

# **Transitioning to Dynamic Prices: Should Pricing Authority Remain with the Company or be Delegated to the Service Employees Instead?**

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## **Transitioning to Dynamic Prices: Should Pricing Authority Remain with the Company or be Delegated to the Service Employees Instead?**

### **Abstract**

Dynamic pricing is typically implemented via pricing algorithms that react to varying levels of supply and demand. Some companies, such as Uber, also vary prices for different offers, such as standard cars or limousines for a ride. However, companies usually do not proceed to the next logical step and delegate pricing authority to their employees. This is astonishing as service employees often vary in service quality, possess unique business knowledge, hold close relationships with customers, and influence the overall customer experience. The authors investigate the consequences of delegating pricing authority to employees. They also investigate the responses of customers who face a situation where *their* firm transitions from fixed to dynamic prices set by the firm (control group) or service employees (treatment group). The findings demonstrate that the actual dynamic price paid affects customers' distributive fairness perceptions, which influence their behavioral responses. The authors find support for pricing authority (firm vs. employee) acting as a second-stage moderator. The results provide supporting evidence for the stylized fact that firms keep the pricing authority with the company and do not delegate it to service employees instead.

*Keywords: dynamic pricing, pricing strategy, pricing authority, distributive fairness*

*Highlights*

- *When introducing dynamic pricing, prices should be set at firm not employee level*
- *Dynamic prices paid affect customers' distributive fairness perception*
- *Distributive fairness perception mediates effect of price on behavioral outcomes*
- *Pricing authority (firm vs. employee) acts as a second stage moderator*
- *Expectations about more communal behavior of employees (vs. firm) explain effect*

## 1. Introduction

*Dynamic pricing* is a pricing strategy that uses price variations to align demand and supply over time (Elmaghraby and Keskinocak 2003). Ideally, companies implementing dynamic pricing monetize customers' high willingness to pay during peak times and increase demand during off-peak times by lowering prices (Kimes and Wirtz 2003).

Well-known ridesharing platforms such as Uber and Lyft have long relied on corporate algorithms for what they call “surge” or “prime time” pricing (i.e., dynamic price increases). However, drivers have sometimes tried to influence prices indirectly by (collectively) turning their driver apps on or off to affect supply (and hence, prices) (Schröder, Storch, Marszal, and Timme 2020). In January 2020, in an attempt to prevent drivers from being reclassified as employees (instead of independent drivers), Uber started an interesting experiment allowing drivers in California to see ride destinations before picking up passengers and to set their fares (Said 2020; Uber 2020). However, according to Said (2021), about a year later, “Uber is acknowledging that the move has hurt business and is considering axing its visible destinations and price-naming policies.” While it seems that drivers well adopted and enjoyed the new features, the overall impact for Uber turned out to be negative since many potential passengers ended up not finding a Uber ride (Said 2021). This experiment shows that a change in pricing authority can substantially influence financial outcomes and “employee” and customer outcomes. However, corporate pricing authorities can also harm their profitability. For instance, Airbnb's corporate “smart pricing” algorithm is said to underprice properties so that hosts must intervene and adjust prices to secure their revenues manually (e.g., Airbnb Community 2017).

Thus, whether the company – providing, for instance, a dynamic pricing algorithm – or the individuals offering the respective service—should be responsible for the dynamic price

paid is unclear. Thus far, corporate solutions still represent the industry standard in the service sector. They promote a consistent price image and either attenuate or avoid competition among service-providing employees (including freelancers and independent contractors) within a company. However, delegating pricing authority to service-providing employees remains an exception, even though it allows firms to give employees responsibility and flexibility (Chan and Lam 2011) and to leverage their unique business insights. Why do we not observe a shift in the pricing authority from the company to the service-providing employees?

To explore this question, we focus on the beauty service industry that meets the conditions that enable the dynamic pricing – such as fixed capacities, perishable inventory, and fluctuating demand (cf. Kimes 1989). However, as pricing strategies are difficult and costly to change (Ellickson, Misra, and Nair 2012), a transition from fixed to dynamic pricing must be planned and executed carefully. This is mainly because it is a priori unclear how customers will react to such a disruption of the status quo (Kahneman, Knetsch, and Thaler 1986a) and how loyalty toward service-providing employees and companies are affected (cf. Palmatier, Scheer, and Steenkamp 2007) depending on who holds the pricing authority.

The argumentation above leads us to the following two research questions (RQ):

- (1) How does transitioning from fixed to dynamic prices influence customers' behavioral responses, including repurchase intentions and tipping behavior?
- (2) Are companies better off keeping the pricing authority at the central corporate level, or should they delegate pricing authority to the service-providing employees?

To calibrate our main experiment's price levels and ranges, we first conducted an exploratory survey of hairstylists. In the main online pricing experiment, we investigated the responses of customers who face a situation where the service provider transitions from fixed prices to dynamic prices contingent on the two types of pricing authority (firm and

employee). The results (N = 451) reveal that customer reaction are dependent on the first price they have to pay after the transition to dynamic prices. More specifically, (1) the higher the dynamic price a customer has to pay, the more adverse the customer's distributive fairness perceptions, influencing repurchase intentions for service employees and companies. Thus, it is crucial for service employees and companies that customers perceive the outcome of a transaction as fair. (2) While employees with pricing authority are adversely affected by customers' reactions to dynamic prices that are perceived unfair, we find that customers reward the company when pricing authority remains at the corporate level, and the dynamic price they have to pay is perceived as fair. Therefore, our results (i.e., avoiding adverse reactions when employees set prices and leveraging positive reactions when prices are determined at the corporate level) explain the dominant industry practice of keeping the pricing authority at the corporate level and not at the service employee level.

## **2. Literature Review**

### ***2.1. Dynamic Pricing and Related Concepts***

According to Elmaghraby and Keskinocak (2003, p. 1288), dynamic pricing describes a situation where “the seller dynamically changes prices over time (intertemporal prices) based on factors such as time of sale, demand information, and supply availability.” Thus, dynamic pricing focuses on the timing component of price differentiation (e.g., Varian 1989) and contains revenue (or yield) management as a sub-strategy (Kimes 1989). While Kannan and Kopalle (2001) and Haws and Bearden (2006) extend this definition to include price variations over consumers, situations, and products, we focus on the timing component.

Dynamic pricing research can be divided into two broad studies streams. The first study stream focuses on price optimization, such as strategic customer behavior and learning (e.g., Jing 2011; Levin, McGill, and Nediak 2009; Ban and Keskin 2021; Huang, Luo, and Xia 2019). The second study stream focuses on understanding customer perceptions of and reactions to dynamic pricing (e.g., Haws and Bearden 2006; Weisstein, Monroe, and Kukar-Kinney 2013; Abrate, Quinton and Pera 2021).

Optimal dynamic prices often do not trigger positive reactions, as reflected in the negative media coverage of dynamic pricing (e.g., Amazon's price tests in 2000; Uber's surge fares after terror attacks in 2017). One reason for this is that customers perceive dynamic pricing as violating social rules (Garbarino and Maxwell 2010). Dynamic pricing adversely influences customers' benevolence trust in companies (Garbarino and Lee 2003) and customers' fairness perceptions (Haws and Bearden 2006). Nevertheless, companies can use contextual factors (Haws and Bearden 2006) and framing techniques (Weisstein, Monroe, and Kukar-Kinney 2013) to mitigate customers' (adverse) reactions.

We follow this second stream of study to improve our understanding of customers' fairness perceptions and behavioral reactions to dynamic pricing. Simultaneously, we introduce a new angle by focusing on pricing authority (service employee vs. company) and how it affects customers' responses to the introduction of dynamic pricing.

## **2.2. Fairness**

Fairness research distinguishes three types of fairness: distributive, procedural, and interactional fairness, focusing on different aspects of a transaction (e.g., Seiders and Berry 1998). While distributive fairness focuses on the outcome of a transaction (e.g., Seiders and Berry 1998), procedural fairness focuses on the process used to determine that outcome (e.g., Van den Bos et al. 1997). Interactional fairness focuses on whether a customer is treated with respect during a transaction (e.g., Bies and Moag 1986; Colquitt 2001).

Our focus lies on distributive fairness, which customers evaluate by comparing their input-output ratio to the input-output ratio of a reference transaction (cf. equity theory; Adams 1965). In marketing, (distributive) fairness study often concentrates on the input, namely on price and the concept of price fairness (e.g., Bolton, Warlop, and Alba 2003; Campbell 1999). An explanation for this is that the output, i.e., the good or service customers receive in exchange for the price paid, is kept constant. To evaluate price fairness, customers compare the price they have to pay to one or more reference prices, which can be prices paid at other stores, prices paid by other customers, or prices paid at a different point in time (e.g., Haws and Bearden 2006). From a fairness perspective, equity plays an important role; customers do not want to be disadvantaged. Even being advantaged does not trigger positive emotions (e.g., Darke and Dahl 2003; Gelbrich 2011; Weisstein, Monroe, and Kukar-Kinney 2013; Xia and Monroe 2010). Although customers might enjoy paying less than others (Gelbrich 2011), they do not consider an advantaged outcome fair (Xia and Monroe 2010). We follow Mayser and von Wangenheim (2013) by focusing on distributive fairness, as previous studies have emphasized the importance of outcomes over other fairness dimensions in shaping customers' fairness perceptions (e.g., Finkel 2000; Van den Bos et al. 1997). Controlling procedural and interactional fairness allows us to incorporate their impact on distributive fairness and customers' behavioral responses.

### ***2.3. The Dual Entitlement Principle***

According to the dual entitlement principle, both parties in a transaction are entitled to a fair transaction (e.g., Kahneman, Knetsch, and Thaler 1986b). The seller is entitled to realize a “normal” profit, and the buyer is entitled to pay a “normal” price. A reference transaction determines the common standard of what is considered normal. Depending on the context and available information, customers can draw on prices paid in the past or prices paid by comparable others to evaluate a current transaction against the reference transaction (e.g., Cox 2001; Darke and Dahl 2003; Kahneman, Knetsch, and Thaler 1986b). To maintain their reference profit, sellers are allowed to raise prices in response to increasing costs, particularly when the reason for increasing costs is not under the seller’s influence (Vaidyanathan and Aggarwal 2003), and the costs can be directly ascribed to the goods sold (Bolton and Alba 2006; Bolton, Warlop, and Alba 2003). Price increases are commonly perceived as unfair owing to non-cost-related reasons (e.g., Kahneman, Knetsch, and Thaler 1986a). For instance, Lu et al. (2019) illustrate that price increases due to demand are perceived as unfair and exploitative, as they violate customers’ entitlement to paying the reference price.

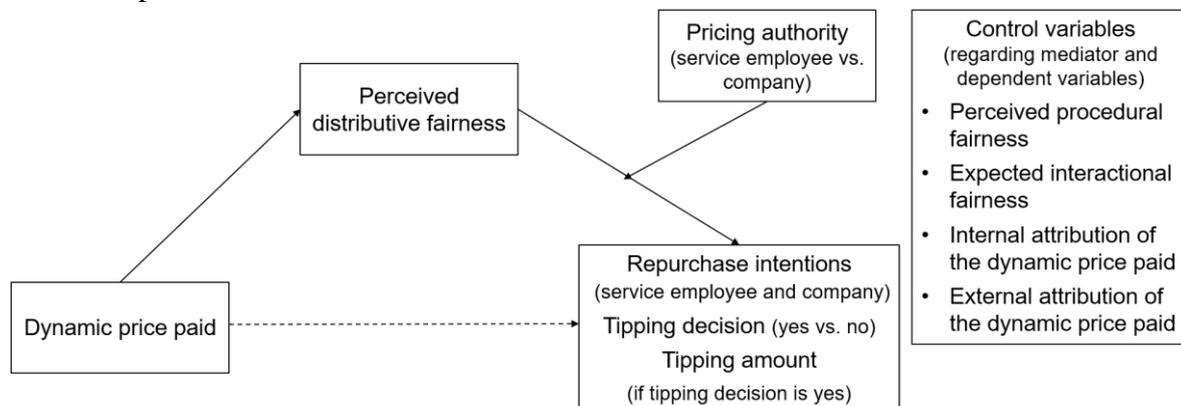
We follow the study on the dual entitlement principle. We suggest that the dynamic price paid can trigger distributive (un)fairness perceptions and enrich this perspective by investigating the influence of pricing authority on the link between distributive fairness and customers’ behavioral responses. While service employees are typically responsible (and blamed) for the process and the interaction of a transaction, the company is typically responsible (and blamed) for the outcome (McColl-Kennedy, Sparks, and Nguyen 2011). A transition from fixed to dynamic prices offers the opportunity to assign these responsibilities newly. The pricing authority either remains with the company or is delegated to the respective service-providing employees.

### 3. Conceptual Framework and Research Hypotheses

At the core of our conceptual framework – as depicted in Figure 1 – is the assumption that the actual price that customers have to pay after the transition to dynamic prices influences their perception of distributive fairness, which influences their repurchase intentions and tipping behavior. In the following, we provide arguments for the specific role of pricing authority – either at the service employee or company level. More specifically, we propose that pricing authority acts as a second-stage moderator, influencing distributive fairness on customers’ behavioral responses.

Figure 1. Conceptual Framework

*Notes:* The link between the dynamic price paid (independent variable) and behavioral response (dependent variable) is represented by a dashed line due to the proposed mediation effect via perceived distributive fairness.



#### 3.1. The Link Between Dynamic Price Paid, Distributive Fairness, and Behavior

The concept of distributive fairness builds on the dual entitlement principle and describes whether the outcome of a transaction is fair (e.g., Seiders and Berry 1998; Lastner et al. 2019). Van den Bos et al. (1997) stress the importance of distributive fairness when the outcomes of others are known, as customers use others’ outcomes to evaluate their outcomes.

Thus, we propose that perceived distributive fairness mediates the relationship between the dynamic price paid and customers' behavioral responses.

There have been extensive studies on the antecedents and consequences of distributive fairness. For instance, Lee and Griffith (2019) highlight the influence of social comparison standards (and deviations from the same) on distributive fairness, whereas Mayser and von Wangenheim (2013) emphasize the importance of preference for equity in determining distributive fairness. Additionally, studies focusing on the consequences of distributive fairness has emphasized its effect on trust, job performance, and opportunistic behaviors in the workplace (Ramaswami and Singh 2003), relationship quality (Kumar, Scheer, and Steenkamp 1995), satisfaction (Maxham and Netemeyer 2002), and emotional and behavioral responses to (non) preferred treatments such as anger, word-of-mouth, and re-patronage (Mayser and von Wangenheim 2013). Schmidt, Bornschein, and Maier (2020) show that by giving up privacy, consumers receive lower prices, leading to a higher level of perceived fairness (when the company retains the pricing authority).

Following this line of study, we link distributive fairness to customers' behavioral responses, namely, to repurchase intentions for the company and service employees when a company transitions from fixed to dynamic prices. Our proposed conceptualization aligns with Lu et al. (2019), who find that dynamic pricing is perceived as unfair and exploitative, independent of a company's market power. We argue that customers might feel that distributive fairness is not honored and dynamic prices violate their entitlement to a "normal" transaction. Consequently, this should lower customer repurchase intentions for both companies and service employees. We treat company and service employees as different entities as customers can be loyal to the service employee, the company, or divide their loyalty (Palmatier, Scheer, and Steenkamp 2007), which is particularly important when a

service employee decides to leave the company. Therefore, we propose the following hypotheses, which describe the transition from fixed to dynamic prices:

***H1a:** The higher the dynamic price a customer has to pay, the lower the customer's repurchase intention for the company. This effect is mediated by customers' perceptions of distributive fairness.*

***H1b:** The higher the dynamic price a customer has to pay, the lower the customer's repurchase intentions for the service employee. This effect is mediated by customers' perceptions of distributive fairness.*

### **3.2. The Moderating Role of Pricing Authority**

According to attribution theory (Weiner 1985; for a review, see Folkes 1988), customers make causal inferences about observations that affect their emotional and behavioral responses. The three dimensions commonly used to describe and classify causal attributions are the locus of causality (i.e., who is responsible for the dynamic prices), controllability (i.e., can the responsible entity control the dynamic prices), and temporal stability (i.e., is the cause of the dynamic prices stable, such as a transition to a new pricing scheme) (e.g., Weiner 1985, 2010). While Gelbrich (2011) stresses the importance of locus of causality in determining customers' emotional and behavioral responses, Pallas, Bolton, and Lobschat (2018) identify a company-related locus of causality as the strongest driver of blame attributions when customers face price surcharges. As the (social) distance between customers and employees as opposed to customers and companies differs, the construal-level theory may also provide theoretical explanations for the moderating role of pricing authority (see, e.g., Wakefield and Wakefield 2018, who find that social distance influences price sensitivity).

Studies on the influence of pricing authority on fairness perceptions of dynamic pricing have focused on whether the buyer had a voice in the pricing process, as is the case with price discovery formats such as auctions (Haws and Bearden 2006). Haws and Bearden (2006) show buyers attribute auction prices to themselves rather than the buyer, thus perceiving them as fairer than posted dynamic prices. In contrast, our focus lies on the pricing authority within the company.

McColl-Kennedy, Sparks, and Nguyen (2011) investigate whom customers blame after an unsatisfying service encounter and distinguish between distributive, procedural, and interactional fairness. As employees are typically responsible for interaction and procedure, customers attribute fairness concerns relating these dimensions to employees while attributing distributive fairness concerns to the company, which is commonly responsible for the outcome (McColl-Kennedy, Sparks, and Nguyen 2011). However, generally, customers should direct their reactions to those responsible for a situation (Xia, Monroe, and Cox 2004).

Yang and Aggarwal (2019) illustrate that customers expect more communal behavior from smaller companies than larger companies. Therefore, we expect customers to penalize service employees for violating their expectations when customers have to pay a price they perceive as unfair. Based on this argument, this should result in lower repurchase intentions for service employees, lower intentions to tip, and lower tipping amounts when they hold the pricing authority (instead of the company). We extend this perspective by proposing that when companies keep the pricing authority when transitioning to dynamic prices, they can excel customer expectations when setting dynamic prices that are perceived as a fair outcome. We propose that this leads customers to reward companies. This results in higher repurchase intentions for the company when it holds the pricing authority (as opposed to the service employee). Thus, when transitioning from fixed to dynamic prices, we propose the following:

**H2a:** *The positive effect of increasing perceived distributive fairness on repurchase intentions for the company is higher when the pricing authority is with the company than when the pricing authority is with the service employee.*

**H2b:** *The adverse effect of decreasing perceived distributive fairness on repurchase intentions for the service employee is stronger when the pricing authority is with the service employee than with the company.*

While repurchase intentions reflect future behavior, whether and if so, how much to tip is an immediate response to the treatment customers receive during a service encounter.

Tipping behavior can reflect customers' compliance with existing social norms and their gratitude toward a service employee (Azar 2011; Lynn, Zinkhan, and Harris 1993). Thus, when companies transition from fixed to dynamic prices, customers can perceive this as a violation of distributive fairness and their entitlement to a "normal" transaction.

Consequently, customers should neither feel obliged to display gratitude nor stick to the social norm of tipping a service employee when the service employee has the pricing authority. Therefore, we propose the following hypothesis, describing a transition from fixed to dynamic prices:

**H3a:** *The adverse effect of decreasing perceived distributive fairness on the decision to tip the service employee is stronger when the pricing authority is with the service employee than with the company.*

For customers who decide to tip the service employee, we additionally hypothesize:

**H3b:** *The adverse effect of decreasing perceived distributive fairness on the tipping amount is stronger when pricing authority is with the service employee than when the pricing authority is with the company.*

## **4. Research Setting**

### ***4.1. Dynamic Pricing in the Beauty Service Industry***

The setting of our study is the beauty service industry, with hair services in particular. Hair services generated \$20 billion in the U.S. alone in 2018 (First Research 2019). However, the market is highly fragmented; the 50 largest players account for only 15% of the industry revenues (First Research 2019), and approximately 30% of the hairstylists are self-employed (Professional Beauty Association 2014) working from home, as mobile hairstylists, or renting a chair in a salon. In most industrialized countries (e.g., the U.S., the U.K., Germany, and Switzerland), the job of a hairstylist is ranked among the lowest-paying jobs (e.g., Bundesamt für Statistik 2019; Gehalt.de 2018; Statista 2019; Suneson 2019), even though customers are outstandingly loyal (e.g., 74% of the U.K. customers state that they are in a relationship with a salon; Direct Line for Business 2017).

Online booking systems that allow for price variation depending on in-salon service and proficiency of the requested service employee are on the rise, particularly for larger salon chains (e.g., Regis, Sassoon, Toni & Guy). Online appointment booking platforms such as Treatwell (2020) enable all salons, independent of their size, to offer online booking of appointments to their customers. The prices customers find online depend on the kind of beauty service booked and can further incorporate the level of proficiency of the service employee, the time of the appointment (e.g., Saturday vs. Tuesday; off-peak pricing), and the time of the booking (e.g., last-minute discounts); thus, Treatwell offers salons the opportunity to cut prices dynamically.

### ***4.2. Exploratory Survey Among Hairstylists***

To determine a reasonable dynamic price range for our online customer experiment and gain additional insights into the beauty service industry, we conducted a survey among hairstylists in a major Swiss city. Within seven days, we went to 29 hair salons in person. We asked whether salon owners and service employees were willing to participate in a survey on salon reorganization and (dynamic) pricing. As an incentive, survey participants received a voucher (20 Swiss francs, i.e., CHF) from a European online fashion retailer and could receive a summary of the survey results. Twelve respondents completed the survey (58% female,  $M_{\text{age}} = 35$  years, response rate = 41%). Among them, eight respondents were identified as salon managers, two as instructors, and four as employees (multiple answers possible). On average, respondents had 16 years of work experience in the beauty industry. Respondents indicated that (on average) 80% of their customers are loyal (returning) customers and that approximately 65% of their customers are women.

We asked respondents to imagine setting their prices dynamically depending on demand (i.e., high, regular, low). We were interested in the price they would ask for standard service (i.e., ladies' "wash, cut, and blow-dry"). The average price for a "wash, cut, and blow-dry" service for women with medium-length hair was CHF 116.20. When asked to determine dynamic price levels, the average price respondents would set equivalent to CHF 114.30 at times of steady demand, CHF 120.10 at times of high demand, and CHF 106.70 at times of low demand. We later used these results to calibrate the dynamic prices used in our customer survey.

## **5. Experimental Study**

### ***5.1. Experimental Design***

To test our conceptual framework, we conducted an online customer experiment in Switzerland via a European panel provider ( $N = 451$ ,  $M_{\text{age}} = 39.9$  years, 100% female) using

3 (dynamic price paid: high vs. medium vs. low)  $\times$  2 (pricing authority: service employee vs. company) between-subjects design. In contrast to preceding studies (cf. Garbarino and Lee 2003; Haws and Bearden 2006), we revealed the dynamic nature of the prices upfront and confronted respondents with multiple dynamic prices at a time to increase the ecological validity of the experimental setting.

At the beginning of our experiment, we included screening questions to ensure that respondents were in the market for this type of service: respondents had to be (1) female, (2) living in the survey country, and (3) going to the hairdresser at least once a year. Furthermore, they needed to be (4) able to play audio files on their device (as our experimental manipulation came in the form of a personal message by the managing director or the service employee of a hair salon; see Table 1).

Table 1. Experimental Manipulation (Online Customer Experiment)

|  |
|--|
| Pricing authority: Company   |
| As managing director of <i>Cut, shine &amp; go</i> , I am pleased that you would like to make an appointment with a hairstylist in one of our salons.  |
| So far, you have always paid the same prices for our salon services, such as "wash, cut, and blow-dry" or "color." This may now change. With the introduction of the new online booking system, we at <i>Cut, shine &amp; go</i> have decided to introduce a new pricing system.   |
| This gives you as a customer the opportunity to benefit from lower prices and make an appointment in one of our salons 24/7.   |
| We are looking forward to your booking with <i>Cut, shine &amp; go</i> and hope you will be satisfied with our new prices.   |
| Pricing authority: Service Employee  |
| My name is Sandra, and I am pleased that you would like to make an appointment with me.  |
| So far, you have always paid the same prices for our salon services, such as "wash, cut, and blow-dry" or "color." This may now change. With the introduction of the new online booking system, it was decided to introduce a new price system. I, as a hairstylist, now set the prices for my services alone and am solely responsible for my prices. |
| This gives you as a customer the opportunity to benefit from lower prices and make an appointment with me 24/7.  |
| I am looking forward to your booking and hope that you will be satisfied with my new prices.   |

The experimental scenario was as follows. During the participants' last visit to the hair salon, their hairstylist told them that appointments could be booked online in the future. To make a new appointment, respondents went to the website of the hair salon. According to the scenario, it was Thursday and respondents wanted to make an appointment for a "wash, cut, and blow-dry" service on the upcoming Saturday (at 4 pm or later). Unfortunately, respondents were not flexible in time, but it was important for them that they got an appointment with their hairstylist that Saturday. So far, respondents had always paid CHF 110 for a "wash, cut, and blow-dry" service.

Respondents then went through a booking procedure to select the type of appointment (women), the service ("wash, cut, and blow-dry"), and their hairstylist. All respondents were customers of the same hairstylist in our scenario. Before selecting the day and time of their appointment, respondents heard a message from the managing director of the hair salon or their hairstylist, which explained the introduction of a new dynamic pricing system (pricing authority: service employee vs. company). We decided to use an audio message for our manipulation, as a transition from fixed to dynamic pricing would require personal explanations in practice. Respondents then chose the day of their appointment and selected between three available time slots offered at three different prices (low vs. medium vs. high; equivalent to CHF 90, 110, and 130). We used the results of our exploratory survey to set price levels in our customer experiment. Notably, we used the average upward price adjustment (those who increased prices under high demand) and applied it in both directions (symmetry). However, only one time slot matched respondents' time preferences (4 p.m. or later). Thus, we simulated a typical dynamic pricing booking procedure while randomly assigning respondents to low, medium, or high dynamic prices. We also informed respondents that customers never had to pay more than \$130 at the hair salon (pricing authority: company) or their hairstylist (pricing authority: service employee).

After they completed the booking procedure, respondents had to indicate who was responsible for the price paid (hair salon or hairstylist) and whether there were other time slots available at their hairstylist on the day of the appointment. These two questions served as manipulation checks (we filtered out all respondents who failed to answer them correctly).

The experiment concluded with a questionnaire. Respondents had to answer questions on the booking and pricing procedure (e.g., procedural fairness, distributive fairness, (expected) interactional fairness), repurchase intentions, and tipping behavior. We also asked respondents for their attribution of the dynamic price paid (i.e., locus of causality), hair salons' and hairstylists' entitlement to a profit, who they thought benefitted from the new pricing mechanism, and their attitude toward similar pricing mechanisms in the service industry. Finally, the questionnaire concluded with a set of personal questions. We provide additional information on the questionnaire in the appendix.

## ***5.2. Main Analyses and Results***

To test our conceptual framework, we conducted a set of moderated mediation analyses ( $N = 451$ ; PROCESS Model 14; 10,000 bootstrapped samples; Hayes 2013) with the dynamic price paid as an independent variable, distributive fairness as a mediator, and pricing authority (1 = service employee, 0 = company) as a moderator. As dependent variables, we analyzed (1) customers' repurchase intentions for the company (Model 1), (2) customers' repurchase intentions for the service employee (Model 2), (3) customers' tipping decisions (logistic regression: 1 = yes, 0 = no, Model 3), and (4) customers' tipping amount (only if tipping decision is yes,  $N = 305$ , Model 4). As control variables, we included procedural fairness, (expected) interactional fairness, and customers' external and internal attribution of the dynamic price paid (i.e., locus of causality: hair salon/hairstylist vs. customer) (cf. Table A1 in the Appendix).

It is unnecessary to account for correlations between the error terms of the separate regression models through seemingly unrelated regression, as we include the same set of predictors in our regression analyses (Zellner 1962, p. 351). Thus, we use separate regressions and present the results in Table 2 (outcome = mediator) and Table 3 (outcome = dependent variable).

Table 2. Results of the Moderated Mediation Analyses With Distributive Fairness as Outcome

|                        | Outcome: Distributive fairness (mediator) |                                     |          |                              |       |                                    |      |     |
|------------------------|---|-------------------------------------|----------|------------------------------|-------|------------------------------------|------|-----|
|                        | Models 1–3 (all customers)                |                                     |          | Model 4 (if customer tipped) |       |                                    |      |     |
|                        | Coefficient                               | SE                                  | <i>p</i> | Coefficient                  | SE    | <i>p</i>                           |      |     |
| Constant               | 1.701                                     | .444                                | .000     | ***                          | 1.863 | .575                               | .001 | *** |
| Dynamic price paid     | –.013                                     | .003                                | .000     | ***                          | –.012 | .004                               | .003 | **  |
| Procedural fairness    | .625                                      | .034                                | .000     | ***                          | .580  | .045                               | .000 | *** |
| Interactional fairness | .081                                      | .042                                | .055     |                              | .098  | .057                               | .086 |     |
| External attribution   | .031                                      | .033                                | .346     |                              | .005  | .042                               | .911 |     |
| Internal attribution   | .149                                      | .038                                | .000     | ***                          | .141  | .049                               | .004 | **  |
| Model summary          |   | N = 451                             |          |                              |       | N = 305                            |      |     |
|                        |   | R <sup>2</sup> = .637               |          |                              |       | R <sup>2</sup> = .539              |      |     |
|                        |   | F(5, 445) = 156.132, <i>p</i> < .01 |          |                              |       | F(5, 299) = 70.026, <i>p</i> < .01 |      |     |

*Notes:* The results of the underlying regression of distributive fairness (mediator) on the dynamic price paid (independent variable) and the set of control variables remain the same for Models 1 to 3 (N = 451) as our moderated mediation models only differ in the dependent variables (cf. Table 3).

\* *p* < .05; \*\* *p* < .01; \*\*\* *p* < .001.

<See Table 3 at end of paper>

*Additional manipulation checks.* To ensure that respondents understood the pricing authority manipulation, we asked them to attribute the dynamic price paid to service employees and companies and assess their respective entitlement to a profit. When we compared the attribution of the dynamic price paid to companies and service employees, we found significant differences depending on who holds the pricing authority (attribution to company:  $M_{\text{company}} = 5.42$ ,  $SD_{\text{company}} = 1.39$ ,  $M_{\text{employee}} = 4.13$ ,  $SD_{\text{employee}} = 1.76$ ,  $t(425.61) = -8.621$ ,  $p < .001$ ; attribution to service employee:  $M_{\text{company}} = 3.06$ ,  $SD_{\text{company}} = 1.68$ ,  $M_{\text{employee}} = 5.27$ ,  $SD_{\text{employee}} = 1.46$ ,  $t(441.25) = 14.913$ ,  $p < .001$ ). Thus, respondents correctly attribute the

dynamic price paid to the authority in charge. We see similar results when analyzing companies' and service employees' entitlement to a profit (company's entitlement:  $M_{\text{company}} = 5.35$ ,  $SD_{\text{company}} = 1.52$ ,  $M_{\text{employee}} = 4.83$ ,  $SD_{\text{employee}} = 1.43$ ,  $t(447.63) = -3.724$ ,  $p < .001$ ; service employee's entitlement:  $M_{\text{company}} = 5.12$ ,  $SD_{\text{company}} = 1.62$ ,  $M_{\text{employee}} = 5.44$ ,  $SD_{\text{employee}} = 1.42$ ,  $t(441.45) = 2.204$ ,  $p < .05$ ). Thus, from a customer's point of view, the entity that holds the pricing authority is also entitled to make a profit.

*Distributive fairness.* The results show that customers' distributive fairness was adversely affected when they had to pay higher dynamic prices after the transition (cf. Table 2) ( $b = -.013$ ,  $SE = .003$ ,  $p < .01$ ). A CHF 1 increase in the dynamic price paid lowered distributive fairness perceptions by .013 scale points (i.e., the difference of CHF 40 between low and high dynamic price impacts perceived distributive fairness by .52 scale points), delivering initial support for H1a and H1b.

As our moderated mediation models only differ in the dependent variables, the results of the underlying regression of distributive fairness (mediator) on the dynamic price paid (independent variable) and the set of control variables remain the same for Models 1 to 3 ( $N = 451$ ). The results for Model 4 ( $N = 305$ ) are qualitatively very similar and are therefore not discussed in detail (see also Table 2).

*Repurchase intentions of the company.* Model 1 (in Table 3) contains the results of the regression of repurchase intentions for the company on the dynamic price paid (independent variable), distributive fairness (mediator), pricing authority (moderator), and the control variables. The results show that distributive fairness mediates the effect of dynamic prices paid on repurchase intentions and the effect of distributive fairness is moderated by pricing authority as the index of moderated mediation is significant ( $b = .0027$ ,  $SE = .001$ ,

CI<sub>95</sub> [.0006, .0055]; without control variables:  $b = .0039$ ,  $SE = .003$ , CI<sub>90</sub> [.0001, .0082]) (in line with H1a and H2a). When the pricing authority is with the company, a CHF 1 increase in the dynamic price paid lowers repurchase intentions for the company by .0054 scale points (i.e., .216 scale points for the difference between a low dynamic price of CHF 90 and a high dynamic price of CHF 130) as a result of lower distributive fairness produced by the dynamic price increase ( $b = -.0054$ ,  $SE = .002$ , CI<sub>95</sub> [-.0085, -.0027]). In contrast, when the pricing authority is with the service employee, a CHF 1 increase in the dynamic price paid lowers repurchase intentions for the company by .0026 scale points (i.e., .104 scale points for the difference between low and high dynamic prices) as a result of lower distributive fairness produced by the dynamic price increase ( $b = -.0026$ ,  $SE = .001$ , CI<sub>95</sub> [-.0055, -.0002]). Thus, when the company has pricing authority, the conditional indirect effect of the dynamic price paid on repurchase intentions for the company via distributive fairness is more negative than when the service employee has the pricing authority. The index of moderated mediation describes the difference in these two conditional indirect effects ( $b = .0027$ ,  $SE = .001$ , CI<sub>95</sub> [.0006, .0055]); thus, how a shift in pricing authority from the company to the service employee affects the indirect effect of the dynamic price paid on repurchase intentions for the company. The results further show that the effect is fully mediated by distributive fairness since we do not find evidence of a direct effect (control path) of the dynamic price paid on repurchase intentions for the company ( $b = .002$ ,  $SE = .004$ ,  $p = .655$ ).

We provide a graphical illustration of the moderating effect of pricing authority in Figure 2 (setting all other variables to their sample means). To identify regions of significance, we apply the Johnson-Neyman approach. Panel A of Figure 2 illustrates that the positive effect of higher distributive fairness (above 4.54 on the seven-point Likert scale) on repurchase intentions for the company significantly varies with pricing authority and that this effect is more beneficial if pricing authority is with the company. However, when

distributive fairness is below the threshold, the pricing authority loses its effect on the company's repurchase intentions.

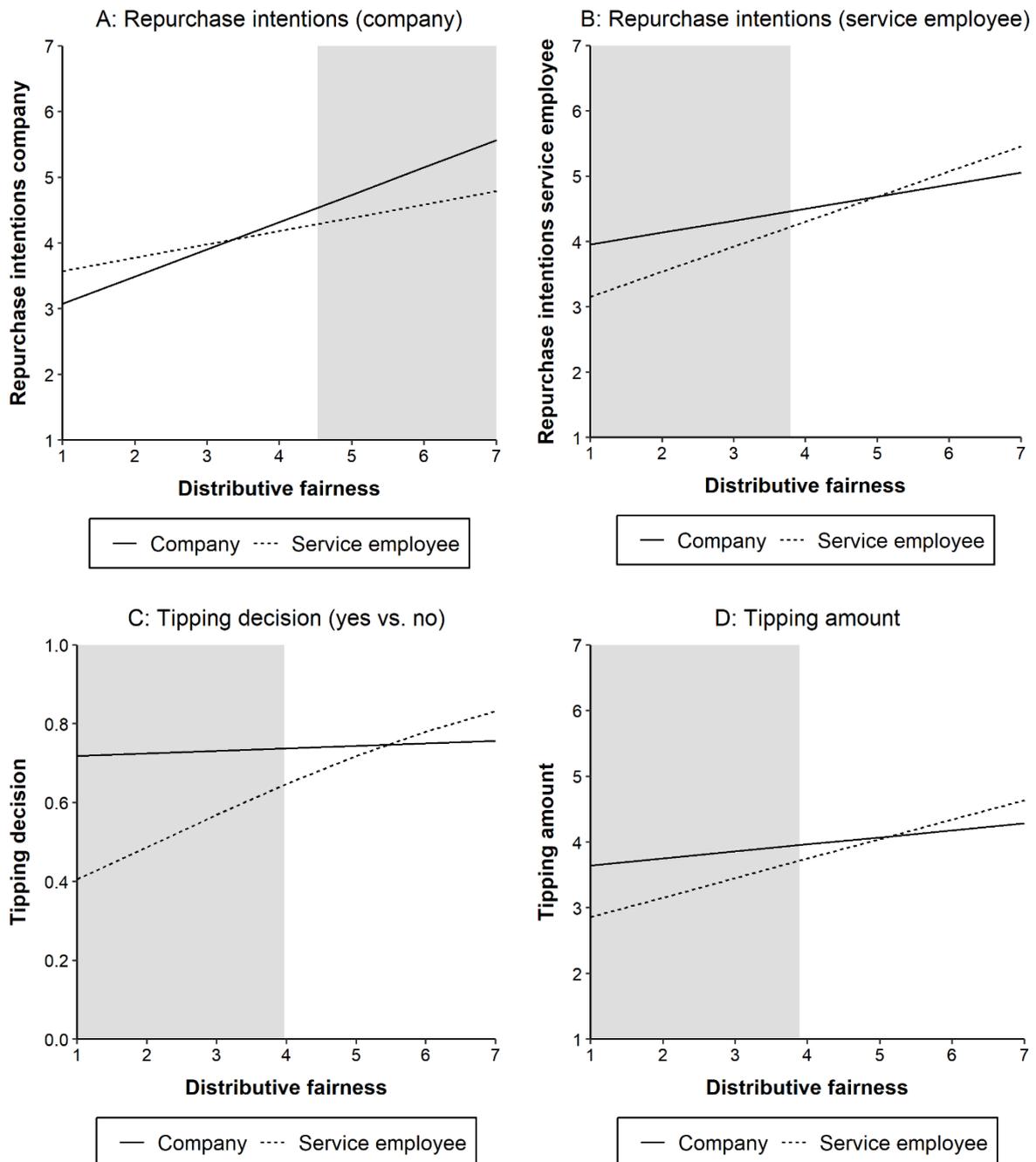
*Repurchase intentions for the service employee.* Model 2 (in Table 3) contains the results of the respective regression of repurchase intentions for the service employee. We find evidence for an indirect effect via distributive fairness that is moderated by pricing authority as the index of moderated mediation is significant ( $b = -.0026$ ,  $SE = .001$ ,  $CI_{95} [-.0051, -.0006]$ ; without control variables:  $b = -.0071$ ,  $SE = .003$ ,  $CI_{95} [-.0127, -.0025]$ ) (in line with H1b and H2b), but not for the direct effect of dynamic price paid on repurchase intentions for the service employee ( $b = -.004$ ,  $SE = .004$ ,  $p = .273$ ). When the employee has the pricing authority, the conditional indirect effect of the dynamic price paid on repurchase intentions for the service employee via distributive fairness is more negative ( $b = -.0050$ ,  $SE = .002$ ,  $CI_{95} [-.0082, -.0023]$ ) than when the company has the pricing authority ( $b = -.0024$ ,  $SE = .001$ ,  $CI_{95} [-.0050, -.0003]$ ).

Panel B illustrates that pricing authority moderates the effects of low levels of distributive fairness (below 3.79 on the 7-point Likert scale) on repurchase intentions for the employee; i.e., repurchase intentions for the service employee suffer more when the service employee sets prices that are perceived as unfair compared to when the company sets the same prices. In contrast, for higher levels of distributive fairness, repurchase intentions for the service employee are not significantly affected by pricing authority.

Figure 2. How Pricing Authority Impacts the Effect of Distributive Fairness On Repurchase Intentions and Tipping Behavior

*Notes:* Shaded areas indicate regions of significance (Panel A: above 4.54; Panel B: below 3.79; Panel C: below 3.97; Panel D: below 3.89).

All variables have been set to their sample means for plotting (Panel A to C: dynamic price paid = CHF 110.04; procedural fairness = 4.40; interactional fairness = 5.66; external attribution = 4.21; internal attribution = 4.20; Panel D: dynamic price paid = CHF 108.10; procedural fairness = 4.77; interactional fairness = 5.86; external attribution = 4.22; internal attribution = 4.44).



*Tipping decision.* Model 3 (in Table 3) contains the results of the respective logistic regression of customers' decision to tip. We find evidence for both a direct effect of dynamic price paid on customers' decision to tip ( $b = -.017$ ,  $SE = .007$ ,  $p < .05$ ) and for an indirect effect that is moderated as the index of moderated mediation is significant ( $b = -.0038$ ,  $SE = .002$ ,  $CI_{95} [-.0090, -.0001]$ ; without control variables:  $b = -.0083$ ,  $SE = .004$ ,  $CI_{95} [-.0176, -.0013]$ ). When the service employee has the pricing authority, the conditional indirect effect of the dynamic price paid on the customer's tipping decision via distributive fairness is negative ( $b = -.0043$ ,  $SE = .002$ ,  $CI_{95} [-.0094, -.0006]$ ). However, when the company has pricing authority, the conditional indirect effect is insignificant ( $b = -.0004$ ,  $SE = .002$ ,  $CI_{95} [-.0038, .0028]$ ) (in line with H3a).

Panel C of Figure 2 shows that at low levels of distributive fairness (below 3.97 on the 7-point Likert scale), pricing authority significantly affects the tipping decision; i.e., if high dynamic prices are set by the service employee, the service employee is significantly less likely to be tipped as compared to the situation where the company set high dynamic (unfair) prices. However, the pricing authority does not influence customers' tipping decisions when distributive fairness is above the threshold.

*Tipping amount.* Model 4 (in Table 3) contains the regression results of the customers' tipping amount. Again, we find evidence for both a direct effect of dynamic price paid on customers' tipping amount ( $b = -.009$ ,  $SE = .003$ ,  $p < .05$ ) and for an indirect effect via distributive fairness moderated by pricing authority as the index of moderated mediation is significant ( $b = -.0022$ ,  $SE = .001$ ,  $CI_{95} [-.0051, -.0002]$ ; without control variables:  $b = -.0031$ ,  $SE = .002$ ,  $CI_{95} [-.0071, -.0002]$ ). When the service employee has the pricing authority, the conditional indirect effect of the dynamic price paid on customers' tipping

amount via distributive fairness is negative ( $b = -.0034$ ,  $SE = .001$ ,  $CI_{95} [-.0066, -.0010]$ ), whereas when the company has the pricing authority, the conditional indirect effect is insignificant ( $b = -.0012$ ,  $SE = .001$ ,  $CI_{95} [-.0031, .0001]$ ) (in line with H3b).

Panel D of Figure 2 illustrates that at low levels of distributive fairness (below 3.89 on the 7-point Likert scale), pricing authority significantly affects the tipping amount; i.e., high (unfair) dynamic prices set by the employee harm tipping levels much more as compared to the situation when the same high dynamic prices are determined by the company. However, when distributive fairness is higher than, we do not find an effect of the pricing authority.

*Control variables.* The control variables included procedural fairness, (expected) interactional fairness, and customers' internal and external attributes of the dynamic price paid (i.e., locus of causality: salon/hairstylist vs. customer). We find that procedural fairness is positively related to distributive fairness and repurchase intentions for company and service employees, whereas (expected) interactional fairness is positively related to repurchase intentions for company and service employees and customers' decision to tip. We find no evidence that an external attribution of the dynamic price paid is related to our mediator or one of our dependent variables. Nevertheless, an internal attribution of the dynamic price paid positively relates to distributive fairness and repurchase intentions for the service employees (cf. Tables 2 and 3).

*Effect sizes:* Table 4 shows the direct effects of the dynamic price paid on the corresponding dependent variables across our four models (Models 1–4), the effect of the dynamic price paid on distributive fairness, and the conditional indirect effects of the dynamic price paid on the corresponding dependent variables (Models 1–4) through distributive fairness (i.e.,

mediator) controlling for pricing authority (i.e., moderator). In brackets, we list the corresponding 95% confidence intervals. Table 4 shows a significant index of moderated mediation for both models of repurchase intention and the models capturing tipping behavior.

*<See Table 4 at end of paper>*

### ***5.3. Discussion of the Main Analyses***

The results of our main analyses provide supporting evidence for our study hypotheses. First, we link the dynamic price paid to a customer's repurchase intentions for the company and the service employee. We show that both effects are mediated by distributive fairness perceptions of a transaction (H1a and H1b). Second, when pricing authority is with the company, we show that high distributive fairness increases the repurchase intentions for the company more than when the same prices are set by the employee (H2a). Third, when pricing authority is with the service employee, we show that low distributive fairness decreases repurchase intentions for the service employee more than when the same prices were set by the company (H2b). Fourth, we provide empirical evidence for the moderating effect of pricing authority on the link between distributive fairness and tipping behavior (intentions and amount (H3a and H3b).

We conclude that customers punish service employees who set high dynamic prices more strongly (repurchase and tip intentions) than when the company sets the same prices. In contrast, customers react more positively (repurchase intentions) when the company sets low dynamic prices than when employees set the same prices. This is in line with the study by Yang and Aggarwal (2019), who show that customers expect more communal behavior from smaller companies than from larger companies. Our finding that the company is rewarded at higher levels of distributive fairness expands this line of research as companies might exceed expectations when distributive fairness is high.

Our results further show that procedural fairness is positively related to distributive fairness and repurchase intentions and that (expected) interactional fairness is positively related to repurchase intentions and the decision to tip a service employee.

#### *5.4. Survey Among Salon Owners and Managers*

We conducted a second exploratory study among hairstylists – focusing mainly on salon owners and managers, to compare their intuition about implementing dynamic pricing, i.e., at the company or service employee level.

To reach our target group, we performed a survey via the newsletters of two central employer associations of hairstylists in Germany and Austria. As an incentive for participation, survey participants were able to enter a raffle (three vouchers per country, each worth 50€) from a European online fashion retailer. One hundred and four respondents completed the survey (65.4% female, 32.7% male,  $M_{\text{age}} = 46.0$  years). Among the 104 respondents, 82 identified themselves as salon owners, 3 as salon managers, 2 as employed hairstylists, and 17 as freelancers.

We asked respondents whether they had ever thought about introducing dynamic pricing, whether they would implement dynamic pricing at the company or service employee level, and about their business objectives. We provide a summary of the questions and responses in Table 5. We find that, although respondents would like to boost their employees' capacity utilization ( $M = 5.51$ ,  $SD = 1.65$ ) and provide them with more responsibilities ( $M = 5.21$ ,  $SD = 1.61$ ), respondents would rather implement dynamic pricing on a salon ( $M = 3.00$ ,  $SD = 2.05$ ) than on service employee level ( $M = 1.65$ ,  $SD = 1.32$ ) ( $t(103) = -5.84$ ,  $p < .001$ ). The results show that salon owners and hairstylists are rather skeptical of dynamic pricing. However, in line with the results of our consumer experiment, they would rather implement dynamic pricing on the company instead of the service employee level. Thus, while the

experiment provides insights into the processes that influence customer reactions to the introduction of dynamic pricing, this additional survey among salon owners and managers confirms our general observation that dynamic pricing is implemented at a firm rather than at the employee level.

Table 5. Key Items, Scales, and Results of the Survey Among Salon Owners and Managers

| Survey items  | Scale   | Mean (SD)   |
|---|---|-------------|
| <i>General questions about dynamic pricing</i>  |   |             |
| Have you ever thought about introducing dynamic prices in your salon?                           | 1 = Never thought about it before –<br>7 = Been thinking about it a lot | 1.98 (1.65) |
| How would you go about introducing such dynamic prices?   | 1 = Cannot imagine that at all –<br>7 = Can very well imagine that      |             |
| At the salon level (you as the boss decide on discounts or surcharges for your salon employees) |   | 3.00 (2.05) |
| At the employee level (employees decide for themselves about their discounts or surcharges)     |   | 1.65 (1.32) |
| <i>Business objectives</i>  |   |             |
| Which business objectives does your salon pursue?   | 1 = Not at all important –<br>7 = Extremely important                   |             |
| ○ Maintain current salon size   |   | 5.43 (1.71) |
| ○ Open more locations   |   | 1.74 (1.52) |
| ○ Generate more revenue   |   | 5.79 (1.28) |
| ○ Employ more hairstylists  |   | 3.44 (1.86) |
| ○ Gain more new customers   |   | 5.50 (1.46) |
| ○ Do not lose regular (existing) customers  |   | 6.53 (1.10) |
| ○ Better capacity utilization of the employees  |   | 5.51 (1.65) |
| ○ More responsibility for the employees   |   | 5.21 (1.61) |

## 6. General Discussion

### 6.1. Summary

Dynamic pricing offers companies the opportunity to align demand and supply by changing prices over time. If successfully implemented, companies strategically increase prices during peak times and decrease prices during off-peak times, potentially improving capacity

utilization and maximizing revenues. However, transitioning from fixed to dynamic prices is a risky endeavor. Even though dynamic prices can be lower than fixed prices, customers might still react adversely, as they cannot always obtain the lowest price. Therefore, we investigate the influence of a regime change from fixed to dynamic prices on customers' behavioral responses, including repurchase intentions and tipping behavior (RQ 1).

To do so, we choose the beauty service industry as a novel context that allows us to study the transition from fixed to dynamic prices. The beauty service industry provides a particularly interesting context, as quality (i.e., experience) depends on the service employee, and prices could be as well. Therefore, companies might consider granting pricing authority to their service employees instead of following the current industry practice of keeping pricing authority at the company level (e.g., Uber, Airbnb). However, it is a priori unclear whether companies should delegate pricing authority to their service-providing employees or whether they are better advised to keep pricing authority at the central corporate level (RQ 2).

We conducted two exploratory surveys among hairstylists and salon owners and an online experiment among customers to investigate our research questions. We find that the dynamic price paid influences distributive fairness, which in turn influences customers' behavioral responses, such as repurchase intentions (for service employees and companies). We identify pricing authority as a second-stage moderator. Shifting pricing authority to the service employee harms (i) repurchase intentions for the service employee, (ii) tipping decisions, and (iii) tipping amount when customers perceive the dynamic price they have to pay as unfair (i.e., low distributive fairness). In contrast, when customers perceive the dynamic price, they have to pay as fair (i.e., high distributive fairness); keeping pricing authority at the company level positively impacts repurchase intentions for the company.

## ***6.2. Theoretical Contribution***

Our study provides several theoretical contributions. First, as suggested by previous studies (Kimes and Wirtz 2003; Palmatier, Scheer, and Steenkamp 2007; Xia, Monroe, and Cox 2004), we investigated the influence of personal relationships on customers' responses to dynamic pricing by focusing on pricing authority. We offer a new perspective that is particularly relevant in service industries characterized by close interactions and a trust-based relationship between service employees and customers (Berry 1995; Palmatier et al. 2006). Second, in line with the attribution theory (Weiner 1985), our study illustrates that customers attribute the dynamic price paid to the entity holding the pricing authority and therefore direct their reactions (i.e., penalty or reward) toward the entity holding the pricing authority (cf. Xia, Monroe, and Cox 2004). Third, we extend the study of Yang and Aggarwal (2019) on company size and communal behavior. Service employees usually possess little power, which is why customers expect communal behavior from them. This is in line with our observation that customers might penalize service employees via lower repurchase intentions and tipping behavior. We further extend this line of reasoning (Yang and Aggarwal 2019) with our observation that customers even reward companies for unexpectedly positive behavior. Fourth, our study adds to a better understanding of the different fairness dimensions and highlights the vital role of distributive fairness (Mayser and von Wangenheim 2013; Seiders and Berry 1998). Particularly, we shed light on the link between the dynamic price paid, distributive fairness, and customers' behavioral responses (repurchase intentions and tipping behavior), and control for the influence of procedural fairness and (expected) interactional fairness.

### ***6.3. Managerial Contribution***

The current study provides actionable insights for marketing managers who consider transitioning from fixed to dynamic prices. Our findings emphasize the importance of

perceived distributive fairness in driving customers' behavioral responses to dynamic prices and show that customers' internal (self) attribution of the dynamic price paid is positively related to distributive fairness. Companies have the opportunity to emphasize customers' roles in the pricing process. For example, highlighting that customers can search for alternative appointments or suggest alternatives with lower prices could trigger an internal attribution of the dynamic price paid to the self, which alleviates potential adverse consequences. An alternative avenue for companies to promote distributive fairness could be implementing dynamic price cuts instead of dynamic prices. Treatwell – Europe's largest online booking platform for beauty and hair salons – exemplifies this strategy as it provides its business customers with the opportunity to implement off-peak pricing and last-minute discounts (Treatwell 2020).

Our findings provide evidence for the current industry practice of implementing dynamic pricing at the corporate level rather than at the service employee level, especially in service industries characterized by close interactions between service employees and customers (cf. Berry 1995; Iacobucci and Ostrom 1996). This stylized fact requires explanation since service employees could leverage their unique business insights and increase their flexibility with the respective pricing power. We find that shifting the pricing authority visibly to the service employees can be harmful. Many customers have a trusting relationship with their hairstylists, which might get affected when dynamic prices are introduced and customers are not flexible. Our results have shown that service employees face lower repurchase intentions when distributive fairness is low and that they lose part of their income as customers are less willing to tip. Consequently, as dynamic pricing results in the punishment of service employees when customers do not perceive the dynamic price paid as fair, service employees should not put customers' trust (cf. Garbarino and Lee 2003) and the relationship with their

customers (cf. Palmatier, Scheer, and Steenkamp 2007) at risk by visibly taking on the pricing authority.

Our findings of the two exploratory surveys among hairstylists further support this view, as we found hairstylists to be very skeptical toward the introduction of dynamic prices. However, with repurchase intentions for the company, it does not matter who holds the pricing authority at low levels of distributive fairness, whereas companies are rewarded at high levels of distributive fairness.

#### ***6.4. Limitations and Outlook for Future Research***

This study used a scenario experiment to explore customers' behavioral reactions when companies transition from fixed to dynamic pricing. We chose a setting in which respondents saw several available prices but had time constraints. Respondents could only choose one of the available appointments at its dynamic price. We did this to prevent respondents from using price as a knockout criterion in their decision-making. In real life, customers would face a trade-off between the appointment and the dynamic price paid (e.g., better date/time, worse price, and vice-versa). Therefore, we encourage future studies to focus more strongly on this trade-off to increase realism further. The specific choice set of prices when transitioning to dynamic prices can also be explored in future studies. The set of prices influences distributive fairness perceptions and repurchase intentions and can impact customers' current and future price search activities (Yuan and Han 2011). Additionally, we discussed who holds the pricing authority as part of our experiment. In practice, a company's communication strategy might be subtler; customers thus make their inferences based on their perception of a situation. Future studies should consider this finding.

Our booking scenario makes price differences fully transparent, hence, may specifically trigger distributive fairness perceptions. These perceptions may be different in other settings,

such as booking a hotel room, where customers might not be aware of paying a higher price for the same room than other customers. For instance, Abrate, Nicolau, and Viglia (2019) show that additional revenues generated by increasing price variation (and limiting availability before demand is known) dominate adverse revenue effects owing to lower fairness perceptions. However, too high prices (or price ranges) may also jeopardize revenues in the long term, as higher prices lead to higher service quality expectations (resulting in disconfirmation). Recent studies by Abrate, Quinton, and Pera (2021) show that increasing prices paid for the same hotel room leads to a decrease of review ratings in terms of value for money and perceived quality. Consequently, lower ratings could negatively affect future bookings. Booking platforms such as booking.com or hotel websites are less transparent in selling the same hotel room at different prices. Therefore, future studies should compare revenue, review, and perceived fairness effects as price comparison sites increase the transparency of dynamic prices such as in our app setting, or when additional social network information may trigger fairness perceptions (Ajorlou, Jadbabaie, and Kakhbod 2016), especially in situations of conspicuous consumption (Rao and Schaefer 2013). Furthermore, it would be interesting to learn whether fairness outcomes change when firms flexibly adapt their prices based on personal preferences (Ban and Keskin 2021) or service (item) specific information (Huang, Luo, and Xia 2019).

We treated repurchase intentions for service employees and companies as two independent constructs in our analyses. However, customers who no longer visit a hair salon no longer visit the hairstylist. Therefore, future studies could incorporate this nested structure into the design of the experimental questionnaire and analyses.

Based on the insights from our initial exploratory surveys among hairstylists, we chose to focus on loyal (returning) female customers. However, future studies should include new, less loyal, and male customers. We assume that less-loyal customers try to take advantage of

potentially cheaper prices or switch salons quickly when unsatisfied. Similarly, new customers should react more positively to dynamic prices as they lack past price knowledge.

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Table 3. Results of the Different Moderated Mediation Analyses

|  | Outcome: Dependent variable (DV)           |      |          |   |       |          |   |       |          |  |       |          |       |      |      |    |
|--|--|------|----------|---|-------|----------|---|-------|----------|--|-------|----------|-------|------|------|----|
|  | Model 1                                    |      |          | Model 2   |       |          | Model 3                                     |       |          | Model 4                                  |       |          |       |      |      |    |
|  | Repurchase intentions for the company (DV) |      |          | Repurchase intentions for the service employee (DV) |       |          | Tipping decision (yes vs. no) (DV)          |       |          | Tipping amount (if customer tipped) (DV) |       |          |       |      |      |    |
|  | Coefficient                                | SE   | <i>p</i> | Coefficient   | SE    | <i>p</i> | Coefficient                                 | SE    | <i>p</i> | Coefficient                              | SE    | <i>p</i> |       |      |      |    |
| Constant                                     | -1.056                                     | .620 | .089     | 1.012   | .580  | .082     | -.023                                       | 1.089 | .983     | 4.198                                    | 1.089 | .983     | ***   |      |      |    |
| Dynamic price paid                           | .002                                       | .004 | .655     | -.004   | .004  | .273     | -.017                                       | .007  | .013     | -.009                                    | .007  | .013     | *     |      |      |    |
| Procedural fairness                          | .436                                       | .058 | .000     | ***   | .381  | .055     | .000  | ***   | .167     | .101                                     | .099  | .006     | .101  | .099 |      |    |
| Interactional fairness                       | .162                                       | .055 | .004     | **  | .183  | .052     | .000  | ***   | .247     | .093                                     | .008  | **       | -.016 | .093 | .008 |    |
| External attribution                         | .078                                       | .042 | .068     |   | -.005 | .040     | .895  |       | .100     | .079                                     | .207  |          | .045  | .079 | .207 |    |
| Internal attribution                         | .087                                       | .051 | .087     |   | .123  | .048     | .010  | *     | .067     | .092                                     | .464  |          | .036  | .092 | .464 |    |
| Distributive fairness                        | .415                                       | .070 | .000     | ***   | .184  | .066     | .005  | **    | .033     | .124                                     | .791  |          | .106  | .124 | .791 |    |
| Pricing authority<br>(1 = employee)          | .706                                       | .343 | .040     | *   | -.997 | .322     | .002  | **    | -1.613   | .600                                     | .007  | **       | -.979 | .600 | .007 | ** |
| Distributive fairness<br>× pricing authority | -.211                                      | .075 | .005     | **  | .200  | .070     | .005  | **    | .297     | .141                                     | .036  | *        | .191  | .141 | .036 | ** |
| Model summary                                | N = 451<br>R <sup>2</sup> = .527           |      |          | N = 451<br>R <sup>2</sup> = .547                    |       |          | N = 451<br>Nagelkerke R <sup>2</sup> = .212 |       |          | N = 305<br>R <sup>2</sup> = .154         |       |          |       |      |      |    |
|  | F(8, 442) = 61.563, <i>p</i> < .01         |      |          | F(8, 442) = 66.700, <i>p</i> < .01                  |       |          | -2 LL = 493.845                             |       |          | F(8, 296) = 6.717, <i>p</i> < .01        |       |          |       |      |      |    |

Notes: All regression coefficients are unstandardized; for Model 3 (logistic regression) they are on a log-odds metric.

\* *p* < .05; \*\* *p* < .01; \*\*\* *p* < .001.

Table 4. Results of the (Conditional) Direct and Indirect Effects

|   | The direct effect of the dynamic price paid on the DV | Effect of the dynamic price paid on distributive fairness |                                  | Conditional indirect of the dynamic price paid on the DV through distributive fairness (mediator) |   |  |
|---|---|---|----------------------------------|---|---|--|
|   |   |   |                                  | Effect of distributive fairness on the DV controlling for pricing authority                       | Conditional indirect effect [CI <sub>95</sub> ] | Index of moderated mediation (difference between 2 indirect effects through pricing authority) |
| <u>Model 1</u>                                      |   |   |                                  |   |   |  |
| Repurchase intentions for the company (DV)          | .002<br>[-.006, .010]                                 | -.013***<br>[-.019, -.007]                                | Pricing authority (1 = employee) | .204**<br>[.057, .351]  | -.0026*<br>[-.0055, -.0002]                     | .0027*<br>[.0006, .0055]   |
|   |   |   | Pricing authority (0 = company)  | .415***<br>[.277, .552]   | -.0054***<br>[-.0085, -.0027]                   |  |
| <u>Model 2</u>                                      |   |   |                                  |   |   |  |
| Repurchase intentions for the service employee (DV) | -.004<br>[-.011, .003]                                | -.013***<br>[-.019, -.007]                                | Pricing authority (1 = employee) | .384***<br>[.246, .521]   | -.0050***<br>[-.0082, -.0023]                   | -.0026*<br>[-.0051, -.0006]  |
|   |   |   | Pricing authority (0 = company)  | .184*<br>[.055, .313]   | -.0024*<br>[-.0050, -.0003]                     |  |
| <u>Model 3</u>                                      |   |   |                                  |   |   |  |
| Tipping decision (yes vs. no) (DV)                  | -.017*<br>[-.031, -.004]                              | -.013***<br>[-.019, -.007]                                | Pricing authority (1 = employee) | .330*<br>[.061, .599]   | -.0043<br>[-.0094, -.0006]                      | -.0038*<br>[-.0090, -.0001]  |
|   |   |   | Pricing authority (0 = company)  | .033<br>[-.210, .275]   | -.0004<br>[-.0038, .0028]                       |  |
| <u>Model 4</u>                                      |   |   |                                  |   |   |  |
| Tipping amount (if customer tipped) (DV)            | -.009*<br>[-.015, -.002]                              | -.012**<br>[-.019, -.004]                                 | Pricing authority (1 = employee) | .297***<br>[.166, .428]   | -.0034*<br>[-.0066, -.0010]                     | -.0022*<br>[-.0051, -.0002]  |
|   |   |   | Pricing authority (0 = company)  | .106<br>[-.006, .219]   | -.0012<br>[-.0031, .0001]                       |  |

Notes: \*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$ . The 95% confidence intervals [] for the index of moderated mediation are based on 10,000 bootstrap samples.

## Appendix

Table A.1. Overview of Scales (Online Customer Experiment)

| Construct                                  | Survey items   | Scale   | Cronbach's alpha |
|--|--|---|------------------|
| Distributive fairness (dynamic price paid) | The price I have to pay for a "wash, cut, and blow dry" service is fair.<br>The price I have to pay for a "wash, cut, and blow dry" service is reasonable.<br>(Xia and Monroe 2004)  | 1 = Strongly disagree –<br>7 = Strongly agree   | .95              |
| Repurchase intentions company              | I would arrange my next hairdressing appointment again at <i>Cut, shine &amp; go</i> [the company].<br>(Roggeveen, Tsiros, and Grewal 2012; Zeithaml, Berry, and Parasuraman 1996)   | 1 = Strongly disagree –<br>7 = Strongly agree   | -                |
| Repurchase intentions service employee     | I would arrange my next hairdressing appointment again with Sandra [name of the service employee].<br>(Roggeveen, Tsiros und Grewal 2012; Zeithaml, Berry, and Parasuraman 1996)   | 1 = Strongly disagree –<br>7 = Strongly agree   | -                |
| Tipping decision                           | Would you like to tip?   | Yes or no   | -                |
| Tipping amount                             | How much would you tip compared to your last visit to the hairdresser?   | 1 = Less than at the last visit to the hairdresser –<br>7 = More than at the last visit to the hairdresser“ | -                |
| Procedural fairness                        | The new pricing process is fair.<br>The new pricing process is reasonable.<br>(Martin, Ponder, and Lueg 2009; Vaidyanathan and Aggarwal 2003)  | 1 = Strongly disagree –<br>7 = Strongly agree   | .94              |
| (Expected) interactional fairness          | I think I will be treated politely during my hairdressing appointment.<br>I think I will be treated respectfully during my hairdressing appointment.<br>(Colquitt 2001)  | 1 = Strongly disagree –<br>7 = Strongly agree   | .93              |
| Attribution of the dynamic price paid      | How would you explain the price you have to pay for a "wash, cut, and blow dry" service?<br>By reasons beyond my control. (external)<br>By reasons I can influence. (internal)<br>By the decision of my hairstylist Sandra [name of the service employee]. (manipulation check)<br>By the decision of <i>Cut, shine &amp; go</i> [the company]. (manipulation check) | 1 = Strongly disagree –<br>7 = Strongly agree   | -                |
| Profit entitlement                         | My hairstylist, Sandra [name of the service employee], is entitled to make a profit.<br><i>Cut, shine &amp; go</i> [the company] is entitled to make a profit. (manipulation check)  | 1 = Strongly disagree –<br>7 = Strongly agree   | -                |

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