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## RESEARCH ARTICLE

# Many a little makes a mickle: Why do consumers negatively react to sequential price disclosure?

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Email: [dirk.totzek@uni-passau.de](mailto:dirk.totzek@uni-passau.de)**Abstract**

Drip pricing (DP) is distinct from partitioned pricing as it sequentially discloses surcharges to consumers. Critics see DP as a deceptive pricing tactic because it obscures the final price of an offer. We examine the effects of the timing of the final price disclosure and the number of sequentially presented surcharges on consumers' attention to the final price and, ultimately, perceived price fairness. In an eye-tracking study with 225 participants, we find that the sequential (vs. up-front) disclosure of the final price lowers perceived price fairness by increasing consumers' attention to the final price, in particular, when the number of surcharges is high. In addition, the sequential disclosure of the final price lowers perceived price fairness because of higher perceived price complexity and lower pricing transparency perceptions. The findings suggest that firms need to be aware of both attentional and cognitive effects of the final price disclosure when designing DP.

**KEYWORDS**

behavioral pricing, drip pricing, electronic commerce, eye tracking, partitioned pricing, price fairness

**1 | INTRODUCTION**

Rather than dealing with single all-inclusive prices, consumers frequently face complex price information consisting of multiple price components (e.g., Greenleaf et al., 2016). For example, partitioned pricing (PP) tactics, that is, dividing the total price of an offer into a base price and mandatory surcharges, are particularly popular in many services and retailing contexts (e.g., Abraham & Hamilton, 2018; Morwitz et al., 1998). Furthermore, customers now often face drip pricing (DP; Ahmetoglu et al., 2014), which is a pricing tactic in which firms advertise the base price of an offer up front while several additional charges sequentially “drip” in after the initial choice. Whereas price bundling integrates different products or services (e.g., Li et al., 2018), DP disentangles the price components of an offer to make it appear less expensive. DP has become popular in industries such as transportation, hospitality, and financial services.

Firms may use DP for two major reasons. First, firms may advertise their offer at a low base price and then sequentially add mandatory fees, suggesting a deal up front (Seim et al., 2017; Shelanski et al., 2012) and thus obfuscating the real final price (e.g., Chioveanu & Zhou, 2013). Second, they may want to make single price components salient to attract their customers' attention. For example, showing a fairly high price for on-board meals might positively affect the customers' quality perceptions of an airline (Bertini & Wathieu, 2008). In addition, increasing the salience of surcharges and cueing them to an external locus of causality (e.g., a tourist tax) can influence customers' blame attributions in case of a price increase (Pallas et al., 2018).

DP has become a concern for regulators around the world. Consumer protection authorities such as the Federal Trade Commission (FTC) have criticized DP tactics, urging firms to disclose mandatory surcharges “immediately adjacent to a product's basic

Dirk Totzek and Gabriel Jurgensen contributed equally.

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cost,” admonishing firms that do not comply (FTC, 2013, pp. 10, A-15). The widespread criticism has also kicked off a debate on further regulation of DP (Shelanski et al., 2012; Sullivan, 2017). However, a proposal requiring airlines to disclose baggage fees earlier in the booking process was rejected (US Department of Transportation, 2017). In addition, the FAA Reauthorization Act of 2018 does not include stronger regulations of inconclusive pricing tactics (115th congress, 2018).

DP provides two basic options for firms to disclose the final price: up-front or step-by-step. Low-fare airlines such as RyanAir and Spirit “unbundled” formerly inclusive services, now dripping in extra charges for reserved seats, carry-on luggage, and check-in bags. However, Southwest Airlines engaged in a general up-front pricing strategy and launched a campaign called “transparency,” including checked bags and change fees into its fares (Carey, 2015).

These different DP tactics should affect the degree to which consumers pay attention to the final price and, as a result, influence their perceptions of price fairness. Price fairness substantially affects consumers' purchase intentions and behavior (e.g., Bertini & Wathieu, 2008; Chung & Petrick, 2013; Cziehso et al., 2019; Malc et al., 2016; Maxwell, 2002). Moreover, consumer perceptions of unfairness can directly harm the seller, in particular, in terms of negative word of mouth, complaints, and churn (Campbell, 1999; Xia et al., 2004). Thus, a better understanding of consumers' attentional and cognitive processes when confronting DP is required to evaluate the effectiveness and potential pitfalls of DP tactics from an academic, practical, and public policy perspective (Seim et al., 2017; Shelanski et al., 2012). More specifically, we address two research questions: (1) How does the timing of the final price disclosure under DP affect key consumer perceptions of the price of an offer? (2) How do attentional and cognitive processes affect consumer perceptions of DP?

With respect to the first question, prior research indicates that consumers' evaluations of multicomponent prices are particularly affected by perceived price complexity, pricing transparency, and price fairness (Homburg et al., 2014; Sheng et al., 2007; Völckner et al., 2012). For example, customers perceive DP negatively in terms of price fairness (Robbert & Roth, 2014). However, DP's impact on consumers' transparency perceptions is still unclear, as it might be perceived positively as a more detailed cost-benefit breakdown (Völckner et al., 2012) or negatively as price shrouding (Santana et al., 2020). In addition, simultaneous disclosure of the final price may offset the negative effects of highly partitioned prices (Carlson & Weathers, 2008). Yet, it is unclear how the timing of the final price disclosure (up-front vs. sequential) alters these cognitive evaluations in the case of DP. In addition, we examine how both the timing of the final price disclosure and the number of surcharges affect customers' price fairness perceptions (see also Table 1).

With respect to the second question, DP may particularly affect processes of attention and memory. Whereas price fairness perceptions and behavioral reactions to DP have already been studied (Nathan & Scobell, 2012; Santana et al., 2020), prior work has not taken adequately into account the more hidden attentional processes. In this respect, we examine the consumers' attention to the final price,

because it should relate to both the perceived complexity of a price plan and the perceived sacrifice evoked by a payment (Prelec & Loewenstein, 1998; Völckner, 2008). According to the eye-mind assumption there should be a positive correlation between visual attention and processing in working memory: when individuals' attention is drawn to salient attributes such as the final price they are likely to be overweighed during decision making (Bordalo et al., 2013; Pieters & Warlop, 1999). However, prior research on consumers' attention to price components traditionally uses indirect measures such as price recall and calculation accuracy (e.g., Robbert & Roth, 2014). Indirect methods cannot directly capture attention the way eye tracking, for example, can do (Greenleaf et al., 2016). Eye tracking provides insights into the underlying cognitive processes of consumer decision-making as, for example, preferences for written (vs. non-written) marketing information (DelVecchio et al., 2019), the use of heuristics and price cues (Bogomolova et al., 2020), or the role of attention to red prices (Ye et al., 2020). Therefore, using eye tracking in a simulated online environment, we directly capture consumers' attention to the final price when altering the timing of the final price disclosure and the number of surcharges.

We contribute to the behavioral pricing literature by providing an in-depth explanation of both attentional and cognitive reactions to different DP tactics. Theoretically, we suggest a dual-process model of automatic (type 1) and deliberate (type 2) processes (Bargh, 1994), to better understand how pricing tactics affect consumers' perceptions of price fairness. By using eye tracking, we directly control for attentional biases that underlie consumers' automatic decision-making and thus contribute to the eye-tracking literature on heuristics and price cues (Bogomolova et al., 2020). In addition we also contribute to the debate on the effect of the number of surcharges on price perceptions and on the informational versus allocative effect of surcharges (Völckner et al., 2012).

From a managerial perspective, we contribute to the adverse discussion on the merits and disadvantages of an up-front (vs. sequential) disclosure of the final price for customer price fairness perceptions. Our results show that an up-front disclosure of the final price can alleviate the potential negative consequences of DP to the benefit of firms and consumers. These findings could, for example, induce airline representatives to accept the existing regulations regarding the dripping of taxes and government fees and encourage airlines to disclose baggage fees earlier in the booking process. In addition, firms should benefit from attention duration measurement to identify unwanted customer reactions, for example, regarding pricing tactics in e-commerce.

## 2 | CONCEPTUAL BACKGROUND AND HYPOTHESES

### 2.1 | DP, PP, and menu-based pricing

DP is a pricing tactic in which firms initially show only a part of the final price of an offer and disclose other price components later in the buying process. DP is often put on par with PP and menu-based

pricing as it shares key characteristics or can be considered a special type of these pricing tactics (e.g., Ahmetoglu et al., 2014). PP generally describes the practice of separating the price of an offer into two or more mandatory components, such as a base price and one or more surcharges (Morwitz et al., 1998).<sup>1</sup> However, these related types of multicomponent or price-partitioning tactics can be classified along two dimensions: (1) the timing of the price disclosure, that is, a simultaneous versus sequential disclosure of the price components; (2) the degree of compulsion or agency vis-à-vis the secondary or peripheral benefits, that is, mandatory versus discretionary surcharges.

Under PP, all surcharges are typically presented simultaneously whereas price disclosure is sequential under DP. More specifically, DP “involves a sequential process, whereby the base price is revealed first, and then the add-ons prices are revealed later (e.g., on subsequent pages)” (Santana et al., 2020, p. 191). Both tactics typically use mandatory surcharges which is also reflected by most of prior research (see Table 1).<sup>2</sup> However, Santana et al. (2020) examine consumer reactions to DP with discretionary surcharges. In case of discretionary surcharges, DP needs to be further distinguished from menu-based pricing and price bundling. Menu-based pricing, also referred to as à-la-carte pricing (Shelanski et al., 2012), allows consumers to customize their offer by selecting product or service items from a larger menu. These items can include optional upgrades and add-ons (Santana et al., 2020). As consumers have the opportunity to change their pricing plan at any time and without additional costs, menu-based pricing is a simultaneous-discretionary pricing tactic. The sequential-discretionary case applies to price bundling. Rather than encountering a ready-made assortment, consumers can bundle components (or not) in a rather stepwise process. However, bundling applies to situations in which the underlying products or services can also be purchased separately which is not the case for add-ons tied to the base product or service (Robbert & Roth, 2014; Stremersch & Tellis, 2002).

Figure 1 illustrates a typology of multicomponent pricing tactics. In this study, we focus on DP with mandatory surcharges and its temporal aspect of sequentially disclosing price components and presenting the total final price.

A meta-analysis comparing the positive (vs. negative) effects of PP concludes that disclosing the final price generally decreases consumer preferences for a particular offer, thus attenuating the positive effect of PP (Abraham & Hamilton, 2018). However, it is unclear whether the same holds for the final price disclosure and its timing in a DP context. For example, prior research indicates negative consumer reactions to DP in its basic form, when the different price components are disclosed sequentially (Robbert & Roth, 2014; Sullivan, 2017). Prior work does not examine whether an up-front final price disclosure can attenuate these negative

effects. More specifically, we address the following three major gaps in the DP literature:

First, prior research indicates negative consumer reactions to DP in its basic form, when the different price components are disclosed sequentially (Robbert & Roth, 2014; Robbert, 2015; Sullivan, 2017). However, it is unclear whether disclosing the final price upfront versus sequentially can attenuate these negative effects.

Second, studies using direct measurement procedures and providing a final price either up-front or at the back-end usually examined behavioral reactions. These field studies are partially encouraging sellers to use DP (Blake et al., 2018; Chetty et al., 2009). However, the number of surcharges considered in these studies is limited (see Table 1). Thus, these findings may not hold for settings with a higher number of surcharges (e.g., the transportation and hospitality industry). It is worth emphasizing that, in this case, DP with an upfront final price disclosure is conceptually different from PP as the sequential nature of the purchase process still prevails. The sequential nature of the purchase process should be more pronounced as the number of surcharges increases. It is thus important to vary the number of surcharges.

Third, Santana et al. (2020) examine consumer perceptions and behavior in DP contexts with optional add-ons and a differential final price disclosure. However, it is unclear whether these findings also hold for mandatory and an increasing number of surcharges. In addition, it is unclear how the timing of the final price disclosure affects consumers' visual attention to the final price in this context.

## 2.2 | Attention and cognitions as determinants of perceived price fairness

Our key dependent variable is perceived price fairness, which captures the customer's assessment of the overall price as being reasonable, acceptable, or justifiable compared with the price of a comparable other seller (Xia et al., 2004). In line with prior research on the behavioral aspects of pricing (e.g., Aydinli et al., 2014; Campbell, 2007; Lastner et al., 2019), customers' perceived price fairness should be the result of two processing types or mental systems. The first type is induced by attentional reactions and impulsive or automatic processes. The second type is marked by cognitions and conscious deliberation (Bargh, 1994; Strack et al., 2006). The two mental systems work in parallel and interact (Osman, 2004; Posner, 1994). Accordingly, we consider determinants of customers' perceived price fairness based on both attention and cognitions, and thus a dual-process model of information processing and decision-making. Figure 2 shows our conceptual framework.

First, the consumer's attention to the final price captures the selectivity in information acquisition with respect to the visual perception of the final price, for example, in the context of a booking process or an online purchase (Shi et al., 2013). In physiological terms, the fovea, a small depression in the retina of the eye with a high density of sensory neurons, captures the final price. Thus, visual attention to the final price captures the

<sup>1</sup>For a review of research on PP see Greenleaf et al. (2016).

<sup>2</sup>All-inclusive pricing is a related concept. However, all-inclusive pricing does not imply that prices are indicated for all options or surcharges. In addition, all-inclusive pricing does not address the timing of the final price disclosure.

TABLE 1 Review of related literature

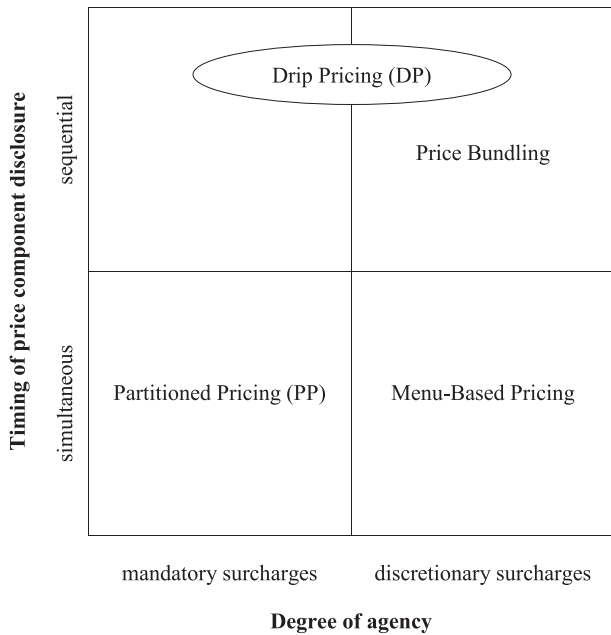
Authors	Service context and data	Pricing tactic	Independent variable(s)	Moderator(s)	Number of surcharges	Degree of agency	Timing of final price disclosure	Measurement approach	Perceptions	Behavior
Robbert and Roth (2014)	Flight booking scenario; convenience sample, $n = 95$	DP, PP	DP vs. PP		2	Mandatory		Indirect	Total price recall +, purchase intention +, price fairness -	
Robbert (2015)	Flight booking scenario; convenience sample, $n = 130$	DP, PP	DP vs. PP	Price consciousness	3	Mandatory		Indirect	Value -, deception +, purchase intention -	
Santana et al. (2020)	Flight booking scenario, MTurk, $n = 397-805$ ; hotel booking scenario, convenience sample, $n = 93$	DP, PP	DP vs. PP, base price level	Costs /benefits of starting over, search costs, self-justification, beliefs on similar surcharges	Flight 6-10, hotel 4	Optional	Up-front (PP), Sequential (DP), or back-end (DP)	Direct /indirect	Satisfaction with choice -	Choice +, choice of lower priced option +, likelihood of making a financial mistake +
Blake et al. (2018)	Online field experiment, ticketing industry, $n =$ several million users	DP	Base price level		2	Mandatory	Up-front or back-end	Direct		Spending +, purchase likelihood +, purchase quantity <sup>a</sup> -, drop off rate <sup>b</sup> +
Carlson and Weathe-rs (2008)	Auto repair scenario; convenience sample, $n = 188$ (study 2)	PP	Number of price components	Trustworthiness, presence of total price	1 vs. 8	Mandatory	Simultaneous	Indirect	Fairness -/+ <sup>c</sup> , purchase intention -/+ <sup>c</sup>	
Chetty et al. (2009)	Field experiment, retail scanner data, $n = 21,060$ ; convenience sample, $n = 49$	DP	Tax-inclusive price vs. pretax price		1	Mandatory	Up-front or back-end	Direct /indirect	Estimated total price -	Sales volume +, revenue +
This study	Flight and hotel booking scenario, eye tracking data, convenience sample, $n = 370$	DP	Final price disclosure (up-front vs. sequential)	Number of surcharges	1 vs. 8	Mandatory	Up-front or sequential	Direct /indirect	Attention to the final price +, price complexity +, pricing transparency -, price fairness-	

Abbreviations: +, positive effect; -, negative effect.

<sup>a</sup>Conditional on purchase.

<sup>b</sup>At the final stage of purchase.

<sup>c</sup>Conditional on the moderator.



**FIGURE 1** Typology of multicomponent pricing tactics

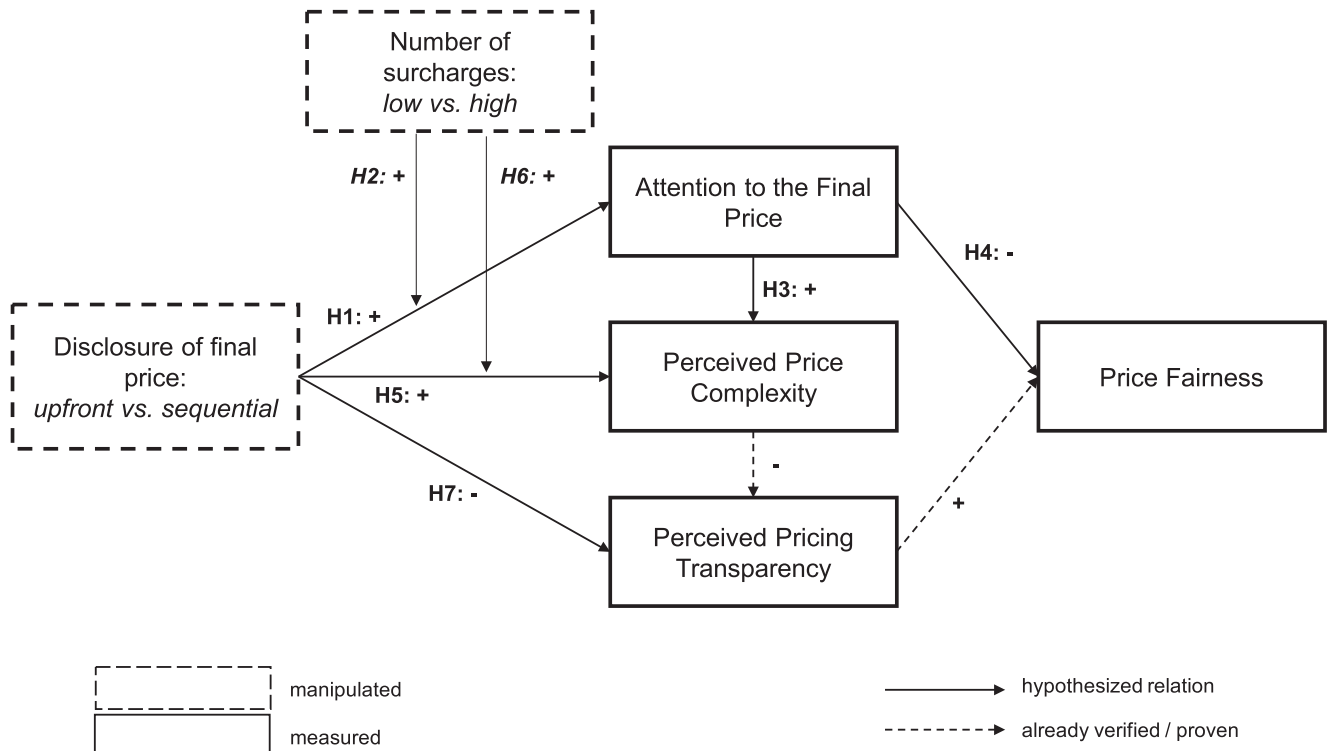
increased sensory processing of the price stimulus (Orquin & Mueller Loose, 2013). Capturing attention is generally challenging, as consumers do not have conscious access to the attentional processes when evaluating or buying an offer (van der Lans & Wedel, 2017; Wedel & Pieters, 2008).

Second, cognitive processes should affect customers' price fairness evaluations. The vast amount of prior research focuses on the cognitive drivers of (price) fairness (e.g., Bolton et al., 2003; Pallas et al., 2018). In general, individuals involved in a social exchange evaluate the monetary burden and the benefits of an offer as well as the transaction procedures against a pertinent reference standard to judge price fairness (Xia et al., 2004). Further, attention to the final price should also affect consumers' price fairness judgments. This holds as DP should affect an individual's reference price formation in terms of the saliency and availability of reference prices (Niedrich et al., 2001). More specifically, when evaluating a sequence of prices, individuals put a particular emphasis on the first and the last price information (Baucells et al., 2011; Viglia & Abrate, 2014). This process, in turn, should affect consumers' price fairness judgments as well (Figure 2).

We capture procedural aspects of fairness with the customer's perceived complexity of the final price and the transparency of the firm's pricing (Figure 2). Perceived price complexity refers to the subjective effort when customers process price information to determine the final price (Monroe & Lee, 1999). In addition, the perceived transparency of the firm's pricing captures the degree to which a customer infers that the firm's pricing is intentionally open, honest, and understandable (Homburg et al., 2014).

### 2.3 | Hypotheses development

Prices can attract consumers' visual attention in two ways (van der Lans & Wedel, 2017). First, "bottom-up" visual attention is automatic



**FIGURE 2** Conceptual framework

and occurs when prices stand out from the environment; it often depends on the presentation format (e.g., the color of the price tag), or whether price increases are expected or unexpected (Bertini & Wathieu, 2008; Eccleston & Crombez, 1999; Ye et al., 2020). Surcharges and final price increases should evoke bottom-up attention to the final price, as consumers cannot anticipate the final price and the number of the surcharges dripping in. Second, consumers' search for price information is also a goal-directed "top-down" process; it occurs when consumers direct their visual attention to objects that they consider relevant to evaluate prices (Berger et al., 2012). In particular, this should occur when the final price is disclosed sequentially as consumers face an increasing trend of prices. In case of an upfront final price disclosure, however, the final price does not change. Thus, no information update is necessary (Baucells et al., 2011; Niedrich et al., 2001).

Third, bottom-up and top-down processes of attention interact (Awh et al., 2012), especially when losses are involved in the perception of a target object. Losses induce a unique automatic response denoted by an increased bottom-up arousal state amplifying the top-down attention to the task (Kuo et al., 2009). The increased automatic attention to a sequentially disclosed price should direct consumers' goal-directed attention to better assess the benefits and the costs of an offer. Thus,

**H1:** *The sequential (vs. up-front) final price disclosure increases the attention to the final price.*

To deal with increased complexity (e.g., due to a high number of surcharges), individuals make a trade-off between visual attention and working memory in top-down processing of new information (Orquin & Mueller Loose, 2013; van der Lans & Wedel, 2017). Whereas the so called eye-mind assumption suggests a positive correlation between visual attention and processing in working memory (Just & Carpenter, 1976), more recent findings suggest an exchange relationship: consumers should use eye fixations on the final price as external short-term memory to reduce working memory load (Droll & Hayhoe, 2007).

Furthermore, consumers employ a just-in-time strategy; that is, they fixate on the price only when necessary, such as after a price change. In particular, when task complexity is high, retrieving price information from just-in-time fixations may be more efficient than doing so from working memory (Orquin & Mueller Loose, 2013). Thus, consumers facing a more complex, sequentially growing final price may increase fixations on the final price to reduce short-term memory demand. Finally, consumers also learn to focus on the attributes that best meet their current goal (Hayhoe & Rothkopf, 2011). After they have qualified the final price as an important attribute, the probability of being fixated again should increase with the number of surcharges (see also Meißner et al., 2016). Thus, we hypothesize:

**H2:** *The positive effect of sequential (vs. up-front) final price disclosure on the attention to the final price increases with the number of surcharges.*

As outlined when deriving H2, individuals are more likely to use just-in-time fixations instead of their working memory as the complexity of the task increases. However, the same principle applies vice versa: individuals increase working memory use, for example, when the physical distance between stimuli is high and when individuals have to move their heads a lot more to re-fixate stimuli (Droll & Hayhoe, 2007; Hardiess et al., 2011). As a result, attention to the final price should relate to the customer's perceived price complexity.

More specifically, when consumers assess the level of price complexity, their attention should serve as a cue to evaluate the ease with which they processed the final price (Schwarz, 2004). Thus, consumers may retrospectively derive the extent of the cognitive burden they experienced during the buying process from the number of just-in-time fixations. In this respect, attention to the final price should serve as an intuitive complexity cue:

**H3:** *Attention to the final price is positively related to perceived price complexity.*

Attention is a personal resource of limited capacity (Desimone & Duncan, 1995). This implies that when consumers pay attention to the final price they cannot pay attention to other attributes of an offer, thus leading them to overweigh the final price (Shi et al., 2013). This reasoning is consistent with the idea of a "taximeter effect" and the increasing pain of paying when facing sequentially increasing costs (e.g., Lambrecht & Skiera, 2006; Prelec & Loewenstein, 1998). The "taximeter effect" explains the adverse effects of metered pricing strategies on consumer price perceptions (Schlereth et al., 2011). In addition, as the pain of paying increases consumers should overweigh the sequential increases of the final price (Lee et al., 2019).

Beyond this sacrifice effect (i.e., price as a resource to be allocated), prices also have an informational effect (i.e., price as an indicator of quality) (Völckner et al., 2012). PP can be beneficial when the informational effect dominates the increasing sacrifice effect (Völckner et al., 2012). However, this might not hold for a relatively high number of surcharges. In addition, a sequentially increasing final price in the case of DP should direct the consumer's focus to what he or she needs to sacrifice to buy the offer rather than putting emphasis on the informational value of the different surcharges. This should particularly be the case when surcharges are mandatory. In this respect, the final price does not carry any additional informational value when the prices for surcharges are indicated as well. Thus, the sacrifice or taximeter effect should dominate the informational effect in the case of DP:

**H4:** *Attention to the final price is negatively related to perceived price fairness.*

Prior research has examined cognitive determinants of perceived price fairness for a variety of pricing tactics. In particular, consumers perceive more complex price plans as less transparent

and unfair (Homburg et al., 2014). The sequential versus up-front price disclosure as well as the number of surcharges dripping in should affect this cognitive path to price fairness perceptions as well (Figure 2).

In line with mental accounting (Thaler, 1985) and the hedonic editing hypothesis (Prelec & Loewenstein, 1998), the general premise is that the sequential price disclosure leads surcharges (i.e., losses) to be processed separately, because they are distributed over time and thus are more likely to be encoded into separate mental accounts. Accordingly, a sequentially disclosed final price makes it difficult for consumers to determine the “real” final price of the offer, as they must process many different final prices during the buying process. However, one final price is present that remains unchanged when the final price is disclosed up front. Thus, the perceived price complexity should be higher when the final price is sequentially disclosed than with an up-front price disclosure. This effect should increase with the number of surcharges as the number of price elements increases (Homburg et al., 2014). Thus:

**H5:** *The sequential (vs. up-front) final price disclosure increases the customers' perceived price complexity.*

**H6:** *The positive effect of the sequential (vs. up-front) final price disclosure on the perceived price complexity increases with the number of surcharges.*

In addition, when consumers must process the different surcharges separately, the perceived transparency of the firm's pricing should be lower, because they may infer that the firm intends to hide price information. As a result, consumers should blame the firm for having trouble correctly evaluating the price of an offer (Lee & Han, 2002). However, when the final price is disclosed up-front, consumers should perceive DP as a more transparent pricing tactic because they can evaluate both the up-front final price and the price of the different surcharges, which provides informational value (Völckner et al., 2012). Thus, consumers can better evaluate both the offer and the process by which a seller determines the final price (Carlson & Weathers, 2008). Thus:

**H7:** *The sequential (vs. up-front) final price disclosure decreases the perceived transparency of a firm's pricing.*

### 3 | METHODOLOGY

#### 3.1 | Research design and sample

To test our conceptual framework and hypotheses, we conducted an experimental study in a computer lab. The participants were 225 undergraduate students (53% female; median age: 22 years, standard deviation: 2.6 years) enrolled in different part-time bachelor programs at a university of applied sciences in Germany. Participants volunteered to participate and did not receive

incentives, except for some snacks or fruits as a recognition for their efforts once they completed the task. All participants had a salaried job in parallel and had visited an online travel, airline, or hotel website in the past year, to ensure that participants were familiar with the general procedure of booking a flight or hotel online and were thus part of the target population. In line with prior work, we relied on a convenience (student) sample to study implicit psychological processes based on attention measurement with eye tracking (e.g., Compeau et al., 2012; Mook, 1983).

We randomly assigned participants to different experimental conditions with two DP offers: (1) with the final price either disclosed up front or sequentially and (2) with a low or a high number of mandatory surcharges. We considered two service contexts: the airline and hotel industry. In both industries, consumers are confronted with different DP practices, and both have been part of the current debate on the appropriateness of DP. The manipulation of the service industry (within-subject factor), the final price disclosure (between-subjects factor), and the number of surcharges (between-subjects factor) led to a  $2 \times 2 \times 2$  randomized mixed between- and within-subject design.

The stimulus material consisted of a fictional airline- and a fictional hotel-booking website. We told participants that they were planning a vacation abroad and asked them to book both a flight and a hotel on two separate websites, which we designed for the study. Then, participants needed to choose between two similar hotel and flight destination alternatives (in terms of price and quality) displayed in randomized order. We offered two options to make the scenarios more realistic and to motivate participants to be attentive for detail, comparing attributes, and taking action. We asked participants to choose between a trip to the islands of Tenerife or Malta and a stay at the “Gran Oasis Resort” versus “Green Garden Resort & Suites.” In each scenario, both alternatives were identical in terms of the final price disclosure and surcharge manipulations. The choice of the particular alternative did not differ across industries ( $F_{\text{airline industry}(5, 174)} = 0.19, p = 0.66$ ;  $F_{\text{hotel industry}(5, 184)} = 0.21, p = 0.65$ ).

Participants went through the booking process step-by-step by pressing the “continue” button while the surcharges (e.g., baggage fee) dripped in on each new page. We identified the services options and the surcharge prices by screening a variety of comparable offers. We built on the manipulation of Carlson and Weathers (2008) comparing one (low surcharge condition) versus eight (high surcharge condition) surcharges (see Table 1). More specifically, we told participants up front that they wanted to add a fixed set of eight service options (e.g., checked baggage or a meal for the flight, dinner or a room with ocean view for the hotel; Table 2). We asked participants to choose all surcharge options during the booking process. The low surcharge condition had one additional service surcharge (flight: checked baggage; hotel: half board/dinner). We informed participants that the other service components and surcharges were already included in the base price (Table 2). In the high surcharge condition, participants had to add all (i.e., eight) service options. We added each surcharge option on a separate screen. The total final prices for the flight and the hotel options were identical across the two surcharge conditions.



TABLE 2 Experimental stimuli

	Flight booking				Hotel booking					
	Number of surcharges: high		Number of surcharges: low		Number of surcharges: high		Number of surcharges: low			
	Malta	Tenerife	Malta	Tenerife	GO Res	GG R&S	GO Res	GG R&S		
Base price	Return flight (tax included)	144.29 €	235.51 €	196.89 € <sup>b</sup>	288.11 € <sup>b</sup>	Seven night stay	556.00 €	547.00 €	656.00 € <sup>c</sup>	647.00 € <sup>c</sup>
Surcharges	1 Seat reservation outward	9.90 €	9.90 €			Breakfast	120.00 €	120.00 €		
	2 Seat reservation inward	9.90 €	9.90 €			Half board	180.00 €	180.00 €	300.00 €	300.00 €
	3 Baggage outward	24.90 €	24.90 €	49.80 €	49.80 €	Sea view room	23.00 €	23.00 €		
	4 Baggage inward	24.90 €	24.90 €	(round trip)	(round trip)	Air conditioning	21.00 €	21.00 €		
	5 Inflight menu <sup>a</sup> outward	8.90 €	8.90 €			Wi-Fi	35.00 €	35.00 €		
	6 Inflight menu <sup>a</sup> inward	8.90 €	8.90 €			Wellness & spa	14.00 €	14.00 €		
	7 Cancellation insurance	15.00 €	15.00 €			Tourist tax	7.00 €	7.00 €		
	8 Transaction fee	0.00 €	0.00 €			Transaction fee	0.00 €	0.00 €		
Final price		246.69 €	337.91 €	246.69 €	337.91 €		956.00 €	947.00 €	956.00 €	947.00 €

Abbreviations: GO Resort, Gran Oasis Resort; GG R&S, Green Garden Resort & Suites.

<sup>a</sup>Four selectable menus (gourmet, Mediterranean, oriental, and vegetarian) at the same price.

<sup>b</sup>Including taxes, seat reservations, inflight menus (inward + outward), travel cancellation insurance, and transaction fee.

<sup>c</sup>Including breakfast, room with sea view, air conditioning, Wi-Fi, wellness and spa, tourist tax, and transaction fee.

In the case of the up-front final price disclosure, the final price on the first page already included all surcharges and remained unchanged during the booking process. However, we indicated the final price on each screen. In the case of sequential final price disclosure, the final price increased with each surcharge option. The length of the booking process (i.e., the number of screens) was identical for both final price disclosure conditions. Table 2 shows the prices and surcharges used in the different conditions.

After participants completed the booking process, we asked them to respond to an online questionnaire to assess perceived price fairness and its cognitive determinants. Participants repeated the whole procedure for the remaining hotel or flight scenario. Thus, each participant was expected to go through two trials. The original sample consisted of 234 participants of which 193 completed two trials, whereas 41 participants completed only one trial. More specifically, the eye tracking calibration process could fail in the second trial. We randomized trial order across all participants. We found no systematic order effects affecting attention ( $t(2, 368) = 0.38, p = 0.71$ ), perceived price complexity ( $t(2, 368) = 1.68, p < 0.10$ ), perceived pricing transparency, ( $t(2, 368) = -0.58, p = 0.57$ ), or perceived price fairness ( $t(2, 368) = 1.10, p = 0.27$ ). We thus pooled all 427 trials across participants.

In all trials, participants needed to recall whether the final price was presented sequentially or up front. As a result, we excluded nine participants (4%) and 47 trials (11%), as participants did not correctly recall the type of final price disclosure.<sup>3</sup> We further excluded 10 trials (2%) in which participants showed no fixation times on the screens or had excessively high dwell times resulting from data-recording problems (Meißner et al., 2016). The final study sample comprised 370 experimental trials originating from 225 participants.

### 3.2 | Measurement

During the online booking process, we directly measured participants' attention to the final price as their eye fixation durations on the final price using a 60 Hz Tobii Pro eye tracker. We seated participants in front of a 21-inch screen (resolution 1920 × 1080). We went through a seven-point calibration process with each participant (Behe et al., 2015; Wedel & Pieters, 2008). We repeated the calibration process for the second trial. Figure 3 shows two illustrative heat maps of the fixations on the final price at the last stage of the hotel booking process in the high surcharge number condition. The heat map illustrates that fixations on the final price are higher for a sequential versus upfront final price disclosure.

We operationalized the attention paid to the final price as follows: The eye-tracking coefficient  $\tau$  represents the ratio of the fixation durations  $x_{i,j}$  (measured in seconds) to the final price and the total time (measured in seconds) spent on each (web) page  $y_{i,j}$  of

the  $i^{\text{th}}$  participant summed across the total number of relevant web pages  $j$ . We considered the web pages on which a final price change occurred in the sequential final price disclosure condition and used these as a comparison standard in both conditions. As the first and last screen (start page  $j_1$  and the booking confirmation page  $j_m$ ) did not include a price change, we excluded them. Thus, we calculated participants' attention to the final price as follows:

$$\tau_i = \sum_{j=2}^{m-1} \left( \frac{x_{i,j}}{y_{i,j}} \right)$$

Regarding perceived price fairness and the cognitive drivers, we used reflective multiitem and single-item measures assessed on seven-point Likert-type rating scales. We mostly relied on scales established in prior work. The multiitem scales for perceived pricing transparency and perceived price fairness show desirable measurement properties. Table 3 shows our measurement items, the scale anchors used, as well the underlying sources.

## 4 | RESULTS

### 4.1 | Analysis of variance (ANOVA)

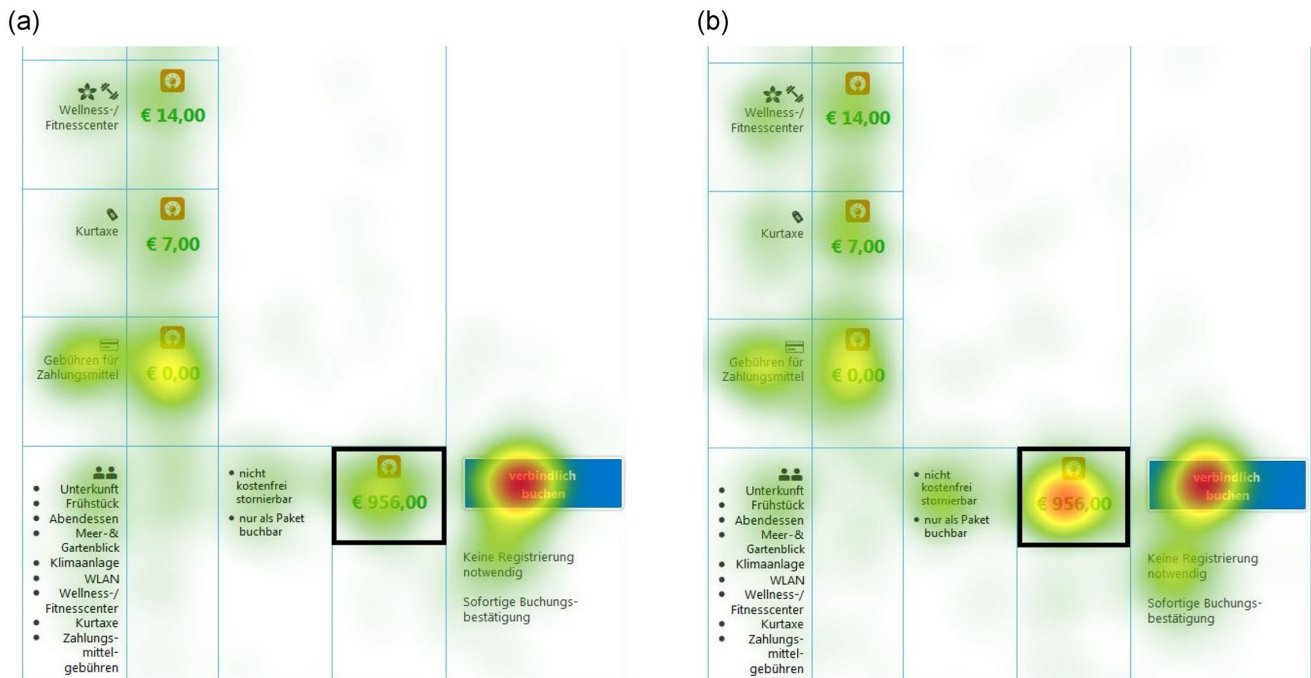
In a first step, we tested the front part of our model and conducted 2 × 2 ANOVAs with the sequential versus up-front final price disclosure, the number of surcharges and the corresponding interaction term as our independent variables and the attention to the final price, perceived price complexity, as well as perceived pricing transparency as dependent variables. Moreover, we controlled for participants' price awareness, the expected quality of the offer, and the service industry (airline vs. hotel). Table 4 shows the means of all model variables in the different experimental conditions. Table 5 shows the ANOVA results and the results of a multivariate ANOVA.

The results of the ANOVAs confirm a significant main effect of the up-front (vs. sequential) final price disclosure manipulation as it reduces the attention to the final price ( $M_{\text{up-front}} = 0.11, M_{\text{sequential}} = 0.19; F(6, 363) = 22.47, p < 0.01, \eta^2 = 0.06$ ) and perceived price complexity ( $M_{\text{up-front}} = 2.46, M_{\text{sequential}} = 4.68; F(6, 363) = 116.36, p < 0.01, \eta^2 = 0.24$ ). We thus find support for H1 and H5. The up-front versus sequential final price disclosure also increases the perceived transparency of the firm's pricing ( $M_{\text{up-front}} = 5.48, M_{\text{sequential}} = 3.09; F(6, 363) = 244.49, p < 0.01, \eta^2 = 0.44$ ), supporting H7.

In a similar vein, the number of surcharges increases the attention to the final price ( $M_{\text{low}} = 0.05, M_{\text{high}} = 0.23; F(6, 363) = 147.60, p < 0.01, \eta^2 = 0.29$ ) and perceived price complexity ( $M_{\text{low}} = 2.74, M_{\text{high}} = 4.11; F(6, 363) = 54.36, p < 0.01, \eta^2 = 0.13$ ); however, perceived pricing transparency ( $M_{\text{low}} = 4.80, M_{\text{high}} = 4.05; F(6, 363) = 32.04, p < 0.01, \eta^2 = 0.08$ ) decreases.

We also find significant interactions indicating that the effects of the up-front versus sequential performance on the attention to the final price ( $F(6, 363) = 19.06, p < 0.01; \eta^2 = 0.05$ ) and perceived price

<sup>3</sup>We did not check for the manipulation of the number of surcharges as it was an integral part of the underlying booking scenarios. This is in line with prior work that also did not check manipulation effectiveness (e.g., Carlson & Weathers, 2008; Xia & Monroe, 2004).



**FIGURE 3** Illustrative heat maps of the attention to the final price depending on the (a) up-front versus (b) sequential final price disclosure [Color figure can be viewed at [wileyonlinelibrary.com](http://wileyonlinelibrary.com)]

**TABLE 3** Scales and measurement items

	Factor loadings	Cronbach's $\alpha$	Reference(s)
<i>Perceived price complexity<sup>a</sup></i>			
It was difficult to determine the final price of the (hotel/flight) offer	-	-	Heitmann et al. (2007)
<i>Perceived pricing transparency<sup>a</sup></i>			
The provider does not try to confuse customers with the tariff	0.85	0.88	Homburg et al. (2014); Leinsle et al. (2018)
The provider enables customers to quickly calculate the right price	0.94		
The provider is interested in assuring that each customer directly knows how much he/she has to pay	0.90		
The provider tries to ensure that most customers understand the tariff	0.76		
<i>Perceived price fairness<sup>a</sup></i>			
Overall, I think the price of the tariff is		0.95	Bolton et al. (2010); Campbell (2007); Leinsle et al. (2018); Xia et al. (2004)
Just	0.93		
Fair	0.90		
Reasonable	0.95		
Acceptable	0.93		
<i>Price awareness<sup>a</sup></i>			
I am familiar with the prices for hotels and flights regarding Tenerife/Malta.	-	-	
<i>Expected quality<sup>b</sup></i>			
Overall, I think the quality of the airline/hotel is ...	-	-	

<sup>a</sup>Seven-point Likert-type rating scales with anchors 1 = do not agree at all and 7 = totally agree.

<sup>b</sup>Seven-point Likert-type rating scale with anchors 1 = "very poor" and 7 = "very good."

**TABLE 4** Means of the dependent variables in the experimental conditions

Independent variables		Dependent variables							
		Attention to the final price <sup>a</sup>		Perceived price complexity <sup>b</sup>		Perceived pricing transparency <sup>b</sup>		Price fairness <sup>b</sup>	
		Mean	SD	Mean	SD	Mean	SD	Mean	SD
Final price disclosure	Up-front	0.11	0.11	2.46	1.80	5.48	1.50	5.00	1.30
	Sequential	0.19	0.24	4.68	2.04	3.09	1.29	4.28	1.49
Number of surcharges	Low	0.05	0.05	2.74	1.68	4.80	1.69	4.90	1.35
	High	0.23	0.22	4.11	2.41	4.05	1.92	4.48	1.48
<i>Interactions</i>									
Up-front disclosure	Low surch.	0.04	0.04	2.04	1.33	5.71	1.41	4.92	1.34
	High surch.	0.17	0.12	2.84	2.07	5.28	1.56	5.08	1.27
Sequential disclosure	Low surch.	0.05	0.05	3.60	1.68	3.68	1.28	4.88	1.36
	High surch.	0.31	0.27	5.63	1.85	2.56	1.05	3.76	1.40
<i>Covariate</i>									
Service Industry	Hotel	0.16	0.20	3.75	2.32	4.27	1.82	4.43	1.42
	Flight	0.13	0.17	3.17	2.04	4.54	1.88	4.94	1.41

Note:  $n = 370$ .

Abbreviation: surch., surcharge.

<sup>a</sup>Eye-tracking coefficient

<sup>b</sup>Seven-point rating scales, anchored by 1 = "fully disagree" and 7 = "fully agree."

complexity ( $F(6, 363) = 13.16, p < 0.01; \eta^2 = 0.04$ ) increase with the number of surcharges (Table 4). Thus, we find support for H2 and H6 (Figure 2).

## 4.2 | Regression analysis

In a second step, we analyzed the entire chain of effects linking final price disclosure to perceived price fairness. Thus, we built a multi-mediator model using the PROCESS macro (Hayes, 2018). We customized the model according to our framework shown in Figure 2. We controlled for participants' price awareness, expected quality of

the offer, and the service industry (airline vs. hotel). Table 6 shows the regression results using PROCESS with a bootstrap sample of 5000. Because we have an interaction of two categorical variables in our model, we used effect coding, to get reasonable estimates of both the main effects and the interaction that are in line with the ANOVA results.

Results of the regression regarding the attention the final price show that the direct effect of the sequential (vs. up-front) final price disclosure as proposed by H1 is significant ( $B = 0.08, p < 0.01$ ). Furthermore, the number of surcharges increases the attention paid to the final price ( $B = 0.13, p < 0.01$ ). Finally, we observe a significant interaction term (price disclosure  $\times$  number of surcharges) ( $B = 0.14,$

**TABLE 5** Effects of the final price disclosure and the number of surcharges on the dependent variables (ANOVA)

Independent variables	ANOVA: dependent variables							
	Attention to the final price		Perceived price complexity		Perceived pricing transparency		Multivariate ANOVA	
	$F$	$\eta^2$	$F$	$\eta^2$	$F$	$\eta^2$	$F$	Wilks's $\lambda$
Final price disclosure (A)	22.47**	0.06	116.36**	0.24	244.49**	0.44	72.16**	0.56
Number of surcharges (B)	147.60**	0.29	54.36**	0.13	32.04**	0.08	50.07**	0.64
Interaction (A) $\times$ (B)	19.06**	0.05	13.16**	0.04	7.64**	0.02	12.02**	0.88
Price awareness	5.96*	0.02	2.36	0.01	13.64**	0.04	9.76**	0.90
Expected quality	0.08	0.00	20.44**	0.04	44.05**	0.10	16.51**	0.85
Service industry	0.28	0.00	15.46**	0.04	18.03**	0.05	10.86**	0.89

Note:  $n = 370$ .

\* $p < 0.05$ .

\*\* $p < 0.01$ .

**TABLE 6** Effects of the final price disclosure and the number of surcharges on the dependent variables (PROCESS)

	B	SE	t	p	Hyp.
<i>Outcome: perceived price fairness</i>					
	R <sup>2</sup> = 0.26	F = 26.05		0.00	
Constant	1.80	0.36	4.94	0.00	
Attention to the final price	-0.72	0.36	-1.99	0.05	H4
Perceived pricing transparency	0.25	0.04	6.35	0.00	
Price awareness	0.12	0.04	3.47	0.00	
Expected quality	0.22	0.06	3.49	0.00	
Service industry	0.65	0.15	4.41	0.00	
<i>Outcome: attention to the final price</i>					
	R <sup>2</sup> = 0.35	F = 32.54		0.00	
Constant	0.01	0.05	2.41	0.02	
Final price disclosure	0.08	0.02	4.74	0.00	H1
Number of surcharges	0.20	0.02	12.15	0.00	
Final price disclosure × number of surcharges	0.14	0.03	4.37	0.00	H2
Price awareness	0.01	0.00	2.44	0.02	
Expected quality	-0.00	0.01	-0.28	0.78	
Service industry	0.01	0.02	0.53	0.60	
<i>Outcome: perceived price complexity</i>					
	R <sup>2</sup> = 0.42	F = 37.20		0.00	
Constant	5.28	0.51	10.40	0.00	
Final price disclosure	1.90	0.19	10.00	0.00	H5
Number of surcharges	1.09	0.21	2.09	0.03	
Final price disclosure × number of surcharges	1.13	0.37	3.07	0.00	H6
Attention to the final price	1.27	0.59	2.15	0.03	H3
Price awareness	0.06	0.05	1.25	0.21	
Expected quality	-0.38	0.08	-4.51	0.00	
Service industry	-0.80	0.20	-4.01	0.00	
<i>Outcome: perceived pricing transparency</i>					
	R <sup>2</sup> = 0.60	F = 108.50		0.00	
Constant	3.29	0.39	8.34	0.00	
Final price disclosure	-1.50	0.15	-10.38	0.00	H7
Perceived price complexity	-0.33	0.03	-9.80	0.00	
Price awareness	0.15	0.03	4.62	0.00	
Expected quality	0.28	0.06	4.78	0.00	
Service industry	0.43	0.14	3.07	0.00	

Note: Final price disclosure: -0.5 = up-front, 0.5 = sequential; number of surcharges: -0.5 = low, 0.5 = high; industry: 0 = hotel, 1 = flight. Unstandardized coefficients are shown.

$p < 0.01$ ), confirming H2. More specifically, the corresponding conditional effects model shows a significant positive effect of the sequential versus up-front final price disclosure on the attention to the final price for a high number of surcharges ( $B = 0.15$ , 95% confidence interval [CI] [0.10, 0.19]). However, this effect is not significant for a low number of surcharges ( $B = 0.01$ , 95% CI [-0.04, 0.05]).

In support of H3, the results show a positive effect of the attention to the final price on perceived price complexity ( $B = 1.27$ ,  $p < 0.05$ ). In line with H4, the attention to the final price negatively affects perceived price fairness ( $B = -0.72$ ,  $p < 0.05$ ). In addition, the sequential versus up-front price disclosure significantly affects perceived price fairness through attention when the number of surcharges is high ( $B = -0.11$ , 95% CI [-0.22, -0.00]). However, the indirect effect is nonsignificant when the number of surcharges is low ( $B = -0.01$ , 95% CI [-0.02, 0.01]).

Regarding the cognitive determinants of price fairness, perceived price complexity is higher when the final price is disclosed sequentially ( $B = 1.90$ ,  $p < 0.01$ ). This effect is strengthened by a high (vs. low) number of surcharges ( $B = 1.13$ ,  $p < 0.01$ ). These results are in line with H5 and H6. Furthermore, the sequential (vs. up-front) final price disclosure has a negative direct effect on the firm's pricing transparency ( $B = -1.50$ ,  $p < 0.01$ ), as H7 proposed. As expected, the effects of perceived price complexity on perceived pricing transparency ( $B = -0.33$ ,  $p < 0.01$ ) and of perceived pricing transparency on price fairness ( $B = 0.25$ ,  $p < 0.01$ ) are consistent with prior research (Homburg et al., 2014).

Overall, the conditional cognitive effects of sequential versus up-front price disclosure on price fairness (through perceived price complexity and perceived pricing transparency) are significant for both a low ( $B = -0.11$ , 95% CI [-0.17, -0.06]) and a high ( $B = -0.20$ , 95% CI [-0.31, -0.11]) number of surcharges. However, attention to the final price as an additional trigger of this process only leads to a significant indirect effect when the number of surcharges is high ( $B = -0.02$ , 95% CI [-0.03, -0.00]), but not when the number is low ( $B = -0.00$ , 95% CI [-0.00, 0.00]).

## 5 | DISCUSSION

### 5.1 | Theoretical implications

The goal of this study was to examine how the sequential versus up-front final price disclosure and the number of surcharges ultimately affect consumers' price fairness perceptions of DP tactics. This is important, as DP tactics have been at the center of a vital debate of public policy makers. In this respect, we provide a detailed analysis of both attentional and cognitive consumer reactions to DP. We directly assessed participants' attention to the final price using eye tracking. We contribute to a better understanding of DP tactics and the behavioral pricing literature in three major ways.

First, we show that the presence and the timing of the final price disclosure are relevant to consumers' price fairness perceptions. Xia and Monroe (2004) were among the first to find a positive effect of the presence of a total price under PP. Carlson and Weathers (2008) also proposed disclosing the total price of an offer early in a customer's evaluation process, especially when the price plan consisted of many surcharges. However, Abraham and Hamilton (2018) show that the absence of a total price leads to more favorable

consumer evaluations and outcomes for PP. Our results imply that prior research on consumer reactions to PP does not generalize to DP. For DP, an up-front final price disclosure is the more favorable option, particularly when the number of surcharges dripping in is high. More specifically, we find direct negative effects of the sequential (vs. up-front) final price disclosure on procedural aspects of perceived price fairness, that is, consumer perceived price complexity and the perceived transparency of the firm's pricing. Moreover, in line with the integration-of-losses principle, consumers evaluate an up-front disclosure of the final price as more transparent.

Second, we directly measured the attention to the final price and examined how DP triggers it. Most studies on the behavioral aspects of pricing have focused on cognitive and deliberate evaluations. In this respect, our study is one of the few to rely on direct quantitative price perception measures using eye tracking to trace automatic consumer decision making processes as repeatedly requested (Greenleaf et al., 2016; Zuschke, 2019). It is worth emphasizing that we rely on a relatively large eye-tracking sample compared to other studies in the field (e.g., DelVecchio et al., 2019; Ye et al., 2020).

We show that up-front price disclosure can reduce the attention to the final price, in particular, when many surcharges are included in a DP tariff. Carlson and Weathers (2008) argue that consumers exposed to many surcharges use the “numerosity heuristic” when estimating the total price, that is, they infer a larger total amount when the number of price components is high (Pelham et al., 1994). However, the presence of a total final price reduces this bias (Carlson & Weathers, 2008).

As many surcharges are introduced sequentially under DP, our results are more in line with the “taximeter effect” as consumers watch the fees accumulate. In this respect, we provide evidence backed by eye-tracking data on the taximeter effect (Prelec & Loewenstein, 1998). In line with the idea of “many a little makes a mickle,” a sequentially disclosed final price draws consumers' attention away from performance or quality features of an offer to the increasing monetary loss. Moreover, we show that repeated losses create both increased automatic and goal-directed attention to the final price, driving customers to more accurately assess the costs of an offer (Kuo et al., 2009; Orquin & Mueller Loose, 2013; van der Lans & Wedel, 2017).

Third, consumers' price fairness perceptions arise from an interplay between automatic and deliberate and between procedural and distributive aspects of fairness. We show how attention affects cognitive determinants of price fairness. Prior research has largely focused on cognitive aspects of price fairness (Greenleaf et al., 2016). Thus, we develop and validate a more comprehensive model of the determinants of price fairness. More specifically, the attention paid to the final price also affects cognitive evaluations, particularly perceived price complexity. This finding may result from the use of a heuristic to evaluate the ease with which the final price is processed as, for example, whether or not the consumer employed a just-in-time strategy as a shortcut to memory. In addition, perceived price complexity functions as a (negative) transparency signal, similar to

the timing of the final price disclosure, and negatively influences price fairness.

## 5.2 | Managerial implications

In general, our study should encourage pricing executives and consumer protection agencies to increase the transparency of pricing tactics. We show how firms should optimally design DP to mitigate negative consumer reactions driven by attention and by a lack of transparency. In addition, we provide a more nuanced understanding of the mechanisms underlying DP. We elucidate why and under what circumstances consumers perceive DP as unfair and deceptive.

More specifically, managers need to be aware that the differential timing of the final price disclosure draws attention to the final price or away from it. Disclosing the final price sequentially under DP generates attention to the final price, thereby increasing a customer's focus on the perceived loss of the transaction. Thus, the idea of “divide and prosper” (e.g., Abraham & Hamilton, 2018) does not hold for DP. In addition, sequential price disclosure has negative effects on perceived price complexity and influences price fairness directly and indirectly. Regarding the perceived transparency of the firm's pricing, our results clearly advise an up-front final price disclosure in price plans, particularly when the number of surcharges is high. An early price disclosure can thus allow firms to use more complex and more partitioned DP tactics without being penalized by consumers. More specifically, an up-front disclosure of prices can—indeed—outweigh the negative effects of a high number of surcharges under DP. These findings are robust for different service-based industries (e.g., airline, hotel). As such, early final price disclosures do not put regulators and customers in competition with firms.

## 5.3 | Limitations and further research

First, we used stylized booking scenarios in our online and laboratory settings with student participants. Although we ensured that our participants had experience with booking flights and hotels online, having actual field data from real-life booking processes (e.g., real choice and choice deferral, purchase rates, dropout rates) would increase the external validity of our findings. However, the focus of our study was on the specific yet unexplored role of attention using eye tracking, because prior studies showed somewhat contradictory findings in terms of perceptual measures or purchase intentions (Robbert & Roth, 2014; Robbert, 2015). Thus, the goal of this study was to explain the mechanisms behind price perceptions under DP to help practitioners match customers' perceptions.

Second, we chose two extreme manipulations for a low versus high number of mandatory surcharges. Further research could provide a more detailed analysis varying the number of surcharges on a more fine-grained level. This could also be helpful to examine a potential nonlinearity of the effect of attention to the final price on cognitive evaluations of DP. For example, there could be critical number of

surcharges, shifting the attention to the final price (while no up-front final price is being disclosed), and leading to attentional biases.

Third, we focus on the timing of the final price disclosure in the context of mandatory surcharges. However, there is a debate about the regulation and role of the final price disclosure with dripped optional surcharges. While prior research demonstrates adverse effects of DP of optional fees with a sequentially disclosed final price as compared with a final price presented at the end of the booking process or no final price disclosure at all (e.g., Santana et al., 2020), research on the up-front disclosure of the final price is needed. However, more firms offer alternative packages indicating a fixed final price right from the start with different “upgrade” options along the booking process. However, the effects of an up-front disclosure of the final price with optional surcharges have not yet been examined.

In general, future behavioral pricing research should use direct attentional measures to examine in more detail the role of attentional processes when consumers are confronted with different price presentation tactics. This could be particularly interesting for DP or other pricing tactics that include optional surcharges, such as à-la-carte or menu-based pricing. Eye tracking should generally be very useful to better assess the effect of external price cues on consumers' price information processing, for example, in terms of information processing fluency, price recall and its behavioral outcomes (Mead & Hardesty, 2018). Finally, future research could consider additional determinants related to the attention to the final price, such as consumers' arousal or emotions (see also Zielke, 2011).

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