ($M_{postcon}$ = 234.44, SD = 289.21) phases and the relationship between pre-consumption and post-consumption PDIS (β = .52; $p < .001$). Study 2 had a diverse set of products and services categories, so we examined possible differences of pre- and post-consumption PDIS among these categories. A one-way ANOVA was conducted to compare PDIS in both phases in terms of product and service categories. There was a significant difference in PDIS between the product categories in the pre-consumption, $F(3, 97)$ = 5.649; $p < .01$, and post-consumption phases, $F(3, 97)$ = 4.561; $p < .01$, but not between service categories in the pre-consumption, $F(3, 85)$ = .394; p = .76, and post-consumption phases, $F(3, 85)$ = .394; p = .49. A post hoc comparison using the LSD test indicated that in the product categories, PDIS for technology products (M_{precon} = 302.16, SD = 339.01; $M_{postcon}$ = 372.46, SD = 372.20) was significantly different from home appliances (M_{precon} = 118.75, SD = 164.26, $p < .05$; $M_{postcon}$ = 135.58, SD = 105.26, $p < .05$),

[1] Note in Figure 2 that in the first wave we measured previous knowledge and purchase involvement. We do not clearly identify these variables in our exploratory study, yet they are important determinants of information search behavior (Schmidt & Spreng, 1996) and represent the idea that variables from one stage might influence the journey's subsequent stages. We also measured personality traits that may influence information search behavior in the second wave: maximizing tendencies, need for closure, and need for cognition (Teodorescu et al., 2018). Higher levels of maximizing tendencies and need for cognition could lead to more information search (e.g., Dar-Nimrod et al., 2009; Verplanken et al., 1992). Higher levels of need for closure could decrease information search (Roets & Van Hiel, 2011; Webster & Kruglanski, 1994).

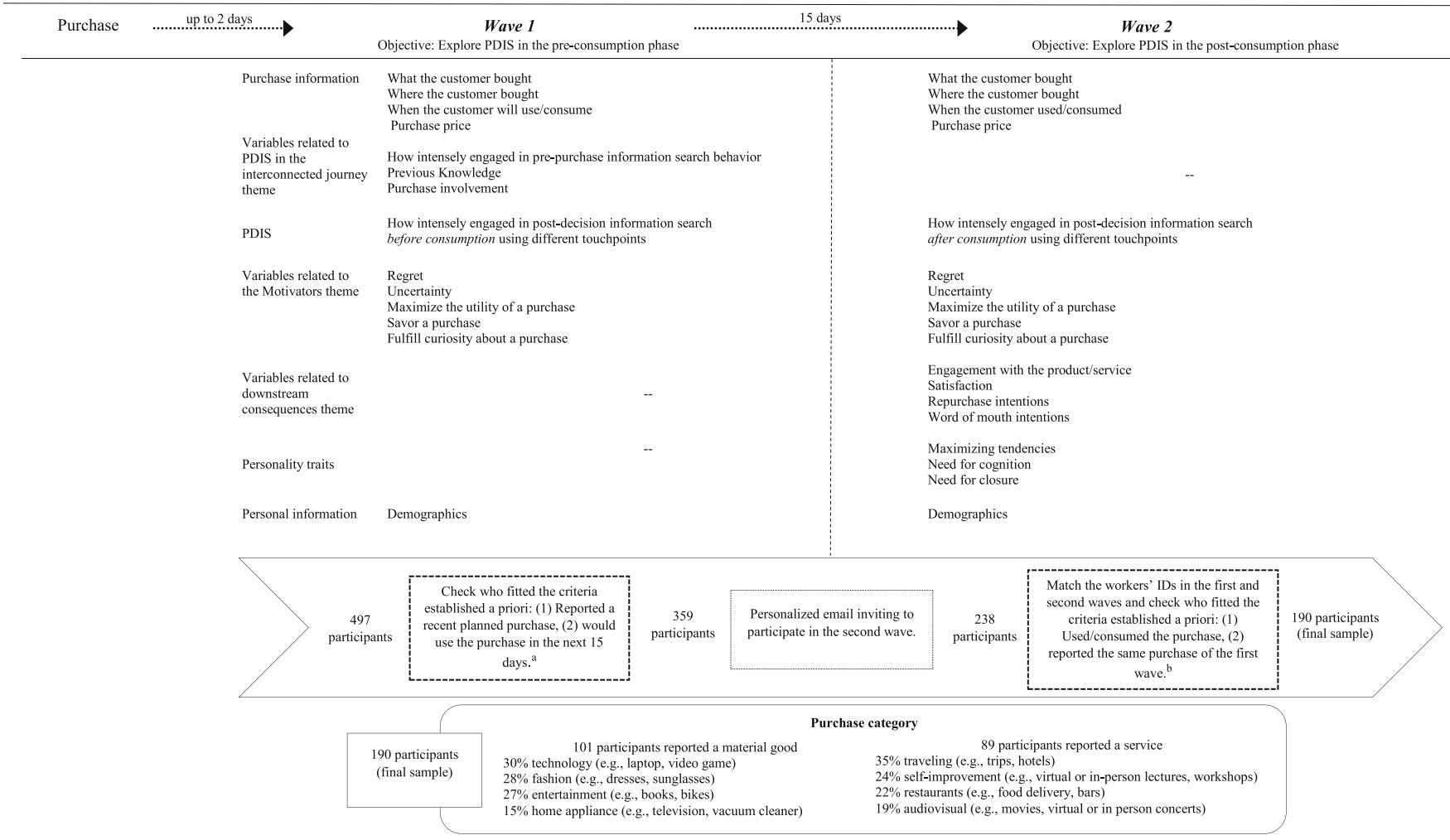


Fig. 2 Overview of data collection Study 2

entertainment (M_{precon} = 70.96, SD = 114.90, $p < .01$; $M_{postcon}$ = 149.17, SD = 132.62, $p < .010$), and fashion products (M_{precon} = 106.13, SD = 200.18, $p < .01$; $M_{postcon}$ = 181.03, SD = 273.33, $p < .05$) in both phases. Other groups did not differ from each other in any phase with regard to PDIS. Additionally, an independent-samples t-test shows that there was no difference between PDIS for products (M_{precon} = 171.44, SD = 262.07; $M_{postcon}$ = 238.51, SD = 294.25) versus services (M_{precon} = 181.70, SD = 253.54; $M_{postcon}$ = 229.82, SD = 284.98), t_{precon} (188) = .273; p = .79; $t_{postcon}$(188) = −.206; p = .84).

The results on the PDIS motivators show that in the pre-consumption phase, maximize the utility of a purchase was the only predictor of PDIS (β = .28; $p < .05$). Choice uncertainty (β = −.03; p = .70), regret (β = .06; p = .45), savor a purchase (β = −.08; p = .40) and curiosity (β = .09; p = .35) were not correlated with pre-consumption PDIS. Choice uncertainty (β = .11; $p < .05$), regret (β = .26; $p < .001$), and curiosity (β = .22; $p < .05$) predict PDIS in the post-consumption phase. Maximize the utility of a purchase (β = .07; p = .44) and savor (β = .05; p = .49) were not correlated to post-consumption PDIS.[2]

Overall, the antecedents of PDIS in the pre-consumption phase explain 62.2% of the variance in this search, and the antecedents of PDIS in the post-consumption phase explain 75.8% of the variance in this search.

In addition, we explored possible boundary conditions (e.g., service vs product and hedonic value) for the relationships between the motivators and PDIS, because Study 1's findings suggested that some motivators of PDIS might be more related to services/experiences (e.g., savor and curiosity). The results revealed no significant effects that deserve further consideration (these results are available in Web Appendix D).

Regarding the consequences of PDIS, PDIS in the post-consumption phase was positively correlated engagement with the product/service (β = .32; $p < .001$). It is possible reciprocal effects in this relationship—i.e., PDIS predicting engagement and engagement predicting PDIS. Hence, we also tested engagement predicting PDIS. The correlation coefficient was significant but lower than the one found in the opposite direction (β = .14, $p < .05$). Using bootstrapping procedures computed for each 5000 bootstrapped samples, we tested the significance of indirect effects of PDIS on satisfaction, repurchase and WOM intentions via engagement. The analysis shows significant indirect effects of PDIS on those variables (*CI*: .09, .25, $\beta_{satisfaction}$ = .17, $p < .001$; *CI*: .05, .19, $\beta_{repurchase}$ = .11, $p < .001$; *CI:* .07, .20, β_{wom} = .13, $p < .001$) and no statistically significant direct effects of PDIS on satisfaction (β = −.204; p = .07), repurchase (β = .039; p = .77) and on WOM intentions (β = −.098; p = .37), indicating a full mediation. Fig. 3 presents an overview of Study 2's findings.

We examined how intensely consumers used firm-initiated and customer-initiated touchpoints when engaging in pre- and post-consumption PDIS. Consumers tend to use customer-initiated touchpoints more intensely when engaging in PIDS in both the pre- and post-consumption phases. More specifically, the most-used sources in the pre- and post-consumption phases are (1) talking to friends/relatives about the product; (2) searching online via a search engine; and (3) reading product reviews online. Table 3 presents these findings in detail.

We also examine the relationship between motivation for engaging in PDIS and firm- and customer-initiated touchpoints. The analysis revealed a positively significant effect of choice uncertainty (β = .12; p = .05), maximize the utility of a purchase (β = .33; $p < .01$), and fulfill curiosity about a purchase (β = .35; $p < .001$) on customer-initiated touchpoints but not on firm-initiated touchpoints (choice uncertainty, β = .08; p = .17; maximize, β = .20; p = .20; fulfill curiosity, β = .07; p = .53). Regret was the only motivator that encouraged consumers to use both firm- (β = .23; $p < .01$) and customer-initiated touchpoints when engaging in PDIS (β = .26; $p < .001$).

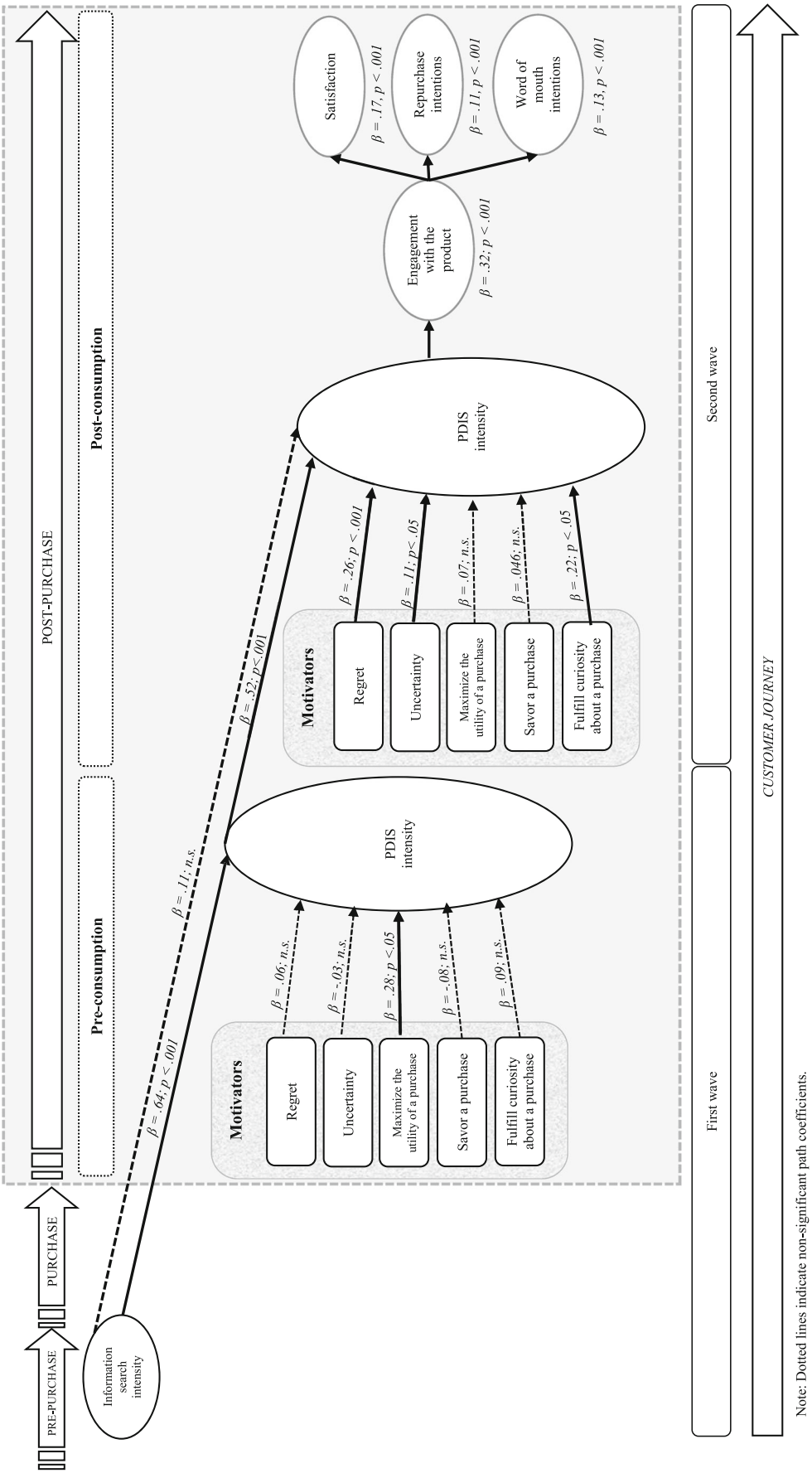
Study 2 discussion

Study 2 brings additional support to the idea that PDIS in the customer journey should be analyzed considering that the stages of journey are interconnected. The results indicate that information search that occurs at the pre-purchase stage of the journey influences PDIS positively – i.e., the more consumers search before purchasing, the more they search after purchasing. Besides, consumers' previous knowledge, an important element at the pre-purchase stage (Brucks, 1985; Schmidt & Spreng, 1996), is also positively related to PDIS, so that more previous knowledge, more PDIS. This is in line with the idea that knowledgeable consumers will keep searching for information about a purchase (Brucks, 1985; Guo, 2001).

This study also supports the idea that PDIS behavior occurs both pre- and post- consumption and more intensively in the latter. Interestingly, material goods and services did not differ in PDIS intensity. This is in line with previous research that shows that, with the advent of digital technologies, consumers spend similar amounts of time online gathering information either for search or experience purchases (Huang et al., 2009).

The results show that customers tend to use consumption delays in the pre-consumption phase only to maximize the utility of a purchase and so boost their ability to use/experience their purchases. Differently from what Study 1's

[2] We also tested involvement and personality traits as antecedents of PDIS. Involvement (β_{precon} = −.12; p = .10; $\beta_{postcon}$ = −.02; p = .59), maximizing tendencies (β_{precon} = .06; p = .28; $\beta_{postcon}$ = .07; p = .15), need for closure (β_{precon} = −.08; p = .41; $\beta_{postcon}$ = .10; p = .11), and need for cognition (β_{precon} = −.00; p = .99; $\beta_{postcon}$ = −.09; p = .12) had no significant correlation with PDIS. Demographic variables (i.e., age, education and income) and characteristics of the purchase (i.e., price and hedonic value) had no correlation with PDIS in any phase, either.



Note: Dotted lines indicate non-significant path coefficients.

Fig. 3 Study 2's results

Table 3 PDIS intensity by touchpoint

	Touchpoints	Pre-consumption PDIS Mean (SD)	Post-consumption PDIS Mean (SD)	*t*	*p*
Firm-initiated	Browsing social media owned by specific brand/company	10.87 (23.26)	15.04 (28.10)	−2.44	**.02**
	Looking into specific brand/company website	14.03 (27.13)	19.51 (30.44)	−2.34	**.02**
	Seeking information from a retailer website	11,81 (25.40)	14.31 (27.20)	−1.25	.21
	Seeing ads on traditional media (TV, outdoor billboard, magazines)	5.36 (15.69)	9.34 (21.03)	−3.26	**.00**
	Watching YouTube videos on a channel owned by specific brand/company or sponsored by it	11.43 (25.12)	14.47 (27.37)	−1.79	.08
	Talking to salesperson	6.44 (19.15)	5.77 (16.44)	0.74	.46
	Visiting stores	5.32 (16.04)	7.66 (19.74)	−1.85	.07
Customer-initiated	Browsing social media not owned by specific brand/company	11.03 (23.38)	13.24 (26.48)	−1.35	.18
	Watching YouTube videos by a consumer or influencer, not sponsored by specific brand/company	11.18 (24.09)	14.99 (27.55)	−2.33	**.02**
	Reading product reviews online	16.85 (28.72)	22.88 (32.68)	−2.68	**.01**
	Reading product forums online	11.74 (24.21)	17.04 (28.04)	−3.05	**.00**
	Talking to friends/relatives about the product	21.50 (31.14)	26.68 (31.79)	−2.01	**.05**
	Observing other consumers	8.74 (19.75)	11.94 (23.87)	−2.06	**.04**
	Searching online with a search engine (Google, Bing, Yahoo)	19.46 (31.33)	26.74 (33.99)	−2.89	**.00**
	Becoming a friend/follower/"liked" a brand	10.47 (25.59)	14.82 (27.90)	−2.38	**.02**
	PDIS intensity - Firm-initiated touchpoints	65.26 (114.94)	86.09 (132.10)	−3.15	**.00**
	PDIS intensity - Customer-initiated touchpoints	110.98 (152.60)	148.34 (170.13)	−4.41	**.00**

findings suggested, Study 2 indicates that maximizing the utility of a purchase does not play an important role in customers' disposition to engage in post-consumption PDIS. It is possible that consumers have already satisfied this need in the post-consumption phase because they had already used the pre-consumption phase to maximize the utility of their purchases. Additionally, consumers may need more than 15 days after consumption to feel the need to maximize their purchases. Our data were collected 15 days after usage.

Consumption delays may elicit choice uncertainty, yet the survey revealed that uncertainty does not encourage PDIS in the pre-consumption phase, only in the post-consumption phase. Consumers may wait until the consumption per se to confirm whether they are sure about their choices. Regret is positively correlated to post-consumption PDIS, as suggested by the previous literature (Shani & Zeelenberg, 2007; Zeelenberg et al., 1998) and our exploratory findings. Our results indicate that, overall, undesirable emotions are positively related to post-consumption PDIS but not to pre-consumption PDIS. This is an important finding because previous literature on PDIS has not considered when undesirable emotions are more likely to predict PDIS.

Additionally, fulfilling curiosity about a purchase predicts post-consumption PDIS. The more curious customers are about purchases, the more they will engage in PDIS after consumption. The survey did not support savoring a purchase as a motivator of PDIS. It is possible that we were unable to capture this relationship because participants have not reported enough experiential purchases: 89 reported services, which are not always experiential purchases (Gilovich & Gallo, 2020). Literature theorizes that consumers may savor either material or experiential purchases, but previous empirical findings show savoring effects only for experiential purchases (Chun et al., 2017; Quoidbach et al., 2015).

The results revealed a positive correlation between PDIS and engagement with the product/service and an indirect effect of PDIS on satisfaction, repurchase and WOM intentions via this engagement. These results are supported by previous literature. Information need might trigger engagement (Brodie et al., 2013),

and when one needs information, one searches for it; thus, it is not a surprise that information search leads to more engaged consumers and, consequently, to greater satisfaction (Bowden, 2009), repurchase and WOM intentions (Santini et al., 2020). It is worth noting that we also found a significant, though lower, effect of engagement on PDIS (i.e., more engaged consumers are more likely to engage in information search about their purchases at the post-purchase stage), which suggests a possible virtuous circle in which the more PDIS, the more engagement and vice-versa. Furthermore, we cannot state that the relationship between PDIS and engagement will always be positive, because it seems to depend on the valence of the information gathered. Intentions and behaviors derived from engagement, such as repurchase and WOM, could be reduced if the information is negative or even neutral. Hence, it seems that the information gathered by our respondents was generally more positive, leading to more engagement, repurchase and WOM intentions.

Finally, Study 2 indicates that customers tend to use more customer-initiated than firm-initiated touchpoints when engaging in PDIS. This preference might shape the customer journey in a way such that consumers seize more control of the entire decision process, because companies lose control of where their consumers acquire information from and which information they get or receive. This reinforces the importance of consumer-driven marketing activities such as online reviews and social media (Court et al., 2009). Traditional marketing tools remain important in this scenario, but marketers should move beyond employing push-style communication with consumers and learn to leverage customer-driven touchpoints such as Internet information sites and online reviews (Court et al., 2009; Perkins & Fenech, 2014).

General discussion

Studies 1 and 2 provide strong evidence that PDIS is an essential part of the customer journey. As a behavioral response in the journey, PDIS is correlated with elements from the initial stages of the customer journey such as pre-purchase information search behavior and customers' previous knowledge and with elements at the post-purchase stage such as engagement with the product/service, satisfaction, repurchase and worth-of-mouth intentions. The existence of two post-purchase phases when consumers engage in PDIS and the preference for customer-initiated over firm-initiated touchpoints were also found across studies.

The main differences between the two studies' findings lie in the motivators theme. Study 1's findings suggested that uncertainty, maximizing the utility of a purchase and savoring a purchase might occur pre- and post-consumption, but Study 2 indicates that uncertainty is positively correlated only to post-consumption PDIS and maximizing only to pre-consumption PDIS. Savoring was not correlated to PDIS in any phase. Study 2 confirmed findings from Study 1 that suggested that consumers who feel regret and curiosity about a purchase engage more in post-consumption PDIS.

Despite small differences in the theme motivators, findings from Study 1 and 2 collectively yield key theoretical and managerial contributions presented next.

Theoretical contributions

This research contributes to advancing PDIS and customer journey literature by proposing a new and more comprehensive understanding of PDIS behavior in the journey. It examines this behavior as part of the journey and responds to calls for advances in the post-core components of the journey mapping (Lemon & Verhoef, 2016; Voorhees et al., 2017) from a customer perspective (Hamilton & Price, 2019).

More specifically, we provided four theoretical contributions. First, we contribute to customer journey and PDIS literature by proposing a perspective that encompasses two different phases: (1) *pre-consumption*, when consumers have bought a product/service but have not yet experienced the purchase; and (2) *post-consumption*, when consumers have already experienced their purchases. To date, extant literature in those two areas of inquiry has drawn no distinctions between those two phases, even though they may lead to different determinants of PDIS, as we show in this paper. This finding represents an opportunity to investigate customers' behavioral, cognitive, and emotional responses evoked in the pre- and post-consumption phases, and how these responses differ regarding the phase in which they occur.

Second, this paper comprehends both the traditional PDIS motivators (i.e., regret and choice uncertainty) and the new PDIS motivators (i.e., maximize the utility of a purchase, savor a purchase and fulfill curiosity about a purchase). A perspective that brings together both traditional and new motivators is unprecedented and represents a significant addition to previous literature on PDIS.

Third, this research explores relationships between PDIS behavior and a range of managerial variables— i.e., engagement, satisfaction, and repurchase and WOM intentions – that represents an important effort to explore the possible consequences of this behavior in the customer journey. Surprisingly, customer journey literature seems to ignore PDIS behavior, although it may affect those important variables, as we show in this paper. This research, therefore, can contribute to understanding the set of behaviors evoked at the end of the customer journey and their consequences on variables that influence the loyalty loop (Lemon & Verhoef, 2016).

Finally, this paper contributes to customer journey literature by showing when consumers choose to use firm- and customer-initiated touchpoints when engaging in PDIS. As far as we know, this research is pioneering in addressing touchpoints from this perspective, and we contribute to

current efforts to build effective customer journey designs in doing so (Kuehnl et al., 2019).

Overall, differently from the extant literature on customer journey and PDIS, the present paper understands PDIS behavior as a valuable element of the customer experience.

Managerial implications

It is clear from our findings that, for planned purchases, PDIS is a pervasive and important behavior in the customer journey when consumers buy either a product or a service. Hence, managers in different product and service industries can benefit from thinking about PDIS as a form of engagement with the product, service or brand. This way, these managers *should* be prepared to inform consumers at the post-purchase stage. It is worth noting that, based on Study 2's results, consumers engage more in PDIS when they buy technology products (e.g., smartphones, laptops, smartwatches) than other product categories (e.g., home appliances, fashion). This suggests that managers in the technology industry *must* invest in touchpoints at the post-purchase stage.

Our findings also indicate that PDIS is positively correlated with engagement and influences satisfaction, repurchase and WOM intentions via this engagement. Nevertheless, companies tend to invest more in touchpoints to inform customers at the pre-purchase stage than at the post-purchase stage of the journey (Court et al., 2009). This may explain why, according to our findings, customer-initiated touchpoints are the most-used information sources at this stage; that is, consumers seem to know that they cannot count on companies to acquire post-purchase information. Therefore, an opportunity exists for companies to become more active at this stage and improve firm-initiated touchpoints to inform consumers *after* the purchase and so engage them. This way, companies can be more protagonists during the post-purchase experience as consumers become more used to firm-initiated touchpoints as sources of post-decision information that they can trust and count on.

Managers should bear in mind, in order to take this lead role, that consumers engage in PDIS in the pre- and post-consumption phases for different reasons. We next present what companies in different industries can do to develop firm-initiated touchpoints (i.e., sources of information controlled by a brand or its partners, such as brand or partner websites, brand or partner social media and retailers' websites) to better inform consumers at the post-purchase stage.

PDIS in the pre-consumption phase: Touchpoints and information type

Maximizing the utility of a purchase is the main reason why consumers engage in pre-consumption PDIS, according to results from Study 2. The pre-consumption phase is an opportunity for consumers to search for information on how to use a product better or enjoy an experience more. In this sense, companies may be able to facilitate maximizing the utility of a purchase in the journey as they offer post-purchase guides via firm-initiated touchpoints, such as post-purchase emails or websites, to show customers how to get the most out of products or services right after purchase. This is a good option to keep consumers engaged with a purchase, especially products, in times of a global supply chain crisis when delivery delays are common (Broadman, 2021; Van Roye et al., 2021). For example, a smartphone brand can automatically send personalized purchase emails to customers who have just bought a new smartphone with information on how to use the camera features better according to the time of day. A home appliance company can send to consumers waiting for a washing machine to be delivered some post-purchase videos on how to use the machine cycles according to clothing type. In the case of services, a hotel can send to customers after booking a website with tips to better enjoy the hotel facilities and suggestions of meals while staying in the hotel, for example. Companies can even use gamification, which influences satisfaction and brand love (Hsu & Chen, 2018), to encourage consumers to search for more information on how to consume a product or better enjoy an experience as they face the pre-consumption phase.

PDIS in the post-consumption phase: Touchpoints and information type

Our findings indicate regret, choice uncertainty, and curiosity as the main reasons why PDIS occurs in the post-consumption phase. Companies can develop firm-initiated touchpoints to provide information considering these reasons. For instance, to avoid or even deal with customer regret, companies could have pages on their websites or they could partner with influencers to give information about the benefits of the product or service or to compare it to similar alternatives to minimize this undesirable emotion. Our findings indicate that customers also search for information in these firm-initiated touchpoints when feeling regret, which reinforces the importance of those touchpoints in this situation. In the case of choice uncertainty, companies in different industries can send post-consumption emails to reassure customers that they made a good choice. This can happen when, for example, consumers buy a car or subscribe to a specific streaming service. This should reduce choice uncertainty or avoid that customer experiencing it and so decrease back-out and switching behaviors (Donnelly and Ivancevich 1970). Besides, companies could provide spaces in which customers can easily chat with company employees about

their concerns regarding their purchases and receive helpful solutions about easily returning the product if they want to, for example.

Additionally, we found that the more curiosity consumers have about a purchase, the more post-consumption PDIS occurs. Companies can facilitate this curiosity on the journey by encouraging consumers to know more details about the purchase even after consumption while they provide touchpoints that consumers can count on to engage in PDIS and fulfill this curiosity. For example, book publishers or streaming services could invest in posts on social media to make consumers more curious about the details of a book they read or a series they saw at the same time that they encourage consumers to join communities and provide spaces for them to share facts and curiosities about that book or series. Streaming services such as Netflix have already implemented some of these suggestions.

It is possible during both the pre- and post-consumption phases to use firm-initiated touchpoints to track consumers' desire for more information on a purchase and what is encouraging this. Companies can get textual data on their social media to use text mining to analyze consumers' comments after purchase and track which information they want, why they want it, if they are in the pre- or post-consumption phase, and if they can or cannot find this information. Analyzing consumers' reviews and complaints in customer-initiated touchpoints can be helpful in this case as well. It is also possible to check consumers' regret or uncertainty feelings regarding a purchase by asking new buyers directly. A short contact after the sale can reveal these emotions. With this information in hand, companies can send customized material for these consumers to reduce doubts, help them to maximize the purchase or compare it with similar offerings.

Overall, managers should benefit from providing valuable information to customers not only at the pre-purchase stage but also at the two different phases of the journey's post-purchase stage. This should help companies to serve consumers better, boost engagement, reduce exit and increase revenues (Court et al., 2009; Lee et al., 2018; Rawson et al., 2013).

Limitations and future research

This paper updates customer journey models by integrating two different streams of research that have been built apart from each other, customer journey and post-decision information search, and examining information search as an important consumer behavioral response at the post-purchase phase of the journey. A multimethod approach including in-depth interviews and a longitudinal survey shows that (a) PDIS occurs in two different moments at the post-purchase stage of the journey, in the pre-consumption and post-consumption phases; (b) different motivators can encourage PDIS with regard to the post-purchase phase experienced by consumers; and (c) consumers prefer customer-initiated to firm-initiated touchpoints when engaging in PDIS in the customer journey. Moreover, the importance of PDIS to the customer journey is reinforced by the positive relationships found between customer engagement, word-of-mouth and repurchase intentions and the PDIS behavior.

Many opportunities exist for researchers to continue investigating this important and challenging topic. First, despite our efforts to have a diverse group of participants in Study 1, most of them had higher levels of education and were from the middle class. So, further research could explore what encourages PDIS in the customer journey considering a different group of consumers, such as lower-income consumers. These consumers are budget-constrained and might report additional motivations to engage in PDIS in the customer journey (e.g., to better conserve a purchase so that it can last longer).

Second, although Study 2 tests the relationships derived from Study 1's themes, we encourage further studies using different methods (e.g., experimental design to test causal effects) and larger samples to continue examining the relationships presented in this paper. Studies that focus on the new scales we used to measure maximize the utility of purchase and curiosity about a purchase are also needed.

Third, the present paper focused on how intensely consumers engage in pre- and post-consumption PDIS. New research could address the valence of information accessed as it is an important issue that may affect managerial variables (Cooke et al., 2001; Zeithaml et al., 1996). Also, our research focused on active information search behavior but consumers can also be exposed to information (Rosario et al., 2020). Therefore, it would be interesting for future research to explore differences between being exposed to or actively searching for information in terms of managerial consequences, for example.

Fourth, savoring was not correlated with PDIS according to Study 2. We suggest future studies on this topic, focusing particularly on experiential purchases because empirical findings show stronger savoring effects for this type of purchase (Chun et al., 2017; Quoidbach et al., 2015).

Finally, we also encourage researchers to explore the relationship between PDIS and the dimensions of customer experience—cognitive, affective, physical, sensorial, and social responses or reactions (Becker and Jaakkola 2020)—which could provide more richness to the customer outcomes in our conceptual model.

Appendix

Table 4 Measurement model results

Construct/measure	Loadings		Cronbach's alpha		CR		AVE	
	Wave 1	Wave 2	Wave 1	Wave 2	Wave 1	Wave 2	Wave 1	Wave 2
Regret *(Lee and Cotte 2009)*			.94	.96	.96	.96	.78	.82
(1 - Strongly disagree, 7 - Strongly agree)								
I should have chosen something else than the one I bought.	.95	.94						
I regret the product/service choice that I made.	.88	.92						
I now realize how much better my other choices were.	.73	.89						
If I were to go back in time, I would choose something different to buy.	.93	.93						
I regret getting the product/service because it was not as important to me as I thought it would be.	.91	.90						
I regret my choice because I did not need the product/service.	.90	.85						
Uncertainty *(Montgomery and Barnes 1993)*			.87	.83	.92	.89	.80	.73
(1 - Strongly disagree, 7 - Strongly agree)								
I am confident that I made the "right" choice when I chose this product/service.	.93	.92						
I am comfortable with the decision I made.	.93	.89						
I felt that I got a "good deal" when I made this choice.	.82	.75						
Maximize the utility of a purchase			.92	.94	.95	.96	.86	.89
(1 - Strongly disagree, 7 - Strongly agree)								
I searched for information to…								
Explore the best way to use the product/service I've bought.	.94	.93						
Know the details and features of the product/service I've bought better.	.93	0.95						
Experience the product/service better.	.91	.95						
Fulfill curiosity about the purchase			.93	.95	.95	.97	.87	.91
(1 - Strongly disagree, 7 - Strongly agree)								
I searched for information to…								
Fulfill my curiosity about the product/service I bought.	.91	.96						
Learn something new or interesting about the product/service.	.95	.96						
Learn more about the product/service.	.94	.95						
Savor the purchase (*Wood et al. 2003)*			.93	.93	.95	.96	.87	.88
(1 - Strongly disagree, 7 - Strongly agree)								
I searched for information to…								
Keep feeling good about the product/service as long as I can.	.96	.96						
Try to enjoy the product/service to the fullest.	.90	.89						
Make myself feel good about the product/service as long as I can.	.94	.96						
Previous Knowledge *(Flynn and Goldsmith 1999)*			.91		.92		.75	
(1 - Strongly disagree, 7 - Strongly agree)								
I know pretty much about the product/service I bought.	.72							
I do not feel very knowledgeable about the product/service I bought.	.91							
Compared to most other people, I know less about the category of the product/service I bought.	.89							
When it comes to the category of the product/service I bought, I really don't know a lot.	.93							
Involvement *(Zaichkowsky 1994)*			.73		.84		.73	
(Bipolar 1–7)								
Uninvolving - Involving	.70							

Table 4 (continued)

Construct/measure	Loadings		Cronbach's alpha		CR		AVE	
	Wave 1	Wave 2	Wave 1	Wave 2	Wave 1	Wave 2	Wave 1	Wave 2
Worthless – Valuable	.99							
Pre-purchase information search *(adapted from Baxendale et al. 2015 and Google 2011)*			.85		.88		.33	
(Slider scale 0–100)								
When you were considering buying/booking the product/service, what sources of information did you use to help you in your decision? Indicate how intensely you searched for information in each source listed below.								
Browsing social media owned by specific brand/company	.73							
Looking into specific brand/company website	.38							
Seeking information from a retailer website	.42							
Seeing ads on traditional media (TV, outdoor billboard, magazines)	.59							
Watching YouTube videos on a channel owned by specific brand/company or sponsored by it	.75							
Talking to salesperson	.47							
Visiting stores	.50							
Browsing social media not owned by specific brand/company	.66							
Watching YouTube videos by a consumer or influencer, not sponsored by specific brand/company	.64							
Reading product reviews online	.45							
Reading product forums online	.62							
Talking to friends/relatives about the product	.39							
Observing other consumers	.70							
Searching online with a search engine (Google, Bing, Yahoo)	.46							
Becoming a friend/follower/"liked" a brand	.71							
Post-purchase information search - Pre-consumption *(adapted from Baxendale et al. 2015 and Google 2011)*			.93		.94		.52	
(Slider scale 0–100)								
Indicate to what extent you used the following sources to spontaneously search for information about the product/service after purchasing and before using/experiencing it.								
Browsing social media owned by specific brand/company	.78							
Looking into specific brand/company website	.74							
Seeking information from a retailer website	.71							
Seeing ads on traditional media (TV, outdoor billboard, magazines)	.79							
Watching YouTube videos on a channel owned by specific brand/company or sponsored by it	.75							
Talking to salesperson	.62							
Visiting stores	.68							
Browsing social media not owned by specific brand/company	.77							
Watching YouTube videos by a consumer or influencer, not sponsored by specific brand/company	.73							
Reading product reviews online	.73							
Reading product forums online	.70							
Talking to friends/relatives about the product	.55							
Observing other consumers	.78							
Searching online with a search engine (Google, Bing, Yahoo)	.69							
Becoming a friend/follower/"liked" a brand	.74							
Post-purchase information search - Post-consumption *(adapted from Baxendale et al. 2015 and Google 2011)*				.93		.94		.52
(Slider scale 0 - 100)								

Table 4 (continued)

Construct/measure	Loadings		Cronbach's alpha		CR		AVE	
	Wave 1	Wave 2	Wave 1	Wave 2	Wave 1	Wave 2	Wave 1	Wave 2
Indicate to what extent you used the following sources to spontaneously search for information about the product/service after using/experiencing it.								
Browsing social media owned by specific brand/company		.75						
Looking into specific brand/company website		.71						
Seeking information from a retailer website		.73						
Seeing ads on traditional media (TV, outdoor billboard, magazines)		.72						
Watching YouTube videos on a channel owned by specific brand/company or sponsored by it		.77						
Talking to salesperson		.75						
Visiting stores		.72						
Browsing social media not owned by specific brand/company		.79						
Watching YouTube videos by a consumer or influencer, not sponsored by specific brand/company		.79						
Reading product reviews online		.73						
Reading product forums online		.76						
Talking to friends/relatives about the product		.50						
Observing other consumers		.74						
Searching online with a search engine (Google, Bing, Yahoo)		.73						
Becoming a friend/follower/"liked" a brand		.60						
Satisfaction *(Westbrook and Oliver 1981)*				.87		.92		.80
(1 - Strongly disagree, 7 - Strongly agree)								
This is one of the best products/services I could have bought.		.91						
This product/service is exactly what I need.		.90						
I am satisfied with my decision to buy this product/service.		.86						
Repurchase intentions *(*Zeithaml et al., 1996*)*				.91		.94		.85
(1 - Not at all likely, 7 - Extremely likely)								
I will consider the company my first choice to buy this type of product/service.		.90						
I will do more business with the company in the next few years.		.92						
If the opportunity arises, I will buy from this company again.		.93						
Word of mouth intentions *(*Zeithaml et al., 1996*)*				.94		.96		.89
(1 - Not at all likely, 7 - Extremely likely)								
I will say positive things about the company to other people.		.95						
I will recommend the company to someone who seeks my advice.		.95						
I will encourage friends and relatives to do business with the company.		.93						
Engagement with the product/service *(Dessart* et al. 2016*)*				.92		.93		.61
(1 - Strongly disagree, 7 - Strongly agree)								
When interacting with the product/service I bought, I feel happy.		.76						
I get pleasure from interacting with the product/service I bought.		.78						
Interacting with the product/service I bought is a treat for me.		.83						
I spend a lot of time thinking about the product/service I bought.		.79						
I make time to think about the product/service I bought.		.73						
When interacting with the product/service I bought, I forget everything else around me.		.76						
Time flies when I am interacting with the product/service I bought.		.82						
When interacting with the product/service I bought, it is difficult to detach myself.		.75						
When I am interacting with the product/service I bought, I get carried away.		.78						
Hedonic value *(Voss et al. 2003)*			.92		.94		.84	

Table 4 (continued)

Construct/measure	Loadings		Cronbach's alpha		CR		AVE	
	Wave 1	Wave 2	Wave 1	Wave 2	Wave 1	Wave 2	Wave 1	Wave 2
(Bipolar 1–7)								
Not Fun – Fun	.94							
Dull – Exciting	.96							
Unenjoyable – Enjoyable	.84							
Maximizing tendencies *(Nenkov* et al. *2008)*				.64		.81		.58
(1 - Strongly disagree, 7 - Strongly agree)								
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'm listening to.		.80						
I often find it difficult to shop for a gift for a friend.		.66						
Choosing movies/series is really difficult. I'm always struggling to pick the best one.		.82						
Need for closure *(*Roets & Van Hiel, 2011*)*				.93		.91		.51
(1 - Strongly disagree, 7 - Strongly agree)								
I don't like situations that are uncertain.		.70						
I dislike questions which could be answered in many different ways.		.65						
I feel irritated when one person disagrees with what everyone else in a group believes.		.68						
I don't like to go into a situation without knowing what I can expect from it.		.62						
When I have made a decision, I feel relieved.		.72						
When I am confronted with a problem, I'm dying to reach a solution very quickly.		.70						
I would quickly become impatient and irritated if I would not find a solution to a problem immediately.		.89						
I don't like to be with people who are capable of unexpected actions.		.72						
I dislike it when a person's statement could mean many different things.		.74						
I dislike unpredictable situations.		.70						
Need for cognition *(Wood and Swait* 2002*)*				.92		.94		.74
(1 - Strongly disagree, 7 - Strongly agree)								
I would rather do something that requires little thought than something that is sure to challenge my thinking abilities.		.86						
I try to anticipate and avoid situations where there is a likely chance I'll have to think in depth about something.		.91						
I only think as hard as I have to.		.92						
The idea of relying on thought to get my way to the top does not appeal to me.		.79						
The notion of thinking abstractly is not appealing to me.		.82						

Note: *CR* Composite Reliability, *AVE* Average Variance Extracted

Table 5 Discriminant validity

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1. Fulfill curiosity about a purchase	**0.93**															
2. Engagement with the product/service	0.26	**0.78**														
3. Hedonic value	0.25	0.54	**0.92**													
4. Involvement	0.13	0.31	0.27	**0.85**												
5. Maximizing tendencies	0.09	0.14	0.04	−0.02	**0.76**											
6. Maximize the utility of a purchase	0.89	0.25	0.25	0.15	0.10	**0.93**										
7. Need for closure	0.06	0.11	0.07	0.02	0.46	0.08	**0.72**									
8. Need for cognition	0.07	−0.08	−0.06	−0.21	0.35	0.16	0.49	**0.86**								
9. Previous knowledge	−0.11	0.07	0.18	0.10	−0.09	−0.13	0.02	−0.12	**0.86**							
10. Regret	0.18	−0.09	−0.14	−0.33	0.17	0.15	0.19	0.29	−0.35	**0.89**						
11. Repurchase intentions	0.03	0.35	0.18	0.31	0.01	0.01	−0.04	−0.13	0.17	−0.36	**0.92**					
12. Satisfaction	0.11	0.47	0.32	0.38	0.00	0.13	−0.03	−0.12	0.14	−0.41	0.71	**0.89**				
13. Savor a purchase	0.82	0.28	0.29	0.14	0.14	0.82	0.08	0.07	−0.15	0.20	−0.02	0.05	**0.93**			
14. Information search	0.47	0.16	0.14	−0.04	0.20	0.50	0.07	0.14	−0.11	0.29	−0.03	−0.07	0.42	**0.72**		
15. Uncertainty	−0.05	0.17	0.20	0.40	−0.09	−0.02	−0.18	−0.23	0.31	−0.63	0.43	0.51	−0.02	−0.18	**0.89**	
16. Word of mouth intentions	0.06	0.37	0.16	0.33	0.03	0.08	0.04	−0.04	0.12	−0.33	0.75	0.66	0.01	0.01	0.38	**0.95**

Note: The diagonal shows the square root of the AVE and below the diagonal are the construct correlations

Table 6 VIF values for variables in the two waves of Study 2

	Pre-consumption PDIS	Post-consumption PDIS
Uncertainty_1	1.95	
Uncertainty_2		2.01
Regret_1	2.12	
Regret_2		2.19
Maximize the utility of a purchase_1	6.54	
Maximize the utility of a purchase _2		4.82
Savor a purchase_1	3.75	
Savor a purchase_2		2.56
Fulfill curiosity about a purchase_1	5.91	
Fulfill curiosity about a purchase_2		4.42
Pre-purchase information search	1.41	2.76
Previous knowledge	1.29	1.29
Involvement	1.40	1.24
Pre-consumption information search		2.40
Maximizing tendencies	1.42	1.44
Need for cognition	1.72	1.64
Need for closure	1.63	1.63
Hedonic value	1.30	1.33

Note. Some authors (e.g., Menard, 1995, Hair et al., 2019) claim that a threshold of <5 is better. Although two variables in wave 1 had values higher than 5, fulfill curiosity about a purchase and maximize the utility of a purchase, multicollinearity should not be viewed in isolation, it is also important to consider other factors that influence the accuracy of estimation results (Mason & Perreault Jr, 1991). First, PLS is considered robust against multicollinearity (Malhotra et al. 1999, Westlund et al., 2008). Moreover, according to Mason and Perreault Jr (1991) and Grewal et al. (2004), the deleterious effects of multicollinearity can be largely offset when the sample size is large, and the independent variables explain a high proportion of the variance in the dependent variable. Reliability is also another important factor influencing estimation accuracy (Grewal et al., 2004). Our study sample is not small (Mason & Perreault Jr, 1991), the explained variance of our model (R^2) reaches .63 and .76, and all composite reliability indices are higher than .81. In fact, all indices referring to convergent validity (e.g., factorial loadings, Cronbach's alpha, compositive reliability), and particularly to discriminant validity were satisfactory. So, we decided to keep all the independent variables in our model

Table 7 Study 2' s Findings

Paths	*β*	**Sig.**	**Effect size**
Dependent variable: Pre-consumption PDIS			
$R^2 = 0.63$			
Pre-purchase information search	.64	**.00**	.78
Uncertainty	−.03	.70	.00
Regret	.06	.46	.01
Maximize the utility of a purchase	.28	**.01**	.03
Savor a purchase	−.08	.40	.00
Fulfill curiosity about a purchase	.09	.35	.00
Other antecedentes			
Maximizing tendencies	.06	.28	.01
Need for Cognition	−.00	.99	.00
Need for Closure	−.08	.41	.01
Previous Knowledge	.09	.18	.02
Involvement	−.12	.10	.03
Control variables:			
Age	.05	.30	.01
Income	−.07	.11	.01
Education	.07	.18	.01
Price	−.04	.24	.02
Hedonic Value	−.01	.83	.00
Dependent variable: Post-consumption PDIS			
$R^2 = 0.76$			
Pre-purchase information search	.11	.16	.02
Pre-consumption PDIS	.52	**.00**	.47
Uncertainty	.11	**.05**	.02
Regret	.26	**.00**	.13
Maximize the utility of a purchase	.07	.44	.00
Savor a purchase	.05	.49	.00
Fulfill curiosity about a purchase	.22	**.01**	.05
Other antecedents:			
Maximizing tendencies	.07	.15	.01
Need for Cognition	−.09	.12	.02
Need for Closure	.10	.11	.02
Previous Knowledge	.14	**.04**	.06
Involvement	−.02	.59	.00
Control variables:			
Age	−.04	.23	.01
Paths	*β*	**Sig.**	**Effect size**
Income	−.05	.18	.01
Education	.04	.37	.01
Price	−.03	.36	.00
Hedonic value	−.02	.63	.00
Dependent variable: Engagement with the product/service			
$R^2 = 0.10$			
Post-consumption PDIS	.32	**.00**	.11
Indirect effects (mediations)	*β*	**Sig.**	**Confidence interval (BC) LL - UL**
Post-consumption PDIS ➔ Engagement ➔ Satisfaction	.17	**.00**	.09 .25
Post-consumption PDIS ➔ Engagement ➔ Repurchase intentions	.11	**.00**	.05 .19
Post-consumption PDIS ➔ Engagement ➔ Word of mouth intentions	.13	**.00**	.07 .20

Note: *BC* Bias Corrected, *UL* Upper Level, *LL* Lower Level

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Declarations

Conflict of interest The authors declare that they have no conflict of interest.

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