Consumer reactions to pay-what-you-want and name-your-own-price mechanisms

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Abstract
Pay-what-you-want (PWYW) and name-your-own-price (NYOP) participative pricing mechanisms are becoming more popular among firms. In response, researchers have examined separate outcomes for each mechanism. However, questions remain, especially regarding which mechanism is most beneficial for consumers and companies. Therefore, our main objective is to investigate the role of these participative pricing mechanisms on consumers' pricing satisfaction, pain of payment, and amount of money they intend to pay. We also explore perceived control as mediating the effect of pricing mechanism on pricing satisfaction and pain of payment. Results from two experimental studies indicate that consumers are more satisfied with the pricing mechanism and feel less pain of payment under PWYW offers rather than under NYOP offers, but they intend to pay less than they would have paid for NYOP. External reference prices (ERPs) act as a boundary condition. That is, in both PWYW and NYOP pricing conditions, when retailers use ERPs, consumers intend to pay more but they are less satisfied with pricing and feel more pain of payment. The article concludes with implications for retailers using participative pricing.

Keywords: NYOP, pain of payment, participative pricing, perceived control, PWYW
1 Introduction

Retailers know that when consumers perceive that prices are reasonable, they are more satisfied with their purchases and form increased purchase intentions (Dahana et al., 2020; Huang, 2016; Konuk, 2018). Consumers often play a passive role in the pricing process while retailers set the prices for products (i.e., posted prices). Particularly in industries that carry high fixed and low variable costs and that experience fluctuating demands (Krämer et al., 2017), firms are increasingly turning to participative pricing mechanisms in which consumers are active actors in pricing decisions, with the power to name their prices (Kim et al., 2009). Thus, participative pricing is being used in various real-world applications such as restaurants, airlines, hotels, museums, ticket sales, tourism, entertainment establishments, and even music downloads (Krämer et al., 2017; Schons et al., 2014).

Participative pricing includes name-your-own-price (NYOP) and pay-what-you-want (PWYW) offers (Kim et al., 2009). Under PWYW offers, companies agree to sell at any price the customer chooses, including zero (Kim et al., 2009). In contrast, under NYOP offers, companies can refuse offers that fall below a threshold price (Fay, 2004). In this article, we answer calls from researchers for further investigations of consumer reactions and outcomes from participative pricing strategies (Song & Jiang, 2018; Spann et al., 2018).

Researchers often examine separate outcomes for NYOP and PWYW participative pricing mechanisms (e.g., Fay & Zeithammer, 2017; Gross, Rottler, & Wallmeier, 2021; Narwal & Nayak, 2019; Roy et al., 2021), rather than comparing outcomes such as pricing satisfaction, pain of payment, and amount consumers intend to pay (Wagner & Pacheco, 2020). To address the gap, our main objective is to investigate the effects of both PWYW and NYOP on pricing satisfaction, pain of payment, and amount consumers intend to pay.

Most participative pricing studies have focused on consumer satisfaction with products or retailers/service providers (e.g., Gerpott, 2017; Kim et al., 2009). Only a few (Fay & Laran, 2009; Hinz et al., 2011) have considered how pricing mechanisms affect pricing

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1 The amount consumers intend to pay is used synonymously for how much they offer to pay for products or services under PWYW and NYOP. We thank the anonymous reviewers for this suggestion.
satisfaction, a topic that remains on the research agenda (Wagner & Pacheco, 2020). Following studies showing that consumers derive satisfaction from positive expectation disconfirmation (Spreng et al., 1996), we propose that consumers react to PWYW by forming highly positive expectation disconfirmation (satisfaction), while they respond to NYOP with lower positive expectation disconfirmation (lower satisfaction) because PWYW is more unexpected than NYOP. We argue that perceptions of control mediate the effect. That is, consumers experience higher satisfaction under PWYW because they perceive that they have greater control (Guo et al., 2016; Namasivayam & Guchait, 2013), but they feel less satisfaction under NYOP because they feel less control.

Researchers have also overlooked NYOP and PWYW impacts on the pain of payment (Wagner & Pacheco, 2020), a negative feeling that consumers experience when they pay for products or services (Prelec & Loewenstein, 1998). We argue that both NYOP and PWYW may lower the pain of payment because consumers are more focused on price setting strategies (Chandran & Morwitz, 2005). The underlying psychology aligns with the rationale associated with the immediacy of payment: consumers feel less pain in paying through credit cards and more pain in paying by cash or check (Soman, 2001). Under PWYW, consumers will choose the amount they pay, which may even be zero, so they will experience the lowest pain. We believe that perceived control mediates the effect because consumers who perceive that they have control over a purchase report having pleasurable shopping experiences, feelings of fairness and trust (Hui & Bateson, 1991; Namasivayam & Guchait, 2013).

In this article, we report the results of two experimental studies investigating effects of NYOP and PWYW on pricing satisfaction, pain of payment, and the amount consumers intend to pay. We explore perceived control as mediating the effect of pricing mechanism on pricing satisfaction and pain of payment. We also examine external reference prices (ERPs) as a boundary condition determining how much consumers intend to pay under NYOP and PWYW. In a significant contribution to the literature, we address gaps regarding effects of PWYW and NYOP, and ERPs on 1) perceived control, 2) pricing satisfaction, 3) pain of payment, and 4) the amount consumers intend to pay. Our results provide insights for retailers who consider adopting participative pricing mechanisms.
2 Theoretical Background

2.1 PWYW and NYOP Participative Pricing Mechanisms

When retailers use PWYW, they agree to accept whatever price the customer chooses, giving consumers maximum control over how much they pay for products or services (Gerpott, 2017; Kim et al., 2009; Tudón, 2015). Classical economic theory predicts that consumers will focus on self-benefits and pay the least amount possible, but studies show that consumers will select prices that are significantly greater than zero (Johnson & Cui, 2013; Kim et al., 2009; Soule & Madrigal, 2015) and that companies may benefit by increasing sales, profits, and WoM recommendations (Chao et al., 2015; Isaac et al., 2015; Kim et al., 2009; Krämer et al., 2017).

Priceline.com, a travel services platform, was the first to popularize NYOP (Fay, 2004). Users were allowed to bid for services such as airline tickets, hotels, and car rentals; they received email notices about whether their bid was accepted in about 15 minutes (Mills & Law, 2001). NYOP has also been used by airline companies (Spann & Tellis, 2006) and the website www.greentoe.com, which sells cameras, televisions, and other types of electronics (Fay & Zeithammer, 2017). NYOP can benefit companies by increasing profits (e.g., Fay, 2004, 2009; Hinz et al., 2011) and market participation (Fay & Lee, 2015). NYOP strategies can be used to sell surplus products or services (Krämer et al., 2017; Wang et al., 2009) and to draw attention away from competitors (Fay, 2009; Krämer et al., 2017).

2.2 Perceived Control

When consumers perceive that they have control, they believe they can "significantly alter events" (Burger, 1989, p. 246). However, perceptions of control may differ from "objective control conditions present in the context" (Skinner, 1996, p. 551) in that people may overestimate or underestimate their actual control levels (Scott & Weems, 2010).

2 Currently, this platform is only using NYOP for hotels.
Whatever the actuality, perceived control strongly affects consumer emotions and predicts consumer behavior (Burger, 1989; Skinner, 1996). Even in PWYW situations, when consumers are granted complete control (Kim et al., 2009), their actual control and perceptions of control may generate different emotional reactions (Scott & Weems, 2010).

Few participative pricing studies have measured perceived control as an antecedent of consumer behavior. Chandran and Morwitz (2005) found that consumers who have high perceptions of control will have higher purchase intentions in auction scenarios but will have lower purchase intentions in posted price scenarios. However, they overlooked effects of pricing mechanism on perceptions of control.

Choice is an antecedent of perceived control (e.g., Chang et al., 2020; Pacheco et al., 2013; Skinner, 1996). Under PWYW scenarios, consumers have free choice and should have the greatest perceptions of control. Under NYOP, companies can refuse prices that fall below bid thresholds, so consumers should have lower perceptions of control than under PWYW. Nevertheless, in posted price situations, consumers have no choice at all, so it should evoke the lowest perceptions of control. Consequently, we hypothesize:

**H1:** Pricing mechanisms influence consumers' perceived control such that consumers report higher perceived control in (a) PWYW over NYOP, (b) PWYW over posted prices, (c) NYOP over posted prices.

When consumers have high perceptions of control, they have pleasant shopping experiences, forming emotional and behavioral responses like positive affect, trust, self-esteem, fairness perceptions, and intentions to further patronize companies (Bolkan et al., 2010; Guo et al., 2016; Hui & Bateson, 1991; Namasivayam & Guchait, 2013; Uhrich, 2011). Therefore, perceived control should determine how participative pricing mechanisms influence variables such as pricing satisfaction and the pain of payment.
2.3 Pricing Satisfaction

Most studies regarding PWYW investigated satisfaction with a product as an antecedent of the amount paid after consumption (Gerpott, 2017). Some NYOP studies have shown that consumers are satisfied with varying threshold prices (Fay & Laran, 2009) and will remain satisfied even if sellers use an adaptive threshold price policy consisting of different threshold prices for different consumers (Hinz et al., 2011). Nevertheless, we need further discussions of satisfaction with NYOP versus PWYW and its antecedents.

Participative pricing is an innovative, surprising, unconventional appeal (Kim et al., 2009). In line with the Expectation Disconfirmation Theory (Oliver, 1977; Spreng et al., 1996), when consumers learn that they can choose their prices rather than pay posted prices, their expectations are greatly exceeded and their satisfaction is enhanced. PWYW should be most pleasing because the company is obligated to accept whatever price the customer sets, even if they pay nothing. Under NYOP, customers must wait to see whether their bid is accepted or rejected, so it is likely to evoke less satisfaction than PWYW. Therefore, we expect a direct effect of the pricing mechanisms on pricing satisfaction.

Moreover, we expect pricing mechanisms to indirectly affect pricing satisfaction through perceived control. To reiterate, consumers should feel higher levels of perceived control when they are involved in participative pricing and lower levels of control when they are involved with posted prices. Choice is an antecedent of perceived control (Chang et al., 2020; Pacheco et al., 2013; Skinner, 1996), which affects satisfaction (Bolkan et al., 2010; Guo et al., 2016; Namasivayam & Guchait, 2013; Pacheco et al., 2013). Thus, we hypothesize the following direct and indirect effects of pricing mechanism on pricing satisfaction:

**H2:** Pricing mechanisms influence consumers’ satisfaction with the pricing mechanism such that consumers report higher pricing satisfaction in (a) PWYW over NYOP, (b) PWYW over posted prices, (c) NYOP over posted prices.

**H3:** Perceived control mediates the effects of pricing mechanisms on the satisfaction with the pricing mechanism, such that when consumers report higher perceived control, they report higher satisfaction with the pricing mechanism.
2.4 Pain of Payment

When consumers must pay for a product, they generally face the pain of payment, defined as a series of negative feelings associated with costs, which may undermine the pleasure that one derives from a purchase (Prelec & Loewenstein, 1998). Neuroscience research has provided evidence that consumers endure psychological trade-offs between the pleasure of acquisition and the pain of payment (Knutson et al., 2007). Research has focused mainly on how payment methods can be altered to attenuate the pain. For example, writing out total dollar amounts when paying by check makes outlays more salient (Prelec & Loewenstein, 1998). Payments by electronic methods such as credit cards are weaker in stimulating memory than cash or checks (Soman, 2001).

Similarly, participative pricing mechanisms may lower pain of payment because when consumers are focused on setting prices, they may form vague memory traces, analogous to the effects of using credit cards (Chandran & Morwitz, 2005; Soman, 2001). Under PWYW particularly, consumers will have higher actual control in determining how much they will pay and the possibility of paying less than under NYOP. Thus, we expect a direct effect of pricing mechanism on pain of payment, with consumers having the lowest pain of payment under PWYW. Moreover, we expect an indirect effect of pricing mechanism on pain of payment through perceived control. Under PWYW, consumers will have higher perceptions of control. Thus, they should experience lower pain of payment because perceived control is associated with pleasurable shopping experiences (Hui & Bateson, 1991) and perceptions of fairness and trust (Namasivayam & Guchait, 2013; Uhrich, 2011).

Consumers have less control under NYOP than they have under PWYW, but they still participate in pricing decisions (Fay, 2004) and will be focused on making a strategic offer (Chandran & Morwitz, 2005). The distraction and the opportunity to pay less than posted price is expected to lower the pain of payment (Wagner & Pacheco, 2020). In summary, pricing mechanisms should have both direct and indirect effects on pain of payment, mediated by perceived control, leading us to hypothesize:
**H4:** Pricing mechanisms influence consumers’ pain of payment such that consumers report lower pain of payment in (a) PWYW over NYOP, (b) PWYW over posted prices, (c) NYOP over posted prices.

**H5:** Perceived control mediates the effects of pricing mechanisms on pain of payment, such that when consumers report higher perceived control, they report lower pain of payment.

### 2.5 The Amount of Money Consumers Intend to Pay

To increase the amount customers pay under PWYW and NYOP, retailers may use tactics such as providing ERPs (Isaac et al., 2015; Kim et al., 2009; Kim, Kaufmann, & Stegemann, 2014; Soule & Madrigal, 2015; Wagner, 2019; Weisstein, Kukar-Kinney, & Monroe, 2016), reducing consumers’ uncertainty about the appropriate price to pay (Narwal & Nayak, 2019). Although some researchers argue that ERPs may decrease the amount consumers will pay and cause them to perceive that they are being manipulated to pay more than they want (Johnson & Cui, 2013; Roy et al., 2021), the literature tends to emphasize positive rather than negative effects of ERPs. We expect that ERPs will increase the amount consumers intend to pay but may decrease pricing satisfaction and increase pain of payment.

One question to consider is which strategy leads consumers to pay more, PWYW or NYOP? PWYW may increase market penetration (Krämer et al., 2017), but we must investigate whether PWYW leads consumers to pay more than NYOP. Under PWYW, consumers may perceive that payment is voluntary, somewhat like donations, so they may be generous in choosing the amount they intend to pay (Spann et al., 2018). Some NYOP sellers may invite consumers to rebid if their bids are rejected (Spann et al., 2018). If consumers know that they can try again, they may start low and raise their bids in subsequent tries. However, when they believe they are restricted to single bids and may lose out on the deal by bidding too low, they are likely to bid high (Schons et al., 2014). Thus, we hypothesize:

**H6:** When consumers do not know whether they can make multiple bids, they report intentions to pay more under NYOP rather than PWYW, regardless of ERP.
3 Study 1

We conducted Study 1 to compare impacts of each pricing mechanism on perceived control (H1a, H1b, H1c), pricing satisfaction (H2a, H2b, H2c), and pain of payment (H4a, H4b, H4c). We also tested perceived control as a mediator between pricing mechanisms and pricing satisfaction (H3) and pain of payment (H5).

3.1 Design, Participants, and Procedure

We designed a single-factor between-subjects experiment considering posted price, NYOP, and PWYW pricing mechanisms. Using Figure Eight, an online platform, we sent emails seeking recruits who had previous experience with buying concert tickets online. The 127 participants (56% women, M age = 39.06, SD = 13.93) were then randomly assigned to one of the experimental conditions (n PWYW = 40, n NYOP = 45, n POSTED PRICE = 42). To compute an adequate sample size, we used G*power, a statistical power analysis program (Faul et al., 2007). The sample size was computed as a function of the desired power level (.90), number of groups (3), and effect size (.30), based on findings from studies on participative pricing mechanisms (e.g., Weisstein et al., 2016).

Before participants read the manipulation, we asked them to name their favorite band, which we then used in the manipulation texts and questions to increase involvement. Participants read about a simulated online shopping experience of buying a concert ticket, adapted from Soule and Madrigal (2015). The context involves high fixed and low variable costs and is highly suitable for examining participative pricing mechanisms (Krämer et al., 2017). By asking participants to imagine they would pay with a credit card, we controlled for possible differences in the pain of payment generated by payment methods (Prelec & Loewenstein, 1998; Soman, 2001).

All participants read the following: "Imagine that you visit a website to buy a ticket for a [favored band name] concert." Participants assigned to the PWYW scenario read the following:
Pay What You Want! Our pricing policy lets you decide the amount you would like to pay for your ticket. Once you enter the price you will pay, you can download your ticket. You can choose to pay any amount for your ticket. All tickets are general admissions, so the price that you pay will not affect where you sit at the concert. You must pay with a credit card. How much would you like to pay in US dollars?

Participants assigned to the NYOP scenario read the following:

Name-your-own-price! Our pricing policy lets you make an offer for the amount you would like to pay for your ticket. Once you enter the price you wish to pay, the system will calculate whether your bid can be accepted. You can offer to pay any amount for your ticket, but your offer may be refused if your bid is too low. All tickets are general admissions, so the price that you pay will not affect where you sit at the concert. If your offer is accepted, you must pay with a credit card. How much would you like to pay in US dollars?

Participants assigned to the posted price scenario read the following:

Our pricing policy informs you the price to be paid for your ticket. All tickets are general admissions, so the price that you pay will not affect where you sit at the concert. You must pay with a credit card. The price of your ticket is US$116.

The cost of the ticket was derived from a pretest using 41 US residents. They were asked to imagine visiting a website to buy a ticket for a concert by their favorite band and answer the question "How much do you think the ticket costs, in US dollars?" The average amount was US$116.

3.2 Measures

The manipulations were checked with three questions, answered on a 5-point Likert-type scale (1 = totally disagree and 5 = totally agree): (1) "The price of the ticket of [Band Name] was informed by the website, so I did not indicate how much I wanted to pay for it," (2) "I could make an offer of the price that I wanted to pay for the ticket of [Band Name], but the website could refuse my bid," and (3) "I could pay the price I wanted for the ticket of [Band Name], and the website could not refuse my offer." Participants assigned to the posted price scenario saw an additional question: "How much did the ticket cost?"
Gender, age, level of education, family yearly income, and involvement with music concerts were used as control variables.

We assessed the pain of payment variable through eight items adapted from Thomas et al. (2011). Pricing satisfaction was evaluated by four items adapted from Wen et al. (2011). Perceived control was assessed through four items adapted from Van Rompay et al. (2008). Appendix 1 provides a complete list of items and reliability analyses.

3.3 Results

**Manipulation Checks**

One-way ANOVA results showed that participants successfully perceived the posted price condition when it was present on the website ($M_{\text{Posted Price}} = 4.76; M_{\text{PWYW}} = 1.50; M_{\text{NYOP}} = 1.53; F(2,124) = 178.42, p < .001$) and correctly perceived the value of the posted price ($M = 115.88, SD = 1.01$). They also correctly perceived that the website could refuse the bid under the NYOP condition ($M_{\text{NYOP}} = 4.44; M_{\text{Posted Price}} = 1.60; M_{\text{PWYW}} = 2.18; F(2,124) = 75.41, p < .001$). Finally, they correctly perceived that the website had to accept the offer under the PWYW condition ($M_{\text{PWYW}} = 4.30; M_{\text{NYOP}} = 1.78; M_{\text{Posted Price}} = 1.40; F(2,124) = 86.08, p < .001$). Therefore, the manipulations were successful.

**Hypotheses Tests**

One-way ANOVA results indicated that PWYW ($M_{\text{PWYW}} = 4.23$) generated greater perceived control than NYOP ($M_{\text{NYOP}} = 3.61, p < .01$) and posted prices ($M_{\text{Posted Price}} = 2.53, p < .001; F(2,124) = 31.17, p < .001$), supporting H1a and H1b. NYOP generated higher perceived control than posted prices ($p < .001$), supporting H1c.

PWYW ($M_{\text{PWYW}} = 4.49$) yielded greater levels of pricing satisfaction than NYOP ($M_{\text{NYOP}} = 3.61, p < .001$) and posted prices ($M_{\text{Posted Price}} = 2.58, p < .001; F(2,124) = 29.07, p < .001$).

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3 The control variables (gender, age, level of education, family yearly income, and involvement with music concerts) had no significant effect on perceived control, pricing satisfaction or pain of payment. Thus, they were omitted from the analysis.

4 Conditions were coded PWYW = 1; NYOP = 2; Posted Price = 3.
whereas NYOP increased pricing satisfaction more than posted prices ($p < .001$), supporting H2a, H2b and H2c.

PWYW ($M_{PWYW} = 1.62$) generated lower pain of payment than NYOP ($M_{NYOP} = 2.07$, $p < .05$) and posted prices ($M_{PostedPrice} = 3.08$, $p < .001$; $F(2,224) = 22.35$, $p < .0001$), whereas NYOP reduced the pain of payment more than posted prices ($p < .001$), supporting H4a, H4b and H4c.

**Mediation Hypotheses**

To test H3 and H5, the mediation analysis followed Preacher and Hayes (2004) in using the PROCESS Macro with the bootstrapping procedure (Model 4; 95% confidence interval (CI); 5,000 bootstrap resamples). Perceived control was considered a mediator between pricing mechanism (X) and pricing satisfaction (Y). Perceived control (M) was directly related to pricing satisfaction ($b_1 = .78$, $t = 10.19$, $p < .001$; BootCI = .6296 to .9333): higher (lower) perceived control led to higher (lower) pricing satisfaction. However, the direct effects were significant only when comparing PWYW versus NYOP (BootCI = -.7731 to -.0240 5, and PWYW versus Posted Price (BootCI = -1.0413 to -.1421). No significant effect was found on comparing NYOP versus Posted Price (BootCI = -.5865 to .004). As Figure 1 shows, the relative indirect effects (ab) of pricing mechanisms on pricing satisfaction through perceived control were significant when all conditions were compared, supporting H3.

[Insert Figure 1. Direct and indirect effects of pricing mechanism on pricing satisfaction]

When perceived control (M) was added as mediating pricing mechanism (X) effects on pain of payment (Y), it significantly and negatively affected pain of payment ($b = -.51$, $t = -6.23$, $p < .001$; BootCI = -.6665 to -.3450): higher (lower) perceived control evoked lower (higher) pain of payment. When the mediator was added to the model, pricing mechanism had a significant direct effect on pain of payment when PWYW was compared with posted price

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5 When bootstrap 95% confidence Intervals (BootCI) do not include zero, the indirect effect is considered significant at the 0.05 level.
(BootCI = .1245 to 1.0765) and when NYOP was compared with posted price (BootCI = .0524 to .8856). Both PWYW and NYOP caused lower pain of payment than posted prices, but no significant direct effect occurred when PWYW was compared with NYOP (BootCI = -.2650 to .5281). Figure 2 shows that when all conditions were compared, the relative indirect effect (ab) of pricing mechanism on pain of payment through perceived control was significant, supporting H5.

We have shown that perceived control is crucial in determining how participative pricing mechanisms affect pricing satisfaction and pain of payment, but we must consider the element of uncertainty. As customers need to decide how much they will pay for a product, they must rely on some information to reduce uncertainty. ERPs may be a source of information that helps consumers choose how much they want to pay (Isaac et al., 2015; Kim et al., 2009; Kim et al., 2014; Roy et al., 2016; Soule & Madrigal, 2015; Weisstein et al., 2016). We conducted Study 2 to examine how ERPs interact with participative pricing mechanisms for driving the amount consumers intend to pay, pricing satisfaction, and pain of payment.

4 Study 2

We conducted Study 2 to investigate whether consumers intend to pay more under NYOP or PWYW and to examine whether the provision of ERPs increases the amount they intend to pay (H6), decreases pricing satisfaction, and increases pain of payment. We also seek further support for Study 1.
4.1 Design, Participants, and Procedure

This study has a 2 (Pricing mechanism: PWYW or NYOP) × 2 (ERP: present vs. absent) between-subject design. We set the ERP value at US$116, as determined by the pretest mentioned in Study 1. Using Figure Eight, an online platform, we recruited 155 participants (61.3% women, $M_{age} = 40.9$) and randomly assigned them to one of four experimental groups ($n_{PWYW+ERP} = 45$, $n_{PWYW+NoERP} = 29$, $n_{NYOP+ERP} = 39$, $n_{NYOP+NoERP} = 42$). As in Study 1, we required that participants had previous experience in buying concert tickets. To compute an adequate sample size, we used G*power (Faul et al., 2007) and computed sample size as a function of the desired power level (.90), number of groups (4), and effect size (.30), chosen based on previous studies (e.g., Weisstein et al., 2016).

Manipulations of the PWYW and NYOP scenarios were the same as in Study 1. However, participants under the PWYW with ERP scenario were told: "The ticket usually costs US$116, but you can choose to pay any amount for your ticket," while those under the NYOP with ERP scenario read the following text: "The ticket usually costs US$116. You can offer to pay any amount for your ticket, but your offer may be refused if your bid is too low."

4.2 Measures

Manipulations were checked with the same questions used in Study 1. Additionally, participants assigned to scenarios including ERP had to indicate how extensively they agreed with the statement: "The website informed me how much the ticket usually costs," answered on a 5-point Likert scale. They also indicated how much the tickets usually cost. We also measured the control variables from Study 1: gender, age, education level, family yearly income, and involvement with music concerts.

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6 Cell sizes differ because some participants failed the attention check and were removed from the analysis. However, results from statistical analyses performed before participants were removed were similar to the results reported in the text.
Pricing satisfaction, pain of payment, and perceived control were assessed with the scales used in Study 1. We assessed the amount they intended to pay by asking how much they would like to pay for the ticket after they read the texts.

4.3 Results

Manipulation Checks

The two-way ANCOVA\(^7\) results indicated that participants in the NYOP condition understood that they could make an offer and that the website could refuse their bid (\(M_{NYOP} = 4.80\) vs. \(M_{PWYW} = 1.91\); \(F(1,153) = 346.83\) \(p < .001\)). Participants in the PWYW condition understood that they could pay their preferred price (\(M_{PWYW} = 4.34\) vs. \(M_{NYOP} = 1.53\); \(F(1,153) = 257.95\), \(p < .001\)). Furthermore, those in the ERP-present conditions reported that the website informed them of the usual cost per ticket (\(M_{ERP} = 4.77\) vs. \(M_{NoERP} = 1.44\); \(F(1,153) = 667.82\), \(p < .001\)). They also correctly reported the price given by the ERP (\(M = 116.30\), SD = 5.27). Therefore, the manipulations were successful.

Hypotheses Tests

Two-way ANCOVA results showed that participants intended to pay significantly higher amounts under the NYOP\(^8\) condition (\(M_{NYOP} = 61.49\)) than under the PWYW condition (\(M_{PWYW} = 43.88\); \(F(1,154) = 30.47\), \(p < .001\)), regardless of presence or absence of an ERP, supporting H6.

ERP significantly affected the amount of money consumers intended to pay (\(F(1,154) = 70.72\), \(p < .001\)). Participants indicated intentions to pay higher amounts when an ERP was present under both PWYW (\(M_{NoERP} = 26.00\) vs. \(M_{ERP} = 55.40\) \(p < .0001\)) and NYOP conditions (\(M_{NoERP} = 41.12\) vs. \(M_{ERP} = 83.44\) \(p < .0001\)). The amounts were significantly greater than zero.

\(^7\) Income significantly affected the amount they intended to pay. Involvement significantly affected pricing satisfaction and pain of payment. We included those variables as covariates in the analysis.

\(^8\) Conditions were coded PWYW = 1; NYOP = 2.
under all four conditions \( (t(154) = -24.01, p < .0001) \). Interaction effect was nonsignificant \( (p > .05) \). Figure 3 shows results.

[Insert Figure 3. The amount consumers intend to pay according to presence or absence of an ERP]

ANCOVA results showed that pricing mechanism had a significant main effect on pricing satisfaction \( (F(1,150) = 18.24, p < .001) \). ERP also had a significant effect on pricing satisfaction \( (F(1,150) = 7.58, p < .001) \): ERP presence caused lower pricing satisfaction under PWYW \( (M_{\text{NoERP}} = 4.62 \text{ vs. } M_{\text{ERP}} = 4.11, p < .05) \) and NYOP \( (M_{\text{NoERP}} = 3.86 \text{ vs. } M_{\text{ERP}} = 3.37, p < .05) \) conditions. The interaction effect was nonsignificant \( (p > .05) \).

ANCOVA results also showed that pricing mechanism significantly affected pain of payment \( (F(1,154) = 19.72, p < .001) \). ERP also significantly affected pain of payment \( (F(1,154) = 9.6, p < .01) \). ERP presence caused higher pain of payment under PWYW \( (M_{\text{NoERP}} = 1.21 \text{ vs. } M_{\text{ERP}} = 1.75, p < .01) \) and NYOP \( (M_{\text{NoERP}} = 1.91 \text{ vs. } M_{\text{ERP}} = 2.24, p < .05) \) conditions. The interaction effect was nonsignificant \( (p > .05) \).

Study 2 offered consistent and additional support for the hypotheses tested in Study 1. In the test of H1a, PWYW \( (M_{\text{PWYW}} = 3.98) \) generated greater perceived control than NYOP \( (M_{\text{NYOP}} = 3.51) \) \( (F(1,153) = 9.73, p < .01) \). The test of H2a showed that PWYW \( (M_{\text{PWYW}} = 4.31) \) generated greater pricing satisfaction than NYOP \( (M_{\text{NYOP}} = 3.62, p < .001) \) \( (F(1,153) = 16.95, p < .001) \). In the test of H4a, PWYW \( (M_{\text{PWYW}} = 1.62) \) generated lower pain of payment than NYOP \( (M_{\text{NYOP}} = 2.07, p < .05) \) \( (F(1,153) = 17.35, p < .001) \). H1b, H1c, H2b, H2c, H4b, and H4c were omitted because Study 2 omitted the posted price condition.

**Mediation Hypotheses**

We conducted a mediation analysis to test H3 and H5 to observe whether the variables in Studies 1 and 2 would show consistency. We used the PROCESS Macro with the bootstrapping procedure (Model 4; 95% confidence interval (CI); 5,000 bootstrap resamples) (Preacher & Hayes, 2004). Perceived control was considered a mediator between pricing mechanism (X) and pricing satisfaction (Y). Perceived control (M) was directly related to pricing satisfaction \( (b_1 = .90, t = 17.28, p < .001; \text{BootCI} = .7948 \text{ to } 1.000) \): higher (lower) perceived
control generated higher (lower) pricing satisfaction. Pricing mechanism also had a significant direct effect ($c' = -.26$, $t(2,152) = -2.62$, $p < .01$) and a significant indirect effect on pricing satisfaction ($ab = -.42$), considering a 95% CI, excluding zero (-.6943 to -.1623). PWYW prompted higher perceptions of control and the associated higher satisfaction, supporting H3.

As in study 1, we tested another mediation model with a different dependent variable. Perceived control was examined as the mediator between pricing mechanism (X) and pain of payment (Y). Perceived control (M) was directly related to pain of payment ($b_2 = -.57$, $t = 11.33$, $p < .001$; BootCI = -.6708 to -.4716): higher (lower) perceived control evoked lower (higher) pain of payment. Pricing mechanism had a significant direct effect ($c' = .26$, $t(2,152) = 2.7$, $p < .001$) and a significant indirect effect on pain of payment ($ab = .27$), considering a 95% CI, excluding zero (.1031 to .4384). PWYW prompted higher perceptions of control and thus lowered the pain of payment, supporting H5.

The covariates were tested but they failed to affect the mediations ($p > .05$). Although we omitted considerations of posted price, the mediation results aligned with Study 1.

5 General Discussion and Conclusions

Our main objective for conducting this research is to examine PWYW and NYOP participative pricing mechanisms for their effects on consumers’ pricing satisfaction, pain of payment, and payment intentions. Two experimental studies reveal that PWYW generates higher pricing satisfaction and lower pain of payment, whereas NYOP increases amounts consumers intend to pay. Additionally, the results show that consumers’ perceptions of control mediate the effects on satisfaction and pain of payment. External reference prices (ERPs) appear to increase amounts consumers intend to pay.

5.1 Theoretical Implications

Our findings suggest that when PWYW and NYOP participative pricing mechanisms are compared with traditional posted price strategies they are more effective for increasing pricing satisfaction and reducing pain of payment. By demonstrating effects on important
consumer outcomes, our work adds to the literature devoted to "new participative pricing mechanisms" (Kim et al., 2009, p. 44).

Our findings indicate that PWYW and NYOP are similar in theoretical scope because both are participative pricing mechanisms but have different consumer outcomes: PWYW leads to the highest price satisfaction and the lowest pain of payment, while NYOP increases the amount consumers intend to pay. By demonstrating the differences, we address calls for further investigation of PWYW and NYOP outcomes (Spann et al., 2018), especially regarding consumer reactions (Song & Jiang, 2018). We provide some insights to help answering queries about which pricing mechanisms have the best outcomes for consumers and companies (Wagner & Pacheco, 2020). We also extend the literature on pricing satisfaction regarding PWYW and NYOP, an under-researched topic in studies of participative pricing (Wagner & Pacheco, 2020).

In a contribution to the pricing literature, we contend that perceived control is a critical variable explaining pricing satisfaction and pain of payment. Researchers have investigated the antecedents and outcomes of participative pricing mechanisms (e.g., Roy et al., 2016) without examining underlying processes (e.g., Barone et al., 2017). Nevertheless, we must understand the underlying processes, considering that consumers might exploit their control over prices (Kim et al., 2009). Moreover, investigations of perceived control have been limited to effects in auctions (e.g., Chandran & Morwitz, 2005) rather than in PWYW and NYOP.

We show that perceptions of control determine how participative pricing strategies influence consumer perceptions. We show that PWYW and NYOP pricing mechanisms activate perceptions of control over prices, which makes consumers feel highly satisfied with pricing and allows them to escape the pain of payment. By demonstrating that enhanced perceptions of control generate more pleasant experiences even when the pricing mechanism is the source of control, we extend previous studies (e.g., Hui & Bateson, 1991; Van Rompay et al., 2008).

Pain of payment research has focused on how the pain interferes with satisfaction (Soster et al., 2014) or on whether cash or credit card payments cause greater pain (Chatterjee & Rose, 2012), while ignoring the key factors that influence such relationships. We offer a fresh perspective by comparing effects of PWYW and NYOP participative pricing mechanisms on pain pf payment.
We provide relevant implications for reference price models (e.g., Briesch et al., 1997; Kalyanaram & Winer, 1995). Notably, we show that ERP increases the amount consumers intend to pay under PWYW and NYOP, but it reduces pricing satisfaction and increases the pain of payment. The findings add underlying effects of participative pricing, extending studies focused on the formation of reference prices (Kalyanaram & Winer, 1995) and memory stimuli (Briesch et al., 1997).

5.2 Managerial Implications

Companies may use PWYW and NYOP strategies for various reasons, such as to gain market exposure, increase popularity through word of mouth, and dispose of surplus services or goods (Kim et al., 2009; Krämer et al., 2017; Spann et al., 2018). We provide insights for aligning participative pricing mechanisms with managerial strategies. That is, we advise managers to be aware of trade-offs: PWYW can increase satisfaction with pricing and reduce the pain of payment, but customers may decide to pay less than they would have paid otherwise.

Participative pricing mechanisms have been shown to initiate word-of-mouth recommendations (Kim et al., 2009) and to promote products to broader audiences (Krämer et al., 2017). We argue that PWYW can be a powerful short-term promotional strategy for increasing market penetration audiences (Krämer et al., 2017), enhancing shopping experiences by increasing pricing satisfaction and reducing pain of payment. PWYW might be used to attract customers on days of reduced demand, to promote certain products, or to highlight single-day promotions such as Black Friday and store anniversaries. A Harvard Business Review (2012) case showed that when a self-service restaurant in Vienna used PWYW, it increased its daily customer base by 50%.

PWYW can replace posted prices as a vital strategy for launching new products or services. When consumers have good shopping experiences leaving them satisfied with pricing and feeling less pain of payment, they are likely to spread positive word about new products and services. Businesses might use PWYW to anticipate demand for products or services, to attract customers during periods of reduced demand, and to optimize service offers to increase profits. Although customers may pay less under PWYW, the Harvard Business Review
(2012) presented a case in which a self-service restaurant that used PWYW received an average payment of €5, covering all costs.

Companies should use participative pricing when they have high fixed and low variable costs (Krämer et al., 2017). When variable costs are not very low, companies could use NYOP rather than PWYW, because consumers may pay more for goods and services under NYOP than they pay under PWYW. But if companies decide to use PWYW, they might draw more revenue by adding an ERP to PWYW offers. Our studies showed that ERPs increase the amount consumers intend to pay, but they still offer considerably less than the ERP amount (NYOP = US$83.44, PWYW = US$55.40, ERP = US$116.00). Consumer behavior depends on other factors such as type of business or product and ERP presentation type (Gross et al., 2021), which may explain inconsistent results found for ERP on previous studies (e.g., Roy et al., 2021; Weisstein et al., 2016). Thus, our results should be carefully interpreted. Our suggestions might be more suitable to the business and ERP presentation strategies we used in our studies.

5.3 Limitations and Future Research

Our work has some limitations that should be considered. First, lab experiments indicate behavioral intentions only, but actual behaviors may change in real-life situations. Therefore, field studies should be conducted to replicate our findings. Second, the US$116 posted price was derived from a pretest, but average prices for band concerts vary widely. We asked participants to imagine their favorite band, without stipulating whether it should be internationally or locally popular. However, tickets will cost much more for internationally renowned bands. Future studies could be more specific about products or services to tighten price ranges.

Our study context may limit generalizability. Loyalty is known to be directly related to price decisions (Gómez et al., 2018). Thus, study participants who were highly involved with and loyal to their favorite bands may have been willing to pay more. Therefore, future studies should control for the impact of loyalty. Also, participative pricing mechanisms could be compared for effects under different circumstances, such as when used for temporary promotions. Other mediators could be investigated as antecedents.
Finally, NYOP researchers have investigated effects on consumer behavior if consumers can make multiple bids for products or services (e.g., Fay, 2004; Spann et al., 2004). Our experimental designs allowed participants to make only one bid, but future NYOP studies might allow participants to make alternative offers if their bids are rejected.

**References**


Effect $b^1 = 0.7814^*;\text{ Boot } = 0.6296$ to $0.9333$

* $= \text{significant at the 0.05 level.}$
For Peer Review

Perceived Control

PWYW vs. NYOP vs. Posted Price

a (direct effect) b’

c’

Pain of Payment

<table>
<thead>
<tr>
<th></th>
<th>a (direct effect)</th>
<th>c’ (direct effect)</th>
<th>ab (indirect effect)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Effect</td>
<td>Boot LLCI</td>
<td>Boot ULCI</td>
</tr>
<tr>
<td>PWYW vs. NYOP</td>
<td>-0.6194*</td>
<td>-1.0438</td>
<td>-0.1951</td>
</tr>
<tr>
<td>PWYW vs. Posted Price</td>
<td>-1.6952*</td>
<td>-2.1266</td>
<td>-1.2638</td>
</tr>
<tr>
<td>NYOP vs. Posted Price</td>
<td>-1.0758*</td>
<td>-1.4947</td>
<td>-0.6569</td>
</tr>
</tbody>
</table>

Note: b’ = Effect = -0.5058*; Boot = -0.6665 to -0.3450

* = significant at the 0.05 level.
Amount consumers intend to pay

Participative Pricing Mechanism

Note: Error bars represent 95% Confidence Intervals.
### Appendix 1 – Measures

<table>
<thead>
<tr>
<th>Variable</th>
<th>Items</th>
<th>Study 1 (α)</th>
<th>Study 2 (α)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pricing satisfaction (Wen et al., 2011)</td>
<td>A pricing policy is the way companies set the price for consumers to pay. Based on the pricing policy of the website, please indicate your agreements with the statements below, on a scale of 1=totally disagree to 5=totally agree. S1. I was very satisfied with this pricing policy. S2. I was very pleased with this pricing policy. S3. I was very contented with this pricing policy. S4. I was absolutely delighted with this pricing policy.</td>
<td>.977</td>
<td>.964</td>
</tr>
<tr>
<td>Pain of payment (Thomas et al., 2011)</td>
<td>PP1. How did you feel while spending money on this ticket of [Band Name]? (OBS: Reverse coded). PP2. I felt irritated by this pricing method. PP3. I felt restricted by this pricing method. PP4. I felt annoyed by this pricing method. PP5. I felt powerless with this pricing method. PP6. I felt controlled by this pricing method. PP7. I felt suffocated with this pricing method. PP8. I felt inhibited with this pricing method.</td>
<td>.943</td>
<td>.913</td>
</tr>
<tr>
<td>Perceived control (Van Rompay et al., 2008)</td>
<td>PC1. On this website, I feel in control over the situation. PC2. On this website, I can easily find what I am looking for. PC3. On this website, I am the center of attention. PC4. On this website, the customer is in control.</td>
<td>.925</td>
<td>.868</td>
</tr>
<tr>
<td>Amount of money consumers intend to pay</td>
<td>How much would you like to pay for the ticket, in US dollars?</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>